



# TUALATIN CITY COUNCIL

Monday, APRIL 8, 2019

**JUANITA POHL CENTER**

**8513 SW Tualatin Road**

**Tualatin, OR 97062**

**WORK SESSION- Canceled**  
**BUSINESS MEETING begins at 7:00 p.m.**

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**Mayor Frank Bubenik**

**Council President Joelle Davis**

**Councilor Robert Kellogg**  
**Councilor Paul Morrison**

**Councilor Nancy Grimes**  
**Councilor Bridget Brooks**

**Councilor Maria Reyes**

**Welcome!** By your presence in the City Council Chambers, you are participating in the process of representative government. To encourage that participation, the City Council has specified a time for your comments on its agenda, following Announcements, at which time citizens may address the Council concerning any item not on the agenda or to request to have an item removed from the consent agenda. If you wish to speak on a item already on the agenda, comment will be taken during that item. Please fill out a Speaker Request Form and submit it to the Recording Secretary. You will be called forward during the appropriate time; each speaker will be limited to three minutes, unless the time limit is extended by the Mayor with the consent of the Council.

Copies of staff reports or other written documentation relating to each item of business referred to on this agenda are available for review on the City website at [www.tualatinoregon.gov/meetings](http://www.tualatinoregon.gov/meetings) and on file in the Office of the City Manager for public inspection. Any person with a question concerning any agenda item may call Administration at 503.691.3011 to make an inquiry concerning the nature of the item described on the agenda.

In compliance with the Americans With Disabilities Act, if you need special assistance to participate in this meeting, you should contact Administration at 503.691.3011. Notification thirty-six (36) hours prior to the meeting will enable the City to make reasonable arrangements to assure accessibility to this meeting.

Council meetings are televised *live* the day of the meeting through Washington County Cable Access Channel 28. The replay schedule for Council meetings can be found at [www.tvctv.org](http://www.tvctv.org). Council meetings can also be viewed by live *streaming video* on the day of the meeting at [www.tualatinoregon.gov/meetings](http://www.tualatinoregon.gov/meetings).

Your City government welcomes your interest and hopes you will attend the City of Tualatin Council meetings often.

## PROCESS FOR LEGISLATIVE PUBLIC HEARINGS

A **legislative** public hearing is typically held on matters which affect the general welfare of the entire City rather than a specific piece of property.

1. Mayor opens the public hearing and identifies the subject.
2. A staff member presents the staff report.
3. Public testimony is taken.
4. Council then asks questions of staff, the applicant, or any member of the public who testified.
5. When the Council has finished questions, the Mayor closes the public hearing.
6. When the public hearing is closed, Council will then deliberate to a decision and a motion will be made to either *approve*, *deny*, or *continue* the public hearing.

## PROCESS FOR QUASI-JUDICIAL PUBLIC HEARINGS

A **quasi-judicial** public hearing is typically held for annexations, planning district changes, conditional use permits, comprehensive plan changes, and appeals from subdivisions, partitions and architectural review.

1. Mayor opens the public hearing and identifies the case to be considered.
2. A staff member presents the staff report.
3. Public testimony is taken:
  - a) In support of the application
  - b) In opposition or neutral
4. Council then asks questions of staff, the applicant, or any member of the public who testified.
5. When Council has finished its questions, the Mayor closes the public hearing.
6. When the public hearing is closed, Council will then deliberate to a decision and a motion will be made to either *approve*, *approve with conditions*, or *deny the application*, or *continue* the public hearing.

## TIME LIMITS FOR PUBLIC HEARINGS

The purpose of time limits on public hearing testimony is to provide all interested persons with an adequate opportunity to present and respond to testimony. All persons providing testimony **shall be limited to 3 minutes**, subject to the right of the Mayor to amend or waive the time limits.

## EXECUTIVE SESSION INFORMATION

An Executive Session is a meeting of the City Council that is closed to the public to allow the City Council to discuss certain confidential matters. An Executive Session may be conducted as a separate meeting or as a portion of the regular Council meeting. No final decisions or actions may be made in Executive Session. In many, but not all, circumstances, members of the news media may attend an Executive Session.

The City Council may go into Executive Session for certain reasons specified by Oregon law. These reasons include, but are not limited to: ORS 192.660(2)(a) employment of personnel; ORS 192.660(2)(b) dismissal or discipline of personnel; ORS 192.660(2)(d) labor relations; ORS 192.660(2)(e) real property transactions; ORS 192.660(2)(f) information or records exempt by law from public inspection; ORS 192.660(2)(h) current litigation or litigation likely to be filed; and ORS 192.660(2)(i) employee performance of chief executive officer.



## OFFICIAL AGENDA OF THE TUALATIN CITY COUNCIL MEETING FOR APRIL 8, 2019

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**A. CALL TO ORDER**  
Pledge of Allegiance

**B. ANNOUNCEMENTS**

1. Volunteer Appreciation Presentations and Proclamation
2. Arbor Week Presentations and Proclamation
3. Proclamation Declaring April 7-13, 2019, as National Library Week in the City of Tualatin
4. Proclamation Declaring Will Alloway as Tualatin's Employee of the Year
5. Tualatin Youth Advisory Council's Activities for April 2019

**C. PUBLIC COMMENT**

*This section of the agenda allows anyone to address the Council regarding any issue not on the agenda, or to request to have an item removed from the consent agenda. The duration for each individual speaking is limited to 3 minutes. Matters requiring further investigation or detailed answers will be referred to City staff for follow-up and report at a future meeting.*

**D. CONSENT AGENDA**

*The Consent Agenda will be enacted with one vote. The Mayor will ask Councilors if there is anyone who wishes to remove any item from the Consent Agenda for discussion and consideration. If you wish to request an item to be removed from the consent agenda you should do so during the Citizen Comment section of the agenda. The matters removed from the Consent Agenda will be considered individually at the end of this Agenda under, Items Removed from the Consent Agenda. The entire Consent Agenda, with the exception of items removed from the Consent Agenda to be discussed, is then voted upon by roll call under one motion.*

1. Consideration of Approval of the Minutes for the Regular Meeting of March 25, 2019
2. Consideration of Approval of a New Liquor License Application for Crazy Kitchen

**E. SPECIAL REPORTS**

1. Annual Report for the Tualatin Park Advisory Committee
2. Annual Report of the Tualatin Library Advisory Committee
3. Annual Report of the Tualatin Planning Commission

4. Neighborhood Ready Presentation and Update

F. **PUBLIC HEARINGS – Legislative or Other**

1. Basalt Creek Comprehensive Plan Update (File Nos. PTA 19-0001 and PMA 19-0001).

G. **GENERAL BUSINESS**

*If you wish to speak on a general business item please fill out a Speaker Request Form and you will be called forward during the appropriate item. The duration for each individual speaking is limited to 3 minutes. Matters requiring further investigation or detailed answers will be referred to City staff for follow-up and report at a future meeting.*

1. Consideration of **Ordinance No. 1418-19** Relating to the Basalt Creek Concept Plan, Amending Tualatin Development Code Chapters 4, 7, 9, 51, 63, and 75; and the Transportation System Plan (PTA 19-0001); Amending Figures 11-1, 11 -2, 11-3, 11-4, 11-5, 11-6, and 73-3; and Amending Maps 9-1, 9-2, 9-4, 9-5, 12-1, 13-1, 72- 1, 72-2, 72-3, and 74-1 (PMA19-0001)
2. Consideration of **Resolution No. 5431-19** Adopting the 2020-2029 Capital Improvement Plan (CIP)

H. **ITEMS REMOVED FROM CONSENT AGENDA**

*Items removed from the Consent Agenda will be discussed individually at this time. The Mayor may impose a time limit on speakers addressing these issues.*

I. **COMMUNICATIONS FROM COUNCILORS**

J. **ADJOURNMENT**

**City Council Meeting**

**Meeting Date:** 04/08/2019

**ANNOUNCEMENTS:** Proclamation Declaring the Week of April 7-13, 2019 as Volunteer Appreciation Week in the City of Tualatin

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**ANNOUNCEMENTS**

Volunteer Appreciation Presentations and Proclamation

**SUMMARY**

Volunteers serve throughout the City – in our Parks, the Library, at Special Events, on Boards and Commissions, in other City departments - as Reserve Police Officers and Interns, and more. In 2018 the City received 26,000 hours of donated time from over 2,600 volunteers. These volunteers were honored at a reception held in their honor and this proclamation deems this week as Volunteer Appreciation Week in the City of Tualatin.

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Vol Week Proclamation

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# *Proclamation*

## *Declaring the Week of April 7 - April 13, 2019 as Volunteer Appreciation Week in the City of Tualatin*

WHEREAS, the entire community can inspire, equip and mobilize people to take action that changes the world; and

WHEREAS, in 2018 over 2,600 volunteers contributed approximately 26,000 hours of their time, an equivalent of about 13 full time employees, to the betterment of our community; and

WHEREAS, volunteers give freely of their time, talents, and energy, and ask only for a thank you for their countless hours of service; and

WHEREAS, it has been a long standing tradition in our community for individuals, families, and local businesses to volunteer to make a difference in our community; and

WHEREAS, it is fitting to recognize our volunteers for their dedicated service;

NOW, THEREFORE, BE IT PROCLAIMED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, Oregon that:

Section 1. The week of April 7 – April 13, 2019, be proclaimed “Volunteer Appreciation Week” in the City of Tualatin.

Section 2. The City of Tualatin takes great pleasure in honoring the volunteers of our community and conveying our sincere gratitude and appreciation for their committed, selfless, and compassionate efforts; our volunteers truly make a World of Difference.

INTRODUCED AND ADOPTED this 8<sup>th</sup> day of April, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

ATTEST:

BY \_\_\_\_\_  
City Recorder

**City Council Meeting**

**Meeting Date:** 04/08/2019

**ANNOUNCEMENTS:** Arbor Week Presentation, Youth Poster Contest Awards and Arbor Week Proclamation

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**ANNOUNCEMENTS**

Arbor Week Presentations and Proclamation

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Arbor Week Presentation

Arbor Week Proclamation

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# Arbor Week 2019

April 7-13





# The Purpose of Arbor Week

Tualatin recognizes the first full week in April as **Arbor Week** to celebrate the many contributions that trees make to our lives and community.

Many Benefits of Trees!

Public Health & Social Benefits

- Clean Air

Environmental Benefits

- Climate change
- Energy conservation
- Water filtration
- Wildlife habitat

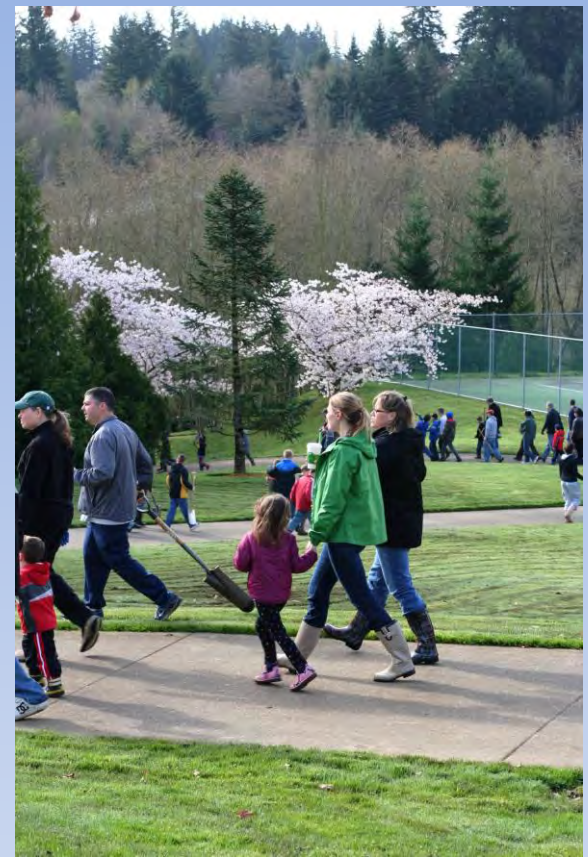
Economic Benefits

- Increase home value
- Attract businesses



# Arbor Week Events & Activities

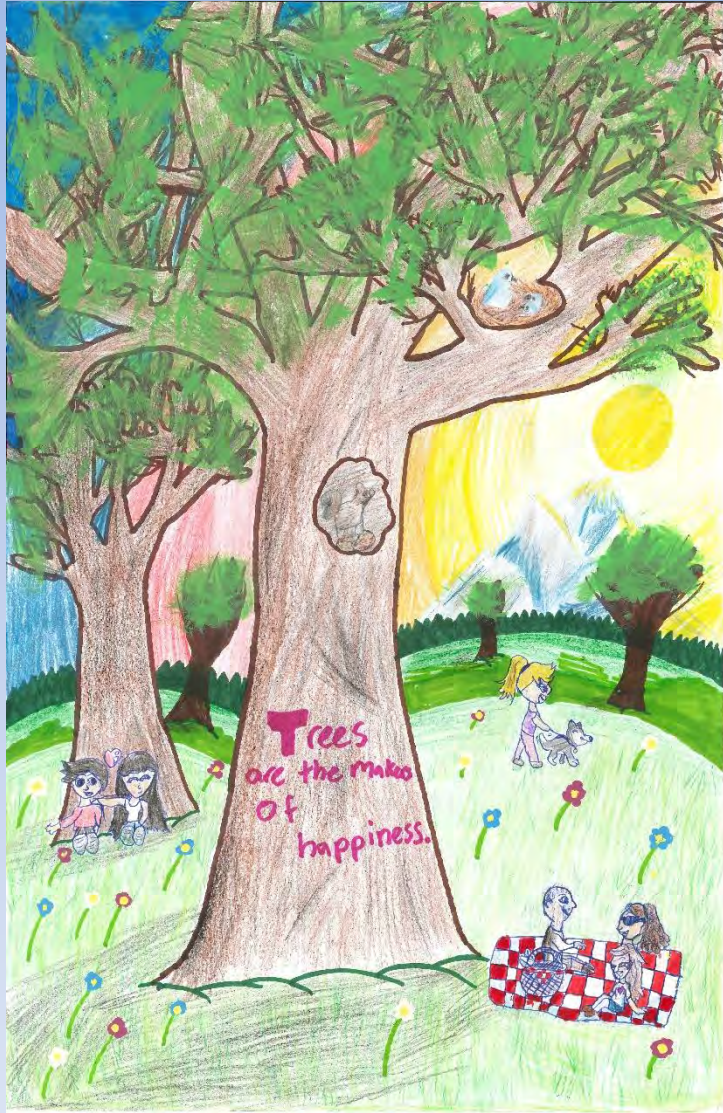
- 5<sup>th</sup> Grade Poster Contest
- Tualatin Trees Photo Contest
- Arbor Week Proclamation
- Trip to the Hoyt Arboretum with the Juanita Pohl Center
- Tree Themed Story Time at Tualatin Public Library
- Putting Down Roots Volunteer Tree Plantings
- Learn how to choose the right tree for your landscaping at the Winona Grange on April 6.
- Flying of Tree City USA Flags at City offices and schools



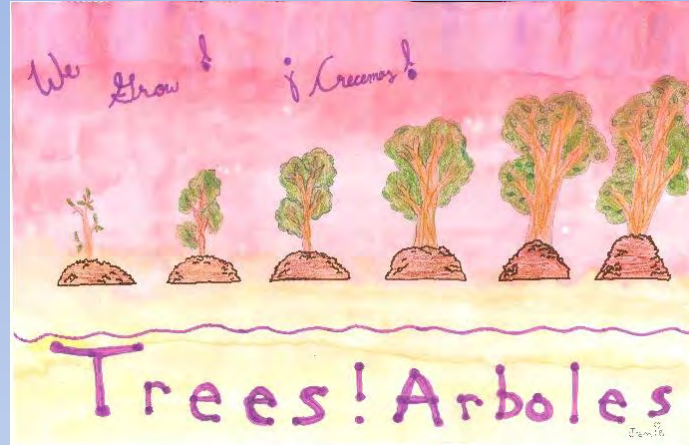
Arbor Week – April 7-13, 2019



# 5<sup>th</sup> Grade Poster Contest: "Trees are \_\_\_\_\_"



Overall 1st Place Winner  
Kiera, Tualatin Elementary  
*Trees are Makers of Happiness*



Overall 2<sup>nd</sup> Place Winner  
Jamie, Bridgeport Elementary  
*Trees Are Our Friends*



Overall 3<sup>rd</sup> Place Winner  
Sophia, Byrom Elementary  
*Trees are Life*

# 5<sup>th</sup> Grade Poster Contest: "Trees are \_\_\_\_\_"

## Byrom Elementary School



1<sup>st</sup> Place Luke  
*Trees are Beautiful All Year Round*



2<sup>nd</sup> Place Mariah  
*Trees are Home to Animals*



3<sup>rd</sup> Place Taylor  
*Trees are Nature's Glitter*

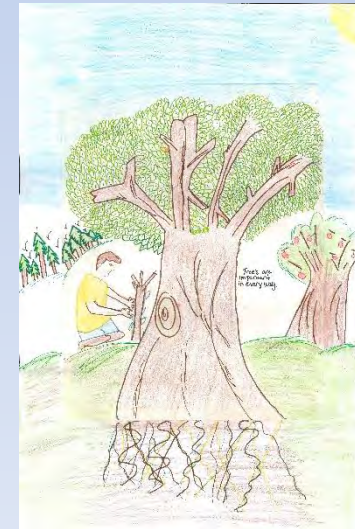
## Tualatin Elementary School



1<sup>st</sup> Place Jadyn  
*Trees are Important*



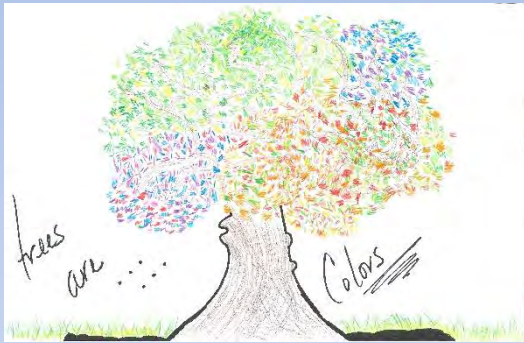
2<sup>nd</sup> Place Payton  
*Trees are Beautiful and Important*



3<sup>rd</sup> Place Athena  
*Trees are Vital*

# 5<sup>th</sup> Grade Poster Contest: "Trees are \_\_\_\_\_"

## Bridgeport Elementary School



1<sup>st</sup> Place Maxwell  
*Trees are Colors*



2<sup>nd</sup> Place Rachel  
*Trees are God's Creation*



3<sup>rd</sup> Place Raphaela  
*Trees are Life*

# Tualatin Trees Photo Contest



First Place – Tamera Bell  
*The Old Man*  
Tualatin Country Club

# Tualatin Trees Photo Contest



Second Place – Chad Darby  
*Resilient*  
Shawnee Trail



Third Place – Nils Peuser  
*The Hermit*  
Trail near dog park

## Tree City USA

The Tree City USA certification is awarded by the National Arbor Day Foundation to recognize communities that have proven their commitment to an effective, ongoing community forestry program.

Tree City USA Standards Include: Tree Board, Tree Care Ordinance, Community Forestry Program with Budget, and Arbor Week Observance and Proclamation.

The City of Tualatin is Recognized as a **Tree City USA** for the 32<sup>nd</sup> consecutive Year!





# Proclamation

## *Declaring the Week of April 7-April 13, 2019 as Arbor Week in the City of Tualatin*

WHEREAS, Arbor Day is a celebration observed throughout the nation and the world in which individuals and groups are encouraged to plant, care for, and celebrate the many values of trees, and Arbor Day is observed in the State of Oregon during the first full week of April, which this year will be April 7-13, 2019; and

WHEREAS, healthy trees reduce the erosion of topsoil by wind and water, moderate the temperature, calm traffic, clean the air, produce oxygen, provide habitat for wildlife, and are a renewable resource giving us paper and countless other wood products; and

WHEREAS, trees beautify our community, increase property values, and enhance the economic vitality of business areas in Tualatin, and thousands of trees and shrubs are planted by volunteers in Tualatin's parklands every year; and

WHEREAS, 2019 marks the 32<sup>nd</sup> consecutive year the City of Tualatin has been certified as a Tree City USA by the National Arbor Day Foundation for following best practices in community forestry management.

NOW, THEREFORE, BE IT PROCLAIMED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, Oregon that: the City of Tualatin designates the week of April 7-13, 2019 as Arbor Week in the City of Tualatin.

All citizens are urged to support efforts to protect and plant trees to gladden the hearts and promote the well being of present and future generations.

The citizens of the City of Tualatin support the Oregon Department of Forestry and the National Arbor Day Foundation in their recognition of the value of trees and forests by proclaiming April 7-13, 2019, as Arbor Week in Tualatin.

INTRODUCED AND ADOPTED this 8<sup>th</sup> day of April, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

ATTEST:

BY \_\_\_\_\_  
City Recorder

**City Council Meeting**

**Meeting Date:** 04/08/2019

**ANNOUNCEMENTS:** National Library Week 2019

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**ANNOUNCEMENTS**

Proclamation Declaring April 7-13, 2019, as National Library Week in the City of Tualatin

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LibraryWeek

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# Proclamation

## *Proclamation Declaring April 7-13, 2019, as National Library Week in the City of Tualatin*

WHEREAS libraries and librarians build strong communities through transformative services, programs, and expertise; and

WHEREAS today's libraries are not just about books but what they do for and with people; and

WHEREAS libraries are a resource for all members of the community and have long served as trusted and treasured institutions where people of all backgrounds can be together and connect; and

WHEREAS the Tualatin Public Library serves as the community's living room and an inviting social gathering place, empowering and enriching our community through learning, discovery, and interaction; and

WHEREAS the Tualatin Library transforms lives through innovative science, technology, and arts programming; job-seeking resources; personal enrichment classes; cultural and recreational opportunities; and the power of reading; and

WHEREAS libraries and library supporters across America celebrate the value of libraries to the individual and to our society through the celebration of National Library Week each April.

BE IT PROCLAIMED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, that:

Section 1. April 7-13, 2019, be proclaimed "National Library Week" in the City of Tualatin.

Section 2. The citizens of Tualatin are encouraged to use, enjoy, promote, and support the Tualatin Public Library.

INTRODUCED AND ADOPTED this 8<sup>th</sup> day of April 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

ATTEST:

BY \_\_\_\_\_  
City Recorder

**City Council Meeting**

**Meeting Date:** 04/08/2019

**ANNOUNCEMENTS:** 2018 Employee of the Year Proclamation

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**ANNOUNCEMENTS**

Proclamation Declaring Will Alloway as Tualatin's Employee of the Year

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Proclamation

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# Proclamation

## *Declaring Will Alloway as Tualatin's "2018 Employee of the Year"*

WHEREAS, the Employee of the Year program is designed to recognize the work and actions which bring credit to the City and improve our ability to deliver excellent service to Tualatin's customers; and

WHEREAS, Will Alloway joined the City of Tualatin as a Parks Maintenance Worker in July of 2000 and was subsequently promoted to a Parks Maintenance Technician II in July of 2007; and

WHEREAS, Will takes pride in his work and approaches each project with a creative and positive attitude, going out of his way to make sure each event and project is a success, and looking for ways to improve whatever he is working on; and

WHEREAS, Will goes above and beyond the call of duty time and again to ensure Tualatin resident's safety, and to make sure that every area he works in is maintained at the highest level; and

WHEREAS, Will is the ultimate team player and problem-solver, always thinking ahead to anticipate potential issues and working out solutions in advance; he is always respectful and uses his depth of experience and humor to ensure success; and

WHEREAS, Will consistently demonstrates Tualatin's core values of TEAMWORK, RESPECT, having a ONE CITY mindset, EMPOWERMENT, PROBLEM SOLVING, CUSTOMER SERVICE and being NON-BUREAUCRATIC in a multitude of ways every day.

NOW, THEREFORE, BE IT PROCLAIMED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, Oregon that:

Will Alloway is named the "2018 City of Tualatin Employee of the Year."

INTRODUCED AND ADOPTED this 8<sup>th</sup> day of April, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

ATTEST:

BY \_\_\_\_\_  
City Recorder

**City Council Meeting**

**Meeting Date:** 04/08/2019

**ANNOUNCEMENTS:** Tualatin Youth Advisory Council Update, April, 2019

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**ANNOUNCEMENTS**

Tualatin Youth Advisory Council's Activities for April 2019

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A. YAC Update

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April 8, 2019

# *Tualatin Youth Advisory Council*

*Youth Participating in Governance*

# National League of Cities

## *Congressional City Conference*

- March 9-13
- Washington, DC
- Civic engagement, leadership development, networking





# National League of Cities

## *Congressional City Conference*

### 🕒 Highlights

- Networked with other youth councils
- Attended sessions on increasing youth engagement in government, economic development for youth, and infrastructure
- Learned about issues and projects other cities and youth councils are addressing
- Toured US Capitol Building
- Explored Washington, DC



# National League of Cities

## *Congressional City Conference*

### ◎ Recommendations/Ideas

- Support Council efforts to increase affordable housing in Tualatin
- Increase focus on local/state/national policy issues and advocacy
- Learn more about youth homelessness issues in our City



# National League of Cities

## *Congressional City Conference*





# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Nicole Morris, Deputy City Recorder

**DATE:** 04/08/2019

**SUBJECT:** Consideration of Approval of the Minutes for the Regular Meeting of March 25, 2019

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**ISSUE BEFORE THE COUNCIL:**

The issue before the Council is to approve the minutes for the Regular Meeting of March 25, 2019.

**RECOMMENDATION:**

Staff respectfully recommends that the Council adopt the attached minutes.

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**Attachments:** City Council Regular Meeting Minutes of March 25, 2019



## OFFICIAL MINUTES OF THE TUALATIN CITY COUNCIL MEETING FOR MARCH 25, 2019

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Present: Mayor Frank Bubenik; Council President Joelle Davis; Councilor Nancy Grimes; Councilor Paul Morrison; Councilor Bridget Brooks

Absent: Councilor Robert Kellogg; Councilor Maria Reyes

Staff City Manager Sherilyn Lombos; City Attorney Sean Brady; Police Chief Bill Steele;

Present: Finance Director Don Hudson; Deputy City Recorder Nicole Morris; Economic Development Manager Jonathan Taylor; Parks and Recreation Manager Rich Mueller; IS Director Bates Russell; Parks and Recreation Director Ross Hoover

### A. CALL TO ORDER

Pledge of Allegiance

Mayor Bubenik called the meeting to order at 7:05 p.m.

### B. ANNOUNCEMENTS

1. Proclamation Declaring April 22-26, 2019 as National Community Development Week in the City of Tualatin

Mayor Bubenik read the proclamation declaring April 22-26, 2019 as National Community Development Week in the City of Tualatin.

2. New Employee Introduction- Thomas Brewer

Police Chief Bill Steel introduced Police Officer Thomas Brewer. The Council welcomed him.

3. Citizen Involvement Organization (CIO) Annual Meeting Preview

Charlie Benson presented the 2019 Annual Citizen Involvement Organization (CIO) meetings preview. Mr. Benson presented the meeting dates for all upcoming meetings.

Councilor Grimes asked how someone interested in joining the CERT team becomes involved. Mr. Benson stated interested participants can find more information on the CIO website.

**C. PUBLIC COMMENT**

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Tualatin Chamber of Commerce Director Linda Moholt spoke to the Tourism Plan presented by City staff. She presented information on the Tualaitn Visitor Information Center. Director Moholt shared a proposal for future services and a marketing plan for Council consideration.

**D. CONSENT AGENDA**

*The Consent Agenda will be enacted with one vote. The Mayor will ask Councilors if there is anyone who wishes to remove any item from the Consent Agenda for discussion and consideration. If you wish to request an item to be removed from the consent agenda you should do so during the Citizen Comment section of the agenda. The matters removed from the Consent Agenda will be considered individually at the end of this Agenda under, Items Removed from the Consent Agenda. The entire Consent Agenda, with the exception of items removed from the Consent Agenda to be discussed, is then voted upon by roll call under one motion.*

MOTION by Councilor Nancy Grimes, SECONDED by Council President Joelle Davis to adopt the consent agenda.

Aye: Mayor Frank Bubenik, Council President Joelle Davis, Councilor Nancy Grimes, Councilor Bridget Brooks, Councilor Paul Morrison

Other: Councilor Maria Reyes (Absent), Councilor Robert Kellogg (Absent)

MOTION CARRIED

1. Consideration of Approval of the Minutes for the Work Session and Regular Meeting of March 11, 2019
2. Consideration of Approval of a New Liquor License Application for Anthony Vince Nail Spa
3. Consideration of Approval of a New Liquor License Application for Rue Cler

**E. SPECIAL REPORTS**

1. Tualatin Heritage Center Annual Report

Tualatin Historical Society President Russ Baker and Tualatin Historical Society Director Larry McClure presented the Tualatin Heritage Center Annual Report. Director McClure presented highlights including displays around town, a new online interactive map, and history programming. Special events this year included Pioneer Days, Tualatin River History Day, installation of honorary benches, and the annual Wine Tasting Dinner fundraiser. The center's partnerships with the city and it's operational responsibilities were reviewed. The centers budget and membership numbers were shared. Director McClure outlined upcoming activities for 2019 including furniture replacement, a new edition of Tualatin from the Beginning, memorial brick sales, new programs including History Weekend and Viva Tualatin, and securing the display for the Galbreath Wagon. Director McClure

thanked the City for making their mission possible.

**F. COMMUNICATIONS FROM COUNCILORS**

Councilor Grimes reminded citizens of the upcoming Vine2Wine event for the Tualatin Library Foundation on April 13. More information is available on the Library Foundations website.

Mayor Bubenik announced the State of the City will be held on April 24, 11:30 a.m., at Marquis.

**G. ADJOURNMENT**

Mayor Bubenik adjourned the meeting at 7:54 p.m.

Sherilyn Lombos, City Manager

\_\_\_\_\_ / Nicole Morris, Recording Secretary

\_\_\_\_\_ / Frank Bubenik, Mayor



# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos

**FROM:** Nicole Morris, Deputy City Recorder

**DATE:** 04/08/2019

**SUBJECT:** Consideration of Approval of a New Liquor License Application for Crazy Kitchen

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### **ISSUE BEFORE THE COUNCIL:**

The issue before the Council is to approve a new liquor license application for Crazy Kitchen.

### **RECOMMENDATION:**

Staff respectfully recommends that the Council approve endorsement of the liquor license application for Crazy Kitchen.

### **EXECUTIVE SUMMARY:**

Crazy Kitchen has submitted a new liquor license application under the category of limited on-premises sales. Under the category of limited on-premise sales, they would be permitted to sell factory-sealed containers of malt beverages, wine, and cider for on-site consumption. The business is located at 8294 SW Nyberg Street. The application is in accordance with provisions of Ordinance No.680-85 which establishes procedures for liquor license applicants. Applicants are required to fill out a City application form, from which a review by the Police Department is conducted, according to standards and criteria established in Section 6 of the ordinance. The Police Department has reviewed the new liquor license application and recommended approval. According to the provisions of Section 5 of Ordinance No. 680-85 a member of the Council or the public may request a public hearing on any of the liquor license requests. If such a public hearing request is made, a hearing will be scheduled and held on the license. It is important that any request for such a hearing include reasons for said hearing.

### **FINANCIAL IMPLICATIONS:**

A fee has been paid by the applicant.

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**Attachments:** [Attachment A- Vicinity Map](#)  
[Attachment B- License Types](#)  
[Attachment C- Application](#)





## OREGON LIQUOR CONTROL COMMISSION LICENSE TYPES

### FULL ON-PREMISES SALES

- **Commercial Establishment**  
Sell and serve distilled spirits, malt beverages, wine, and cider for consumption at that location (*this is the license that most “full-service” restaurants obtain*). Sell malt beverages for off-site consumption in securely covered containers provided by the customer. Food service required. Must purchase distilled liquor **only** from an Oregon liquor store, or from another Full On- Premises Sales licensee who has purchased the distilled liquor from an Oregon liquor store.
- **Caterer**  
Allows the sale of distilled spirits, malt beverages, wine, and cider by the drink to individuals at off-site catered events. Food service required.
- **Passenger Carrier**  
An airline, railroad, or tour boat may sell and serve distilled spirits, malt beverages, wine, and cider for consumption on the licensed premises. Food service required.
- **Other Public Location**  
Sell and serve distilled spirits, malt beverages, wine, and cider for consumption at that location, where the predominant activity is not eating or drinking (for example an auditorium; music, dance, or performing arts facility; banquet or special event facility; lodging fairground; sports stadium; art gallery; or a convention, exhibition, or community center). Food service required.
- **Private Club**  
Sell and serve distilled spirits, malt beverages, wine, and cider for consumption at that location, but only for members and guests. Food service required.

### LIMITED ON-PREMISES SALES

Sell and serve malt beverages, wine, and cider for onsite consumption. Allows the sale of malt beverages in containers (kegs) for off-site consumption. Sell malt beverages for off-site consumption in securely covered containers provided by the customer.

### OFF-PREMISES SALES

Sell factory-sealed containers of malt beverages, wine, and cider at retail to individuals in Oregon for consumption off the licensed premises. Eligible to provide sample tastings of malt beverages, wine, and cider for consumption on the premises. Eligible to ship manufacturer-sealed containers of malt beverages, wine, or cider directly to an Oregon resident.

### BREWERY PUBLIC HOUSE

Make and sell malt beverages. Import malt beverages into and export from Oregon. Distribute malt beverages directly to retail and wholesale licensees in Oregon. Sell malt beverages made at the business to individuals for consumption on or off-site.

### WINERY

Must principally produce wine or cider in Oregon. Manufacture, store, and export wine and cider. Import wine or cider *If bottled, the brand of wine or cider must be owned by the licensee*. Sell wine and cider to wholesale and retail licensees in Oregon. Sell malt beverages, wine, and cider to individuals in Oregon for consumption on or off-site.



# CITY OF TUALATIN

## LIQUOR LICENSE APPLICATION

Return Completed form to:  
City of Tualatin  
Attn: Deputy City Recorder  
18880 SW Martinazzi Ave  
Tualatin, OR 97062

Date 3/15/19

**IMPORTANT:** This is a three-page form. **You are required to complete all sections of the form.**  
If a question does not apply, please indicate N/A. Please include full names (last, first middle) and full dates of birth (month/day/year). Incomplete forms shall receive an unfavorable recommendation.  
**Thank you for your assistance and cooperation.**

### SECTION 1: TYPE OF APPLICATION

- Original (New) Application - \$100.00 Application Fee.
- Change in Previous Application - \$75.00 Application Fee.
- Renewal of Previous License - \$35.00 Application Fee. Applicant must possess current business license. License # \_\_\_\_\_
- Temporary License - \$35.00 Application Fee.

### SECTION 2: DESCRIPTION OF BUSINESS

Name of business (dba): Crazy Kitchen

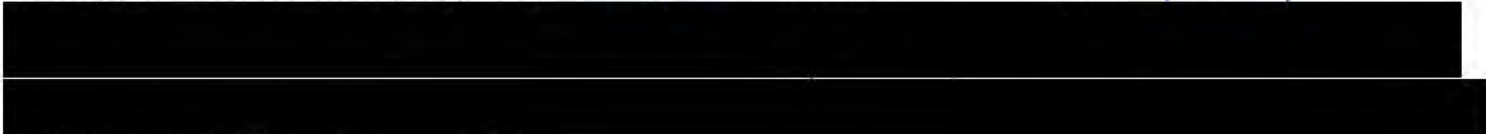
Business address 294 SW Nyberg St City Tualatin State OR Zip Code 97062

Mailing address 294 SW Nyberg St City Tualatin State OR Zip Code 97062

Telephone # 503-427-0667 Fax # \_\_\_\_\_

Email crazykitchen.tualatin@gmail.com

Name(s) of business manager(s) First Sojin Middle \_\_\_\_\_ Last Kim



(attach additional pages if necessary)

Type of business Restaurant

Type of food served Asian food

Type of entertainment (dancing, live music, exotic dancers, etc.) None

Days and hours of operation 11:00 AM ~ 8:30: PM

Food service hours: Breakfast \_\_\_\_\_ Lunch 11:00 ~ Dinner ~ 8:30 PM

Restaurant seating capacity 40 Outside or patio seating capacity 12

How late will you have outside seating? 8:00 How late will you sell alcohol? 8:30

How many full-time employees do you have? 3 Part-time employees? 3

**SECTION 3: DESCRIPTION OF LIQUOR LICENSE**

Name of Individual, Partnership, Corporation, LLC, or Other applicants SJ Food

Type of liquor license (refer to OLCC form) Limited on-premises

Form of entity holding license (check one and answer all related applicable questions):

**INDIVIDUAL:** If this box is checked, provide full name, date of birth, and residence address.  
Full name \_\_\_\_\_  
Residence address \_\_\_\_\_

**PARTNERSHIP:** If this box is checked, provide full name, date of birth and residence address for each partner. If more than two partners exist, use additional pages. If partners are not individuals, also provide for each partner a description of the partner's legal form and the information required by the section corresponding to the partner's form.  
Full name \_\_\_\_\_ Date of birth \_\_\_\_\_  
Residence address \_\_\_\_\_  
Full name \_\_\_\_\_ Date of birth \_\_\_\_\_  
Residence address \_\_\_\_\_

**CORPORATION:** If this box is checked, complete (a) through (c).  
(a) Name and business address of registered agent.  
Full name \_\_\_\_\_  
Business address \_\_\_\_\_

(b) Does any shareholder own more than 50% of the outstanding shares of the corporation? If yes, provide the shareholder's full name, date of birth, and residence address.  
Full name \_\_\_\_\_ Date of birth \_\_\_\_\_  
Residence address \_\_\_\_\_

(c) Are there more than 35 shareholders of this corporation? Yes \_\_\_\_\_ No \_\_\_\_\_. If 35 or fewer shareholders, identify the corporation's president, treasurer, and secretary by full name, date of birth, and residence address.  
Full name of president: \_\_\_\_\_ Date of birth: \_\_\_\_\_  
Residence address: \_\_\_\_\_  
Full name of treasurer: \_\_\_\_\_ Date of birth: \_\_\_\_\_  
Residence address: \_\_\_\_\_  
Full name of secretary: \_\_\_\_\_ Date of birth: \_\_\_\_\_  
Residence address: \_\_\_\_\_

**LIMITED LIABILITY COMPANY:** If this box is checked, provide full name, date of birth, and residence address of each member. If there are more than two members, use additional pages to complete this question. If members are not individuals, also provide for each member a description of the member's legal form and the information required by the section corresponding to the member's form.  
Full name: ~~SJ Food~~ Soojin Kim Date of birth: \_\_\_\_\_  
Residence address: \_\_\_\_\_

Full name: \_\_\_\_\_ Date of birth: \_\_\_\_\_  
Residence address: \_\_\_\_\_

**OTHER:** If this box is checked, use a separate page to describe the entity, and identify with reasonable particularity every entity with an interest in the liquor license.

**SECTION 4: APPLICANT SIGNATURE**

A false answer or omission of any requested information on any page of this form shall result in an unfavorable recommendation.

Signature of Applicant Soojin Kim Date 3/18/19

Soojin Kim

**For City Use Only**

Sources Checked:

DMV by OB       LEADS by OB       TuPD Records by OB  
 Public Records by OB

Number of alcohol-related incidents during past year for location.  
 Number of Tualatin arrest/suspect contacts for \_\_\_\_\_

**It is recommended that this application be:**

Granted  
 Denied  
Cause of unfavorable recommendation: \_\_\_\_\_

[Signature]  
Signature

3-28-19  
Date

Bill Steele  
Chief of Police  
Tualatin Police Department



**City Council Meeting**

**Meeting Date:** 04/08/2019

**SPECIAL REPORTS:** Annual Report for the Tualatin Park Advisory Committee

**Submitted For:** Sherilyn Lombos, City Manager

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**SPECIAL REPORTS**

Annual Report for the Tualatin Park Advisory Committee

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2018 Annual Report Presentation

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# Tualatin Park Advisory Committee

# 2018

# Annual Report





# Tualatin Park Advisory Committee

## Committee Members



- ▶ Dennis Wells, Chair
- ▶ Valerie Pratt, Vice-Chair
- ▶ Beth Dittman
- ▶ Kay Dix
- ▶ Krista Nanton
- ▶ Dana Paulino
- ▶ Christen Sacco
- ▶ Anthony Warren





## Tualatin Park Advisory Committee

## Committee Roll

- ▶ Recommend, Advise & Make Suggestions to Council
- ▶ Public Engagement, Involvement & Outreach
- ▶ Formulate Parks System & Recreation Programs to Serve Community Needs
- ▶ Consider City Plans & Projects

Community Forestry Tree Board

## Recommendations to Council

- ▶ Parks & Recreation Master Plan Adoption
- ▶ Park System Development Charge Methodology Adoption
- ▶ Oregon State Parks & Recreation Department Grant for Ibach Park
- ▶ School District Intergovernmental Joint Use Agreement
- ▶ Parks & Recreation Month Proclamation



# Tualatin Park Advisory Committee

## Master Plan Public Engagement & Outreach

- ▶ Members of Master Plan Project Advisory Committee (8 meetings, 96 hours)
- ▶ Council Master Plan Presentations & Discussion (10 meetings, 30 hours)
- ▶ Volunteered or Attended Pop Up Events, Open Houses, Meetings & Events
- ▶ Public Involvement
  - ▶ Initial – 2,892 people at 37 events/meetings
  - ▶ Draft Plan – 19 events/meetings
  - ▶ Plan Notification – 37,781 email/online/social/print



## Tualatin Park Advisory Committee

# Comprehensive Parks System & Recreation Programs



- ▶ Parks & Recreation Master Plan Update Acceptance
- ▶ Ice Age Tonquin Trail Easement Acquisition
- ▶ Park Projects
- ▶ Park Property Acquisition (Jurgens Park expansion)
- ▶ Recreation Programs & Services
- ▶ Special & Community Events
- ▶ Park Maintenance Services



# Tualatin Park Advisory Committee

## Consider City Plans & Projects

- ▶ Parks & Recreation Master Plan
- ▶ Basalt Creek Concept Plan
- ▶ Ice Age Tonquin Trail
- ▶ Capital Improvement Plan
- ▶ Tualatin Tomorrow
- ▶ Transient Lodging Tax
- ▶ Clean Water Services Interceptor & Siphon Project



## Tualatin Park Advisory Committee

# Tree Board Recommendations

- ▶ Arbor Week Presentation & Proclamation
- ▶ Tree City USA Presentation & Recognition
- ▶ Heritage Tree Designation



# Tualatin Park Advisory Committee

## 2019 Committee Action Plan

- ▶ Committee Mission Statement & Goals
- ▶ Support Master Plan Funding & Implementation
- ▶ Seek Community Input through Public Outreach





# Tualatin Park Advisory Committee

## Mission Statement

We are a group of enthusiastic advocates for the Parks and Recreation system with a focus on the stewardship and enhancement of our community.



# Tualatin Park Advisory Committee

## 2019 Council Recommendations

- ▶ Implement Master Plan
- ▶ Funding Sources for Master Plan Implementation
  - ▶ SDC Rates to Include Nonresidential Development
- ▶ Project Prioritization Involvement



# Tualatin Park Advisory Committee



## Questions and Comments



**City Council Meeting**

**Meeting Date:** 04/08/2019

**SPECIAL REPORTS:** Tualatin Library Advisory Committee Annual Report

**Submitted For:** Sherilyn Lombos, City Manager

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**SPECIAL REPORTS**

Annual Report of the Tualatin Library Advisory Committee

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TLAC 2018 Annual Report

TLAC 2018 Presentation

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# 2018 ANNUAL REPORT

## Tualatin Library Advisory Committee

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### 1. BACKGROUND

The Tualatin Library Advisory Committee (TLAC) was established by Ordinance 758-88, adopted by Council on October 10, 1988, and incorporated into the Tualatin Municipal Code as Chapter 11-4. The enabling ordinance requires the TLAC to file an annual report with the Council including a summary of the committee's activities during the preceding year and other matters and recommendations the committee deems appropriate.

Members of the TLAC during 2018 include Alan Feinstein, Nicholas Schiller (Vice Chair), Laura Stewart, Thea Wood (Chair), and Marcus Young. Former members included Sonya Ambuehl, who resigned in July 2018, and teen representative Hannah Watt, who resigned in September 2018. David Jaimes and Jack Milne (teen representative) joined the committee in October 2018.

### 2. ROLES OF THE COMMITTEE

- A. Consult with and advise the Library Manager on all matters affecting operational policies of the City Library.
- B. Make recommendations to the City Council with respect to services, facilities, and all other matters pertaining to the maintenance and improvement of the City Library.
- C. Hear and consider complaints about City Library policies or materials.

### 3. ACTIONS AND ACCOMPLISHMENTS IN SUPPORT OF ROLES IN 2018

#### A. CONSULT WITH AND ADVISE THE LIBRARY MANAGER ON ALL MATTERS AFFECTING OPERATIONAL POLICIES OF THE CITY LIBRARY

1. Committee members considered & provided recommendations on updated Library Rules and several operational policies, including Collection Development, Technology, Public Use of Exhibit Space, and Community Room Use.
2. TLAC discussed and provided comments to Library management regarding the makerspace conceptual study, library user survey, Summer Reading, library facilities, library budget, early literacy services, intellectual freedom, outcomes assessment, and library utilization trends. Committee members shared their perspective as citizens and library users, providing input representing our diverse community.

**B. MAKE RECOMMENDATIONS TO THE CITY COUNCIL WITH RESPECT TO SERVICES, FACILITIES, AND ALL OTHER MATTERS PERTAINING TO THE MAINTENANCE AND IMPROVEMENT OF THE CITY LIBRARY.**

1. TLAC members discussed a progress report for the Library's strategic plan actions completed in 2018 and updated strategies for 2019. Highlighted accomplishments included:
  - a. 100% of surveyed parents said storytime helped them feel more confident about helping their child learn and 100% learned something they could share with their child.
  - b. 98% of survey participants ranked library service as good to excellent.
  - c. 66% of survey participants said the library has helped them connect or engage with the community.
  - d. 800+ children (about 50% of the eligible population) are participating in 1000 Books Before Kindergarten.
  - e. Outreach to schools and organizations serving youth increased.
  - f. Library of Things collection introduced.

Committee members discussed and made suggestions to support programs and services that align with the following City Council 2030 Vision initiatives: a connected, informed, and engaged community; a diverse and inclusive community where everyone has equal access to opportunities in order to thrive and enjoy a high quality of life; and an affordable, livable, family-oriented, healthy, active, and safe community for all incomes, ages, and abilities.

2. TLAC received regular information regarding the Parks & Recreation Master Plan update and provided input and recommendations to the plan's Project Advisory Committee during the public outreach phase.
3. TLAC recommended the Library pursue facility improvements to create a glass classroom / makerspace within the Library.
4. TLAC received presentations from a number of library partners and recommended activities to strengthen these partnerships. Presentations included:
  - a. Teen Library Committee
  - b. City Manager's Office
  - c. Parks & Recreation
  - d. Tualatin Library Foundation
  - e. Friends of Tualatin Library

**C. HEAR AND CONSIDER COMPLAINTS ABOUT CITY LIBRARY POLICIES OR MATERIALS.**

1. TLAC holds open meetings and members of the public are invited to attend. No formal complaints were brought before the committee in 2018.
2. TLAC members review comment cards received by the City regarding the Library each month and provide feedback on the topics raised.

#### **4. ACTION PLAN FOR 2019**

##### **A. LONG-RANGE PLANNING**

TLAC will continue to be actively involved and provide citizen feedback for the update to the Library strategic plan and review Library services in light of priorities identified in the Library strategic plan.

##### **B. REVIEW OPERATIONAL POLICIES**

TLAC will continue to be actively involved and educated in the operations and roles of the Library. TLAC will provide citizen feedback as Library management reviews and updates operational policies.

##### **C. FACILITIES IMPROVEMENT**

TLAC will provide input and recommendations during the design process for the proposed Library makerspace.

##### **D. ADVANCE COUNCIL VISION**

TLAC will support social equity and inclusion within Library programs and services, providing opportunity to thrive for all community members.

cc: Tualatin Library Advisory Committee (TLAC)

# Tualatin Library Advisory Committee (TLAC) 2018 Annual Report



CITY OF  
**TUALATIN** OREGON



# Committee Members

## Members

Thea Woods, Chair

Marcus Young

David Jaimes

Alan Feinstein

Laura Stewart

Nicholas Schiller, Vice-Chair

Jack Milne (not pictured)



## Former Members

Sonya Ambuehl

Hannah Watt

## Staff

Jerianne Thompson



CITY OF  
**TUALATIN** OREGON

# Committee Role

The role of TLAC is to:

- Consult with Library Manager on all matters affecting Library operational policy.
- Make recommendations to City Council regarding Library services, facilities, and improvements.
- Hear and consider complaints about Library policies or materials.



# Consult with Library Manager on all matters affecting Library operational policy

- Provided recommendations on updated Library Rules
- Provided recommendations on policies: Collection Development, Technology, Public Use of Exhibit Space, and Community Room Use
- Provided comments & recommendations: library user survey, library facilities, early literacy services, and intellectual freedom



# Recommendations regarding Library services, facilities, and improvements

## Highlighted Accomplishments:

- 100% of surveyed storytime parents felt more confident helping their child learn
- 98% of survey participants ranked library service as good to excellent
- 66% said the library has helped them connect or engage with the community



# Recommendations regarding Library services, facilities, and improvements

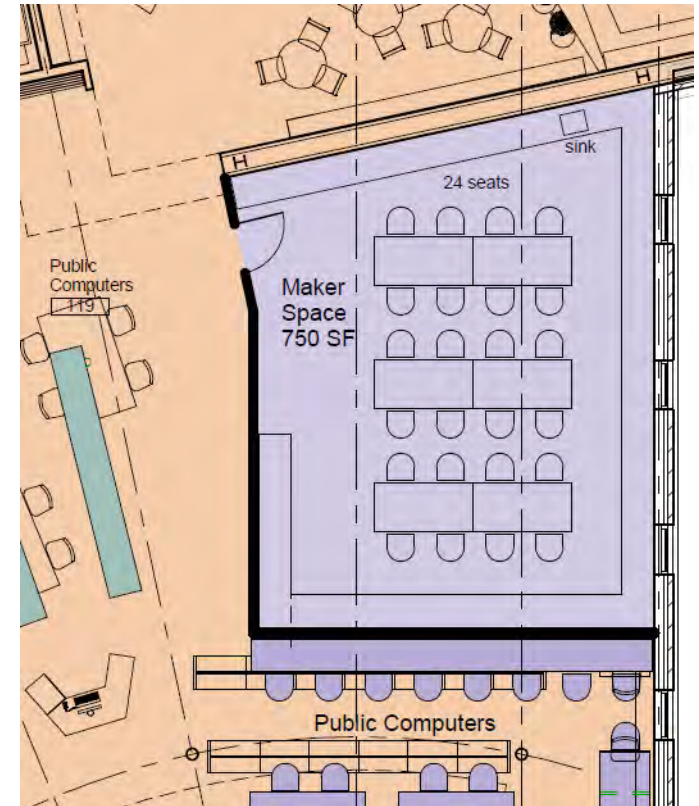
Highlighted Accomplishments:

- 800+ children are participating in 1000 Books Before Kindergarten (about 50% of the population)
- Library of Things collection introduced



# Recommendations regarding Library services, facilities, and improvements

- Parks & Recreation Master Plan Update
- Recommendation to create a makerspace / glass classroom inside the Library



# Hear and consider complaints about Library policies or materials

- Review comment cards, provide feedback



# Tualatin Library Advisory Committee (TLAC)

Questions?



CITY OF

**TUALATIN** OREGON



## **City Council Meeting**

**Meeting Date:** 04/08/2019

**SPECIAL REPORTS:** 2018 Annual Report of the Tualatin Planning Commission

**Submitted For:** Steve Koper, Planning Manager

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### **SPECIAL REPORTS**

Annual Report of the Tualatin Planning Commission

#### **SUMMARY**

- The Planning Commission reviewed and approved the 2018 Annual Report at their regularly scheduled meeting on March 21, 2019. They recommended that the City Council accept the report.
- Not later than April 1 of each year, commencing with the year 1977, the Tualatin Planning Commission shall file with the City Council its annual report of the activities of the Commission.
- The annual report shall include a survey and report of the activities by the Commission during the preceding year, in addition to specific recommendations to the City Council not otherwise requested by the City Council, relating to the planning process, plan implementation measures within the City, or future activities of the Commission.
- The report may include activities of the Commission. The report may include any other matters deemed appropriate by the Commission for recommendation and advice to the Council.
- The Tualatin Municipal Code 11-1 contains the provisions for the functions and activities of the Tualatin Planning Commission (TPC).
- TPC is the official Commission for the Citizen Involvement in accordance with Statewide Land Use Planning Goal 1, Citizen Involvement.
- TPC reviewed three Plan Text Amendments during 2018.
- TPC decided two quasi-judicial applications (two Variances) during 2018.

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2018 Annual Report of the Tualatin Planning Commission

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*City of Tualatin*

**2018 ANNUAL REPORT**

**TUALATIN PLANNING COMMISSION**

**March 21, 2019**

Planning Commissioners:

Bill Beers, Chair  
Kenneth Ball, Vice Chair  
Alan Aplin  
Angela Demeo  
Mona St. Clair  
Janelle Thompson  
Travis Stout

# 2018 ANNUAL REPORT OF THE TUALATIN PLANNING COMMISSION

## BACKGROUND

The Tualatin Planning Commission, formerly the Tualatin Planning Advisory Committee, was established on July 26, 1976 (Ord. 1339-12 and Ord. 342-76). The Planning Commission's membership, organization and duties are prescribed in Tualatin Municipal Code Chapter 11-1. The Planning Commission is the official Committee for Citizen Involvement in accordance with Statewide Land Use Planning Goal 1, Citizen Involvement. This annual report covers activities conducted by the Planning Commission in 2018.

This report will address a section of the Tualatin Municipal Code Chapter 11-1.

**11-1-080:** Not later than April 1 of each year, the Commission shall file its annual report of the activities of the Commission with the City Council. The annual report shall include a survey and report of the activities of the committee during the preceding year, in addition to specific recommendations to the City Council not otherwise requested by the City Council, relating to the planning process, plan implementation measures within the City, or the future activities of the Committee. The report may include any other matters deemed appropriate by the Committee for recommendation and advice to the Council.

## *2018 Planning Commission*



*Janelle Thompson, Alan Aplin, Kenneth Ball, Travis Stout,  
Mona St. Clair, Bill Beers, Angela Demeo*

## **CITIZEN INVOLVEMENT AND INPUT**

The Planning Commission is the official Committee to fulfill Goal 1: Citizen Involvement of Oregon's statewide land use planning program. The purpose of Goal 1 is to develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the land use planning process.

Goal 1 is specific to land use and involving citizens in land use making decisions. The Planning Commission serves two functions in Tualatin's land use planning program. Their first and original function is to serve as an advisory committee to the City Council by reviewing and making recommendations on comprehensive plan amendments. Plan amendments implement policy direction and are essentially legislative decisions. The second function of the Planning Commission is decision making authority over a specified set of quasi-judicial land use decisions. In other words, the Planning Commission has the authority to approve or deny projects tied to specific properties.

Goal 1 allows for varying degrees of citizen involvement that is appropriate to the scale of the planning effort. For example in 2018, the Planning Commission recommended approval of PTA 18-0003: Tualatin Development Code Improvement Project (TDCIP) Phase 1 that resulted in modernization updates to the Tualatin Development Code. Staff provided notification of the public meeting Tualatin Development Code requirements and citizens were afforded the opportunity to comment at the Planning Commission meeting and the City Council public hearing. This outreach served as the public involvement for this Plan Text Amendment. The Planning Commission also reviewed two other Plan Text Amendments - PTA18-0001: updates to residential zoning districts to allow accessory dwelling units and PTA18-0002: updates to TDC Chapter 70 to achieve continued compliance with National Flood Insurance Program Requirements. Notice for these amendments was given in accordance with the Tualatin Development Code and citizens were afforded the opportunity to comment at the Planning Commission meetings and the City Council public hearings.

In all three cases, citizens had a chance make comments either in writing or verbally at the public meeting prior to the Planning Commission making a recommendation to the City Council. All Planning Commission meetings regardless of the agenda items are published on the City website and notices of the meetings are posted in two different locations in City buildings. Additionally, the Community Development staff meets with the Citizen Involvement Organization Land Use Officers as topics arise. The purpose of the meetings is to provide updates on land use items such as projects under construction, upcoming decisions and long range planning. These meetings are held directly before the Planning Commission meetings, and they provide a forum for CIO officers to ask questions and get more information about community development processes.

## **PLANNING COMMISSION ACTION ITEMS**

In January 2012, the City Council changed the Tualatin Planning Advisory Committee to the Tualatin Planning Commission and gave the Commission purview over certain quasi-judicial land use applications. In December of 2017, Conditional Use Permits were assigned to the Planning Commission in addition to the below listed applications:

- Industrial Master Plan
- Reinstatement of Use
- Sign Variance
- Variance
- Transitional Use Permit
- Conditional Use Permit

The Planning Commission retains the duties of the Advisory Committee, which is to make recommendations to City Council on comprehensive plan amendments such as Plan Text and Plan Map changes. In 2018, the Planning Commission reviewed and made recommendations on three Plan Text Amendments and approved two Variances. They met ten times during the calendar year. Two meetings were cancelled due to a lack of agenda items.

**VAR17-0001: A Resolution for the Variance request to the Wireless Communication Facility (WCF) Separation Requirement for the POR Durham project.** Approved 5-0.

**VAR18-0001: Consideration of a Variance request for two standards in the Tualatin Development Code for the Tualatin Professional Center in the Office Commercial (CO) Planning District.** Approved 6-0.

**PTA18-0001: Plan Text Amendment (PTA18-0001) to modify process, criteria and standards for accessory dwelling units (ADU).** Recommended approval to Council.

**PTA18-0002: Consideration to amend the Tualatin Development Code Chapter 70: Flood Plain District to meet minimum National Flood Insurance Program Requirements.** Recommended approval to Council.

**PTA18-0003: Tualatin Development Code Improvement Project (TDCIP) Phase 1 – Recommendation to City Council.** Recommended approval to Council.

## **STAFF UPDATES TO THE PLANNING COMMISSION**

Staff presented several long range planning topics for discussion including:

- Capital Improvement Plan update: The CIP identifies the anticipated projects for the upcoming year as well as the projects that the City is planning for over the next ten years.
- Tualatin Development Code Improvement Project (TDCIP) Phase 1.
  - Progress update

- Overview of staff accomplishments
- Basalt Creek
  - Update on the overview of the work staff carried out on the central subarea and Council's confirmation on the Concept Map.
  - Update on the Transportation Refinement Plan, future transit framework, parks, and utility summary.
- Parks and Recreation Master Plan Update: An update on the master plan moving forward to 2035.
- Potential Tualatin Development Code Plan Text Amendment to increase building height in the Mixed Use Commercial Overlay District.
- Tualatin Moving Forward Update: Program implementing the \$20 million transportation bond.
  - The first of five "fast track" projects
  - Upcoming projects

### **COMMISSIONER TRAININGS**

None.



# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Steve Koper, Planning Manager  
Aquilla Hurd Ravich, Community Development Director

**DATE:** 04/08/2019

**SUBJECT:** Basalt Creek Comprehensive Plan Update (File Nos. PTA 19-0001 and PMA 19-0001).

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### **ISSUE BEFORE THE COUNCIL:**

The Council is asked to consider the Planning Commission's recommendation of approval of a Plan Text Amendment (PTA) and Plan Map Amendment (PMA) to update the City of Tualatin Comprehensive Plan and Development Code to be applicable within the Basalt Creek Planning Area. Application of the Comprehensive Plan and Development Code to an individual property would occur after approval of a property-owner submitted annexation petition.

### **RECOMMENDATION:**

The Planning Commission has recommended that the City Council approve the proposed amendments (PTA 19-0001 and PMA 19-0001).

### **EXECUTIVE SUMMARY:**

#### **Background**

- The Basalt Creek Planning Area was brought into the Portland Metropolitan Urban Growth Boundary in 2004.
- Metro Code Title 11 requires a city to adopt a concept plan – which is a long-range plan that identifies lands for residential and employment uses and the transportation and other public facilities necessary to support the mix of uses - for an area brought into the Urban Growth Boundary as an interim step until a city amends its adopted comprehensive plan and applies it to that area.
- The Basalt Creek Concept Plan was adopted for the Basalt Creek Planning Area by the Tualatin City Council in August of 2018, and was the result of a joint planning effort for the area between the City of Tualatin and the City of Wilsonville.
- Tualatin is responsible for comprehensive planning in the portion of the Basalt Creek Planning Area south of its existing City limit (Helenius Road and Norwood Street) extending to Basalt Creek Parkway further to the south, I-5 to the east, and 124<sup>th</sup> Avenue to the west.

## Public Involvement

- The Basalt Creek Concept Plan required a very different approach than most concept plans because Tualatin and Wilsonville participated in a joint planning effort, resulting in more public outreach than would have occurred had a single city planned for the area. A public involvement plan was used to guide outreach strategies and events throughout the planning process. Community workshops, visioning workshops, open houses, stakeholder interviews/ focus groups, and surveys were used to gain public opinion on the Plan. Planning Commission and Council meetings were held, all open to the public.
- A public open house was also held by Tualatin on January 22, 2019 to provide an introduction to the future planning steps that would implement the Basalt Creek Concept Plan.
- Throughout the planning process, periodic updates were posted in the City newsletter and on the City webpage. Finally, the Tualatin Planning Commission received frequent briefings and the Tualatin City Council received memoranda and work session briefings from project staff.
- Notice of the proposed amendments was provided in accordance with TDC Sections 32.250 and 33.070, which have been determined to be compliant with Oregon Statewide Planning Goal 1 (Public Involvement).

## Proposal

- The subject proposal is a Plan Text Amendment (PTA 19-0001) and Plan Map Amendment (PMA 19-0001), which are legislative amendments.
- The proposed amendments would update the Tualatin Comprehensive Plan and Development Code consistent with the adopted Basalt Creek Concept Plan.
- The proposed amendments would also allow for future application of the Tualatin Comprehensive Plan and Development Code to properties located within the Tualatin portion of the Basalt Creek Planning Area.
- The proposed amendments would update Chapters 4, 7, 9, Figures 11-1, 11 -2, 11-3, 11-4, 11-5, 11-6, and Maps 9-1, 9-2, 9-4, 9-5, 12-1, and 13-1, of the Tualatin Comprehensive Plan. Map 9-1 is the Community Plan Map (“Zoning Map”).
- The proposed amendments would update Chapters 51, 62, and 75, Figure 73-3, and Maps 72- 1, 72-2, 72-3, and 74-1 of the Tualatin Development Code
- The proposed amendments would update the Tualatin Transportation System Plan.

## Zoning Designations

- The Tualatin portion of the Basalt Creek Planning Area is generally located north of Basalt Creek Parkway, south of Helenius Road and Norwood Road, east of 124th Avenue, and west of I-5. As shown on the Community Plan Map (Map 9-1, Exhibit 11), the Basalt Creek Planning Area would include a mix of residential zones at various densities, a small neighborhood commercial node, and employment lands, consistent with the Basalt Creek Concept Plan. As shown on the Neighborhood Planning Areas Map (Map 9-2, Exhibit 11), the Basalt Creek Planning Area will be designated as “Area 16.” Application of the zoning designations to an individual property would occur after approval of a property-owner submitted annexation petition.
- Low Density Residential (RL): An area with the RL (Low Density Residential) Planning District is proposed west of Boones Ferry Road in the approximate area of the Basalt Creek Canyon. An area with the RL Zone is also planned north of Tonquin Loop, south of Helenius Road, west of Grahams Ferry Road and east of 124th Avenue. This land will develop either in the traditional single-family subdivision pattern, or, through the conditional use process in clustered housing patterns.



- Medium Low Density Residential (RML): An area with the RML (Medium Low Density Residential) Zone is proposed south of Norwood Road, east of Boones Ferry Road, and west of I-5. An additional area of RML Zone is also planned east of Grahams Ferry Road between the two above described areas of RL Zone. These areas lend themselves to a slightly higher density than traditional single-family due to the excellent transportation access and the close relationship to the employment centers. The use of the RML District in this area provides for the needed higher densities with a District that will allow development that is similar in character and density to the RL lands.
- High Density Residential (RH): An area with the RH (High Density Residential) Zone is proposed north of Greenhill Road and east of Boones Ferry Road. This land lends itself to a higher density due to the excellent transportation access and the close relationship to the employment centers. The use of the RH District in this area provides for the needed higher densities.
- Neighborhood Commercial (CN): A small area with the CN (Neighborhood Commercial) Zone is proposed north of Greenhill Road and east of Boones Ferry Road. This CN District is intended to provide locations for commercial uses within close proximity to residential areas, to provide opportunities to serve the needs of residents for convenience shopping and services. This area lends itself to the CN District due to the excellent transportation access and the close proximity to abutting residential areas of medium to higher densities.
- Manufacturing Park (MP): The balance of the Basalt Creek Planning Area is proposed to be designated in the MP (Manufacturing Park) Zone. The MP District is intended to be conducive to the development and protection of modern, large-scale specialized manufacturing and related uses and research facilities. This area is located north of Basalt Creek Parkway, south of Tonquin Loop, east of 124th Avenue, and west of Basalt Creek Canyon and an area of RML Zone.

## **Central Subarea**

- The Central Subarea is a 52-acre portion of the greater Basalt Creek Planning Area, located at the northeast intersection of Grahams Ferry Road and Basalt Creek Parkway.
- In 2017, the City of Tualatin and City of Wilsonville were in disagreement as to designation of the Central Subarea. The two cities approached Metro to resolve the dispute, and the parties entered into an intergovernmental agreement (IGA) for Metro to resolve the dispute. Under the IGA, Metro had sole discretion on how it was to resolve the dispute. Metro chose to conduct an arbitration-like process. Each city presented its case to Metro staff and the staff then made a recommendation to the Metro Council. Ultimately, Metro staff and the Metro Council concluded the Central Subarea should be designated for Industrial/Employment.
- As a result, the Concept Plan designated the Central Subarea as Industrial/Employment (specifically, the Manufacturing Park (MP) zoning designation). Each Council then adopted a resolution “accepting the Concept Plan” with the Central Subarea designated as Industrial/Employment.
- The City gave due consideration of designating the Central Subarea as residential and considered the evidence and testimony submitted during all public hearings.
- The City finds the Central Subarea is viable for use as industrial/employment, which was its original consideration.
- In weighing the competing policy goals and other factors, the City finds the Central Subarea should be designated as Industrial/Employment as provided in the Concept Plan, and consistent with the Metro Decision.
- Accordingly, the proposed amendments would designate the Central Subarea as Manufacturing Park (MP).

- In support of this decision, the City adopts as its findings, the findings in the Metro Decision.

### **Transportation System Plan (TSP) Update**

- The proposed amendments would update the Tualatin TSP (Exhibit 9) to include the Basalt Creek Planning Area and to apply roadway functional classifications (Figure 11-1, Exhibit 10) consistent with the Basalt Creek Concept Plan and the Basalt Creek Transportation Refinement Plan. Staff notes that due to the adoption of an updated Regional Transportation Functional Plan (RTFP) by Metro in December of 2018, supplemental transportation analysis has been included (Exhibit 5), demonstrating that the TSP update, as proposed, continues to be compliant with OAR Chapter 660 Division 12 (Transportation Planning Rule), the Oregon Highway Plan, and applicable sections of the Metro Regional Transportation Functional Plan, and is adequate to support future property development in the Basalt Creek Planning Area consistent with the proposed zoning designations.
- The proposed amendments would also update the following Figures (Exhibit 10): 11-2 – Metro Regional Street Design System, 11-3 – Local Street Plan, 11-4 – Bicycle and Pedestrian System, 11-5 – Transit Plan, 11-6 – Freight Routes, and 73-3 – Parking Maximum Map, consistent with the Basalt Creek Concept Plan and compliant with OAR Chapter 660 Division 12 (Transportation Planning Rule), the Oregon Highway Plan, and applicable sections of the Metro Regional Transportation Functional Plan.
- The proposed amendments would update the City's Pedestrian and Bicycle Plan (Figure 11-4) to expand the planning area consistent with the Basalt Creek Planning Area, and add a planned trail and multi-use path that were conceptually identified in the Basalt Creek Concept Plan. Per Tualatin Development Code Section 74.450, the mechanism for construction of a pedestrian path or dedication of an easement would be when development abuts or contains a facility identified on Figure 11-4.
- The proposed amendments would update the City's Transit Plan (Figure 11-5) to expand the planning area boundary consistent with the Basalt Creek Planning Area. Although a Park and Ride System Expansion was previously included on Figure 11-5 in 2014 as part of the most recent TSP update, the Basalt Creek Concept Plan included consideration of additional TriMet service within the area in the future.

### **Comprehensive Plan Text Amendments**

- In support of the proposed amendments, and implementation of the proposed zoning designations and transportation system, amendments to the Tualatin Comprehensive Plan text are proposed.
- Chapter 4 (Community Growth): Section 4.065 (Requirements) is updated to include a reference to the adoption of the proposed amendments.
- Chapter 7 (Manufacturing Planning Districts): Section 7.010 (Background) is updated to include a reference to the 2004 Urban Growth Boundary Expansion and the Basalt Creek Planning Area.
- Chapter 9 (Plan Map): Adds a new Section (9.046 – Area 16 Basalt Creek Planning Area) to include a description of the Basalt Creek Planning Area and the applicable zoning designations within the area.

### **Development Code Text Amendments**

- In support of the proposed amendments, and implementation of the proposed zoning designations and transportation system, amendments to the Tualatin Development Code are proposed.

- Chapter 51 (Neighborhood Commercial (CN) Zone): Section 51.110 (District Size and Location Standards) is updated consistent with the size and location of the CN zone identified in the Basalt Creek Concept Plan.
- Chapter 62 (Manufacturing Park (MP) Zone): Table 62-2 (Development Standards in the MP Zone) is updated to apply within the Basalt Creek Planning Area.
- Chapter 75 (Access Management): Section 75.140 (Existing Streets Access Standards) is updated to apply to streets within the Basalt Creek Planning Area.

### **Public Utility Infrastructure**

- As illustrated within the Water Plan and Sanitary Sewer Plan (Maps 12-1 and 13-1), public utilities will be extended south of the existing city limit to serve the Basalt Creek Planning Area. Existing stormwater infrastructure consists of roadside drainage ditches and culverts. Culverts in the Basalt Creek Planning Area are under the jurisdiction of Washington County. Culverts to the south of the Planning Area are part of the City of Wilsonville stormwater system. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the Planning Area. No regional stormwater detention facilities were planned as part of the concept plan. In the future, culverts in the Basalt Creek Planning Area may need to be upsized by Washington County. In addition, as properties annex to Tualatin and propose new development, private stormwater infrastructure will need to be constructed consistent with Clean Water Services standards and TDC Chapter 74. These standards generally require that private infrastructure must be constructed (including onsite treatment and detention as needed) such that post-development runoff does not exceed the amount generated by the site that was generated prior to development.

### **Natural Resources**

- The proposed amendments would apply the Tualatin Development Code within the Basalt Creek Planning Area upon adoption and annexation of any property to Tualatin. Metro Regional Functional Plan Title 3 and 13 conservation areas will be administered and protected by Clean Water Services. Future development in Tualatin must comply with Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat. Although no areas of floodplain or regulatory floodway are mapped by the Federal Emergency Management Agency (FEMA) in the Basalt Creek Planning Area, Tualatin Development Code Chapter 70 (Floodplain Development) would be applicable to individual properties, upon annexation to Tualatin.

### **School Capacity**

- The Basalt Creek Planning Area is served by the Sherwood School District. Future school capacity to serve future residential development was analyzed as part of the Basalt Creek Concept Plan. The Sherwood School District has previously indicated that no new school facilities are planned within the Basalt Creek Planning Area. The proposed amendments are consistent with the residential zoning districts identified in the concept plan. Notice of the proposed amendments was also provided to the Sherwood School District.

### **Parks Master Plan**

- The City adopted an updated Parks Master Plan in November of 2018, which identified the need for a park generally, but did not identify a specific area. The Parks Master Plan and its provisions governing site identification and acquisition will guide the development

of future parks, trails, recreation areas and open space within the Basalt Creek Planning Area.

### **Agency and Interested Person Comments**

- Notice of the proposed amendments was provided to the Oregon Department of Land Conservation and Development (DLCD), the required 35 days prior to the City Council public hearing. Notice was also sent to Metro and other affected agencies. Notices complying with Oregon Ballot Measure 56 were mailed to property owners within the Tualatin portion of the Basalt Creek Planning Area. Comments received as of the date of this staff report are attached.

### **OUTCOMES OF DECISION:**

A decision to approve the proposed amendments (PTA-19-0001 and PMA-19-0001) would result in:

- Updating the Tualatin Comprehensive Plan and Development Code consistent with the adopted Basalt Creek Concept Plan.
- Amendments to:
  - Chapters 4, 7, 9, Figures 11-1, 11 -2, 11-3, 11-4, 11-5, 11-6, and Maps 9-1, 9-2, 9-4, 9-5, 12-1, and 13-1, of the Tualatin Comprehensive Plan.
  - Chapters 51, 62, and 75, Figure 73-3, and Maps 72- 1, 72-2, 72-3, and 74-1 of the Tualatin Development Code.
  - The Tualatin Transportation System Plan.
- Future application of the City Comprehensive Plan and Development Code to individual properties within the Basalt Creek Planning Area, after approval of a property-owner initiated annexation.
- Future urban development within the Basalt Creek Planning Area, after annexation to the City of Tualatin.

### **ALTERNATIVES TO RECOMMENDATION:**

The Council may alternatively:

- Approve the proposed amendments (PTA 19-0001 and PMA 19-0001) with further amendments.
- Continue the consideration of the proposed amendments (PTA-19-0001 and PMA-19-0001) to a later date.
- Deny the proposed amendments (PTA 19-0001 and PMA 19-0001).

---

**Attachments:**     [City Council Public Hearing Presentation](#)  
                              [Exhibit 1 - Analysis and Findings](#)  
                              [Exhibit 2 - Basalt Creek Concept Plan](#)  
                              [Exhibit 3 - Basalt Creek Concept Plan Technical Appendixes](#)  
                              [Exhibit 4 - Metro Ordinance No. 04-1040b](#)  
                              [Exhibit 5 - Supplemental Transportation Analysis](#)  
                              [Exhibit 6 - Tualatin Basin Plan Compliance Letter](#)  
                              [Exhibit 7 - Metro Resolution 18-4885](#)

Exhibit 8 - 2018 Metro Functional Compliance Determination

Exhibit 9 - Amended Tualatin Transportation System Plan

Exhibit 10 - Amended Figures

Exhibit 11 - Amended Maps

Amended Tualatin Comprehensive Plan Text

Amended Tualatin Development Code Text

Draft Tualatin Planning Commission Minutes dated March 21, 2019

Measure 56 Notice and Affidavit of Mailing

Newspaper Notice and Affidavit of Publishing

Posted Notice and Affidavit of Posting

Letter to City Council from Roger Alfred Metro Attorney dated August 9, 2018

Written Testimony from Peter Watts Submitted on March 21, 2019

Written Testimony from Grace Lucini Submitted on March 25, 2019

Written Testimony from Wes Laitinen Submitted on March 29, 2019

Memo from City Engineer Kim McMillian

# **Basalt Creek Comprehensive Plan Update**

**PTA 19-0001/PMA 19-0001**

Tualatin City Council  
April 8, 2019



# Tonight's Presentation

- **Overview and Project History**
- **Background on the Basalt Creek Planning Area and Concept Plan**
- **Public engagement**
- **What is the Comprehensive Plan and why update it?**
- **What other updates are proposed?**
- **Implementation process/next steps**
- **Recommendation and Q&A**

# Overview and Project History

## Five Steps for City Expansion

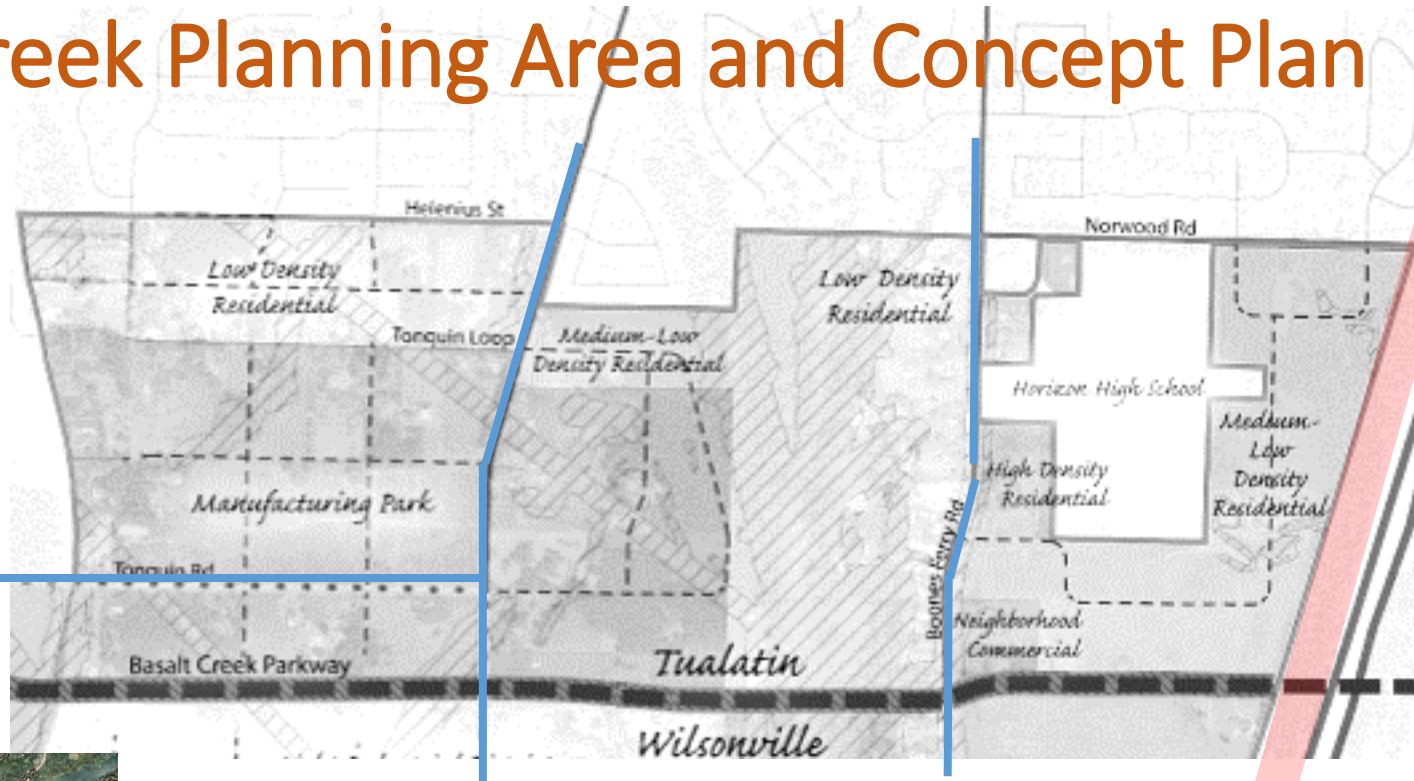


Basalt Creek Comprehensive Plan Update





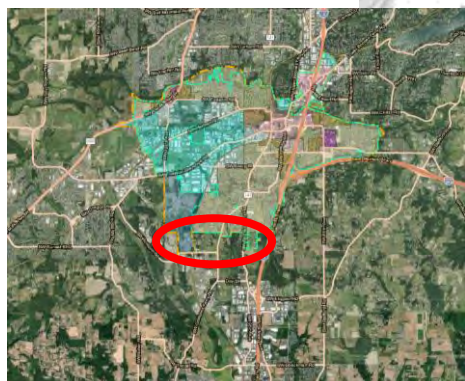
# Basalt Creek Planning Area and Concept Plan



Tonquin Road

Grahams Ferry Road

Boones Ferry Road



# Public Engagement



Focus  
Groups  
2014



Design  
Work-  
shop  
2014



Open  
House  
2016



Open  
House  
2019<sup>+</sup>

Basalt Creek Comprehensive Plan Update

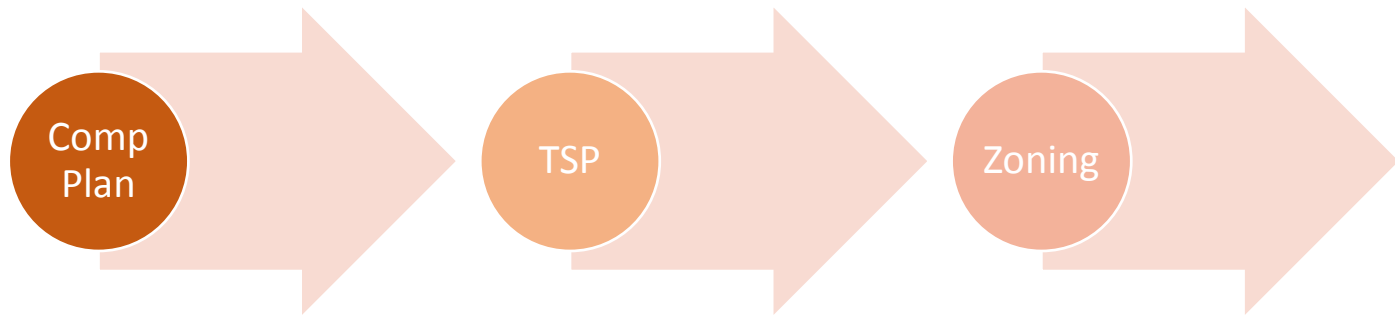


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\*Photo Credit: Ray Pitz, News Editor for the Beaverton, Tigard and Tualatin Times

# What is the Comprehensive Plan?

- The guiding document for land development in Tualatin
- Shows compliance with Oregon Statewide Planning Goals, Oregon Administrative Rules, and Metro Code
- Contains the community's goals and policies
- Updates are proposed consistent with the Basalt Creek Concept Plan

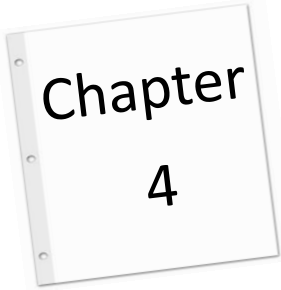


Basalt Creek Comprehensive Plan Update

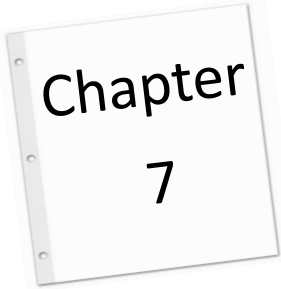


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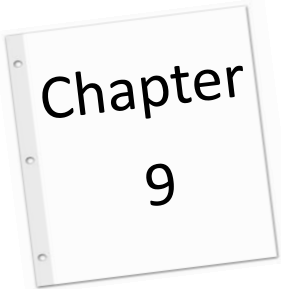
# What is proposed? – Comprehensive Plan

Chapter  
4

- Community Growth
  - Adds history

Chapter  
7

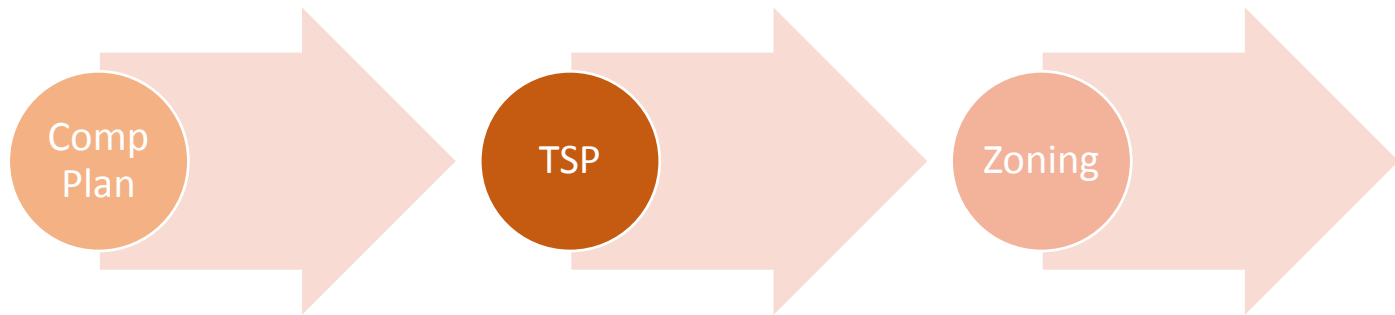
- Manufacturing Planning Zones
  - Adds background

Chapter  
9

- Plan Map
  - Adds the Basalt Creek Planning Area (“Area 16”)
  - Describes location and type of zoning designations

# What is the Transportation System Plan (TSP)?

- A part of the Comprehensive Plan.
- Identifies the existing transportation system and future improvements necessary to support development in Tualatin consistent with adopted zoning designations.
- Shows compliance with Oregon Statewide Planning Goals, Oregon Administrative Rules, and Metro Code.



# What is proposed? – Transportation System Plan

- The proposed updates expand the Transportation System Plan to include the Basalt Creek Planning Area
- Applies roadway types consistent with the Basalt Creek Concept Plan and the Basalt Creek Transportation Refinement Plan.
- The transportation analysis shows that the proposed transportation system is adequate to support future property development in the Basalt Creek Planning Area.
- Demonstrates compliance with State and Regional rules.

# Functional Classification Plan (Figure 11-1)



- |                                   |  |                          |
|-----------------------------------|--|--------------------------|
| — Principal Arterials             | ■ ■ ■ Future Major Arterial                | — Planning Area Boundary |
| — Major Arterial                  | ■ ■ ■ Future Major Collector               | —+— Railroad             |
| — Minor Arterial                  | --- Future Minor Collector                 |                          |
| — Major Collector                 | --- Future Commercial/Industrial Connector |                          |
| — Minor Collector                 | ○ Existing Traffic Signal                  |                          |
| — Commercial/Industrial Connector | ○ Proposed Traffic Signal                  |                          |
- Notes:  
- Future roadway alignments are approximate and subject to additional engineering and design.  
- Proposed traffic signal locations are subject to engineering judgment and additional analysis.

# Bike and Pedestrian Plan (Figure 11-4)



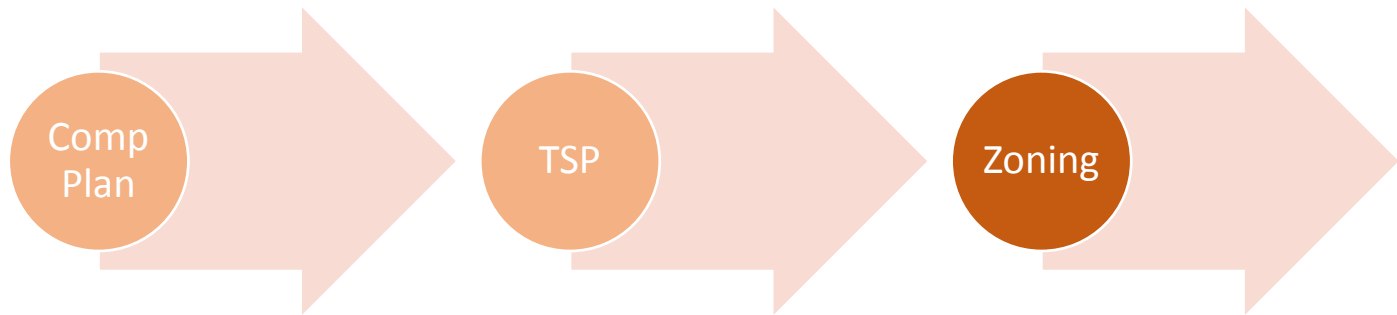
- Roads with Bike Lanes and Sidewalks  
(Arterials and Collectors)
- Roads with Sidewalks  
(Arterials, Collectors, and Connectors)
- Shared Roadway
- Bike Boulevards
- Multi-Use Path
- Planned Multi-Use Path\*
- Pedestrian Path
- Planned Pedestrian Path\*
- Planning Area Boundary

\*Alignments shown are general in nature and not location specific.



# What is the Development Code?

- Also known as the Zoning Code.
- Its regulations implement the goals and policies of the Comprehensive Plan.
- Updates would apply land use regulations within the Basalt Creek Planning Area, upon annexation of individual properties.
- Consistent with the Basalt Creek Concept Plan.



# What is proposed? – Development Code

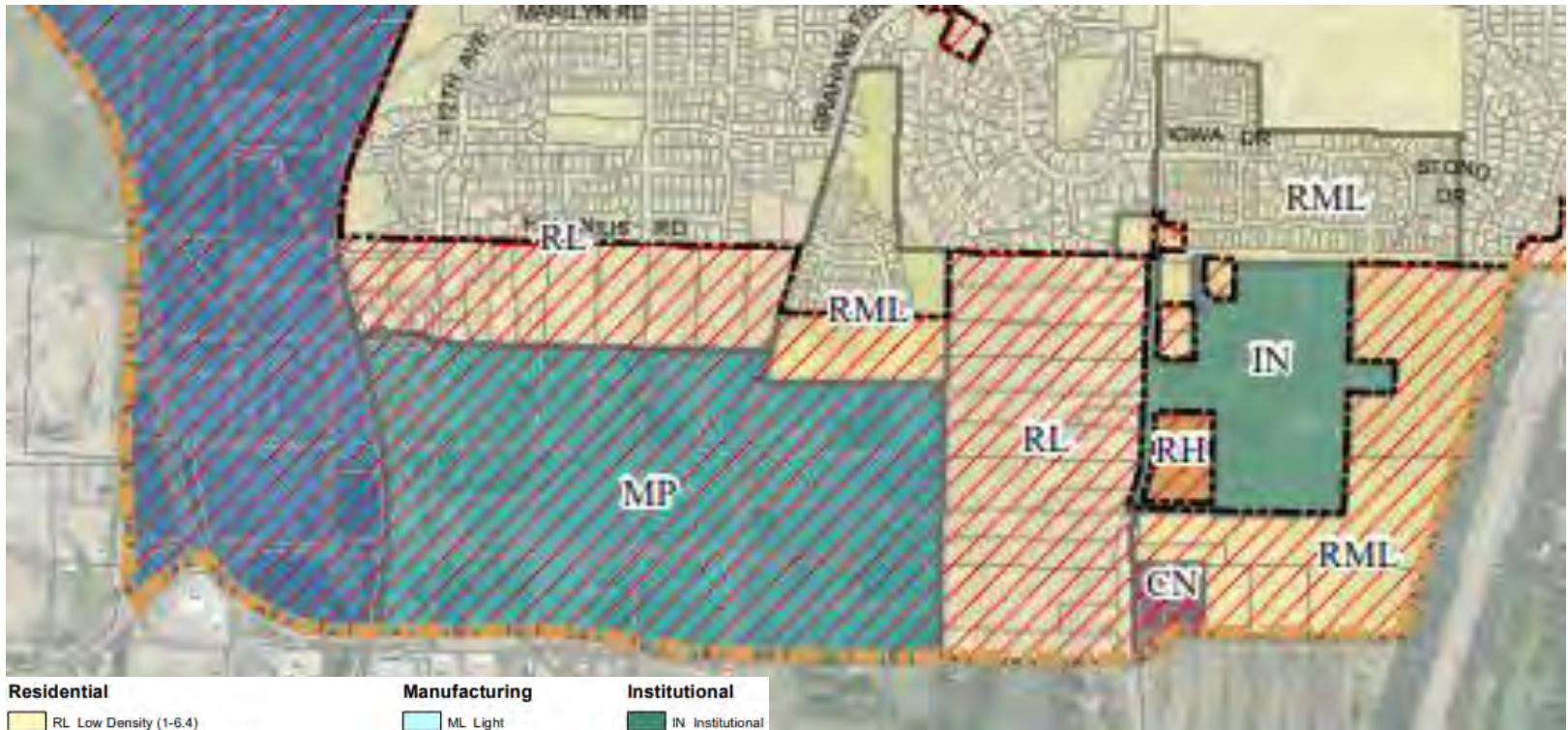
- Neighborhood Commercial (CN) Zone
  - Updates development standards to be consistent with the area of CN identified in the Basalt Creek Concept Plan.
- Manufacturing Park (MP) Zone
  - Updates development standards to be applicable within the Basalt Creek Planning Area.
- Access Management
  - Updates to include streets within the Basalt Creek Planning Area.

Chapter  
51

Chapter  
62

Chapter  
75

# Community Plan Map (Map 9-1)



Residential	Manufacturing	Institutional
RL Low Density (1-6.4)	ML Light	IN Institutional
RML Medium-Low Density (7-10)	MG General	
RMH Medium-High Density (11-15)	MP Park	
RH High Density (16-25)	MBP Manufacturing Business Park	
RH/HR High Density/High Rise (26-30)	Planning Area Boundary	
	City of Tualatin	
Commercial		
CO Office	CR Recreational	
CC Central	CO/MR Mid-Rise Office	
CG General	MC Medical	
CN Neighborhood		

Basalt Creek Comprehensive Plan Update

# Water (Map 12-1) and Sewer (Map 13-1)

Water



- Pump Stations
- Pressure Reducing Valve
- Pressure Reducing-Sustaining Valve
- Existing Reservoirs
- Future Reservoirs
- Water System Interties
- Transmission Lines
- Distribution System
- Future System Improvements
- Planning Area Boundary

Sewer



- Gravity Pipe
- Force Main
- Lift Station
- Conceptual Gravity Pipe
- Conceptual Force Main
- Conceptual Lift Station
- Planning Area Boundary

# Stormwater Management

- The City of Tualatin has no Capital Improvement Projects identified in the Basalt Creek Planning Area.
- The Clean Water Services Design & Construction Standards for conveyance, water quality treatment, and hydro-modification (reduce impacts downstream) will be implemented with every development application.
- Tualatin has consistently required applicants to provide a downstream analysis when proposed development will increase the amount or rate of surface water leaving a site.

# Implementation Process/ Next Steps

- **City Implementation Process:**

- **March 4, 2019:** Application made by City. Notices sent to property owners and interested parties. Written comment period begins.
- **March 21, 2019:** Tualatin Planning Commission meeting to review proposal and make a recommendation to the City Council.
- **April 8, 2019:** City Council consideration of the Planning Commission's recommendation on the proposal. The City Council may also consider an Ordinance adopting Basalt Creek Comprehensive Plan Update.

- **Property Owner Next Steps:**

- **Spring/Summer 2019:** Basalt Creek planning process complete. Property owners may submit annexation petitions.
- **Late 2019:** Recently annexed property owners may be able to submit land use applications for review.

# Conclusion

- The Findings and Analysis show compliance with the criteria applicable to the proposed amendments.
- The Tualatin Planning Commission has forwarded a recommendation of approval of PTA-19-0001 and PMA-19-0001.
- In consideration of the above, the Council may choose to vote to approve the proposed amendments and adopt Ordinance No. 1418-19.
- Questions?

**Exhibit 1**  
**Ordinance No. 1418-19**

**Basalt Creek Comprehensive Plan Update (File Nos. PTA 19-0001 and PMA 19-0001):  
ANALYSIS AND FINDINGS**

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**Section A. Introduction**

**Applicable Criteria**

Applicable Statewide Planning Goals; Divisions 7, 9 and 12 of the Oregon Administrative Rules; the Oregon Highway Plan; Titles 1, 3, 4, 7, 8, 11, 12, 13, and 14 of Metro Chapter 3.07 (Urban Growth Management Functional Plan) and Titles, 1, 3, 4, 5, and 6 of the Metro Chapter 3.08 (Regional Transportation Functional Plan, including applicable conditions from "Exhibit F" of Metro Ordinance No. 14-1040B; applicable Goals and Policies from the City of Tualatin Comprehensive Plan; applicable Sections of the City of Tualatin Development Code, including Section 33.070 (Plan Amendments).

**Background**

- The Basalt Creek Planning Area was brought into the Portland Metropolitan Urban Growth Boundary in 2004.
- Metro Code Title 11 requires a city to adopt a concept plan – which is a long-range plan that identifies lands for residential and employment uses and the transportation and other public facilities necessary to support the mix of uses - for an area brought into the Urban Growth Boundary as an interim step until a city amends its adopted comprehensive plan and applies it to that area.
- The Basalt Creek Concept Plan was adopted for the Basalt Creek Planning Area by the Tualatin City Council in August of 2018, and was the result of a joint planning effort for the area between the City of Tualatin and the City of Wilsonville.
- Tualatin is responsible for comprehensive planning in the portion of the Basalt Creek Planning Area south of its existing City limit (Helenius Road and Norwood Street) extending to Basalt Creek Parkway further to the south, I-5 to the east, and 124<sup>th</sup> Avenue to the west.



## **Public Involvement**

- The Basalt Creek Concept Plan required a very different approach than most concept plans because Tualatin and Wilsonville participated in a joint planning effort, resulting in more public outreach than would have occurred had a single city planned for the area. A public involvement plan was used to guide outreach strategies and events throughout the planning process. Community workshops, visioning workshops, open houses, stakeholder interviews/ focus groups, and surveys were used to gain public opinion on the Plan. Planning Commission and Council meetings were held, all open to the public.
- A public open house was also held by Tualatin on January 22, 2019 to provide an introduction to the future planning steps that would implement the Basalt Creek Concept Plan.
- Throughout the planning process, periodic updates were posted in the City newsletter and on the City webpage. Finally, the Tualatin Planning Commission received frequent briefings and the Tualatin City Council received memoranda and work session briefings from project staff.
- Notice of the proposed amendments was provided in accordance with TDC Sections 32.250 and 33.070, which have been determined to be compliant with Oregon Statewide Planning Goal 1 (Public Involvement).

## **Proposal**

- The subject proposal is a Plan Text Amendment (PTA 19-0001) and Plan Map Amendment (PMA 19-0001), which are legislative amendments.
- The proposed amendments would update the Tualatin Comprehensive Plan and Development Code consistent with the adopted Basalt Creek Concept Plan.
- The proposed amendments would also allow for future application of the Tualatin Comprehensive Plan and Development Code to properties located within the Tualatin portion of the Basalt Creek Planning Area.
- The proposed amendments would update Chapters 4, 7, 9, Figures 11-1, 11 -2, 11-3, 11-4, 11-5, 11-6, and Maps 9-1, 9-2, 9-4, 9-5, 12-1, and 13-1, of the Tualatin Comprehensive Plan. Map 9-1 is the Community Plan Map (“Zoning Map”).
- The proposed amendments would update Chapters 51, 62, and 75, Figure 73-3, and Maps 72- 1, 72-2, 72-3, and 74-1 of the Tualatin Development Code
- The proposed amendments would update the Tualatin Transportation System Plan.

## **Zoning Designations**

- The Tualatin portion of the Basalt Creek Planning Area is generally located north of Basalt Creek Parkway, south of Helenius Road and Norwood Road, east of 124th Avenue, and west of I-5. As shown on the Community Plan Map (Exhibit 11, Map 9-1), the Basalt Creek Planning Area would include a mix of residential zones at various densities, a small neighborhood commercial node, and employment lands, consistent with the Basalt Creek Concept Plan. As shown on the Neighborhood Planning Areas Map (Exhibit 11, Map 9-2), the Basalt Creek Planning Area will be designated as “Area 16.” Application of the zoning designations to an individual property would occur after approval of a property-owner submitted annexation petition.

- Low Density Residential (RL): An area with the RL (Low Density Residential) Planning District is proposed west of Boones Ferry Road in the approximate area of the Basalt Creek Canyon. An area with the RL Zone is also planned north of Tonquin Loop, south of Helenius Road, west of Grahams Ferry Road and east of 124th Avenue. This land will develop either in the traditional single-family subdivision pattern, or, through the conditional use process in clustered housing patterns.
- Medium Low Density Residential (RML): An area with the RML (Medium Low Density Residential) Zone is proposed south of Norwood Road, east of Boones Ferry Road, and west of I-5. An additional area of RML Zone is also planned east of Grahams Ferry Road between the two above described areas of RL Zone. These areas lends themselves to a slightly higher density than traditional single-family due to the excellent transportation access and the close relationship to the employment centers. The use of the RML District in this area provides for the needed higher densities with a District that will allow development that is similar in character and density to the RL lands.
- High Density Residential (RH): An area with the RH (High Density Residential) Zone is proposed north of Greenhill Road and east of Boones Ferry Road. This land lends itself to a higher density due to the excellent transportation access and the close relationship to the employment centers. The use of the RH District in this area provides for the needed higher densities.
- Neighborhood Commercial (CN): A small area with the CN (Neighborhood Commercial) Zone is proposed north of Greenhill Road and east of Boones Ferry Road. This CN District is intended to provide locations for commercial uses within close proximity to residential areas, to provide opportunities to serve the needs of residents for convenience shopping and services. This area lends itself to the CN District due to the excellent transportation access and the close proximity to abutting residential areas of medium to higher densities.
- Manufacturing Park (MP): The balance of the Basalt Creek Planning Area is proposed to be designated in the MP (Manufacturing Park) Zone. The MP District is intended to be conducive to the development and protection of modern, large-scale specialized manufacturing and related uses and research facilities. This area is located north of Basalt Creek Parkway, south of Tonquin Loop, east of 124th Avenue, and west of Basalt Creek Canyon and an area of RML Zone.

### **Central Subarea**

- In addition to the findings provided below, the following additional findings relate to the Central Subarea.
- The Central Subarea is a 52-acre portion of the greater Basalt Creek Planning Area, located at the northeast intersection of Grahams Ferry Road and Basalt Creek Parkway.
- In 2017, the City of Tualatin and City of Wilsonville were in disagreement as to designation of the Central Subarea. The two cities approached Metro to resolve the dispute, and the parties entered into an intergovernmental agreement (IGA) for Metro to resolve the dispute. Under the IGA, Metro had sole discretion on how it was to resolve the dispute. Metro chose to conduct an arbitration-like process. Each city presented its case to Metro staff and the staff then made a recommendation to the Metro Council.

Ultimately, Metro staff and the Metro Council concluded the Central Subarea should be designated for Industrial/Employment.

- As a result, the Concept Plan designated the Central Subarea as Industrial/Employment (specifically, the Manufacturing Park (MP) zoning designation). Each Council then adopted a resolution “accepting the Concept Plan” with the Central Subarea designated as Industrial/Employment.
- The City gave due consideration of designating the Central Subarea as residential and considered the evidence and testimony submitted during all public hearings.
- The City finds the Central Subarea is viable for use as industrial/employment, which was its original consideration.
- In weighing the competing policy goals and other factors, the City finds the Central Subarea should be designated as Industrial/Employment as provided in the Concept Plan, and consistent with the Metro Decision.
- Accordingly, the proposed amendments would designate the Central Subarea as Manufacturing Park (MP).
- In support of this decision, the City adopts as its findings, the findings of Metro as set forth in Exhibit 7 (Metro Decision).
- Title 4 Map
  - Exhibit E to the 2004 ordinance specifically shows Basalt Creek as being added to the UGB with an industrial design type. Moreover, a subsequent amendment to the Title 4 map in 2010 via Metro Ordinance No. 10-1244B maps the Basalt Creek area with a Title 4 industrial designation.
  - Basalt Creek was included in the UGB in 2004 as part of a UGB expansion that was specifically and exclusively intended to "increase the capacity of the boundary to accommodate growth in industrial employment." That language is from the purpose statement of Metro Ordinance No. 04-10408.
  - Basalt Creek currently has an industrial designation on the Metro Title 4 map.
- Industrial Land Supply
  - Mr. Watts cites the portion of the draft UGR that forecasts a net decrease in regional industrial jobs during the 2018 to 2038 time period. This prediction by Metro has nothing to do with designating the Central Subarea for future employment use.
  - There is sufficient developable area in the Central Subarea for multiple buildings housing smaller employment uses, as depicted in the Mackenzie and KPFF studies, such as office, flex business park, manufacturing, and craft industrial. This conclusion is supported by the City of Tualatin staff report to the City Council dated November 28, 2016, which concludes: 'After consideration of OTAK's proposal and all of the above factors together, staff believes the central subarea can be developed for employment over the long-term. While there are some hilly areas, the Manufacturing Park designation can be made flexible enough to include some smaller scale employment uses.'
  - A decrease in total "industrial" jobs does not necessarily equate to decreased need for industrial/ employment land. Modern land use types, particularly those

associated with advanced manufacturing and data centers, often do not employ the same number of workers as they have historically.

- Buildable Land Inventory
  - Mr. Watts asserts that the Central Subarea has been "mapped" by Metro for future residential use. That is not accurate. Rather, the area was counted in Metro's draft Urban Growth Report (UGR) as being potentially available for future residential development. More importantly, the draft UGR is just that - a draft - and Metro intends to remove the area from the residential inventory before it is finalized.
  - The Central Subarea has not been "mapped" or otherwise designated by Metro for future residential use. Rather, it was counted as potentially buildable for purposes of the draft UGR inventory based on its current zoning. In light of the recent concept planning efforts by the cities and Metro, the area will be removed from the draft housing inventory for purposes of Metro's pending UGB decision.
- Population Forecast
  - Mr. Watts argues that Metro's population forecasting has underestimated the actual population growth in Tualatin and Wilsonville. There are two fundamental flaws in this argument: first, Mr. Watts is improperly comparing the PSU/Metro population estimates with the US Census Bureau estimates; second, Mr. Watts appears to be treating the Census Bureau estimates as if they are hard data, when in reality they are only estimates, just like the PSU estimates. There are no actual population counts regarding the current population of Tualatin or Wilsonville. The Census estimates happen to be higher than the PSU estimates that Metro relies on for forecasting purposes. That does not mean that the Census is right and PSU is wrong, or vice versa, it just means they use different methods that result in different estimates.
  - Both PSU and the US Census Bureau undertake annual estimates of Oregon city populations. The only actual population counts are generated every ten years from the decennial census. Metro relies on the PSU estimates for purposes of making its 20-year forecast because, in Metro's experience, the PSU estimates tend to be more accurate than the Census Bureau in non-decennial years. Metro's most recent population distribution to Tualatin occurred in 2016 via Metro Ordinance No. 16-1371. That distribution includes the PSU estimate cited by Mr. Watts in his letter, which was 26,590 for the year 2015. Based in part on that estimate, Metro made a 25-year population forecast for Tualatin of 27,372 for the year 2040. As noted in Ordinance No. 16-1371, the Metro population distribution decision process began in July of 2015 and was coordinated with all cities in the Metro region. Metro provided all cities, including the City of Tualatin, with draft numbers and solicited their input during a comment period, which resulted in refinement of the numbers prior to the final distribution decision. By the time of final adoption of the ordinance in October 2016, there were no further objections or concerns from any cities in the region.
  - Mr. Watts' claim that "Tualatin has exceeded 25 years of population growth in the first year of the 25-year period" is incorrect because the Census estimate is no

- more inherently right or wrong than the PSU/Metro estimate. Contrary to the heading on the table submitted by Mr. Watts, the Census numbers for 2016 are not "data," they are merely estimates. The fact that the Census numbers are estimates is highlighted by more recent revisions to those estimates.
- Predicting future population growth over a 20 or 25 year timeframe can never be done with 100% accuracy. However, Metro's historical accuracy has been very good. As described in Appendix 1 to the current Draft UGR at pages 41-43, a comparison of past population forecasts and actual growth show that Metro's average forecast error for the last 15 years (2000 to 2015) is less than 0.3% per year for the entire region of approximately 1.5 million people.
  - There is no factual or logical basis for the assertion by Mr. Watts in his letter that Tualatin and Wilsonville "are far exceeding Metro's projected growth." The discrepancy between the PSU/Metro estimate and the Census Bureau estimate is a function of the fact that they are merely different estimates, based on different methodology. The accuracy of Metro's population forecast for Tualatin will not be known until the next decennial census in 2020; however, Metro's forecasts have proven to be reliably accurate over time.

### **Transportation System Plan (TSP) Update**

- The proposed amendments would update the Tualatin TSP (Exhibit 9) to include the Basalt Creek Planning Area and to apply roadway functional classifications (Exhibit 10, Figure 11-1) consistent with the Basalt Creek Concept Plan and the Basalt Creek Transportation Refinement Plan. Staff notes that due to the adoption of an updated Regional Transportation Functional Plan (RTFP) by Metro in December of 2018, supplemental transportation analysis has been included (Exhibit 5), demonstrating that the TSP update, as proposed, continues to be compliant with OAR Chapter 660 Division 12 (Transportation Planning Rule), the Oregon Highway Plan, and applicable sections of the Metro Regional Transportation Functional Plan, and is adequate to support future property development in the Basalt Creek Planning Area consistent with the proposed zoning designations.
- The proposed amendments would update the following Figures (Exhibit 10): 11-2 – Metro Regional Street Design System, 11-3 – Local Street Plan, 11-4 – Bicycle and Pedestrian System, 11-5 – Transit Plan, 11-6 – Freight Routes, and 73-3 – Parking Maximum Map, consistent with the Basalt Creek Concept Plan and compliant with OAR Chapter 660 Division 12 (Transportation Planning Rule), the Oregon Highway Plan, and applicable sections of the Metro Regional Transportation Functional Plan.
- The proposed amendments would update the City's Pedestrian and Bicycle Plan (Figure 11-4) to expand the planning area consistent with the Basalt Creek Planning Area, and add a planned trail and multi-use path that were conceptually identified in the Basalt Creek Concept Plan. Per Tualatin Development Code Section 74.450, the mechanism for construction of a pedestrian path or dedication of an easement would be when development abuts or contains a facility identified on Figure 11-4.
- The proposed amendments would update the City's Transit Plan (Figure 11-5) to expand the planning area boundary consistent with the Basalt Creek Planning Area.

Although a Park and Ride System Expansion was previously included on Figure 11-5 in 2014 as part of the most recent TSP update, the Basalt Creek Concept Plan included consideration of additional TriMet service within the area in the future.

### **Comprehensive Plan Text Amendments**

- In support of the proposed amendments, and implementation of the proposed zoning designations and transportation system, amendments to the Tualatin Comprehensive Plan text are proposed.
- Chapter 4 (Community Growth): Section 4.065 (Requirements) is updated to include a reference to the adoption of the proposed amendments.
- Chapter 7 (Manufacturing Planning Districts): Section 7.010 (Background) is updated to include a reference to the 2004 Urban Growth Boundary Expansion and the Basalt Creek Planning Area.
- Chapter 9 (Plan Map): Adds a new Section (9.046 – Area 16 Basalt Creek Planning Area) to include a description of the Basalt Creek Planning Area and the applicable zoning designations within the area.

### **Development Code Text Amendments**

- In support of the proposed amendments, and implementation of the proposed zoning designations and transportation system, amendments to the Tualatin Development Code are proposed.
- Chapter 51 (Neighborhood Commercial (CN) Zone): Section 51.110 (District Size and Location Standards) is updated consistent with the size and location of the CN zone identified in the Basalt Creek Concept Plan.
- Chapter 62 (Manufacturing Park (MP) Zone): Table 62-2 (Development Standards in the MP Zone) is updated to apply within the Basalt Creek Planning Area.
- Chapter 75 (Access Management): Section 75.140 (Existing Streets Access Standards) is updated to apply to streets within the Basalt Creek Planning Area.

### **Public Utility Infrastructure**

- As illustrated within the Water Plan and Sanitary Sewer Plan (Exhibit 11, Maps 12-1 and 13-1), public utilities will be extended south of the existing city limit to serve the Basalt Creek Planning Area. Existing stormwater infrastructure consists of roadside drainage ditches and culverts. Culverts in the Basalt Creek Planning Area are under the jurisdiction of Washington County. Culverts to the south of the Planning Area are part of the City of Wilsonville stormwater system. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the Planning Area. In the future, culverts in the Basalt Creek Planning Area may need to be upsized by Washington County. In addition, as properties annex to Tualatin and propose new development, stormwater will need to be treated and detained, if necessary, before being discharged to the public drainage systems consistent with Clean Water Services standards and TDC Chapter 74, which generally requires runoff from a site to not exceed the amount generated prior to development.

### **Natural Resources**

- The proposed amendments would apply the Tualatin Development Code within the Basalt Creek Planning Area upon adoption and annexation of any property to Tualatin. Metro Regional Functional Plan Title 3 and 13 conservation areas will be administered and protected by Clean Water Services. Future development in Tualatin must comply with Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat. Although no areas of floodplain or regulatory floodway are mapped by the Federal Emergency Management Agency (FEMA) in the Basalt Creek Planning Area, Tualatin Development Code Chapter 70 (Floodplain Development) would be applicable to individual properties, upon annexation to Tualatin.

### **School Capacity**

- The Basalt Creek Planning Area is served by the Sherwood School District. Future school capacity to serve future residential development was analyzed as part of the Basalt Creek Concept Plan. The Sherwood School District has previously indicated that no new school facilities are planned within the Basalt Creek Planning Area. The proposed amendments are consistent with the residential zoning districts identified in the concept plan. Notice of the proposed amendments was also provided to the Sherwood School District.

### **Parks Master Plan**

- The City adopted an updated Parks Master Plan in November of 2018, which identified the need for a park generally, but did not identify a specific area. The Parks Master Plan and its provisions governing site identification and acquisition will guide the development of future parks, trails, recreation areas and open space within the Basalt Creek Planning Area.

### **Agency and Interested Person Comments**

- Notice of the proposed amendments was provided to the Oregon Department of Land Conservation and Development (DLCD), the required 35 days prior to the City Council public hearing. Notice was also sent to Metro and other affected agencies. Notices complying with Oregon Ballot Measure 56 were mailed to property owners within the Tualatin portion of the Basalt Creek Planning Area. Comments in response to these notices or otherwise are included as Exhibits to these findings.

### **Exhibits**

2. Basalt Creek Concept Plan Appendixes
3. Basalt Creek Concept Plan Appendixes
4. Metro Ordinance No. 14-1040B
5. Supplemental Transportation Analysis
6. City of Tualatin Title 13 and Tualatin Basin Plan Compliance Review Letter, dated December 5, 2006
7. Metro Resolution No. 18-4885 with Exhibits

8. Metro Functional Plan Compliance Report dated February 28, 2019
9. Tualatin Transportation System Plan Amendments
10. Amended Figures: 11-1 – Functional Classification and Traffic Signal Plan; 11-2 – Metro Regional Street Design System; 11-3 – Local Street Plan; 11-4 –Bicycle and Pedestrian System; 11-5 – Transit Plan; 11-6 – Freight Routes; and 73-3 – Parking Maximum Map
11. Amended Maps: 9-1 – City of Tualatin Community Plan Map; 9-2 – Neighborhood Planning Areas Map; 9-4 – Design Type Boundaries; 9-5 – Commercial Setback; 12-1 – Water Plan; 13-1 – Sewer Plan; 72-1 –Natural Resources Protection Overlay District (NRPO) and Greenway Locations; 72-2 – Greenway Development Plan; 72-3 – Significant Natural Resources; and 74-1 –Street Tree Plantings

## **Section B: Oregon Statewide Planning Goals**

**The following Oregon Statewide Planning Goals are applicable to the proposed amendments:**

### **Goal 1 – Citizen Involvement**

**To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.**

#### **Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which included extensive citizen involvement. The Basalt Creek Concept Plan Appendixes (Exhibit 3) include a detailed Public Involvement Plan that identifies the specific outreach that was conducted, which included: a community workshop, an open house, regular updates emailed to interested parties and mailed to property owners and periodic updates posted in the City newsletter and webpage. Relative to the proposed amendments, notification was provided pursuant to Sections 32.250 and 33.070, which have been acknowledged to be compliant with Goal 1. Specifically, notice was mailed to property owners on March 4, 2019, notice was posted in two public places on March 11, 2019, and notice was published in the Tualatin Times newspaper on March 21, 2019. Finally, the Tualatin Planning Commission has held a public meeting on March 21, 2019, and the City Council will hold a public hearing on the proposed amendments on April 8, 2019. The proposed amendments conform to Goal 1.

### **Goal 2 – Land Use Planning**

**To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.**

#### **Finding:**

The proposed amendments contain comprehensive plan provisions, development regulations, specific planning district designations for future urban development of the Basalt Creek Concept Plan, and designate street classifications. The proposed amendments conform to Goal 2.



## **Goal 5 – Open Spaces, Scenic and Historic Areas and Natural Resources**

**To protect natural resources and conserve scenic and historic areas and open spaces.**

### **Finding:**

Drainage, storm water and surface water runoff in Tualatin are addressed in the Tualatin Drainage Plan, the Surface Water Management Ordinance (SWM Ordinance) (Ord. No. 846-91), the Northwest Tualatin Concept Plan 2005, the Southwest Tualatin Concept Plan 2010 and TDC Chapter 74, the objective of which includes compliance with Metro's Urban Growth Management Functional Plan (UGMFP) Title 3 and by extension, Goal 5. The surface water management policies and requirements in the SWM Ordinance were adopted by the City and other jurisdictions in the Tualatin River Basin to implement Clean Water Services requirements for control of sedimentation and water quality, which had been found by Metro to be consistent with Title 3, thus bringing Tualatin into conformance with Title 3 as well. Compliance with Title 13 is satisfied by Tualatin's participation in the Tualatin Basin Plan (Exhibit 6) and previously adopted amendments to the Comprehensive Plan and Development Code (TDC Section 4.050 and Section 72.056). The TDC will apply to the Basalt Creek area upon adoption and annexation of any property to Tualatin. The conservation areas will be administered and protected by Clean Water Services. Future development in Tualatin must comply with Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat (TDC Chapters 33 and 36). The proposed amendments conform to Goal 5.

## **Goal 6 – Air, Water and Land Resource Quality**

**To maintain and improve the quality of the air, water and land resources of the state.**

### **Finding:**

Air, water and land resource quality have been considered in development of the proposed amendments and appropriate measures are incorporated in the Comprehensive Plan and Development Code (TDC Chapters 7, 11, and 60), to ensure that state and federal regulations will be met, largely through the application of building permit requirements and CWS Design and Construction Standards. The proposed amendments conform to Goal 6.

## **Goal 7 – Areas Subject to Natural Disasters and Hazards**

**To protect people and property from natural hazards.**

### **Finding:**

Future development in the Basalt Creek area will be required to conform to the Comprehensive Plan and Development Code (TDC Chapters 4, 72, and 70) , which includes compliance with environmental regulations in the Tualatin Development Code (TDC) to protect people and property from natural hazards. The proposed amendments conform to Goal 7.

## **Goal 8 – Recreation Needs**

**To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.**

**Finding:**

Parks will be developed as envisioned in the Parks Master Plan. Specific to the Basalt Creek area, the Parks Master Plan identified a need of a roughly five acre park site, though a specific location was not identified. In addition, trails identified in the Basalt Creek Concept Plan (Exhibit 2, Figure 11 - Bikes, Trails, and Pedestrian Network Map) have been incorporated into the City's Bicycle and Pedestrian Plan (Exhibit 10, Figure 11-4). Further, the Comprehensive Plan and Development Code (TDC Chapters 15, and 41-49) include policies and regulations which support park and recreation planning. Lastly, public parks, trails, and usable open space are permitted uses in the Low Density Residential (RL), Medium Low Density Residential (RML), and High Density Residential (RH) zoning districts. The proposed amendments conform to Goal 8.

**Goal 9 – Economy of the State**

**To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.**

**Finding:**

Metro is the regional governmental organization tasked with balancing the needs of the region in regards to land uses, which by extension, address a variety of economic factors such as health, welfare and prosperity. In 2004 Metro adopted Ordinance No. 14-1040B (Exhibit 4), intended to increase the Portland metropolitan urban growth boundary to accommodate growth in industrial employment. That expansion included 1,940 acres of land for industrial and other purposes, including the area now known as the Basalt Creek Planning Area. The Basalt Creek Concept Plan addressed concept planning for employment areas (Figure 8: Basalt Creek Land Use Concept Map - Exhibit 2, Page 28) and provided a market analysis of commercial, industrial, and residential real estate markets (Exhibit 3, Page 43: Commercial, Industrial & Residential Real Estate Markets Page). The proposed amendments implement the concept plan and apply the City's Comprehensive Plan and Development Code to the planning area. Additional findings addressing Goal 9 are found below in Section C under Oregon Administrative Rules Chapter 660, Division 9. The proposed amendments conform to Goal 9.

**Goal 10 - Housing**

**This goal specifies that each city must plan for and accommodate needed housing types, such as multifamily and manufactured housing.**

**Finding:**

Statewide Planning Goal 10 requires each city to inventory its buildable residential lands, project future needs for such lands, and plan and zone enough buildable land to meet those needs. In addition, the goal requires planning for needed housing types, such as multi-family housing. Additional findings addressing Goal 10 are found below in Section C under Oregon

Administrative Rules Chapter 660, Division 7. The proposed amendments would accommodate a mix of residential uses at varying densities in the Basalt Creek Planning Area. The plan focuses the lowest density housing (a mixture of low-density and medium-low density) along the northern portion of the Planning Area and low density along the west side of Boone's Ferry Road, adjacent to existing neighborhoods of Tualatin. This land is expected to accommodate 134 new households. The eastern portion of the Tualatin future annexation area is anticipated to be a mixture of high and medium-low density residential; the land immediately east of Boones Ferry Road is intended for high density housing. The remainder of the land east and south of Horizon School is planned for medium-low density residential. In total 575 new households are anticipated. The proposed amendments conform to Goal 10.

### **Goal 11 - Public Facilities and Services**

**To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.**

#### **Finding:**

The proposed amendments include updates to the City's Water Plan and Sanitary Sewer Plan (Exhibit 11, Maps 12-1 and 13-1). With respect to sewer and storm drainage facilities, properties within the Plan will need to be annexed into the Clean Water Services (CWS) service area prior to receiving service, and must comply with Clean Water Services and TDC Chapter 74 requirements. For public services, the area will be served by the City of Tualatin Police Department when annexed. Until annexation, the area will be served by Washington County Sheriff's Department. Fire Service is currently provided by Tualatin Valley Fire & Rescue and, upon annexation, TVF&R will continue to serve the area. The proposed amendments conform to Goal 11.

### **Goal 12 – Transportation**

**To provide and encourage a safe, convenient and economic transportation system.**

Goal 12 requires the provision and encouragement of a safe, convenient, multimodal and economic transportation system. The Comprehensive Plan and Transportation System Plan (TSP) describes the transportation system necessary to accommodate the transportation needs of the City. Implementing measures are contained in the Tualatin Development Code and (TDC Chapters 11, 74, and 75) Public Works Construction Code (Tualatin Municipal Code Chapter 02-03). The proposed amendments improve consistency with other adopted planning efforts. The amendments are consistent with the City's acknowledged policies and strategies for the provision of transportation facilities and services as required by Goal 12 the Transportation Planning Rule (TPR), the findings for which are found in Section C under Oregon Administrative Rules Chapter 660, Division 12. The proposed amendments are consistent with the acknowledged policies and strategies for the provision of transportation facilities and services as required by Goal 12, the TPR, the Oregon Highway Plan (OHP) and the Regional Transportation Functional Plan (RTFP). The proposed amendments conform to Goal 12.

### **Goal 13: Energy Conservation**

**To conserve energy.**

**Finding:**

Provisions to comply with Goal 13 were included in the existing, adopted and DLCD acknowledged Comprehensive Plan and Development Code (TDC Chapters 4 and 7). The amendments proposed to the plan would not eliminate or alter the existing energy conservation provisions of the Code, and all code provisions would apply within the Basalt Creek Planning Area upon property annexation. All streets within the area are planned to have bike lanes and sidewalks, and there are several pedestrian trails proposed as well, which will contribute to energy efficiency. Inclusion of a small commercial node within the area promotes shorter vehicle trips and encourages walking. Transit lines currently operate along the high density housing proposed to further encourage reduced vehicle trips. Coordinated design and development allows for maximized use of transportation systems and public facilities in the area, thereby further increasing energy efficiency. The proposed amendments conform to Goal 13.

**Goal 14: Urbanization**

**To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.**

**Finding:**

Metro, as part of Ordinance 14-1040B, evaluated and determined that additional land was necessary in the Portland region for industrial development and included the Basalt Creek Planning Area in the UGB. The proposed amendments would apply the Comprehensive Plan and proposed planning district designations and development regulations to the properties within the planning area. This allows a transition from rural to urban land uses by applying land use/zoning designations to properties upon annexation. These provisions will accommodate urban population and employment inside the UGB, while providing compatibility and consistency with abutting planning district designations. Efficient use of land and development of healthful, safe, aesthetic surroundings and conditions will best be ensured with the proposed amendments. The proposed amendments conform to Goal 14.

**Section C: Oregon Administrative Rules**

**The following Oregon Administrative Rules (OAR) are applicable to the proposed amendments:**

**OAR Chapter 660, Division 7 (Metropolitan Housing)**

**660-007-0015**

**Clear and Objective Approval Standards Required**

**(1) Except as provided in section (2) of this rule, a local government may adopt and apply only clear and objective standards, conditions and procedures regulating the**

**development of needed housing on buildable land. The standards, conditions and procedures may not have the effect, either in themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay.**

**(2) In addition to an approval process for needed housing based on clear and objective standards, conditions and procedures as provided in section (1) of this rule, a local government may adopt and apply an optional alternative approval process for applications and permits for residential development based on approval criteria regulating, in whole or in part, appearance or aesthetics that are not clear and objective if:**

**(a) The applicant retains the option of proceeding under the approval process that meets the requirements of section (1);**

**(b) The approval criteria for the alternative approval process comply with applicable statewide land use planning goals and rules; and**

**(c) The approval criteria for the alternative approval process authorize a density at or above the density level authorized in the zone under the approval process provided in section (1) of this rule.**

**(3) Subject to section (1), this rule does not infringe on a local government's prerogative to:**

**(a) Set approval standards under which a particular housing type is permitted outright;**

**(b) Impose special conditions upon approval of a specific development proposal; or**

**(c) Establish approval procedures.**

**Finding:**

As reflected in the TDC, the City provides for clear and objective standards for housing development through the partition, subdivision, and Architectural Review processes (TDC Chapters 33 and 36), including a fee schedule based on the cost to the City for accepting and processing land use applications (Resolution No. 5412-18). These processes, fees and clear and objective standards do not discourage needed housing through unreasonable cost or delay. The proposed amendments are consistent with these requirements.

**660-007-0018**

**Specific Plan Designations Required**

**(1) Plan designations that allow or require residential uses shall be assigned to all buildable land. Such designations may allow nonresidential uses as well as residential uses. Such designations may be considered to be "residential plan designations" for the purposes of this division. The plan designations assigned to buildable land shall be specific so as to accommodate the varying housing types and densities identified in OAR 660-007-0030 through 660-007-0037.**

**(2) A local government may defer the assignment of specific residential plan designations only when the following conditions have been met:**

**(a) Uncertainties concerning the funding, location and timing of public facilities have been identified in the local comprehensive plan;**

**(b) The decision not to assign specific residential plan designations is specifically related to identified public facilities constraints and is so justified in the plan; and  
(c) The plan includes a time-specific strategy for resolution of identified public facilities uncertainties and a policy commitment to assign specific residential plan designations when identified public facilities uncertainties are resolved.**

**Finding:**

In the proposed Comprehensive Plan Map Amendments, all buildable land within the Basalt Creek area is assigned a plan designation (Exhibit 11, Map 9-1), providing varying housing types and densities, increasing housing choice (TDC Chapters 40, 41, and 43). The proposed amendments are consistent with these requirements.

**660-007-0020**

**The Rezoning Process**

**A local government may defer rezoning of land within the urban growth boundary to maximum planned residential density provided that the process for future rezoning is reasonably justified:**

- (1) The plan must contain a justification for the rezoning process and policies which explain how this process will be used to provide for needed housing.**
- (2) Standards and procedures governing the process for future rezoning shall be based on the rezoning justification and policy statement, and must be clear and objective.**

**Finding:**

All land within the Basalt Creek area is assigned a comprehensive plan/zoning designation on the Community Plan Map (Exhibit 11, Map 9-1). No deferral is required. The proposed amendments are consistent with these requirements.

**660-007-0022**

**Restrictions on Housing Tenure**

**Any local government that restricts the construction of either rental or owner occupied housing on or after its first periodic review shall either justify such restriction by an analysis of housing need according to tenure or otherwise demonstrate that such restrictions comply with ORS 197.303(1)(a) and 197.307(3).**

**Finding:**

The City of Tualatin has no restrictions on the construction of rental or owner occupied housing. The proposed amendments are consistent with these requirements.

**660-007-0030**

**New Construction Mix**

**(1) Jurisdictions other than small developed cities must either designate sufficient buildable land to provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing or justify an alternative percentage based on changing circumstances. Factors to be considered in justifying an alternate percentage shall include, but need not be limited to:**

**(a) Metro forecasts of dwelling units by type;**

**(b) Changes in household structure, size, or composition by age;**

**(c) Changes in economic factors impacting demand for single family versus multiple family units; and**

**(d) Changes in price ranges and rent levels relative to income levels.**

**(2) The considerations listed in section (1) of this rule refer to county-level data within the UGB and data on the specific jurisdiction.**

**Finding:**

All Tualatin residential districts provide the opportunity for attached or multifamily housing (TDC Tables 40-2, 41-2, and 43-2). The proposed residential zoning districts include a mix of low, medium, and high densities (Exhibit 11, Map 9-1). All residential land in the Basalt Creek area will be zoned RL (TDC Chapter 40) RML (TDC Chapter 41), or RH (TDC Chapter 43). Attached single family housing and multiple family housing are conditional uses in the RL District and permitted uses in RML and RH. Therefore, the proposed zoning districts provide the opportunity for at least 50 percent of new residential units to be attached single family or multiple family housing. The proposed amendments are consistent with these requirements.

**660-007-0033**

**Consideration of Other Housing Types**

**Each local government shall consider the needs for manufactured housing and government assisted housing within the Portland Metropolitan UGB in arriving at an allocation of housing types.**

**Finding:**

The City considered other housing types. Manufactured housing is allowed in the RL zoning district. The proposed amendments are consistent with these requirements.

**660-007-0035**

**Minimum Residential Density Allocation for New Construction**

**The following standards shall apply to those jurisdictions which provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing:**

**[...]**

**(2) Clackamas and Washington Counties, and the cities of Forest Grove, Gladstone, Milwaukie, Oregon City, Troutdale, Tualatin, West Linn and Wilsonville must provide for an overall density of eight or more dwelling units per net buildable acre.**

[...]

**Finding:**

As shown below in Table 1, the overall residential density of Tualatin is estimated to be 8.5 dwelling units per net buildable acre, including the Basalt Creek area (Exhibit 2, Page 30, Table 3: Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction). This exceeds the minimum required density of eight or more dwelling units per net buildable acre. The proposed amendments are consistent with these requirements.

<b>Table 1 - Tualatin Buildable Land Inventory</b>						
	<b>RL</b>	<b>RML</b>	<b>RMH</b>	<b>RH</b>	<b>RH/HR</b>	<b>Total</b>
Buildable Acres	1195.23	188.33	118.04	78.87	0.6	1581.07
Basalt Creek Area Buildable Acres	24.83	59.83	-	3.6	-	88.26
Total Buildable Acres						
<i>Maximum Density Allowed</i>	<i>6.4</i>	<i>10</i>	<i>15</i>	<i>25</i>	<i>30</i>	
Total Dwelling Units Allowed	7808.38	2481.60	1770.60	2061.75	18	14140.33
<b><i>Dwelling Units / Acre</i></b>						<b>8.5</b>

**660-007-0037**

**Alternate Minimum Residential Density Allocation for New Construction**

The density standards in OAR 660-007-0035 shall not apply to a jurisdiction which justifies an alternative new construction mix under the provisions of OAR 660-007-0030. The following standards shall apply to these jurisdictions:

- (1) The jurisdiction must provide for the average density of detached single family housing to be equal to or greater than the density of detached single family housing provided for in the plan at the time of original LCDC acknowledgment.
- (2) The jurisdiction must provide for the average density of multiple family housing to be equal to or greater than the density of multiple family housing provided for in the plan at the time of original LCDC acknowledgment.
- (3) A jurisdiction which justifies an alternative new construction mix must also evaluate whether the factors in OAR 660-007-0030 support increases in the density of either detached single family or multiple family housing or both. If the evaluation supports increases in density, then necessary amendments to residential plan and zone designations must be made.

**Finding:**

The proposed Comprehensive Plan amendments accommodate the density standards in OAR 660-007-0035. The proposed amendments are consistent with these requirements.



## **660-007-0045**

### **Computation of Buildable Lands**

(1) The local buildable lands inventory must document the amount of buildable land in each residential plan designation.

(2) The Buildable Land Inventory (BLI): The mix and density standards of OAR 660-007-0030, 660-007-0035 and 660-007-0037 apply to land in a buildable land inventory required by OAR 660-007-0010, as modified herein. Except as provided below, the buildable land inventory at each jurisdiction's choice shall either be based on land in a residential plan/zone designation within the jurisdiction at the time of periodic review or based on the jurisdiction BLI at the time of acknowledgment as updated. Each jurisdiction must include in its computations all plan and/or zone changes involving residential land which that jurisdiction made since acknowledgment. A jurisdiction need not include plan and/or zone changes made by another jurisdiction before annexation to a city. The adjustment of the BLI at the time of acknowledgment shall:

(a) Include changes in zoning ordinances or zoning designations on residential planned land if allowed densities are changed;

(b) Include changes in planning or zoning designations either to or from residential use. A city shall include changes to annexed or incorporated land if the city changed type or density or the plan/zone designation after annexation or incorporation;

(c) The county and one or more cities affected by annexations or incorporations may consolidate buildable land inventories. A single calculation of mix and density may be prepared. Jurisdictions which consolidate their buildable lands inventories shall conduct their periodic review simultaneously;

(d) A new density standard shall be calculated when annexation, incorporation or consolidation results in mixing two or more density standards (OAR 660-007-0035). The calculation shall be made as follows:

(A)(i)  $\text{BLI Acres} \times 6 \text{ Units/Acre} = \text{Num. of Units}$ ;

(ii)  $\text{BLI Acres} \times 8 \text{ Units/Acre} = \text{Num. of Units}$ ;

(iii)  $\text{BLI Acres} \times 10 \text{ Units/Acre} = \text{Num. of Units}$ ;

(iv)  $\text{Total Acres (TA)} - \text{Total Units (TU)}$ .

(B)  $\text{Total units divided by Total Acres} = \text{New Density Standard}$ ;

(C) Example:

(i) Cities A and B have 100 acres and a 6-unit-per-acre standard:  $(100 \times 6 = 600 \text{ units})$ ; City B has 300 acres and a 10-unit-per-acre standard:  $(300 \times 10 = 3000 \text{ units})$ ; County has 200 acres and an 8-unit-per-acre standard:  $(200 \times 08 = 1600 \text{ units})$ ; Total acres = 600 — Total Units = 5200.

(ii)  $5200 \text{ units divided by } 600 \text{ acres} = 8.66 \text{ units per acre standard}$ .

(3) Mix and Density Calculation: The housing units allowed by the plan/zone designations at periodic review, except as modified by section (2) of this rule, shall be used to calculate the mix and density. The number of units allowed by the plan/zone designations at the time of development shall be used for developed residential land.

**Finding:**

The City has recently begun the process of updating its buildable lands inventory for the entire City. For the Basalt Creek area, buildable land has been identified consistent with the requirements of Metro Title 11. The city's buildable lands methodology and definitions were coordinated with those developed during the Basalt Creek Concept Plan, so that the resultant calculations and net density conclusions would be substantially consistent. The proposed amendments are consistent with these requirements.

**660-007-0050**

**Regional Coordination**

**(1) At each periodic review of the Metro UGB, Metro shall review the findings for the UGB. They shall determine whether the buildable land within the UGB satisfies housing needs by type and density for the region's long-range population and housing projections.**

**(2) Metro shall ensure that needed housing is provided for on a regional basis through coordinated comprehensive plans.**

**Finding:**

These criteria define Metro responsibilities. The proposed amendments are consistent with these requirements, implement Metro Ordinance No. 14-1040B, and consistent with Metro code.

**OAR Chapter 660, Division 9 (Economic Development)**

**660-009-0010**

**Application**

**(1) This division applies to comprehensive plans for areas within urban growth boundaries. This division does not require or restrict planning for industrial and other employment uses outside urban growth boundaries. Cities and counties subject to this division must adopt plan and ordinance amendments necessary to comply with this division.**

**(2) Comprehensive plans and land use regulations must be reviewed and amended as necessary to comply with this division as amended at the time of each periodic review of the plan pursuant to ORS 197.712(3). Jurisdictions that have received a periodic review notice from the Department (pursuant to OAR 660-025-0050) prior to the effective date of amendments to this division must comply with such amendments at their next periodic review unless otherwise directed by the Commission.**

**(3) Cities and counties may rely on their existing plans to meet the requirements of this division if they conclude:**

**(a) There are not significant changes in economic development opportunities (e.g., a need for sites not presently provided for in the plan) based on a review of new information about national, state, regional, county and local trends; and**

**(b) That existing inventories, policies, and implementing measures meet the requirements in OAR 660-009-0015 to 660-009-0030.**

**Finding:**

The proposed amendments are applicable to an area within an urban growth boundary. The proposed amendments do not identify significant changes in economic development opportunities, and meet the requirements of OAR 660-009-0015 to -0030 as per the below findings. The proposed amendments are consistent with these requirements.

**(4) For a post-acknowledgement plan amendment under OAR chapter 660, division 18, that changes the plan designation of land in excess of two acres within an existing urban growth boundary from an industrial use designation to a non-industrial use designation, or another employment use designation to any other use designation, a city or county must address all applicable planning requirements, and:**

**(a) Demonstrate that the proposed amendment is consistent with its most recent economic opportunities analysis and the parts of its acknowledged comprehensive plan which address the requirements of this division; or**

**(b) Amend its comprehensive plan to incorporate the proposed amendment, consistent with the requirements of this division; or**

**(c) Adopt a combination of the above, consistent with the requirements of this division.**

**(5) The effort necessary to comply with OAR 660-009-0015 through 660-009-0030 will vary depending upon the size of the jurisdiction, the detail of previous economic development planning efforts, and the extent of new information on national, state, regional, county, and local economic trends. A jurisdiction's planning effort is adequate if it uses the best available or readily collectable information to respond to the requirements of this division.**

**(6) The amendments to this division are effective January 1, 2007. A city or county may voluntarily follow adopted amendments to this division prior to the effective date of the adopted amendments.**

**Finding:**

The provisions of this rule that relate to a change to a Comprehensive Plan designation of land in excess of two acres (subsection "4", above) do not relate to the subject request due to the fact that the proposed changes are from Washington County FD-20 zoning district(s) to City of Tualatin zoning districts. The proposed amendments are consistent with these requirements.

**660-009-0015**

**Economic Opportunities Analysis**

**Cities and counties must review and, as necessary, amend their comprehensive plans to provide economic opportunities analyses containing the information described in sections (1) to (4) of this rule. This analysis will compare the demand for land for industrial and other employment uses to the existing supply of such land.**

**(1) Review of National, State, Regional, County and Local Trends.** The economic opportunities analysis must identify the major categories of industrial or other employment uses that could reasonably be expected to locate or expand in the planning area based on information about national, state, regional, county or local trends. This review of trends is the principal basis for estimating future industrial and other employment uses as described in section (4) of this rule. A use or category of use could reasonably be expected to expand or locate in the planning area if the area possesses the appropriate locational factors for the use or category of use. Cities and counties are strongly encouraged to analyze trends and establish employment projections in a geographic area larger than the planning area and to determine the percentage of employment growth reasonably expected to be captured for the planning area based on the assessment of community economic development potential pursuant to section (4) of this rule.

**(2) Identification of Required Site Types.** The economic opportunities analysis must identify the number of sites by type reasonably expected to be needed to accommodate the expected employment growth based on the site characteristics typical of expected uses. Cities and counties are encouraged to examine existing firms in the planning area to identify the types of sites that may be needed for expansion. Industrial or other employment uses with compatible site characteristics may be grouped together into common site categories.

**(3) Inventory of Industrial and Other Employment Lands.** Comprehensive plans for all areas within urban growth boundaries must include an inventory of vacant and developed lands within the planning area designated for industrial or other employment use.

**(a)** For sites inventoried under this section, plans must provide the following information:

**(A)** The description, including site characteristics, of vacant or developed sites within each plan or zoning district;

**(B)** A description of any development constraints or infrastructure needs that affect the buildable area of sites in the inventory; and

**(C)** For cities and counties within a Metropolitan Planning Organization, the inventory must also include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.

**(b)** When comparing current land supply to the projected demand, cities and counties may inventory contiguous lots or parcels together that are within a discrete plan or zoning district.

**(c)** Cities and counties that adopt objectives or policies providing for prime industrial land pursuant to OAR 660-009-0020(6) and 660-009-0025(8) must identify and inventory any vacant or developed prime industrial land according to section (3)(a) of this rule.

**(4) Assessment of Community Economic Development Potential.** The economic opportunities analysis must estimate the types and amounts of industrial and other employment uses likely to occur in the planning area. The estimate must be based on information generated in response to sections (1) to (3) of this rule and must consider

**the planning area's economic advantages and disadvantages. Relevant economic advantages and disadvantages to be considered may include but are not limited to:**

- (a) Location, size and buying power of markets;**
  - (b) Availability of transportation facilities for access and freight mobility;**
  - (c) Public facilities and public services;**
  - (d) Labor market factors;**
  - (e) Access to suppliers and utilities;**
  - (f) Necessary support services;**
  - (g) Limits on development due to federal and state environmental protection laws; and**
  - (h) Educational and technical training programs.**
- (5) Cities and counties are strongly encouraged to assess community economic development potential through a visioning or some other public input based process in conjunction with state agencies. Cities and counties are strongly encouraged to use the assessment of community economic development potential to form the community economic development objectives pursuant to OAR 660-009-0020(1)(a).**

**Finding:**

The proposed Comprehensive Plan amendments involve the application of the Manufacturing Park (MP) zoning district, consistent with the Basalt Creek Concept Plan, which was inclusive of extensive citizen involvement and coordination with DLCD, ODOT, and Metro. The planning efforts and analysis that went into the Basalt Creek Concept Plan are based on the Metro 2040 Growth Concept Plan, and together are inclusive of the provisions of this administrative rule. The location and type of employment related designation have been planned in response to economic opportunities as identified by the City from a local perspective and as identified as the included an existing conditions report, technical analysis and market analysis as part of the Basalt Creek Concept Plan Technical Appendixes (Exhibit 3). In addition, the proposed amendments include a TSP Update by the City, which covers transportation planning for the greater subject area, and the City's water and sewer plans (Exhibit 11, Maps 12-1 and 13-1) detail the provision or planned provision of necessary sanitary/storm sewer and domestic water infrastructure to service future development. The proposed amendments are consistent with these requirements.

**660-009-0020**

**Industrial and Other Employment Development Policies**

**(1) Comprehensive plans subject to this division must include policies stating the economic development objectives for the planning area. These policies must be based on the community economic opportunities analysis prepared pursuant to OAR 660-009-0015 and must provide the following:**

- (a) Community Economic Development Objectives. The plan must state the overall objectives for economic development in the planning area and identify categories or particular types of industrial and other employment uses desired by the community. Policy objectives may identify the level of short-term supply of land the planning area**

**needs. Cities and counties are strongly encouraged to select a competitive short-term supply of land as a policy objective.**

**(b) Commitment to Provide a Competitive Short-Term Supply. Cities and counties within a Metropolitan Planning Organization must adopt a policy stating that a competitive short-term supply of land as a community economic development objective for the industrial and other employment uses selected through the economic opportunities analysis pursuant to OAR 660-009-0015.**

**(c) Commitment to Provide Adequate Sites and Facilities. The plan must include policies committing the city or county to designate an adequate number of sites of suitable sizes, types and locations. The plan must also include policies, through public facilities planning and transportation system planning, to provide necessary public facilities and transportation facilities for the planning area.**

**(2) Plans for cities and counties within a Metropolitan Planning Organization or that adopt policies relating to the short-term supply of land, must include detailed strategies for preparing the total land supply for development and for replacing the short-term supply of land as it is developed. These policies must describe dates, events or both, that trigger local review of the short-term supply of land.**

**(3) Plans may include policies to maintain existing categories or levels of industrial and other employment uses including maintaining downtowns or central business districts.**

**(4) Plan policies may emphasize the expansion of and increased productivity from existing industries and firms as a means to facilitate local economic development.**

**(5) Cities and counties are strongly encouraged to adopt plan policies that include brownfield redevelopment strategies for retaining land in industrial use and for qualifying them as part of the local short-term supply of land.**

**(6) Cities and counties are strongly encouraged to adopt plan policies pertaining to prime industrial land pursuant to OAR 660-009-0025(8).**

**(7) Cities and counties are strongly encouraged to adopt plan policies that include additional approaches to implement this division including, but not limited to:**

- (a) Tax incentives and disincentives;**
- (b) Land use controls and ordinances;**
- (c) Preferential tax assessments;**
- (d) Capital improvement programming;**
- (e) Property acquisition techniques;**
- (f) Public/private partnerships; and**
- (g) Intergovernmental agreements.**

**Finding:**

Section 7.030 sets forth the include policies stating the economic development objectives for areas of the city with a Manufacturing Planning District designation applied. Section 7.040(1) sets forth the objectives identifies categories or particular types of industrial and other employment uses desired by the community specific to the Manufacturing Park (MP) zoning designation which would be applied with the Basalt Creek Planning Area. These uses and objectives are further set forth in Chapter 62 (Manufacturing Park Zone (MP)). The proposed Comprehensive Plan Map/Zoning Map amendment will add approximately 92 net buildable

acres of employment and industrial lands, which demonstrates a commitment to provide a competitive short-term supply of employment land. The planning efforts and analysis that went into the Basalt Creek Concept Plan are based on the Metro 2040 Growth Concept Plan, and together, when combined with the City's previously acknowledged Comprehensive Plan, are inclusive of the provisions of this administrative rule. The proposed amendments are consistent with these requirements.

#### **660-009-0025**

#### **Designation of Lands for Industrial and Other Employment Uses**

**Cities and counties must adopt measures adequate to implement policies adopted pursuant to OAR 660-009-0020. Appropriate implementing measures include amendments to plan and zone map designations, land use regulations, public facility plans, and transportation system plans.**

**(1) Identification of Needed Sites.** The plan must identify the approximate number, acreage and site characteristics of sites needed to accommodate industrial and other employment uses to implement plan policies. Plans do not need to provide a different type of site for each industrial or other employment use. Compatible uses with similar site characteristics may be combined into broad site categories. Several broad site categories will provide for industrial and other employment uses likely to occur in most planning areas. Cities and counties may also designate mixed-use zones to meet multiple needs in a given location.

#### **Finding:**

The Metro analysis associated with Ord. No. 14-1040B looked at the economic needs of the entire Metro area with respect to land that should be added to the urban growth boundary (UGB). The conclusion of the analyses was to add land for industrial purposes. At the local level, the proposed Comprehensive Plan Map/Zoning Map amendment will add approximately 92 net buildable acres of employment and industrial lands. Chapter 62 (Manufacturing Park Zone (MP)) specifically limits the type of industrial uses as well as the types and scale of non-industrial uses within the Basalt Creek Planning Area. The Community Plan Map (Exhibit 11, Map 9-1) shows the size and location of each intended parcel within the planning area. The proposed amendments are consistent with this requirement.

**(2) Total Land Supply.** Plans must designate serviceable land suitable to meet the site needs identified in section (1) of this rule. Except as provided for in section (5) of this rule, the total acreage of land designated must at least equal the total projected land needs for each industrial or other employment use category identified in the plan during the 20-year planning period.

**(3) Short-Term Supply of Land.** Plans for cities and counties within a Metropolitan Planning Organization or cities and counties that adopt policies relating to the short-term supply of land must designate suitable land to respond to economic development opportunities as they arise. Cities and counties may maintain the short-term supply of land according to the strategies adopted pursuant to OAR 660-009-0020(2).

- (a) Except as provided for in subsections (b) and (c), cities and counties subject to this section must provide at least 25 percent of the total land supply within the urban growth boundary designated for industrial and other employment uses as short-term supply.**
- (b) Affected cities and counties that are unable to achieve the target in subsection (a) above may set an alternative target based on their economic opportunities analysis.**
- (c) A planning area with 10 percent or more of the total land supply enrolled in Oregon's industrial site certification program pursuant to ORS 284.565 satisfies the requirements of this section.**

**Finding:**

The proposed amendments would apply the City's Comprehensive Plan and Development Code to the Basalt Creek Planning Area. This area represents a new land supply to the City, having been previously concept planned and added to the UGB. Staff notes that the City has begun an economic opportunities analysis (EOA). However, in the absence of a final EOA upon which to base a discussion of compliance of the Basalt Creek Planning with the requirements of Goal 9, the City has relied on analyses and findings prepared by Metro associated with Ordinance No 14-1040B (Exhibit 4) ; discussion of TDC Chapter 4 (Community Growth); and economic analyses prepared as part of the Basalt Creek Concept Plan (Exhibit 3). Therefore, it is premature to determine the total and short-term land supply needs as required by this and subsequent sections of the rule.

- (4) If cities and counties are required to prepare a public facility plan or transportation system plan by OAR chapter 660, division 011 or division 012, the city or county must complete subsections (a) to (c) of this section at the time of periodic review. Requirements of this rule apply only to city and county decisions made at the time of periodic review. Subsequent implementation of or amendments to the comprehensive plan or the public facility plan that change the supply of serviceable land are not subject to the requirements of this section. Cities and counties must:**
- (a) Identify serviceable industrial and other employment sites. The affected city or county in consultation with the local service provider, if applicable, must make decisions about whether a site is serviceable. Cities and counties are encouraged to develop specific criteria for deciding whether or not a site is serviceable. Cities and counties are strongly encouraged to also consider whether or not extension of facilities is reasonably likely to occur considering the size and type of uses likely to occur and the cost or distance of facility extension;**
- (b) Estimate the amount of serviceable industrial and other employment land likely to be needed during the planning period for the public facilities plan. Appropriate techniques for estimating land needs include but are not limited to the following:**
- (A) Projections or forecasts based on development trends in the area over previous years; and**
- (B) Deriving a proportionate share of the anticipated 20-year need specified in the comprehensive plan.**



**(c) Review and, if necessary, amend the comprehensive plan and the public facilities plan to maintain a short-term supply of land. Amendments to implement this requirement include but are not limited to the following:**

**(A) Changes to the public facilities plan to add or reschedule projects to make more land serviceable;**

**(B) Amendments to the comprehensive plan that redesignate additional serviceable land for industrial or other employment use; and**

**(C) Reconsideration of the planning area's economic development objectives and amendment of plan objectives and policies based on public facility limitations.**

**(d) If a city or county is unable to meet the requirements of this section, it must identify the specific steps needed to provide expanded public facilities at the earliest possible time.**

**[...]**

**Finding:**

The City is not currently in periodic review. These requirements are inapplicable to the proposed amendments.

**660-009-0030**

**Multi-Jurisdiction Coordination**

**(1) Cities and counties are strongly encouraged to coordinate when implementing OAR 660-009-0015 to 660-009-0025.**

**(2) Jurisdictions that coordinate under this rule may:**

**(a) Conduct a single coordinated economic opportunities analysis; and**

**(b) Designate lands among the coordinating jurisdictions in a mutually agreed proportion.**

**Finding:**

The Basalt Creek Concept Plan and the resulting zoning designations involved a large degree of coordination between the cities of Tualatin and Wilsonville. The proposed Comprehensive Plan amendments are consistent with the Basalt Creek Concept Plan. The proposed amendments are consistent with these requirements.

**OAR Chapter 660, Division 12 (Transportation Planning)**

**660-012-0010**

**Transportation Planning**

**(1) As described in this division, transportation planning shall be divided into two phases: transportation system planning and transportation project development.**

**Transportation system planning establishes land use controls and a network of facilities and services to meet overall transportation needs. Transportation project development implements the TSP by determining the precise location, alignment, and preliminary design of improvements included in the TSP.**

**(2) It is not the purpose of this division to cause duplication of or to supplant existing applicable transportation plans and programs. Where all or part of an acknowledged comprehensive plan, TSP either of the local government or appropriate special district, capital improvement program, regional functional plan, or similar plan or combination of plans meets all or some of the requirements of this division, those plans or programs may be incorporated by reference into the TSP required by this division. Only those referenced portions of such documents shall be considered to be a part of the TSP and shall be subject to the administrative procedures of this division and ORS Chapter 197.**

**(3) It is not the purpose of this division to limit adoption or enforcement of measures to provide convenient bicycle and pedestrian circulation or convenient access to transit that are otherwise consistent with the requirements of this division.**

**Finding:**

The proposed Plan Text Amendment would update the Transportation System Plan (TSP) consistent with all applicable provisions of Division 12. The previously adopted TSP is consistent with 660-012-0010. As provided under this subsection, project development will be addressed separately at the time of a particular development application, consistent with TDC Chapters 32 and 33, and other relevant chapters depending on the application. The proposed amendments are consistent with these requirements.

**660-012-0015**

**Preparation and Coordination of Transportation System Plans**

**(1) ODOT shall prepare, adopt and amend a state TSP in accordance with ORS 184.618, its program for state agency coordination certified under ORS 197.180, and OAR 660-012-0030, 660-012-0035, 660-012-0050, 660-012-0065 and 660-012-0070. The state TSP shall identify a system of transportation facilities and services adequate to meet identified state transportation needs:**

**(a) The state TSP shall include the state transportation policy plan, modal systems plans and transportation facility plans as set forth in OAR chapter 731, division 15;**

**(b) State transportation project plans shall be compatible with acknowledged comprehensive plans as provided for in OAR chapter 731, division 15. Disagreements between ODOT and affected local governments shall be resolved in the manner established in that division.**

**(2) MPOs and counties shall prepare and amend regional TSPs in compliance with this division. MPOs shall prepare regional TSPs for facilities of regional significance within their jurisdiction. Counties shall prepare regional TSPs for all other areas and facilities:**

**(a) Regional TSPs shall establish a system of transportation facilities and services adequate to meet identified regional transportation needs and shall be consistent with adopted elements of the state TSP;**

**(b) Where elements of the state TSP have not been adopted, the MPO or county shall coordinate the preparation of the regional TSP with ODOT to assure that state transportation needs are accommodated;**

- (c) Regional TSPs prepared by MPOs other than metropolitan service districts shall be adopted by the counties and cities within the jurisdiction of the MPO. Metropolitan service districts shall adopt a regional TSP for areas within their jurisdiction;**
- (d) Regional TSPs prepared by counties shall be adopted by the county.**
- (3) Cities and counties shall prepare, adopt and amend local TSPs for lands within their planning jurisdiction in compliance with this division:**
- (a) Local TSPs shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with regional TSPs and adopted elements of the state TSP;**
- (b) Where the regional TSP or elements of the state TSP have not been adopted, the city or county shall coordinate the preparation of the local TSP with the regional transportation planning body and ODOT to assure that regional and state transportation needs are accommodated.**
- (4) Cities and counties shall adopt regional and local TSPs required by this division as part of their comprehensive plans. Transportation financing programs required by OAR 660-012-0040 may be adopted as a supporting document to the comprehensive plan.**
- (5) The preparation of TSPs shall be coordinated with affected state and federal agencies, local governments, special districts, and private providers of transportation services.**
- (6) Mass transit, transportation, airport and port districts shall participate in the development of TSPs for those transportation facilities and services they provide. These districts shall prepare and adopt plans for transportation facilities and services they provide. Such plans shall be consistent with and adequate to carry out relevant portions of applicable regional and local TSPs. Cooperative agreements executed under ORS 197.185(2) shall include the requirement that mass transit, transportation, airport and port districts adopt a plan consistent with the requirements of this section.**
- (7) Where conflicts are identified between proposed regional TSPs and acknowledged comprehensive plans, representatives of affected local governments shall meet to discuss means to resolve the conflicts. These may include:**
- (a) Changing the draft TSP to eliminate the conflicts; or**
- (b) Amending acknowledged comprehensive plan provision to eliminate the conflicts;**
- (c) For MPOs which are not metropolitan service districts, if conflicts persist between regional TSPs and acknowledged comprehensive plans after efforts to achieve compatibility, an affected local government may petition the Commission to resolve the dispute.**

**Finding:**

The proposed amendments comply with all of the applicable requirements for preparation, coordination and adoption of TSPs required under this section of the TPR.

- The proposed amendments are based the analysis found in the Basalt Creek Transportation Refinement Plan (Exhibit 3, Page 318) and supplemental analysis thereto (Exhibit 5).
- The preparation of the proposed update to the TSP was coordinated with ODOT, Metro, Washington County, and the City of Wilsonville.

- The TSP and amendments are incorporated as part of City's Comprehensive Plan (TDC Chapter 11).
- As described above, the preparation of proposed amendments followed the process in place for the development of the TSP and was closely coordinated with affected government agencies and service providers.
- OAR 660-012-0015 also requires that regional TSPs, such as Metro's RTP, be coordinated with state transportation plans and policies, such as those found in the Oregon Highway Plan (OHP). Both ODOT and Metro assisted in the development of the plans incorporated into the TSP. The proposed amendments are consistent with these requirements.

### **660-012-0016**

#### **Coordination with Federally-Required Regional Transportation Plans in Metropolitan Areas**

**(1) In metropolitan areas, local governments shall prepare, adopt, amend and update transportation system plans required by this division in coordination with regional transportation plans (RTPs) prepared by MPOs required by federal law. Insofar as possible, regional transportation system plans for metropolitan areas shall be accomplished through a single coordinated process that complies with the applicable requirements of federal law and this division. Nothing in this rule is intended to make adoption or amendment of a regional transportation plan by a metropolitan planning organization a land use decision under Oregon law.**

**(2) When an MPO adopts or amends a regional transportation plan that relates to compliance with this division, the affected local governments shall review the adopted plan or amendment and either:**

**(a) Make a finding that the proposed regional transportation plan amendment or update is consistent with the applicable provisions of adopted regional and local transportation system plan and comprehensive plan and compliant with applicable provisions of this division; or**

**(b) Adopt amendments to the relevant regional or local transportation system plan that make the regional transportation plan and the applicable transportation system plans consistent with one another and compliant with applicable provisions of this division. Necessary plan amendments or updates shall be prepared and adopted in coordination with the federally-required plan update or amendment. Such amendments shall be initiated no later than 30 days from the adoption of the RTP amendment or update and shall be adopted no later than one year from the adoption of the RTP amendment or update or according to a work plan approved by the commission. A plan amendment is "initiated" for purposes of this subsection where the affected local government files a post-acknowledgement plan amendment notice with the department as provided in OAR chapter 660, division 18.**

**(c) In the Portland Metropolitan area, compliance with this section shall be accomplished by Metro through adoption of required findings or an amendment to the regional transportation system plan.**

**(3) Adoption or amendment of a regional transportation plan relates to compliance with this division for purposes of section (2) if it does one or more of the following:**

**(a) Changes plan policies;**

**(b) Adds or deletes a project from the list of planned transportation facilities, services or improvements or from the financially-constrained project list required by federal law;**

**(c) Modifies the general location of a planned transportation facility or improvement;**

**(d) Changes the functional classification of a transportation facility; or**

**(e) Changes the planning period or adopts or modifies the population or employment forecast or allocation upon which the plan is based.**

**(4) The following amendments to a regional transportation plan do not relate to compliance with this division for purposes of section (2):**

**(a) Adoption of an air quality conformity determination;**

**(b) Changes to a federal revenue projection;**

**(c) Changes to estimated cost of a planned transportation project; or**

**(d) Deletion of a project from the list of planned projects where the project has been constructed or completed.**

**(5) Adoption or amendment of a regional transportation plan that extends the planning period beyond that specified in the applicable acknowledged comprehensive plan or regional transportation system plan is consistent with the requirements of this rule where the following conditions are met:**

**(a) The future year population forecast is consistent with those issued or adopted under ORS 195.033 or 195.036;**

**(b) Land needed to accommodate future urban density population and employment and other urban uses is identified in a manner consistent with Goal 14 and relevant rules;**

**(c) Urban density population and employment are allocated to designated centers and other identified areas to provide for implementation of the metropolitan area's integrated land use and transportation plan or strategy; and**

**(d) Urban density population and employment or other urban uses are allocated to areas outside of an acknowledged urban growth boundary only where:**

**(A) The allocation is done in conjunction with consideration by local governments of possible urban growth boundary amendments consistent with Goal 14 and relevant rules, and**

**(B) The RTP clearly identifies the proposed UGB amendments and any related projects as illustrative and subject to further review and approval by the affected local governments.**

**Finding:**

As discussed below in Section E (Metro Code), the findings addressing Chapter 3.08, Regional Transportation Functional Plan (RTFP) indicate that the proposed amendments are consistent with the RTFP. The proposed amendments are consistent with these requirements.

**660-012-0020**

**Elements of Transportation System Plans**

**(1) A TSP shall establish a coordinated network of transportation facilities adequate to serve state, regional and local transportation needs.**

**(2) The TSP shall include the following elements:**

**(a) A determination of transportation needs as provided in OAR 660-012-0030;**

**(b) A road plan for a system of arterials and collectors and standards for the layout of local streets and other important non-collector street connections. Functional classifications of roads in regional and local TSP's shall be consistent with functional classifications of roads in state and regional TSP's and shall provide for continuity between adjacent jurisdictions. The standards for the layout of local streets shall provide for safe and convenient bike and pedestrian circulation necessary to carry out OAR 660-012-0045(3)(b). New connections to arterials and state highways shall be consistent with designated access management categories. The intent of this requirement is to provide guidance on the spacing of future extensions and connections along existing and future streets which are needed to provide reasonably direct routes for bicycle and pedestrian travel. The standards for the layout of local streets shall address:**

**(A) Extensions of existing streets;**

**(B) Connections to existing or planned streets, including arterials and collectors; and**

**(C) Connections to neighborhood destinations.**

**(c) A public transportation plan which:**

**(A) Describes public transportation services for the transportation disadvantaged and identifies service inadequacies;**

**(B) Describes intercity bus and passenger rail service and identifies the location of terminals;**

**(C) For areas within an urban growth boundary which have public transit service, identifies existing and planned transit trunk routes, exclusive transit ways, terminals and major transfer stations, major transit stops, and park-and-ride stations. Designation of stop or station locations may allow for minor adjustments in the location of stops to provide for efficient transit or traffic operation or to provide convenient pedestrian access to adjacent or nearby uses.**

**(D) For areas within an urban area containing a population greater than 25,000 persons, not currently served by transit, evaluates the feasibility of developing a public transit system at buildout. Where a transit system is determined to be feasible, the plan shall meet the requirements of paragraph (2)(c)(C) of this rule.**

**(d) A bicycle and pedestrian plan for a network of bicycle and pedestrian routes throughout the planning area. The network and list of facility improvements shall be consistent with the requirements of ORS 366.514;**

**(e) An air, rail, water and pipeline transportation plan which identifies where public use airports, mainline and branchline railroads and railroad facilities, port facilities, and major regional pipelines and terminals are located or planned within the planning area. For airports, the planning area shall include all areas within airport imaginary surfaces and other areas covered by state or federal regulations;**

**(f) For areas within an urban area containing a population greater than 25,000 persons a plan for transportation system management and demand management;**

**(g) A parking plan in MPO areas as provided in OAR 660-012-0045(5)(c);**

**(h) Policies and land use regulations for implementing the TSP as provided in OAR 660-012-0045;**

**(i) For areas within an urban growth boundary containing a population greater than 2500 persons, a transportation financing program as provided in OAR 660-012-0040.**

**(3) Each element identified in subsections (2)(b)–(d) of this rule shall contain:**

**(a) An inventory and general assessment of existing and committed transportation facilities and services by function, type, capacity and condition:**

**(A) The transportation capacity analysis shall include information on:**

**(i) The capacities of existing and committed facilities;**

**(ii) The degree to which those capacities have been reached or surpassed on existing facilities; and**

**(iii) The assumptions upon which these capacities are based.**

**(B) For state and regional facilities, the transportation capacity analysis shall be consistent with standards of facility performance considered acceptable by the affected state or regional transportation agency;**

**(C) The transportation facility condition analysis shall describe the general physical and operational condition of each transportation facility (e.g., very good, good, fair, poor, very poor).**

**(b) A system of planned transportation facilities, services and major improvements. The system shall include a description of the type or functional classification of planned facilities and services and their planned capacities and performance standards;**

**(c) A description of the location of planned facilities, services and major improvements, establishing the general corridor within which the facilities, services or improvements may be sited. This shall include a map showing the general location of proposed transportation improvements, a description of facility parameters such as minimum and maximum road right of way width and the number and size of lanes, and any other additional description that is appropriate;**

**(d) Identification of the provider of each transportation facility or service.**

**Finding:**

The proposed update to the previously-adopted TSP (Ordinance #1354-13 (File No. PTA-12-02)), together with the previously adopted and acknowledged comprehensive plan, includes all of the elements required by the TPR, and the proposed amendments are consistent with OAR-660-012-0020. The proposed amendments modify the TSP and Concept Plan, including updates to:

- Figure 1 Functional Classification (Functional Classification Plan), TSP;
- Figure 11-1: Functional Classification and Traffic Signal Plan;
- Figure 11-2: Metro Regional Street Design System;
- Figure 11-3: Local Street Plan;
- Figure 11-4: Bicycle and Pedestrian System;
- Figure 11-5: Transit Plan;
- Figure 11-6: Freight Routes;
- TDC Chapter 75, which implements access management restrictions of the TSP.

Further, the proposed amendments are consistent with the provisions described in 660-012-0020.

- The amendments to the TSP are consistent with Metro's Regional Transportation Plan (RTP).
- TDC Chapter 75 includes minimum block spacing standards consistent with the intent of -0020.
- The TSP amendments include maximum local street spacing standards.
- The TSP includes all the public transit services described in 660-012-0020(2)(c)(A)-(C).

The proposed amendments are consistent with these requirements.

### **660-012-0025**

#### **Complying with the Goals in Preparing Transportation System Plans; Refinement Plans**

**(1) Except as provided in section (3) of this rule, adoption of a TSP shall constitute the land use decision regarding the need for transportation facilities, services and major improvements and their function, mode, and general location.**

**(2) Findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies and land use regulations shall be developed in conjunction with the adoption of the TSP.**

**(3) A local government or MPO may defer decisions regarding function, general location and mode of a refinement plan if findings are adopted that:**

**(a) Identify the transportation need for which decisions regarding function, general location or mode are being deferred;**

**(b) Demonstrate why information required to make final determinations regarding function, general location, or mode cannot reasonably be made available within the time allowed for preparation of the TSP;**

**(c) Explain how deferral does not invalidate the assumptions upon which the TSP is based or preclude implementation of the remainder of the TSP;**

**(d) Describe the nature of the findings which will be needed to resolve issues deferred to a refinement plan; and**

**(e) Set a deadline for adoption of a refinement plan prior to initiation of the periodic review following adoption of the TSP.**

**(4) Where a Corridor Environmental Impact Statement (EIS) is prepared pursuant to the requirements of the National Environmental Policy Act of 1969, the development of the refinement plan shall be coordinated with the preparation of the Corridor EIS. The refinement plan shall be adopted prior to the issuance of the Final EIS.**

#### **Finding:**

The proposed update to the previously-adopted TSP (Ordinance #1354-13 (File No. PTA-12-02)), together with the previously adopted and acknowledged comprehensive plan, includes all of the elements required. The proposed amendments comply with the applicable provisions of Section 660-012-0025 of the TPR as demonstrated by the following facts:

- The proposed amendments update the need, mode, function, and general location for several transportation facilities, consistent with OAR 660-012-0025(1) (TSP Chapter 2, Sections 1 and 2).



- The findings contained herein satisfy the requirement of OAR 660-12-0025(2) and have been adopted in conjunction with proposed amendments.
- The proposed amendments do not include any refinement planning nor an Environmental Impact Statement; OAR 660-12-0025(3) – (4) therefore does not apply.

The proposed amendments are consistent with these requirements.

### **660-012-0030**

#### **Determination of Transportation Needs**

**(1) The TSP shall identify transportation needs relevant to the planning area and the scale of the transportation network being planned including:**

**(a) State, regional, and local transportation needs;**

**(b) Needs of the transportation disadvantaged;**

**(c) Needs for movement of goods and services to support industrial and commercial development planned for pursuant to OAR chapter 660, division 9 and Goal 9 (Economic Development).**

**(2) Counties or MPO's preparing regional TSP's shall rely on the analysis of state transportation needs in adopted elements of the state TSP. Local governments preparing local TSP's shall rely on the analyses of state and regional transportation needs in adopted elements of the state TSP and adopted regional TSP's.**

**(3) Within urban growth boundaries, the determination of local and regional transportation needs shall be based upon:**

**(a) Population and employment forecasts and distributions that are consistent with the acknowledged comprehensive plan, including those policies that implement Goal 14. Forecasts and distributions shall be for 20 years and, if desired, for longer periods; and**

**(b) Measures adopted pursuant to OAR 660-012-0045 to encourage reduced reliance on the automobile.**

**(4) In MPO areas, calculation of local and regional transportation needs also shall be based upon accomplishment of the requirement in OAR 660-012-0035(4) to reduce reliance on the automobile.**

#### **Finding:**

The proposed amendments identified transportation needs as required by OAR 660-012-0030. The Tualatin TSP (Exhibit 9) complies with the TPR by containing: a road plan for a network of arterial and collector roads (Chapter 2, Sections 1 and 2); a public transit plan (Chapter 2, Section 3); a bicycle and pedestrian plan (Chapter 2, Section 4); an air, rail, water, and pipeline plan (Chapter 2, Sections 6 and 7); a transportation financing plan (Chapter 3); and policies and ordinances for implementing the TSP ("Policy and Code Language" and TDC Chapter 75).

- The proposed amendments are based on a needs analysis from the adopted Basalt Creek Transportation Refinement plan. The proposed amendments make adjustments consistent with the OHP and Metro's RTP; and findings of compliance with the OHP and RTFP are included herein.
- The needs analyses included in Basalt Creek Transportation Refinement Plan (Exhibit 3, Page 318) was based upon population and employment forecasts developed by Metro with local government participation. These same regional forecasts have been

used to inform the RTP and to implement Metro's 2040 designations, which are part of the City's adopted and acknowledged Comprehensive Plan.

- Additional needs analysis were conducted as part of the consideration of the proposed amendments, this analysis included an assessment of the land use assumptions in Metro's RTP as well as an assessment of build out conditions beyond the RTP assumed land use.
- The proposed amendments are consistent with the requirements for vehicle miles traveled (VMT) reduction set forth in OAR 660-012-0035(4) and referenced by OAR 660-012-0030(4). Appropriate findings are provided herein under OAR 660-012-0035. The proposed amendments are based on the same analysis developed for Basalt Creek Refinement plan and therefore is consistent with OAR 660-012-0030.

The proposed amendments are consistent with these requirements.

### **660-012-0035**

#### **Evaluation and Selection of Transportation System Alternatives**

**(1) The TSP shall be based upon evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified transportation needs in a safe manner and at a reasonable cost with available technology. The following shall be evaluated as components of system alternatives:**

- (a) Improvements to existing facilities or services;**
- (b) New facilities and services, including different modes or combinations of modes that could reasonably meet identified transportation needs;**
- (c) Transportation system management measures;**
- (d) Demand management measures; and**
- (e) A no-build system alternative required by the National Environmental Policy Act of 1969 or other laws.**

**(2) Local governments in MPO areas of larger than 1,000,000 population shall, and other governments may also, evaluate alternative land use designations, densities, and design standards to meet local and regional transportation needs. Local governments preparing such a strategy shall consider:**

- (a) Increasing residential densities and establishing minimum residential densities within one quarter mile of transit lines, major regional employment areas, and major regional retail shopping areas;**
- (b) Increasing allowed densities in new commercial office and retail developments in designated community centers;**
- (c) Designating lands for neighborhood shopping centers within convenient walking and cycling distance of residential areas; and**
- (d) Designating land uses to provide a better balance between jobs and housing considering:**

**(A) The total number of jobs and total of number of housing units expected in the area or subarea;**

**(B) The availability of affordable housing in the area or subarea; and**

**(C) Provision of housing opportunities in close proximity to employment areas.**

**(3) The following standards shall be used to evaluate and select alternatives:**

- (a) The transportation system shall support urban and rural development by providing types and levels of transportation facilities and services appropriate to serve the land uses identified in the acknowledged comprehensive plan;**
- (b) The transportation system shall be consistent with state and federal standards for protection of air, land and water quality including the State Implementation Plan under the Federal Clean Air Act and the State Water Quality Management Plan;**
- (c) The transportation system shall minimize adverse economic, social, environmental and energy consequences;**
- (d) The transportation system shall minimize conflicts and facilitate connections between modes of transportation; and**
- (e) The transportation system shall avoid principal reliance on any one mode of transportation by increasing transportation choices to reduce principal reliance on the automobile. In MPO areas this shall be accomplished by selecting transportation alternatives which meet the requirements in section (4) of this rule.**
- (4) In MPO areas, regional and local TSPs shall be designed to achieve adopted standards for increasing transportation choices and reducing reliance on the automobile. Adopted standards are intended as means of measuring progress of metropolitan areas towards developing and implementing transportation systems and land use plans that increase transportation choices and reduce reliance on the automobile. It is anticipated that metropolitan areas will accomplish reduced reliance by changing land use patterns and transportation systems so that walking, cycling, and use of transit are highly convenient and so that, on balance, people need to and are likely to drive less than they do today.**
- (5) MPO areas shall adopt standards to demonstrate progress towards increasing transportation choices and reducing automobile reliance as provided for in this rule:**
  - (a) The commission shall approve standards by order upon demonstration by the metropolitan area that:**
    - (A) Achieving the standard will result in a reduction in reliance on automobiles;**
    - (B) Achieving the standard will accomplish a significant increase in the availability or convenience of alternative modes of transportation;**
    - (C) Achieving the standard is likely to result in a significant increase in the share of trips made by alternative modes, including walking, bicycling, ridesharing and transit;**
    - (D) VMT per capita is unlikely to increase by more than five percent; and**
    - (E) The standard is measurable and reasonably related to achieving the goal of increasing transportation choices and reducing reliance on the automobile as described in OAR 660-012-0000.**
  - (b) In reviewing proposed standards for compliance with subsection (a), the commission shall give credit to regional and local plans, programs, and actions implemented since 1990 that have already contributed to achieving the objectives specified in paragraphs (A)–(E) above;**
  - (c) If a plan using a standard, approved pursuant to this rule, is expected to result in an increase in VMT per capita, then the cities and counties in the metropolitan area shall prepare and adopt an integrated land use and transportation plan including the elements listed in paragraphs (A)–(E) below. Such a plan shall be prepared in**

coordination with the MPO and shall be adopted within three years of the approval of the standard.

(A) Changes to land use plan designations, densities, and design standards listed in subsections (2)(a)–(d);

(B) A transportation demand management plan that includes significant new transportation demand management measures;

(C) A public transit plan that includes a significant expansion in transit service;

(D) Policies to review and manage major roadway improvements to ensure that their effects are consistent with achieving the adopted strategy for reduced reliance on the automobile, including policies that provide for the following:

(i) An assessment of whether improvements would result in development or travel that is inconsistent with what is expected in the plan;

(ii) Consideration of alternative measures to meet transportation needs;

(iii) Adoption of measures to limit possible unintended effects on travel and land use patterns including access management, limitations on subsequent plan amendments, phasing of improvements, etc.; and

(iv) For purposes of this section a "major roadway expansion" includes new arterial roads or streets and highways, the addition of travel lanes, and construction of interchanges to a limited access highway

(E) Plan and ordinance provisions that meet all other applicable requirements of this division.

(d) Standards may include but are not limited to:

(A) Modal share of alternative modes, including walking, bicycling, and transit trips;

(B) Vehicle hours of travel per capita;

(C) Vehicle trips per capita;

(D) Measures of accessibility by alternative modes (i.e. walking, bicycling and transit);  
or

(E) The Oregon Benchmark for a reduction in peak hour commuting by single occupant vehicles.

(e) Metropolitan areas shall adopt TSP policies to evaluate progress towards achieving the standard or standards adopted and approved pursuant to this rule. Such evaluation shall occur at regular intervals corresponding with federally-required updates of the regional transportation plan. This shall include monitoring and reporting of VMT per capita.

(6) A metropolitan area may also accomplish compliance with requirements of subsection (3)(e), sections (4) and (5) by demonstrating to the commission that adopted plans and measures are likely to achieve a five percent reduction in VMT per capita over the 20-year planning period. The commission shall consider and act on metropolitan area requests under this section by order. A metropolitan area that receives approval under this section shall adopt interim benchmarks for VMT reduction and shall evaluate progress in achieving VMT reduction at each update of the regional transportation system plan.

(7) Regional and local TSPs shall include benchmarks to assure satisfactory progress towards meeting the approved standard or standards adopted pursuant to this rule at

**regular intervals over the planning period. MPOs and local governments shall evaluate progress in meeting benchmarks at each update of the regional transportation plan. Where benchmarks are not met, the relevant TSP shall be amended to include new or additional efforts adequate to meet the requirements of this rule.**

**(8) The commission shall, at regular intervals, evaluate the results of efforts to achieve the reduction in VMT and the effectiveness of approved plans and standards in achieving the objective of increasing transportation choices and reducing reliance on the automobile.**

**(9) Where existing and committed transportation facilities and services have adequate capacity to support the land uses in the acknowledged comprehensive plan, the local government shall not be required to evaluate alternatives as provided in this rule.**

**(10) Transportation uses or improvements listed in OAR 660-012-0065(3)(d) to (g) and (o) and located in an urban fringe may be included in a TSP only if the improvement project identified in the Transportation System Plan as described in section (12) of this rule, will not significantly reduce peak hour travel time for the route as determined pursuant to section (11) of this rule, or the jurisdiction determines that the following alternatives can not reasonably satisfy the purpose of the improvement project:**

**(a) Improvements to transportation facilities and services within the urban growth boundary;**

**(b) Transportation system management measures that do not significantly increase capacity; or**

**(c) Transportation demand management measures. The jurisdiction needs only to consider alternatives that are safe and effective, consistent with applicable standards and that can be implemented at a reasonable cost using available technology.**

**(11) An improvement project significantly reduces peak hour travel time when, based on recent data, the time to travel the route is reduced more than 15 percent during weekday peak hour conditions over the length of the route located within the urban fringe. For purposes of measuring travel time, a route shall be identified by the predominant traffic flows in the project area.**

**(12) A "transportation improvement project" described in section (10) of this rule:**

**(a) Is intended to solve all of the reasonably foreseeable transportation problems within a general geographic location, within the planning period; and**

**(b) Has utility as an independent transportation project.**

**Finding:**

The City has an acknowledged TSP consistent with the Transportation Planning Rule provisions of 660-012-0035. The proposed amendments make adjustments to the TSP in order to plan for the provision of a transportation system to serve the Basalt Creek urban growth boundary expansion area.

- The Basalt Creek Transportation Refinement Plan, adopted in 2012, identified a combination of improvements to existing facilities and construction of new facilities necessary to provide a system of multimodal infrastructure to serve the Basalt Creek urban growth boundary expansion area.

- The Basalt Creek Transportation Refinement Plan considered no-build and multimodal opportunities as well as transportation system management and demand management solutions. The Basalt Creek Transportation Refinement Plan identified solutions to minimize the adverse impacts of transportation improvements and conflicts between modes of transportation. The Basalt Creek Transportation Refinement Plan includes several trail and other multimodal facilities to facilitate connections between modes and reduce reliance on any one mode of transportation.
- The Metro regional government established the Basalt Creek urban growth boundary expansion area in 2004 in order to provide an appropriate balance of land uses within the Metro Urban Growth Boundary.
- The 2018 RTP included the Basalt Creek Area and associated transportation improvements. Therefore, the proposed amendments are consistent with the regional planning requirements of OAR 660-012-0035.
- The evaluation included consideration of the components set forth in OAR 660-012-0035 and therefore is consistent with the requirements of OAR 660-012-0035.

The proposed amendments are consistent with these requirements.

#### **660-012-0040**

##### **Transportation Financing Program**

**(1) For areas within an urban growth boundary containing a population greater than 2,500 persons, the TSP shall include a transportation financing program.**

**(2) A transportation financing program shall include the items listed in (a)–(d):**

**(a) A list of planned transportation facilities and major improvements;**

**(b) A general estimate of the timing for planned transportation facilities and major improvements;**

**(c) A determination of rough cost estimates for the transportation facilities and major improvements identified in the TSP; and**

**(d) In metropolitan areas, policies to guide selection of transportation facility and improvement projects for funding in the short-term to meet the standards and benchmarks established pursuant to 0035(4)–(6). Such policies shall consider, and shall include among the priorities, facilities and improvements that support mixed-use, pedestrian friendly development and increased use of alternative modes.**

**(3) The determination of rough cost estimates is intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms. In addition to including rough cost estimates for each transportation facility and major improvement, the transportation financing plan shall include a discussion of the facility provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each transportation facility and major improvement. These funding mechanisms may also be described in terms of general guidelines or local policies.**

**(4) Anticipated timing and financing provisions in the transportation financing program are not considered land use decisions as specified in ORS 197.712(2)(e) and, therefore, cannot be the basis of appeal under 197.610(1) and (2) or 197.835(4).**

**(5) The transportation financing program shall provide for phasing of major improvements to encourage infill and redevelopment of urban lands prior to facilities and improvements which would cause premature development of urbanizable lands or conversion of rural lands to urban uses.**

**Finding:**

Transportation infrastructure funding is reasonably assured and the proposed amendments fully implement all of the applicable provisions of OAR 660-012-0040 as detailed in the following findings of fact:

- The proposed amendments include a list of planned transportation facilities including the estimated timing and rough cost estimates, as documented in the adopted Basalt Creek Transportation Refinement Plan. The proposed amendments include a general estimate of the timing for planned transportation facilities and major improvements (Exhibit 9, Pages 26-36).
- The proposed amendments include policies to guide selection of transportation facility and improvement projects for funding in the short-term to meet the standards and benchmarks established pursuant to -0035(4)-(6). Said policies consider, and include among the priorities, facilities and improvements that support mixed-use, pedestrian friendly development and increased use of alternative modes (Exhibit 9, Page 26)
- The regional transportation facilities identified in the proposed amendments have been included in the 2018 financially constrained Regional Transportation Plan by Metro as required by OAR 660-012-0040(2).
- Therefore, the proposed amendments are considered to be financially constrained and consistent with the applicable provisions of OAR 660-012-0040.

The proposed amendments are consistent with these requirements.

**660-012-0045**

**Implementation of the Transportation System Plan**

**(1) Each local government shall amend its land use regulations to implement the TSP.**

**(a) The following transportation facilities, services and improvements need not be subject to land use regulations except as necessary to implement the TSP and, under ordinary circumstances do not have a significant impact on land use:**

**(A) Operation, maintenance, and repair of existing transportation facilities identified in the TSP, such as road, bicycle, pedestrian, port, airport and rail facilities, and major regional pipelines and terminals;**

**(B) Dedication of right-of-way, authorization of construction and the construction of facilities and improvements, where the improvements are consistent with clear and objective dimensional standards;**

**(C) Uses permitted outright under ORS 215.213(1)(j)–(m) and 215.283(1)(h)–(k), consistent with the provisions of OAR 660-012-0065; and**

**(D) Changes in the frequency of transit, rail and airport services.**

**(b) To the extent, if any, that a transportation facility, service or improvement concerns the application of a comprehensive plan provision or land use regulation, it may be allowed without further land use review if it is permitted outright or if it is subject to**

**standards that do not require interpretation or the exercise of factual, policy or legal judgment;**

**(c) In the event that a transportation facility, service or improvement is determined to have a significant impact on land use or to concern the application of a comprehensive plan or land use regulation and to be subject to standards that require interpretation or the exercise of factual, policy or legal judgment, the local government shall provide a review and approval process that is consistent with OAR 660-012-0050. To facilitate implementation of the TSP, each local government shall amend its land use regulations to provide for consolidated review of land use decisions required to permit a transportation project.**

**(2) Local governments shall adopt land use or subdivision ordinance regulations, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions. Such regulations shall include:**

**(a) Access control measures, for example, driveway and public road spacing, median control and signal spacing standards, which are consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities;**

**(b) Standards to protect future operation of roads, transitways and major transit corridors;**

**(c) Measures to protect public use airports by controlling land uses within airport noise corridors and imaginary surfaces, and by limiting physical hazards to air navigation;**

**(d) A process for coordinated review of future land use decisions affecting transportation facilities, corridors or sites;**

**(e) A process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities, corridors or sites;**

**(f) Regulations to provide notice to public agencies providing transportation facilities and services, MPOs, and ODOT of:**

**(A) Land use applications that require public hearings;**

**(B) Subdivision and partition applications;**

**(C) Other applications which affect private access to roads; and**

**(D) Other applications within airport noise corridors and imaginary surfaces which affect airport operations; and**

**(g) Regulations assuring that amendments to land use designations, densities, and design standards are consistent with the functions, capacities and performance standards of facilities identified in the TSP.**

**(3) Local governments shall adopt land use or subdivision regulations for urban areas and rural communities as set forth below. The purposes of this section are to provide for safe and convenient pedestrian, bicycle and vehicular circulation consistent with access management standards and the function of affected streets, to ensure that new development provides on-site streets and accessways that provide reasonably direct routes for pedestrian and bicycle travel in areas where pedestrian and bicycle travel is likely if connections are provided, and which avoids wherever possible levels of automobile traffic which might interfere with or discourage pedestrian or bicycle travel.**



**(a) Bicycle parking facilities as part of new multi-family residential developments of four units or more, new retail, office and institutional developments, and all transit transfer stations and park-and-ride lots;**

**(b) On-site facilities shall be provided which accommodate safe and convenient pedestrian and bicycle access from within new subdivisions, multi-family developments, planned developments, shopping centers, and commercial districts to adjacent residential areas and transit stops, and to neighborhood activity centers within one-half mile of the development. Single-family residential developments shall generally include streets and accessways. Pedestrian circulation through parking lots should generally be provided in the form of accessways.**

**(A) "Neighborhood activity centers" includes, but is not limited to, existing or planned schools, parks, shopping areas, transit stops or employment centers;**

**(B) Bikeways shall be required along arterials and major collectors. Sidewalks shall be required along arterials, collectors and most local streets in urban areas, except that sidewalks are not required along controlled access roadways, such as freeways;**

**(C) Cul-de-sacs and other dead-end streets may be used as part of a development plan, consistent with the purposes set forth in this section;**

**(D) Local governments shall establish their own standards or criteria for providing streets and accessways consistent with the purposes of this section. Such measures may include but are not limited to: standards for spacing of streets or accessways; and standards for excessive out-of-direction travel;**

**(E) Streets and accessways need not be required where one or more of the following conditions exist:**

**(i) Physical or topographic conditions make a street or accessway connection impracticable. Such conditions include but are not limited to freeways, railroads, steep slopes, wetlands or other bodies of water where a connection could not reasonably be provided;**

**(ii) Buildings or other existing development on adjacent lands physically preclude a connection now or in the future considering the potential for redevelopment; or**

**(iii) Where streets or accessways would violate provisions of leases, easements, covenants, restrictions or other agreements existing as of May 1, 1995, which preclude a required street or accessway connection.**

**(c) Where off-site road improvements are otherwise required as a condition of development approval, they shall include facilities accommodating convenient pedestrian and bicycle travel, including bicycle ways along arterials and major collectors;**

**(d) For purposes of subsection (b) "safe and convenient" means bicycle and pedestrian routes, facilities and improvements which:**

**(A) Are reasonably free from hazards, particularly types or levels of automobile traffic which would interfere with or discourage pedestrian or cycle travel for short trips;**

**(B) Provide a reasonably direct route of travel between destinations such as between a transit stop and a store; and**

**(C) Meet travel needs of cyclists and pedestrians considering destination and length of trip; and considering that the optimum trip length of pedestrians is generally 1/4 to 1/2 mile.**

**(e) Internal pedestrian circulation within new office parks and commercial developments shall be provided through clustering of buildings, construction of accessways, walkways and similar techniques.**

**(4) To support transit in urban areas containing a population greater than 25,000, where the area is already served by a public transit system or where a determination has been made that a public transit system is feasible, local governments shall adopt land use and subdivision regulations as provided in (a)–(g) below:**

**(a) Transit routes and transit facilities shall be designed to support transit use through provision of bus stops, pullouts and shelters, optimum road geometrics, on-road parking restrictions and similar facilities, as appropriate;**

**(b) New retail, office and institutional buildings at or near major transit stops shall provide for convenient pedestrian access to transit through the measures listed in paragraphs (A) and (B) below.**

**(A) Walkways shall be provided connecting building entrances and streets adjoining the site;**

**(B) Pedestrian connections to adjoining properties shall be provided except where such a connection is impracticable as provided for in OAR 660-012-0045(3)(b)(E). Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways that abut the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out or stubbed to allow for extension to the adjoining property;**

**(C) In addition to paragraphs (A) and (B) above, on sites at major transit stops provide the following:**

**(i) Either locate buildings within 20 feet of the transit stop, a transit street or an intersecting street or provide a pedestrian plaza at the transit stop or a street intersection;**

**(ii) A reasonably direct pedestrian connection between the transit stop and building entrances on the site;**

**(iii) A transit passenger landing pad accessible to disabled persons;**

**(iv) An easement or dedication for a passenger shelter if requested by the transit provider; and**

**(v) Lighting at the transit stop.**

**(c) Local governments may implement (4)(b)(A) and (B) above through the designation of pedestrian districts and adoption of appropriate implementing measures regulating development within pedestrian districts. Pedestrian districts must comply with the requirement of (4)(b)(C) above;**

**(d) Designated employee parking areas in new developments shall provide preferential parking for carpools and vanpools;**

**(e) Existing development shall be allowed to redevelop a portion of existing parking areas for transit-oriented uses, including bus stops and pullouts, bus shelters, park and ride stations, transit-oriented developments, and similar facilities, where appropriate;**

- (f) Road systems for new development shall be provided that can be adequately served by transit, including provision of pedestrian access to existing and identified future transit routes. This shall include, where appropriate, separate accessways to minimize travel distances;**
- (g) Along existing or planned transit routes, designation of types and densities of land uses adequate to support transit.**
- (5) In MPO areas, local governments shall adopt land use and subdivision regulations to reduce reliance on the automobile which:**
  - (a) Allow transit-oriented developments (TODs) on lands along transit routes;**
  - (b) Implements a demand management program to meet the measurable standards set in the TSP in response to OAR 660-012-0035(4);**
  - (c) Implements a parking plan which:**
    - (A) Achieves a 10 percent reduction in the number of parking spaces per capita in the MPO area over the planning period. This may be accomplished through a combination of restrictions on development of new parking spaces and requirements that existing parking spaces be redeveloped to other uses;**
    - (B) Aids in achieving the measurable standards set in the TSP in response to OAR 660-012-0035(4);**
    - (C) Includes land use and subdivision regulations setting minimum and maximum parking requirements in appropriate locations, such as downtowns, designated regional or community centers, and transit oriented-developments; and**
    - (D) Is consistent with demand management programs, transit-oriented development requirements and planned transit service.**
  - (d) As an alternative to (c) above, local governments in an MPO may instead revise ordinance requirements for parking as follows:**
    - (A) Reduce minimum off-street parking requirements for all non-residential uses from 1990 levels;**
    - (B) Allow provision of on-street parking, long-term lease parking, and shared parking to meet minimum off-street parking requirements;**
    - (C) Establish off-street parking maximums in appropriate locations, such as downtowns, designated regional or community centers, and transit-oriented developments;**
    - (D) Exempt structured parking and on-street parking from parking maximums;**
    - (E) Require that parking lots over 3 acres in size provide street-like features along major driveways (including curbs, sidewalks, and street trees or planting strips); and**
    - (F) Provide for designation of residential parking districts.**
  - (e) Require all major industrial, institutional, retail and office developments to provide either a transit stop on site or connection to a transit stop along a transit trunk route when the transit operator requires such an improvement.**
- (6) In developing a bicycle and pedestrian circulation plan as required by OAR 660-012-0020(2)(d), local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas. Appropriate improvements should provide for more direct, convenient and safer bicycle or pedestrian travel within and between residential areas and neighborhood activity**

centers (i.e., schools, shopping, transit stops). Specific measures include, for example, constructing walkways between cul-de-sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses.

**(7) Local governments shall establish standards for local streets and accessways that minimize pavement width and total right-of-way consistent with the operational needs of the facility. The intent of this requirement is that local governments consider and reduce excessive standards for local streets and accessways in order to reduce the cost of construction, provide for more efficient use of urban land, provide for emergency vehicle access while discouraging inappropriate traffic volumes and speeds, and which accommodate convenient pedestrian and bicycle circulation. Notwithstanding section (1) or (3) of this rule, local street standards adopted to meet this requirement need not be adopted as land use regulations.**

**Finding:**

The City has an adopted and acknowledged TSP. The proposed amendments, together with previously adopted and acknowledged ordinances fully implements all of the applicable provisions of OAR 660-012-0045.

- TDC Chapter 74 provides a process for coordinated review of land use decisions affecting transportation facilities, corridors, and sites as well as public notice.
- The TDC which is acknowledged to be consistent with the requirements of OAR 660-012-0050, provides a consolidated review process for land-use decisions regarding permitting of transportation projects.
- TDC Chapter 74 provides for review and protection of roadway safety, infrastructure and operations.
- Local street connectivity standards, as well as the requirements for safe and convenient pedestrian, bicycle and vehicular circulation, have been adopted by Tualatin. The TSP includes a Transportation Demand Management (TDM) Plan in Section 11.690 of the Comprehensive Plan.

The proposed amendments are consistent with these requirements.

**660-012-0050**

**Transportation Project Development**

**(1) For projects identified by ODOT pursuant to OAR chapter 731, division 15, project development shall occur in the manner set forth in that division.**

**(2) Regional TSPs shall provide for coordinated project development among affected local governments. The process shall include:**

**(a) Designation of a lead agency to prepare and coordinate project development;**

**(b) A process for citizen involvement, including public notice and hearing, if project development involves land use decision-making. The process shall include notice to affected transportation facility and service providers, MPOs, and ODOT;**

**(c) A process for developing and adopting findings of compliance with applicable statewide planning goals, if any. This shall include a process to allow amendments to acknowledged comprehensive plans where such amendments are necessary to accommodate the project; and**

**(d) A process for developing and adopting findings of compliance with applicable acknowledged comprehensive plan policies and land use regulations of individual local governments, if any. This shall include a process to allow amendments to acknowledged comprehensive plans or land use regulations where such amendments are necessary to accommodate the project.**

**(3) Project development addresses how a transportation facility or improvement authorized in a TSP is designed and constructed. This may or may not require land use decision-making. The focus of project development is project implementation, e.g. alignment, preliminary design and mitigation of impacts. During project development, projects authorized in an acknowledged TSP shall not be subject to further justification with regard to their need, mode, function, or general location. For purposes of this section, a project is authorized in a TSP where the TSP makes decisions about transportation need, mode, function and general location for the facility or improvement as required by this division.**

**(a) Project development does not involve land use decision-making to the extent that it involves transportation facilities, services or improvements identified in OAR 660-012-0045(1)(a); the application of uniform road improvement design standards and other uniformly accepted engineering design standards and practices that are applied during project implementation; procedures and standards for right-of-way acquisition as set forth in the Oregon Revised Statutes; or the application of local, state or federal rules and regulations that are not a part of the local government's land use regulations.**

**(b) Project development involves land use decision-making to the extent that issues of compliance with applicable requirements requiring interpretation or the exercise of policy or legal discretion or judgment remain outstanding at the project development phase. These requirements may include, but are not limited to, regulations protecting or regulating development within floodways and other hazard areas, identified Goal 5 resource areas, estuarine and coastal shoreland areas, and the Willamette River Greenway, and local regulations establishing land use standards or processes for selecting specific alignments. They also may include transportation improvements required to comply with ORS 215.296 or 660-012-0065(5). When project development involves land use decision-making, all unresolved issues of compliance with applicable acknowledged comprehensive plan policies and land use regulations shall be addressed and findings of compliance adopted prior to project approval.**

**(c) To the extent compliance with local requirements has already been determined during transportation system planning, including adoption of a refinement plan, affected local governments may rely on and reference the earlier findings of compliance with applicable standards.**

**(4) Except as provided in section (1) of this rule, where an Environmental Impact Statement (EIS) is prepared pursuant to the National Environmental Policy Act of 1969, project development shall be coordinated with the preparation of the EIS. All unresolved issues of compliance with applicable acknowledged comprehensive plan policies and land use regulations shall be addressed and findings of compliance adopted prior to issuance of the Final EIS.**

**(5) If a local government decides not to build a project authorized by the TSP, it must evaluate whether the needs that the project would serve could otherwise be satisfied in a manner consistent with the TSP. If identified needs cannot be met consistent with the TSP, the local government shall initiate a plan amendment to change the TSP or the comprehensive plan to assure that there is an adequate transportation system to meet transportation needs.**

**(6) Transportation project development may be done concurrently with preparation of the TSP or a refinement plan.**

**Finding:**

The City has an adopted and acknowledged TSP, consistent with the Transportation Planning Rule provisions of 660-012-0050. The proposed amendments, together with previously adopted and acknowledged ordinances, fully implements all of the applicable provisions of OAR 660-012-0050.

- The 2018 RTP provides for coordination of project development.
- The TSP addresses the type of and function of transportation improvement and the City of Tualatin public works permit process is consistent with all the requirements of section OAR 660-012-0050.

The proposed amendments are consistent with these requirements.

**660-012-0055**

**Timing of Adoption and Update of Transportation System Plans; Exemptions**

**(1) MPOs shall complete regional TSPs for their planning areas by May 8, 1996. For those areas within a MPO, cities and counties shall adopt local TSPs and implementing measures within one year following completion of the regional TSP:**

**(a) If by May 8, 2000, a Metropolitan Planning Organization (MPO) has not adopted a regional transportation system plan that meets the VMT reduction standard in OAR 660-012-0035 and the metropolitan area does not have an approved alternative standard established pursuant to OAR 660-012-0035, then the cities and counties within the metropolitan area shall prepare and adopt an integrated land use and transportation plan as outlined in OAR 660-012-0035. Such a plan shall be prepared in coordination with the MPO and shall be adopted within three years;**

**(b) When an area is designated as an MPO or is added to an existing MPO, the affected local governments shall, within one year of adoption of the regional transportation plan, adopt a regional TSP in compliance with applicable requirements of this division and amend local transportation system plans to be consistent with the regional TSP.**

**(c) Local governments in metropolitan areas may request and the commission may by order grant an extension for completing an integrated land use and transportation plan required by this division. Local governments requesting an extension shall set forth a schedule for completion of outstanding work needed to complete an integrated land use and transportation plan as set forth in OAR 660-012-0035. This shall include, as appropriate:**

**(A) Adoption of a long-term land use and transportation vision for the region;**

**(B) Identification of centers and other land use designations intended to implement the vision;**

**(C) Adoption of housing and employment allocations to centers and land use designations; and**

**(D) Adoption of implementing plans and zoning for designated centers and other land use designations.**

**(d) Local governments within metropolitan areas that are not in compliance with the requirements of this division to adopt or implement a standard to increase transportation choices or have not completed an integrated land use and transportation plan as required by this division shall review plan and land use regulation amendments and adopt findings that demonstrate that the proposed amendment supports implementation of the region's adopted vision, strategy, policies or plans to increase transportation choices and reduce reliance on the automobile.**

**(2) A plan or land use regulation amendment supports implementation of an adopted regional strategy, policy or plan for purposes of this section if it achieves the following as applicable:**

**(a) Implements the strategy or plan through adoption of specific plans or zoning that authorizes uses or densities that achieve desired land use patterns;**

**(b) Allows uses in designated centers or neighborhoods that accomplish the adopted regional vision, strategy, plan or policies; and**

**(c) Allows uses outside designated centers or neighborhood that either support or do not detract from implementation of desired development within nearby centers.**

**(3) For areas outside an MPO, cities and counties shall complete and adopt regional and local TSPs and implementing measures by May 8, 1997.**

**(4) By November 8, 1993, affected cities and counties shall, for non-MPO urban areas of 25,000 or more, adopt land use and subdivision ordinances or amendments required by OAR 660-012-0045(3), (4)(a)–(f) and (5)(d). By May 8, 1994 affected cities and counties within MPO areas shall adopt land use and subdivision ordinances or amendments required by 660-012-0045(3), (4)(a)–(e) and (5)(e). Affected cities and counties which do not have acknowledged ordinances addressing the requirements of this section by the deadlines listed above shall apply 660-012-0045(3), (4)(a)–(g) and (5)(e) directly to all land use decisions and all limited land use decisions.**

**(5)(a) Affected cities and counties that either:**

**(A) Have acknowledged plans and land use regulations that comply with this rule as of May 8, 1995, may continue to apply those acknowledged plans and land use regulations; or**

**(B) Have plan and land use regulations adopted to comply with this rule as of April 12, 1995, may continue to apply the provisions of this rule as they existed as of April 12, 1995, and may continue to pursue acknowledgment of the adopted plans and land use regulations under those same rule provisions provided such adopted plans and land use regulations are acknowledged by April 12, 1996. Affected cities and counties that qualify and make this election under this paragraph shall update their plans and land use regulations to comply with the 1995 amendments to OAR 660-012-0045 as part of their transportation system plans.**

**(b) Affected cities and counties that do not have acknowledged plans and land use regulations as provided in subsection (a) of this section, shall apply relevant sections of this rule to land use decisions and limited land use decisions until land use regulations complying with this amended rule have been adopted.**

**(6) Cities and counties shall update their TSPs and implementing measures as necessary to comply with this division at each periodic review subsequent to initial compliance with this division. Local governments within metropolitan areas shall amend local transportation system plans to be consistent with an adopted regional transportation system plan within one year of the adoption of an updated regional transportation system plan or by a date specified in the adopted regional transportation system plan.**

**(7) The director may grant a whole or partial exemption from the requirements of this division to cities under 10,000 population and counties under 25,000 population, and for areas within a county within an urban growth boundary that contains a population less than 10,000. Eligible jurisdictions may request that the director approve an exemption from all or part of the requirements in this division. Exemptions shall be for a period determined by the director or until the jurisdiction's next periodic review, whichever is shorter.**

**(a) The director's decision to approve an exemption shall be based upon the following factors:**

**(A) Whether the existing and committed transportation system is generally adequate to meet likely transportation needs;**

**(B) Whether the new development or population growth is anticipated in the planning area over the next five years;**

**(C) Whether major new transportation facilities are proposed which would affect the planning areas;**

**(D) Whether deferral of planning requirements would conflict with accommodating state or regional transportation needs; and**

**(E) Consultation with the Oregon Department of Transportation on the need for transportation planning in the area, including measures needed to protect existing transportation facilities.**

**(b) The director's decision to grant an exemption under this section is appealable to the commission as provided in OAR 660-002-0020 (Delegation of Authority Rule)**

**(8) Portions of TSPs and implementing measures adopted as part of comprehensive plans prior to the responsible jurisdiction's periodic review shall be reviewed pursuant to OAR chapter 660, division 18, Post Acknowledgment Procedures.**

**Finding:**

The proposed amendments, together with previously adopted and acknowledged ordinances (Ordinance #1354-13 (File No. PTA-12-02)), is consistent with the applicable provisions of OAR 660-012-0055. The proposed amendments are consistent with these requirements.

**660-012-0060**

**Plan and Land Use Regulation Amendments**



**(1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:**

**(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);**  
**(b) Change standards implementing a functional classification system; or**  
**(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.**

**(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;**

**(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or**

**(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.**

**(2) If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.**

**(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.**

**(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.**

**(c) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.**

**(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements. Local governments shall, as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.**

**(e) Providing improvements that would benefit modes other than the significantly affected mode, improvements to facilities other than the significantly affected facility, or improvements at other locations, if:**

**(A) The provider of the significantly affected facility provides a written statement that the system-wide benefits are sufficient to balance the significant effect, even though the improvements would not result in consistency for all performance standards;**

**(B) The providers of facilities being improved at other locations provide written statements of approval; and**

**(C) The local jurisdictions where facilities are being improved provide written statements of approval.**

**(3) Notwithstanding sections (1) and (2) of this rule, a local government may approve an amendment that would significantly affect an existing transportation facility without assuring that the allowed land uses are consistent with the function, capacity and performance standards of the facility where:**

**(a) In the absence of the amendment, planned transportation facilities, improvements and services as set forth in section (4) of this rule would not be adequate to achieve consistency with the identified function, capacity or performance standard for that facility by the end of the planning period identified in the adopted TSP;**

**(b) Development resulting from the amendment will, at a minimum, mitigate the impacts of the amendment in a manner that avoids further degradation to the performance of the facility by the time of the development through one or a combination of transportation improvements or measures;**

**(c) The amendment does not involve property located in an interchange area as defined in paragraph (4)(d)(C); and**

**(d) For affected state highways, ODOT provides a written statement that the proposed funding and timing for the identified mitigation improvements or measures are, at a minimum, sufficient to avoid further degradation to the performance of the affected state highway. However, if a local government provides the appropriate ODOT regional office with written notice of a proposed amendment in a manner that provides ODOT reasonable opportunity to submit a written statement into the record of the local government proceeding, and ODOT does not provide a written statement, then the local government may proceed with applying subsections (a) through (c) of this section.**

**(4) Determinations under sections (1)–(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.**

**(a) In determining whether an amendment has a significant effect on an existing or planned transportation facility under subsection (1)(c) of this rule, local governments shall rely on existing transportation facilities and services and on the planned**

**transportation facilities, improvements and services set forth in subsections (b) and (c) below.**

**(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:**

**(A) Transportation facilities, improvements or services that are funded for construction or implementation in the Statewide Transportation Improvement Program or a locally or regionally adopted transportation improvement program or capital improvement plan or program of a transportation service provider.**

**(B) Transportation facilities, improvements or services that are authorized in a local transportation system plan and for which a funding plan or mechanism is in place or approved. These include, but are not limited to, transportation facilities, improvements or services for which: transportation systems development charge revenues are being collected; a local improvement district or reimbursement district has been established or will be established prior to development; a development agreement has been adopted; or conditions of approval to fund the improvement have been adopted.**

**(C) Transportation facilities, improvements or services in a metropolitan planning organization (MPO) area that are part of the area's federally-approved, financially constrained regional transportation system plan.**

**(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.**

**(E) Improvements to regional and local roads, streets or other transportation facilities or services that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when the local government(s) or transportation service provider(s) responsible for the facility, improvement or service provides a written statement that the facility, improvement or service is reasonably likely to be provided by the end of the planning period.**

**(c) Within interstate interchange areas, the improvements included in (b)(A)–(C) are considered planned facilities, improvements and services, except where:**

**(A) ODOT provides a written statement that the proposed funding and timing of mitigation measures are sufficient to avoid a significant adverse impact on the Interstate Highway system, then local governments may also rely on the improvements identified in paragraphs (b)(D) and (E) of this section; or**

**(B) There is an adopted interchange area management plan, then local governments may also rely on the improvements identified in that plan and which are also identified in paragraphs (b)(D) and (E) of this section.**

**(d) As used in this section and section (3):**

**(A) Planned interchange means new interchanges and relocation of existing interchanges that are authorized in an adopted transportation system plan or comprehensive plan;**

**(B) Interstate highway means Interstates 5, 82, 84, 105, 205 and 405; and**

**(C) Interstate interchange area means:**

**(i) Property within one-quarter mile of the ramp terminal intersection of an existing or planned interchange on an Interstate Highway; or**

**(ii) The interchange area as defined in the Interchange Area Management Plan adopted as an amendment to the Oregon Highway Plan.**

**(e) For purposes of this section, a written statement provided pursuant to paragraphs (b)(D), (b)(E) or (c)(A) provided by ODOT, a local government or transportation facility provider, as appropriate, shall be conclusive in determining whether a transportation facility, improvement or service is a planned transportation facility, improvement or service. In the absence of a written statement, a local government can only rely upon planned transportation facilities, improvements and services identified in paragraphs (b)(A)–(C) to determine whether there is a significant effect that requires application of the remedies in section (2).**

**(5) The presence of a transportation facility or improvement shall not be a basis for an exception to allow residential, commercial, institutional or industrial development on rural lands under this division or OAR 660-004-0022 and 660-004-0028.**

**(6) In determining whether proposed land uses would affect or be consistent with planned transportation facilities as provided in sections (1) and (2), local governments shall give full credit for potential reduction in vehicle trips for uses located in mixed-use, pedestrian-friendly centers, and neighborhoods as provided in subsections (a)–(d) below;**

**(a) Absent adopted local standards or detailed information about the vehicle trip reduction benefits of mixed-use, pedestrian-friendly development, local governments shall assume that uses located within a mixed-use, pedestrian-friendly center, or neighborhood, will generate 10% fewer daily and peak hour trips than are specified in available published estimates, such as those provided by the Institute of Transportation Engineers (ITE) Trip Generation Manual that do not specifically account for the effects of mixed-use, pedestrian-friendly development. The 10% reduction allowed for by this section shall be available only if uses which rely solely on auto trips, such as gas stations, car washes, storage facilities, and motels are prohibited;**

**(b) Local governments shall use detailed or local information about the trip reduction benefits of mixed-use, pedestrian-friendly development where such information is available and presented to the local government. Local governments may, based on such information, allow reductions greater than the 10% reduction required in subsection (a) above;**

**(c) Where a local government assumes or estimates lower vehicle trip generation as provided in subsection (a) or (b) above, it shall assure through conditions of approval, site plans, or approval standards that subsequent development approvals support the development of a mixed-use, pedestrian-friendly center or neighborhood and provide for on-site bike and pedestrian connectivity and access to transit as provided for in OAR 660-012-0045(3) and (4). The provision of on-site bike and pedestrian connectivity and access to transit may be accomplished through application of acknowledged ordinance provisions which comply with 660-012-0045(3) and (4) or through conditions of approval or findings adopted with the plan amendment that assure compliance with these rule requirements at the time of development approval; and**

**(d) The purpose of this section is to provide an incentive for the designation and implementation of pedestrian-friendly, mixed-use centers and neighborhoods by lowering the regulatory barriers to plan amendments which accomplish this type of development. The actual trip reduction benefits of mixed-use, pedestrian-friendly development will vary from case to case and may be somewhat higher or lower than presumed pursuant to subsection (a) above. The Commission concludes that this assumption is warranted given general information about the expected effects of mixed-use, pedestrian-friendly development and its intent to encourage changes to plans and development patterns. Nothing in this section is intended to affect the application of provisions in local plans or ordinances which provide for the calculation or assessment of systems development charges or in preparing conformity determinations required under the federal Clean Air Act.**

**(7) Amendments to acknowledged comprehensive plans and land use regulations which meet all of the criteria listed in subsections (a)–(c) below shall include an amendment to the comprehensive plan, transportation system plan the adoption of a local street plan, access management plan, future street plan or other binding local transportation plan to provide for on-site alignment of streets or accessways with existing and planned arterial, collector, and local streets surrounding the site as necessary to implement the requirements in OAR 660-012-0020(2)(b) and 660-012-0045(3):**

**(a) The plan or land use regulation amendment results in designation of two or more acres of land for commercial use;**

**(b) The local government has not adopted a TSP or local street plan which complies with OAR 660-012-0020(2)(b) or, in the Portland Metropolitan Area, has not complied with Metro's requirement for street connectivity as contained in Title 6, Section 3 of the Urban Growth Management Functional Plan; and**

**(c) The proposed amendment would significantly affect a transportation facility as provided in section (1).**

**(8) A "mixed-use, pedestrian-friendly center or neighborhood" for the purposes of this rule, means:**

**(a) Any one of the following:**

**(A) An existing central business district or downtown;**

**(B) An area designated as a central city, regional center, town center or main street in the Portland Metro 2040 Regional Growth Concept;**

**(C) An area designated in an acknowledged comprehensive plan as a transit oriented development or a pedestrian district; or**

**(D) An area designated as a special transportation area as provided for in the Oregon Highway Plan.**

**(b) An area other than those listed in subsection (a) above which includes or is planned to include the following characteristics:**

**(A) A concentration of a variety of land uses in a well-defined area, including the following:**

**(i) Medium to high density residential development (12 or more units per acre);**

**(ii) Offices or office buildings;**

**(iii) Retail stores and services;**

**(iv) Restaurants; and**

**(v) Public open space or private open space which is available for public use, such as a park or plaza.**

**(B) Generally include civic or cultural uses;**

**(C) A core commercial area where multi-story buildings are permitted;**

**(D) Buildings and building entrances oriented to streets;**

**(E) Street connections and crossings that make the center safe and conveniently accessible from adjacent areas;**

**(F) A network of streets and, where appropriate, accessways and major driveways that make it attractive and highly convenient for people to walk between uses within the center or neighborhood, including streets and major driveways within the center with wide sidewalks and other features, including pedestrian-oriented street crossings, street trees, pedestrian-scale lighting and on-street parking;**

**(G) One or more transit stops (in urban areas with fixed route transit service); and**

**(H) Limit or do not allow low-intensity or land extensive uses, such as most industrial uses, automobile sales and services, and drive-through services.**

**(9) Notwithstanding section (1) of this rule, a local government may find that an amendment to a zoning map does not significantly affect an existing or planned transportation facility if all of the following requirements are met.**

**(a) The proposed zoning is consistent with the existing comprehensive plan map designation and the amendment does not change the comprehensive plan map;**

**(b) The local government has an acknowledged TSP and the proposed zoning is consistent with the TSP; and**

**(c) The area subject to the zoning map amendment was not exempted from this rule at the time of an urban growth boundary amendment as permitted in OAR 660-024-0020(1)(d), or the area was exempted from this rule but the local government has a subsequently acknowledged TSP amendment that accounted for urbanization of the area.**

**(10) Notwithstanding sections (1) and (2) of this rule, a local government may amend a functional plan, a comprehensive plan or a land use regulation without applying performance standards related to motor vehicle traffic congestion (e.g. volume to capacity ratio or V/C), delay or travel time if the amendment meets the requirements of subsection (a) of this section. This section does not exempt a proposed amendment from other transportation performance standards or policies that may apply including, but not limited to, safety for all modes, network connectivity for all modes (e.g. sidewalks, bicycle lanes) and accessibility for freight vehicles of a size and frequency required by the development.**

**(a) A proposed amendment qualifies for this section if it:**

**(A) Is a map or text amendment affecting only land entirely within a multimodal mixed-use area (MMA); and**

**(B) Is consistent with the definition of an MMA and consistent with the function of the MMA as described in the findings designating the MMA.**

**(b) For the purpose of this rule, “multimodal mixed-use area” or “MMA” means an area:**

**(A) With a boundary adopted by a local government as provided in subsection (d) or (e) of this section and that has been acknowledged;**

**(B) Entirely within an urban growth boundary;**

**(C) With adopted plans and development regulations that allow the uses listed in paragraphs (8)(b)(A) through (C) of this rule and that require new development to be consistent with the characteristics listed in paragraphs (8)(b)(D) through (H) of this rule;**

**(D) With land use regulations that do not require the provision of off-street parking, or regulations that require lower levels of off-street parking than required in other areas and allow flexibility to meet the parking requirements (e.g. count on-street parking, allow long-term leases, allow shared parking); and**

**(E) Located in one or more of the categories below:**

**(i) At least one-quarter mile from any ramp terminal intersection of existing or planned interchanges;**

**(ii) Within the area of an adopted Interchange Area Management Plan (IAMP) and consistent with the IAMP; or**

**(iii) Within one-quarter mile of a ramp terminal intersection of an existing or planned interchange if the mainline facility provider has provided written concurrence with the MMA designation as provided in subsection (c) of this section.**

**(c) When a mainline facility provider reviews an MMA designation as provided in subparagraph (b)(E)(iii) of this section, the provider must consider the factors listed in paragraph (A) of this subsection.**

**(A) The potential for operational or safety effects to the interchange area and the mainline highway, specifically considering:**

**(i) Whether the interchange area has a crash rate that is higher than the statewide crash rate for similar facilities;**

**(ii) Whether the interchange area is in the top ten percent of locations identified by the safety priority index system (SPIS) developed by ODOT; and**

**(iii) Whether existing or potential future traffic queues on the interchange exit ramps extend onto the mainline highway or the portion of the ramp needed to safely accommodate deceleration.**

**(B) If there are operational or safety effects as described in paragraph (A) of this subsection, the effects may be addressed by an agreement between the local government and the facility provider regarding traffic management plans favoring traffic movements away from the interchange, particularly those facilitating clearing traffic queues on the interchange exit ramps.**

**(d) A local government may designate an MMA by adopting an amendment to the comprehensive plan or land use regulations to delineate the boundary following an existing zone, multiple existing zones, an urban renewal area, other existing boundary, or establishing a new boundary. The designation must be accompanied by findings showing how the area meets the definition of an MMA. Designation of an MMA is not subject to the requirements in sections (1) and (2) of this rule.**

**(e) A local government may designate an MMA on an area where comprehensive plan map designations or land use regulations do not meet the definition, if all of the other elements meet the definition, by concurrently adopting comprehensive plan or land use**

regulation amendments necessary to meet the definition. Such amendments are not subject to performance standards related to motor vehicle traffic congestion, delay or travel time.

(11) A local government may approve an amendment with partial mitigation as provided in section (2) of this rule if the amendment complies with subsection (a) of this section, the amendment meets the balancing test in subsection (b) of this section, and the local government coordinates as provided in subsection (c) of this section.

(a) The amendment must meet paragraphs (A) and (B) of this subsection or meet paragraph (D) of this subsection.

(A) Create direct benefits in terms of industrial or traded-sector jobs created or retained by limiting uses to industrial or traded-sector industries.

(B) Not allow retail uses, except limited retail incidental to industrial or traded sector development, not to exceed five percent of the net developable area.

(C) For the purpose of this section:

(i) "Industrial" means employment activities generating income from the production, handling or distribution of goods including, but not limited to, manufacturing, assembly, fabrication, processing, storage, logistics, warehousing, importation, distribution and transshipment and research and development.

(ii) "Traded-sector" means industries in which member firms sell their goods or services into markets for which national or international competition exists.

(D) Notwithstanding paragraphs (A) and (B) of this subsection, an amendment complies with subsection (a) if all of the following conditions are met:

(i) The amendment is within a city with a population less than 10,000 and outside of a Metropolitan Planning Organization.

(ii) The amendment would provide land for "Other Employment Use" or "Prime Industrial Land" as those terms are defined in OAR 660-009-0005.

(iii) The amendment is located outside of the Willamette Valley as defined in ORS 215.010.

(E) The provisions of paragraph (D) of this subsection are repealed on January 1, 2017.

(b) A local government may accept partial mitigation only if the local government determines that the benefits outweigh the negative effects on local transportation facilities and the local government receives from the provider of any transportation facility that would be significantly affected written concurrence that the benefits outweigh the negative effects on their transportation facilities. If the amendment significantly affects a state highway, then ODOT must coordinate with the Oregon Business Development Department regarding the economic and job creation benefits of the proposed amendment as defined in subsection (a) of this section. The requirement to obtain concurrence from a provider is satisfied if the local government provides notice as required by subsection (c) of this section and the provider does not respond in writing (either concurring or non-concurring) within forty-five days.

(c) A local government that proposes to use this section must coordinate with Oregon Business Development Department, Department of Land Conservation and Development, area commission on transportation, metropolitan planning organization, and transportation providers and local governments directly impacted by the proposal



**to allow opportunities for comments on whether the proposed amendment meets the definition of economic development, how it would affect transportation facilities and the adequacy of proposed mitigation. Informal consultation is encouraged throughout the process starting with pre-application meetings. Coordination has the meaning given in ORS 197.015 and Goal 2 and must include notice at least 45 days before the first evidentiary hearing. Notice must include the following:**

**(A) Proposed amendment.**

**(B) Proposed mitigating actions from section (2) of this rule.**

**(C) Analysis and projections of the extent to which the proposed amendment in combination with proposed mitigating actions would fall short of being consistent with the function, capacity, and performance standards of transportation facilities.**

**(D) Findings showing how the proposed amendment meets the requirements of subsection (a) of this section.**

**(E) Findings showing that the benefits of the proposed amendment outweigh the negative effects on transportation facilities.**

**Finding:**

The proposed amendments, together with previously adopted and acknowledged ordinances (Ordinance #1354-13 (File No. PTA-12-02)), fully implements all of the applicable provisions of OAR 660-012-0060 as detailed in the following findings of fact:

- The proposed amendments respond to urbanization of the Basalt Creek area as described in the Basalt Creek concept plan. This urbanization is anticipated to have a significant effect on transportation facilities in the area.
- The Basalt Creek Transportation Refinement Plan, adopted in 2012, served as a guide for the development of the Basalt Creek concept plan.
- The transportation impacts of the proposed amendments are consistent with the anticipated transportation impacts identified by the Basalt Creek Transportation Refinement Plan, adopted in 2012.
- The proposed amendments do not change the existing or anticipated level-of-service or level-of-service standard for any facility.
- The proposed amendments adopt transportation facilities to support the proposed urban land uses as discussed in -0060(2)(b).
- As discussed under -0040 above, the transportation facilities identified in the proposed amendments are considered to be financially feasible and are included in the 2018 financially constrained Regional Transportation Plan.
- The improvements identified in these TSP amendments are adequate to address the additional demand on the transportation system created by the Basalt Creek Concept Plan.
- The process of coordinated TSP amendments with land use planning is consistent with all of the requirements of OAR 660-012-0060.

The proposed amendments are consistent with these requirements.

**660-012-0065**

**Transportation Improvements on Rural Lands**

**(1) This rule identifies transportation facilities, services and improvements which may be permitted on rural lands consistent with Goals 3, 4, 11, and 14 without a goal exception.**

**(2) For the purposes of this rule, the following definitions apply:**

**(a) "Access Roads" means low volume public roads that principally provide access to property or as specified in an acknowledged comprehensive plan;**

**(b) "Collectors" means public roads that provide access to property and that collect and distribute traffic between access roads and arterials or as specified in an acknowledged comprehensive plan;**

**(c) "Arterials" means state highways and other public roads that principally provide service to through traffic between cities and towns, state highways and major destinations or as specified in an acknowledged comprehensive plan;**

**(d) "Accessory Transportation Improvements" means transportation improvements that are incidental to a land use to provide safe and efficient access to the use;**

**(e) "Channelization" means the separation or regulation of conflicting traffic movements into definite paths of travel by traffic islands or pavement markings to facilitate the safe and orderly movement of both vehicles and pedestrians. Examples include, but are not limited to, left turn refuges, right turn refuges including the construction of islands at intersections to separate traffic, and raised medians at driveways or intersections to permit only right turns. "Channelization" does not include continuous median turn lanes;**

**(f) "Realignment" means rebuilding an existing roadway on a new alignment where the new centerline shifts outside the existing right of way, and where the existing road surface is either removed, maintained as an access road or maintained as a connection between the realigned roadway and a road that intersects the original alignment. The realignment shall maintain the function of the existing road segment being realigned as specified in the acknowledged comprehensive plan;**

**(g) "New Road" means a public road or road segment that is not a realignment of an existing road or road segment.**

**(3) The following transportation improvements are consistent with Goals 3, 4, 11, and 14 subject to the requirements of this rule:**

**(a) Accessory transportation improvements for a use that is allowed or conditionally allowed by ORS 215.213, 215.283 or OAR chapter 660, division 6 (Forest Lands);**

**(b) Transportation improvements that are allowed or conditionally allowed by ORS 215.213, 215.283 or OAR chapter 660, division 6 (Forest Lands);**

**(c) Channelization not otherwise allowed under subsections (a) or (b) of this section;**

**(d) Realignment of roads not otherwise allowed under subsection (a) or (b) of this section;**

**(e) Replacement of an intersection with an interchange;**

**(f) Continuous median turn lane;**

**(g) New access roads and collectors within a built or committed exception area, or in other areas where the function of the road is to reduce local access to or local traffic on a state highway. These roads shall be limited to two travel lanes. Private access and intersections shall be limited to rural needs or to provide adequate emergency access.**

- (h) Bikeways, footpaths and recreation trails not otherwise allowed as a modification or part of an existing road;**
  - (i) Park and ride lots;**
  - (j) Railroad mainlines and branchlines;**
  - (k) Pipelines;**
  - (l) Navigation channels;**
  - (m) Replacement of docks and other facilities without significantly increasing the capacity of those facilities;**
  - (n) Expansions or alterations of public use airports that do not permit service to a larger class of airplanes; and**
  - (o) Transportation facilities, services and improvements other than those listed in this rule that serve local travel needs. The travel capacity and performance standards of facilities and improvements serving local travel needs shall be limited to that necessary to support rural land uses identified in the acknowledged comprehensive plan or to provide adequate emergency access.**
- (4) Accessory transportation improvements required as a condition of development listed in subsection (3)(a) of this rule shall be subject to the same procedures, standards and requirements applicable to the use to which they are accessory.**
- (5) For transportation uses or improvements listed in subsections (3)(d) to (g) and (o) of this rule within an exclusive farm use (EFU) or forest zone, a jurisdiction shall, in addition to demonstrating compliance with the requirements of ORS 215.296:**
- (a) Identify reasonable build design alternatives, such as alternative alignments, that are safe and can be constructed at a reasonable cost, not considering raw land costs, with available technology. The jurisdiction need not consider alternatives that are inconsistent with applicable standards or not approved by a registered professional engineer;**
  - (b) Assess the effects of the identified alternatives on farm and forest practices, considering impacts to farm and forest lands, structures and facilities, considering the effects of traffic on the movement of farm and forest vehicles and equipment and considering the effects of access to parcels created on farm and forest lands; and**
  - (c) Select from the identified alternatives, the one, or combination of identified alternatives that has the least impact on lands in the immediate vicinity devoted to farm or forest use.**
- (6) Notwithstanding any other provision of this division, if a jurisdiction has not met the deadline for TSP adoption set forth in OAR 660-012-0055, or any extension thereof, a transportation improvement that is listed in section (5) of this rule and that will significantly reduce peak hour travel time as provided in OAR 660-012-0035(10) may be allowed in the urban fringe only if the jurisdiction applies either:**
- (a) The criteria applicable to a “reasons” exception provided in Goal 2 and OAR 660, division 4; or**
  - (b) The evaluation and selection criteria set forth in OAR 660-012-0035.**

**Finding:**

The proposed amendments do not propose any new roadways, services or improvements on lands located outside of the UGB. These requirements are not applicable.

**660-012-0070**

**Exceptions for Transportation Improvements on Rural Land**

**(1) Transportation facilities and improvements which do not meet the requirements of OAR 660-012-0065 require an exception to be sited on rural lands.**

**(a) A local government approving a proposed exception shall adopt as part of its comprehensive plan findings of fact and a statement of reasons that demonstrate that the standards in this rule have been met. A local government denying a proposed exception shall adopt findings of fact and a statement of reasons explaining why the standards in this rule have not been met. However, findings and reasons denying a proposed exception need not be incorporated into the local comprehensive plan.**

**(b) The facts and reasons relied upon to approve or deny a proposed exception shall be supported by substantial evidence in the record of the local exceptions proceeding.**

**(2) When an exception to Goals 3, 4, 11, or 14 is required to locate a transportation improvement on rural lands, the exception shall be taken pursuant to ORS 197.732(1)(c), Goal 2, and this division. The exceptions standards in OAR chapter 660, division 4 and OAR chapter 660, division 14 shall not apply. Exceptions adopted pursuant to this division shall be deemed to fulfill the requirements for goal exceptions required under ORS 197.732(1)(c) and Goal 2.**

**(3) An exception shall, at a minimum, decide need, mode, function and general location for the proposed facility or improvement:**

**(a) The general location shall be specified as a corridor within which the proposed facility or improvement is to be located, including the outer limits of the proposed location. Specific sites or areas within the corridor may be excluded from the exception to avoid or lessen likely adverse impacts. Where detailed design level information is available, the exception may be specified as a specific alignment;**

**(b) The size, design and capacity of the proposed facility or improvement shall be described generally, but in sufficient detail to allow a general understanding of the likely impacts of the proposed facility or improvement and to justify the amount of land for the proposed transportation facility. Measures limiting the size, design or capacity may be specified in the description of the proposed use in order to simplify the analysis of the effects of the proposed use;**

**(c) The adopted exception shall include a process and standards to guide selection of the precise design and location within the corridor and consistent with the general description of the proposed facility or improvement. For example, where a general location or corridor crosses a river, the exception would specify that a bridge crossing would be built but would defer to project development decisions about precise location and design of the bridge within the selected corridor subject to requirements to minimize impacts on riparian vegetation, habitat values, etc.;**

**(d) Land use regulations implementing the exception may include standards for specific mitigation measures to offset unavoidable environmental, economic, social or energy**

impacts of the proposed facility or improvement or to assure compatibility with adjacent uses.

(4) To address Goal 2, Part II(c)(1) the exception shall provide reasons justifying why the state policy in the applicable goals should not apply. Further, the exception shall demonstrate that there is a transportation need identified consistent with the requirements of OAR 660-012-0030 which cannot reasonably be accommodated through one or a combination of the following measures not requiring an exception:

- (a) Alternative modes of transportation;
- (b) Traffic management measures; and
- (c) Improvements to existing transportation facilities.

(5) To address Goal 2, Part II(c)(2) the exception shall demonstrate that non-exception locations cannot reasonably accommodate the proposed transportation improvement or facility. The exception shall set forth the facts and assumptions used as the basis for determining why the use requires a location on resource land subject to Goals 3 or 4.

(6) To determine the reasonableness of alternatives to an exception under sections (4) and (5) of this rule, cost, operational feasibility, economic dislocation and other relevant factors shall be addressed. The thresholds chosen to judge whether an alternative method or location cannot reasonably accommodate the proposed transportation need or facility must be justified in the exception.

(a) In addressing sections (4) and (5) of this rule, the exception shall identify and address alternative methods and locations that are potentially reasonable to accommodate the identified transportation need.

(b) Detailed evaluation of such alternatives is not required when an alternative does not meet an identified threshold.

(c) Detailed evaluation of specific alternative methods or locations identified by parties during the local exceptions proceedings is not required unless the parties can specifically describe with supporting facts why such methods or locations can more reasonably accommodate the identified transportation need, taking into consideration the identified thresholds.

(7) To address Goal 2, Part II(c)(3), the exception shall:

(a) Compare the long-term economic, social, environmental and energy consequences of the proposed location and other alternative locations requiring exceptions. The exception shall describe the characteristics of each alternative location considered by the jurisdiction for which an exception might be taken, the typical advantages and disadvantages of using the location for the proposed transportation facility or improvement, and the typical positive and negative consequences resulting from the transportation facility or improvement at the proposed location with measures designed to reduce adverse impacts;

(b) Determine whether the net adverse impacts associated with the proposed exception site, with mitigation measures designed to reduce adverse impacts, are significantly more adverse than the net impacts from other locations which would also require an exception. A proposed exception location would fail to meet this requirement only if the affected local government concludes that the impacts associated with it are significantly more adverse than the other identified exception sites. The exception shall

include the reasons why the consequences of the needed transportation facility or improvement at the proposed exception location are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed location. Where the proposed goal exception location is on resource lands subject to Goals 3 or 4, the exception shall include the facts used to determine which resource land is least productive; the ability to sustain resource uses near the proposed use; and the long-term economic impact on the general area caused by irreversible removal of the land from the resource base; and (c) The evaluation of the consequences of general locations or corridors need not be site-specific, but may be generalized consistent with the requirements of section (3) of this rule. Detailed evaluation of specific alternative locations identified by parties during the local exceptions proceeding is not required unless such locations are specifically described with facts to support the assertion that the locations have significantly fewer net adverse economic, social, environmental and energy impacts than the proposed exception location.

(8) To address Goal 2, Part II(c)(4), the exception shall:

(a) Describe the adverse effects that the proposed transportation improvement is likely to have on the surrounding rural lands and land uses, including increased traffic and pressure for nonfarm or highway oriented development on areas made more accessible by the transportation improvement;

(b) Demonstrate how the proposed transportation improvement is compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts. Compatible is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses; and

(c) Adopt as part of the exception, facility design and land use measures which minimize accessibility of rural lands from the proposed transportation facility or improvement and support continued rural use of surrounding lands.

(9)(a) Exceptions taken pursuant to this rule shall indicate on a map or otherwise the locations of the proposed transportation facility or improvement and of alternatives identified under subsection (4)(c), sections (5) and (7) of this rule.

(b) Each notice of a public hearing on a proposed exception shall specifically note that a goal exception is proposed and shall summarize the issues in an understandable manner.

(10) An exception taken pursuant to this rule does not authorize uses other than the transportation facilities or improvements justified in the exception.

(a) Modifications to unconstructed transportation facilities or improvements authorized in an exception shall not require a new exception if the modification is located entirely within the corridor approved in the exception.

(b) Modifications to constructed transportation facilities authorized in an exception shall require a new exception, unless the modification is permitted without an exception under OAR 660-012-0065(3)(b)–(f). For purposes of this rule, minor transportation improvements made to a transportation facility or improvement authorized in an exception shall not be considered a modification to a transportation facility or improvement and shall not require a new exception.

**(c) Notwithstanding subsections (a) and (b) of this section, the following modifications to transportation facilities or improvements authorized in an exception shall require new goal exceptions:**

**(A) New intersections or new interchanges on limited access highways or expressways, excluding replacement of an existing intersection with an interchange.**

**(B) New approach roads located within the influence area of an interchange.**

**(C) Modifications that change the functional classification of the transportation facility.**

**(D) Modifications that materially reduce the effectiveness of facility design measures or land use measures adopted pursuant to subsection (8)(c) of this rule to minimize accessibility to rural lands or support continued rural use of surrounding rural lands, unless the area subject to the modification has subsequently been relocated inside an urban growth boundary.**

**Finding:**

This subsection is not applicable to the proposed amendments, as no rural transportation improvements have been identified in this ordinance. The proposed amendments updated the previously adopted TSP. The amendments are consistent with the City's acknowledged policies and strategies for the provision of transportation facilities and services as required by Goal 12 (the TPR, implemented via OAR Chapter 660, Division 12). The proposed amendments comply with all of the applicable requirements of OAR 660, Division 12. Only those provisions of Division 12 that require specific findings are summarized and addressed herein. Plan compliance with Goal 12 is maintained with the proposed amendments. The proposed amendments are consistent with these requirements.

**Section D: Oregon Highway Plan**

**The following goals and policies of the Oregon Highway Plan (OHP) are applicable to the proposed amendments:**

**Policy 1A: State Highway Classification System**

**Finding:**

The proposed amendments would update the City's Functional Classification map (Exhibit 9, Figure 1 and Exhibit 10, Figure 11-1). No new functional classifications are introduced and no changes inconsistent with State Highway Classifications have been made. The proposed amendments are consistent with the OHP.

**Policy 1B: Land Use and Transportation**

**Finding:**

The proposed amendments respond to urbanization of the Basalt Creek Planning as described in the Basalt Creek Concept Plan. The proposed amendments address mobility standards consistent with State Highway mobility standards.

The Basalt Creek Planning Area was added to the Portland Metro urban growth boundary in 2004. The area provides housing and employment lands to serve the continued growth of the region. The Basalt Creek Transportation Refinement Plan was developed in coordination with ODOT. The Transportation Refinement Planning proactively addressed the transportation system necessary to serve the urban growth area. The Transportation Refinement Plan:

- Provides for access management on State and Local facilities.
- Was developed in partnership with the Metropolitan Planning Organization for the Portland area (Metro).
- Considered the anticipated development of the Basalt Creek area as well as other growth throughout the region.
- Considered the need for Special Transportation Areas, Urban Business Areas, and Commercial Centers but none were identified.

The Basalt Creek concept plan provides for compact urban development within the Basalt Creek urban growth area and includes provisions for:

- an interconnected local roadway network
- transit, bicycle and pedestrian facilities
- design orientation of buildings that accommodate multimodal transportation options
- parking provisions

The Basalt Creek Transportation Refinement Plan was developed through a coordinated process that identified regional facilities to protect the operations and functions of the state highway system and identified local roadways necessary to serve and interconnect the Basalt Creek Planning Area. The planning effort served to provide for the general location of new transportation facilities. The proposed amendments provide a coordinated land use and transportation system consistent with the OHP Policy 1B.

### **Policy 1C: State Highway Freight System**

#### **Finding:**

The proposed amendments update the Freight System Element of the TSP, including a revised roadway freight map (Exhibit 10, Figure 11-6). The proposed amendments are consistent with the OHP.

### **Policy 1D: Scenic Byways**

#### **Finding:**

Oregon Scenic Byways are not located with the Basalt Creek urban growth boundary expansion area. The proposed amendments are consistent with the OHP.

### **Policy 1F: Highway Mobility Standards**

#### **Finding:**

The proposed amendments identify the roadway system Functional Classification and Lane Numbers maps adequate to meet anticipated travel needs. This evaluation included all ODOT and other facilities within area and assessed the system performance based on the applicable



mobility standards, including OHP mobility targets and standards, as well as the Regional Transportation Functional Plan interim mobility deficiency thresholds and operating standards.

No deficiency locations were identified in this analysis. As urban growth occurs in the Basalt Creek Planning Area over time, additional monitoring of system performance is anticipated. The proposed amendments are consistent with the OHP.

### **Policy 1G: Major Improvements**

#### **Finding:**

The proposed amendments provide for identified transportation improvements. These roadway improvements will be developed by the appropriate agencies (City, County and/or State). The City roadway improvements are governed by City of Tualatin public works permit process as discussed under TPR section -0050 above. These regulations provide an improvement process consistent with the requirements of the OHP. The proposed amendments do not change these requirements. The City of Tualatin TSP addresses the type of and function of transportation improvement and the public works permit process is consistent with the requirements of this section. The proposed amendments are consistent with the OHP.

### **Policy 2G: Rail and Highway Compatibility**

#### **Finding:**

The City TSP encourages the safe, efficient operation of railroad facilities. The proposed amendments does not change these requirements or propose any new rail crossings. The proposed amendments are consistent with the OHP.

### **Policy 3A: Classification and Spacing Standards**

#### **Finding:**

The proposed amendments propose control access spacing standard along certain arterials and other state routes. The proposed amendments make no changes to the requirements associated with interim access locations. The proposed amendments are consistent with the OHP.

### **Policy 3B: Medians**

#### **Finding:**

The proposed amendments do not identify any median locations or treatments. TDC Chapter 75 and the TSP describe median treatments and traffic operations and calming that apply throughout the Basalt Creek planning area. These standards control the design and placement of medians on roadways. City road standards identify median treatments consistent with the OHP. The proposed amendments are consistent with the OHP.

### **Policy 3C: Interchange Access Management Areas**

**Finding:**

The proposed amendments do not make any changes to the previously adopted plan for any interchange area. The proposed amendments are consistent with the OHP.

**Policy 3D: Deviations**

**Finding:**

The proposed amendments do not make any requests for deviations to state highway standards. The proposed amendments are consistent with the OHP.

**Policy 4A: Efficiency of Freight Movement**

**Finding:**

The proposed amendments identify an appropriate roadway freight system plan for the Basalt Creek urban growth boundary expansion area consistent with State Highway Freight System designations. The proposed amendments are consistent with the OHP.

**Policy 4D: Transportation Demand Management**

**Finding:**

The previously adopted and acknowledged TSP (Ordinance #1354-13 (File No. PTA-12-02)), adopted a TDM policy and system element (TSP Chapter 2) that is consistent with the requirements of the OHP. The proposed amendments do not change these elements of the TSP. The proposed amendments are consistent with the OHP.

**Section E: Metro Code**

**The following Chapters and Titles of Metro Code are applicable to the proposed amendments:**

**Chapter 3.07, Urban Growth Management Functional Plan**

**Title 1 – Requirements for Housing and Employment Accommodation**

**This section of the Functional Plan facilitates efficient use of land within the Urban Growth Boundary (UGB). Each city and county has determined its capacity for providing housing and employment which serves as their baseline and if a city or county chooses to reduce capacity in one location, it must transfer that capacity to another location. Cities and counties must report changes in capacity annually to Metro.**

**Finding:**

The proposed amendments would apply residential and employment areas to the City (Exhibit 11, Map 9-1). The requirements of Title 1 pertain to reductions in residential or employment uses. As the proposed amendments would be implementing the Basalt Creek Concept Plan

land use plan, both residential and employment uses will be expanded. The proposed amendments are consistent with Title 1.

### **Title 3 – Water Quality and Flood Management**

**This section of the Functional Plan acts to protect beneficial water uses and functions. Additionally, this section addresses mitigation of the impact of flooding of developed areas.**

#### **Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan. As discussed previously, compliance with Title 3 is administered in Tualatin by Clean Water Services. Future development in Tualatin will be comply with Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) requirements. Sensitive areas such as vegetated corridors surrounding streams and wetland habitat are identified, protected and maintained by Clean Water Services. The Basalt Creek Planning Area does not have any areas presently mapped as floodplain or regulatory floodway by the Federal Emergency Management Agency (FEMA), though the requirements of the City's floodplain management code in TDC Chapter 70 would be applicable upon annexation to Tualatin. The proposed amendments are consistent with Title 3.

### **Title 4 – Industrial and Other Employment Areas**

**Title 4 of the Metro Plan establishes a regional framework for economic organization. Key industrial areas are identified by Metro to capitalize on a more regional perspective. The Title calls for clustering of industrial areas.**

#### **Finding:**

The Basalt Creek area was identified in 2004 as a key industrial area by Metro and added to the UGB's of Wilsonville and Tualatin with the intent of growing the industrial areas that already exist in this part of the region. This designation also capitalized on the proximity of the area to key transportation corridors, specifically Highway 99W and I-5. The area was labeled as Industrial by Metro, however it is important to note that the areas was not deemed a Regionally Significant Industrial Area (RSIA). The proposed amendments would apply the Manufacturing Park (MP) zoning designation to a portion of the Basalt Creek Planning Area, This zoning designation is considered to be "industrial" by Metro Standards and will allow for approximately 92.95 net buildable acres of future development. The proposed amendments are consistent with Title 4.

### **Title 7 – Housing Choice**

**This voluntary section of the functional plan will ensure that all cities and counties in the region are providing opportunities for affordable housing for households of all income levels.**

**Finding:**

Title 7 is generally applicable to a City government, calling for programs and incentives for housing choices. A range of housing afforded within the plan area does work to implement the intent of the Title. Though housing designations are included in the Basalt Creek Concept Plan, this Title is generally not applicable.

**Title 8 – Compliance Procedures**

**Finding:**

Title 8 sets forth Metro’s procedures for determining compliance with the Urban Growth Management Functional Plan (UGMFP). Included in this title are steps local jurisdictions must take to ensure that Metro has the opportunity to review amendments to comprehensive plans. Title 8 requires jurisdictions to submit notice to Metro at least 35 days prior to the first evidentiary hearing for a proposed amendment to a comprehensive plan. Consistent with Title 8, staff sent a copy of the proposed amendments to Metro on March 4, 2019, 35 days prior to the first evidentiary hearing. The proposed amendments are consistent with Title 8.

**Title 11 – Planning for New Urban Areas**

**3.07.1120 Planning for Areas Added to the UGB.**

- A. The county or city responsible for comprehensive planning of an area, as specified by the intergovernmental agreement adopted pursuant to section 3.07.1110(c)(7) or the ordinance that added the area to the UGB, shall adopt comprehensive plan provisions and land use regulations for the area to address the requirements of subsection (c) by the date specified by the ordinance or by section 3.07.1455(b)(4) of this chapter.**
- B. If the concept plan developed for the area pursuant to section 3.07.1110 assigns planning responsibility to more than one city or county, the responsible local governments shall provide for concurrent consideration and adoption of proposed comprehensive plan provisions unless the ordinance adding the area to the UGB provides otherwise.**
- C. Comprehensive plan provisions for the area shall include:**
  - 1. Specific plan designation boundaries derived from and generally consistent with the boundaries of design type designations assigned by the Metro Council in the ordinance adding the area to the UGB;**

**Finding:**

In 2004, Metro identified the Basalt Creek area as a good candidate for industrial development because it is near I-5, adjacent to Wilsonville’s industrial area development because it is near I-5, adjacent to Wilsonville’s industrial area to the south, and contains large, flat sites suitable for industrial users. Metro passed Ordinance No 14-1040B to annex the area into the existing Urban Growth Boundary (UGB), to ensure sufficient regional supply of land for employment growth over the next twenty years. In 2011 four jurisdictions entered into an Intergovernmental Agreement for the purposes of jointly planning the Basalt Creek Concept Plan area. The Cities of Tualatin and

Wilsonville, Washington County and Metro all signed the agreement and reaffirmed this commitment when the IGA was reinstated in September of 2016. The original IGA in 2011 identified that the partner agencies would consider both the Basalt Creek and the West Railroad area as single concept plan called the Basalt Creek Planning Area. The Cities and the County agreed to work together to complete integrated land use and transportation system concept planning to assure carefully planned development in the Basalt Creek Planning Area that will be a benefit to the County, Cities and their residents.

The Basalt Creek Planning Area is located near one of the region's largest clusters of employment land, including existing developed areas in Tualatin, Wilsonville, and Sherwood and planned future employment areas of Southwest Tualatin, Tonquin Employment Area, and Coffee Creek. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region. In the most recent Metro forecast for the area (Gamma Version provided at TAZ level), Basalt Creek planning area was expected to accommodate about 1,200 new housing units and 2,300 new jobs (mostly industrial, with some service jobs and few retail jobs). The Buildable Lands Analysis (Exhibit 2) influenced the most appropriate locations for employment-based land uses within the planning area. The proposed land use designations are consistent with Ordinance 14-1040B. The area is mapped and identified as an "Industrial Area" in Metro's Title 4 Code. The majority of the acreage in the Basalt Creek Planning Area is designated for employment use by the Concept Plan. The land use designations provide for a range of industrial development types including manufacturing, warehouse, and office uses (Exhibit 11, Map 9-1).

While the major purpose of the area is to provide land for employment opportunities, the Basalt Creek Concept Plan also includes some residential areas to the north and northeast of the proposed jurisdictional boundary, which will be in the City of Tualatin following adoption. Using the land suitability analysis, and looking at adjacent land uses, the project team identified appropriate land use designations for properties within the planning area. These land use designations were further refined and appropriate densities selected to provide for regional employment capacity and housing while limiting traffic congestion. The mix of housing types proposed was designed to coordinate with existing adjacent residential neighborhoods. The mix includes low, medium-low and high-density housing, which provides the opportunity for a range of different housing types, tenure and prices. It is not necessary for this designation to be removed from the residential land already identified in the northern portion of the of the Basalt Creek area upon adoption of the Concept Plan. Ordinance No 14-1040B allowed for land north of the "South Alignment" of the connector right of way to be designated Outer Neighborhood.

The proposed amendments are consistent with the Basalt Creek Concept Plan. Included in the Basalt Creek Concept Plan Appendixes (Exhibit 3) are a detailed analysis of the plan's consistency with the Metro Urban Growth Management Functional

Plan. The City adopts this analysis as part of the proposed amendments. Land within the Basalt Creek Planning Area the Metro UGB in 2004. The proposed amendments would apply the Tualatin Comprehensive Plan and Development Code to properties within the area, upon annexation to Tualatin. As discussed below, interim protection for the Basalt Creek Planning Area, until annexation to Tualatin, will be implemented by Washington County. The proposed amendments are consistent with Title 11.

**2. Provision for annexation to a city and to any necessary service districts prior to, or simultaneously with, application of city land use regulations intended to comply with this subsection;**

**Finding:**

The Basalt Creek Concept Plan established a new jurisdictional boundary between Tualatin and Wilsonville in order to determine which parts of the planning area can be annexed into and served by each city in the future. Both cities comprehensive plans require annexation prior to or simultaneous with a development application. The Basalt Creek Concept Plan includes a provision that this area is added to existing urban services agreements. Ensuring service provision is also a requirement of City of Wilsonville code and a component of the Urban Planning Area Agreements each City has with Washington County. City of Tualatin's development code (Section 33.010) currently calls out an annexation procedure "to be used in conjunction with Metro Code 3.08 and Oregon Revised Statutes for annexing territory to the City Limits." This criterion is met.

**3. Provisions that ensure zoned capacity for the number and types of housing units, if any, specified by the Metro Council pursuant to Metro Code 3.01.040(b)(2);**

**Finding:**

Number and types of housing units was not specified by the Metro Council as part of Ordinance No. 14-1040b. This criterion is not applicable.

**4. Provision for affordable housing consistent with Title 7 of the Urban Growth Management Functional Plan if the comprehensive plan authorizes housing in any part of the area;**

**Finding:**

Housing was not specifically required by Metro at the time of expansion of the UGB in the Basalt Creek Planning area in 2004. However, the implementing Metro Ordinance, No. 14-1040b allowed some residential to be included in the planning area. A mixture of housing types and densities are proposed in the Basalt Creek Concept Plan including High Density Housing (Exhibit 11, Map 9-1). This criterion is met.

**5. Provision for the amount of land and improvements needed, if any, for public**

**school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which included the opportunity for public school facility planning in accordance with ORS 195.110 by the school district for the Basalt Creek Planning Area, the Sherwood School District. Confirmation was received from the Sherwood School District it presently does not have plans to locate school facilities within the planning area. (Exhibit 3, Page 219). This criterion is met.

**6. Provision for the amount of land and improvements needed, if any, for public park facilities sufficient to serve the area added to the UGB in coordination with affected park providers;**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which did identified a need for a park within the area without identifying a specific site. The facilities for provision of and parks will be determined and funded as development occurs in the area and will be based on level of service standards, consistent with the Tualatin Parks Master Plan. This criterion is met.

**7. A conceptual street plan that identifies internal street connections and connections to adjacent urban areas to improve local access and improve the integrity of the regional street system. For areas that allow residential or mixed-use development, the plan shall meet the standards for street connections in the Regional Transportation Functional Plan;**

**Finding:**

The proposed amendments include a conceptual street plan that identifies internal street connections and connections to adjacent urban areas to improve local access and improve the integrity of the regional street system (Exhibit 10, Figure 11-3) consistent with the standards for street connections in the Regional Transportation Functional Plan. This criterion is met.

**8. Provision for the financing of local and state public facilities and services; and**

**Finding:**

The proposed amendments would allow for the application of the Tualatin Comprehensive Plan, Development Code, and Transportation System Plan to the Basalt Creek Planning Area upon annexation of individual properties, which include applicable provisions for the financing of local and state public facilities and services

through TDC Chapters 11 (and corresponding TSP Chapter 3), 12, and 13. This criterion is met.

**9. A strategy for protection of the capacity and function of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.**

**Finding:**

Findings regarding the transportation system, including applicable protections of the capacity and function of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges are addressed above under OAR Chapter 660 Division 12 (Section C) and the OHP (Section D). This criterion is met.

**Title 12 – Protection of Residential Neighborhoods**

**The purpose of this title is to protect the region’s existing residential neighborhoods from air and water pollution, noise and crime, and to provide adequate levels of public services.**

**Finding:**

The proposed amendments would allow for the application of the Tualatin Comprehensive Plan, and Development Code to the Basalt Creek Planning Area upon annexation of individual properties, which include applicable regulatory protections for existing residential neighborhoods from air and water pollution, noise and crime, and ensure provision of adequate levels of public services (TDC Chapter 63 (Industrial Uses and Utilities and Manufacturing Zones - Environmental Regulations). Further, the proposed zoning districts were arranged so as to help protecting existing neighborhoods (Exhibit 2, Page 13). The proposed amendments are consistent with Title 12.

**Title 13 – Nature in Neighborhoods**

**The purpose of this title is to conserve, protect and restore a continuous ecologically viable streamside corridor system that is integrated with upland wildlife habitat and the surrounding urban landscape.**

**Finding:**

Compliance with Title 13 is satisfied by Tualatin’s participation in the Tualatin Basin Plan and previously adopted amendments to the Comprehensive Plan and Development Code. The TDC will apply to the Basalt Creek area upon adoption and annexation of any property to Tualatin. The conservation areas as mapped by Metro will be administered and protected by Clean Water Services. Future development in Tualatin must comply with Clean Water Services’ Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat. The proposed amendments are consistent with Title 13.



## **Chapter 3.08, Regional Transportation Functional Plan**

### **Finding:**

The proposed amendments include an update to the City's Transportation System Plan (TSP). The current Tualatin TSP, as well as the proposed amendments, are consistent with the Regional Transportation Plan (RTP), the Regional Active Transportation Plan (RATP), and Title 2 "Development and Update of Transportation System Plans" of the Regional Transportation Functional Plan (RTFP) Sections 210, 220, and 230. The proposed TSP update includes proposed updates to the roadway and active transportation system. The transportation system designations adopted in the proposed amendments are consistent with the designations identified in Metro's 2018 RTP. As described in the Goal 12 findings above, the proposed updated TSP and associated updates to Figures 11-1 through 11-6 of the Comprehensive Plan continue to provide a system of transportation facilities and services adequate to meet identified transportation needs consistent with the RTP. The proposed amendments comply with the requirements of the RTFP.

### **Title 1, Transportation System Design**

#### **3.08.110 Street System Design**

**A. To ensure that new street construction and re-construction projects are designed to improve safety, support adjacent land use and balance the needs of all users, including bicyclists, transit vehicles, motorists, freight delivery vehicles and pedestrians of all ages and abilities, city and county street design regulations shall allow implementation of:**

- 1. Complete street designs as set forth in Creating Livable Streets: Street Design Guidelines for 2040 (2nd Edition, 2002), or similar resources consistent with regional street design policies;**
- 2. Green street designs as set forth in Green Streets: Innovative Solutions for Stormwater and Street Crossings (2002) and Trees for Green Streets: An Illustrated Guide (2002) or similar resources consistent with federal regulations for stream protection; and**
- 3. Transit-supportive street designs that facilitate existing and planned transit service pursuant subsection 3.08.120B.**

**B. City and county local street design regulations shall allow implementation of:**

- 1. Pavement widths of less than 28 feet from curb-face to curb-face;**
- 2. Sidewalk widths that include at least five feet of pedestrian through zones;**
- 3. Landscaped pedestrian buffer strips, or paved furnishing zones of at least five feet, that include street trees;**
- 4. Traffic calming devices, such as speed bumps and cushions, woonerfs and chicanes, to discourage traffic infiltration and excessive speeds;**
- 5. Short and direct right-of-way routes and shared-use paths to connect residences with commercial services, parks, schools, hospitals, institutions, transit corridors, regional trails and other neighborhood activity centers; and**

**6. Opportunities to extend streets in an incremental fashion, including posted notification on streets to be extended.**

**C. To improve connectivity of the region's arterial system and support walking, bicycling and access to transit, each city and county shall incorporate into its TSP, to the extent practicable, a network of major arterial streets at one-mile spacing and minor arterial streets or collector streets at half-mile spacing considering the following:**

- 1. Existing topography;**
- 2. Rail lines;**
- 3. Freeways;**
- 4. Pre-existing development;**
- 5. Leases, easements or covenants in place prior to May 1, 1995; and**
- 6. The requirements of Titles 3 and 13 of the Urban Growth Management Functional Plan (UGMFP).**
- 7. Arterial design concepts in Table 2.6 and Figure 2.11 of the RTP.**
- 8. Best practices and designs as set forth in Green Streets: Innovative Solutions for Stormwater, Street Crossings (2002) and Trees for Green Streets: An Illustrated Guide (2002), Creating Livable Streets: Street Design Guidelines for 2040 (2nd Edition, 2002), and state or locally-adopted plans and best practices for protecting natural resources and natural areas.**

**D. To improve local access and circulation, and preserve capacity on the region's arterial system, each city and county shall incorporate into its TSP a conceptual map of new streets for all contiguous areas of vacant and re-developable lots and parcels of five or more acres that are zoned to allow residential or mixed-use development. The map shall identify street connections to adjacent areas to promote a logical, direct and connected system of streets and should demonstrate opportunities to extend and connect new streets to existing streets, provide direct public right-of-way routes and limit closed-end street designs consistent with subsection E.**

**E. If proposed residential or mixed-use development of five or more acres involves construction of a new street, the city and county regulations shall require the applicant to provide a site plan that:**

- 1. Is consistent with the conceptual new streets map required by subsection D;**
- 2. Provides full street connections with spacing of no more than 530 feet between connections, except if prevented by barriers such as topography, rail lines, freeways, pre-existing development, leases, easements or covenants that existed prior to May 1, 1995, or by requirements of Titles 3 and 13 of the UGMFP;**
- 3. If streets must cross water features protected pursuant to Title 3 UGMFP, provides a crossing every 800 to 1,200 feet unless habitat quality or the length of the crossing prevents a full street connection;**
- 4. If full street connection is prevented, provides bicycle and pedestrian accessways on public easements or rights-of-way spaced such that accessways are not more than 330 feet apart, unless not possible for the reasons set forth in paragraph 3;**
- 5. Provides for bike and pedestrian accessways that cross water features protected pursuant to Title 3 of the UGMFP at an average of 530 feet between accessways unless habitat quality or the length of the crossing prevents a connection;**

**6. If full street connection over water features protected pursuant to Title 3 of the UGMFP cannot be constructed in centers as defined in Title 6 of the UGMFP or Main Streets shown on the 2040 Growth Concept Map, or if spacing of full street connections exceeds 1,200 feet, provides bike and pedestrian crossings at an average of 530 feet between accessways unless habitat quality or the length of the crossing prevents a connection;**

**7. Limits cul-de-sac designs or other closed-end street designs to circumstances in which barriers prevent full street extensions and limits the length of such streets to 200 feet and the number of dwellings along the street to no more than 25; and**

**8. Provides street cross-sections showing dimensions of right-of-way improvements and posted or expected speed limits.**

**F. For redevelopment of contiguous lots and parcels less than five acres in size that require construction of new streets, cities and counties shall establish their own standards for local street connectivity, consistent with subsection E.**

**G. To protect the capacity, function and safe operation of existing and planned state highway interchanges or planned improvements to interchanges, cities and counties shall, to the extent feasible, restrict driveway and street access in the vicinity of interchange ramp terminals, consistent with Oregon Highway Plan Access Management Standards, and accommodate local circulation on the local system to improve safety and minimize congestion and conflicts in the interchange area. Public street connections, consistent with regional street design and spacing standards in this section, shall be encouraged and shall supercede this access restriction, though such access may be limited to right-in/right-out or other appropriate configuration in the vicinity of interchange ramp terminals. Multimodal street design features including pedestrian crossings and on-street parking shall be allowed where appropriate.**

**Finding:**

The proposed amendments are consistent with the 2014 TSP (Ord. No. 1354-13) which was deemed to be compliant with the RTFP at that time. These criteria are met.

**3.08.120 Transit System Design**

**A. City and county TSPs or other appropriate regulations shall include investments, policies, standards and criteria to provide pedestrian and bicycle connections to all existing transit stops and major transit stops designated in Figure 2.15 of the RTP.**

**B. City and county TSPs shall include a transit plan, and implementing land use regulations, with the following elements to leverage the region's investment in transit and improve access to the transit system:**

**1. A transit system map consistent with the transit functional classifications shown in Figure 2.15 of the RTP that shows the locations of major transit stops, transit centers, high capacity transit stations, regional bicycle transit facilities, inter-city bus and rail passenger terminals designated in the RTP, transit-priority treatments such as signals, regional bicycle transit facilities, park-and-ride facilities, and bicycle and pedestrian**

routes, consistent with sections 3.08.130 and 3.08.140, between essential destinations and transit stops.

**2. The following site design standards for new retail, office, multi-family and institutional buildings located near or at major transit stops shown in Figure 2.15 in the RTP:**

**a. Provide reasonably direct pedestrian connections between transit stops and building entrances and between building entrances and streets adjoining transit stops;**

**b. Provide safe, direct and logical pedestrian crossings at all transit stops where practicable;**

**c. At major transit stops, require the following:**

**i. Locate buildings within 20 feet of the transit stop, a transit street or an intersecting street, or a pedestrian plaza at the stop or a street intersection;**

**ii. Transit passenger landing pads accessible to disabled persons to transit agency standards;**

**iii. An easement or dedication for a passenger shelter and an underground utility connection to a major transit stop if requested by the public transit provider; and**

**iv. Lighting to transit agency standards at the major transit stop.**

**v. Intersection and mid-block traffic management improvements as needed and practicable to enable marked crossings at major transit stops.**

**C. Providers of public transit service shall consider and document the needs of youth, seniors, people with disabilities and environmental justice populations, including minorities and low-income families, when planning levels of service, transit facilities and hours of operation.**

**Finding:**

The proposed amendments are consistent with the 2014 TSP which was deemed to be compliant with the RTFP at that time. Chapter 72A (Site Design) requires development on a transit street designated in TDC Chapter 11 (Figure 11-5) to provide either a transit stop pad on-site, or an on-site or public sidewalk connection to a transit stop along the subject property's frontage on the transit street. These criteria are met.

**3.08.130 Pedestrian System Design**

**A. City and county TSPs shall include a pedestrian plan, with implementing land use regulations, for an interconnected network of pedestrian routes within and through the city or county. The plan shall include:**

**1. An inventory of existing facilities that identifies gaps and deficiencies in the pedestrian system;**

**2. An evaluation of needs for pedestrian access to transit and essential destinations for all mobility levels, including direct, comfortable and safe pedestrian routes.**

**3. A list of improvements to the pedestrian system that will help the city or county achieve the regional Non-SOV modal targets in Table 3.08-1 and other targets established pursuant to section 3.08.230;**

**4. Provision for sidewalks along arterials, collectors and most local streets, except that sidewalks are not required along controlled roadways, such as freeways; and**

**5. Provision for safe crossings of streets and controlled pedestrian crossings on major arterials.**

**B. As an alternative to implementing section 3.08.120(B)(2), a city or county may establish pedestrian districts in its comprehensive plan or land use regulations with the following elements:**

**1. A connected street and pedestrian network for the district;**

**2. An inventory of existing facilities, gaps and deficiencies in the network of pedestrian routes;**

**3. Interconnection of pedestrian, transit and bicycle systems;**

**4. Parking management strategies;**

**5. Access management strategies;**

**6. Sidewalk and accessway location and width;**

**7. Landscaped or paved pedestrian buffer strip location and width;**

**8. Street tree location and spacing;**

**9. Pedestrian street crossing and intersection design;**

**10. Street lighting and furniture for pedestrians; and**

**11. A mix of types and densities of land uses that will support a high level of pedestrian activity.**

**C. City and county land use regulations shall require new development to provide on-site streets and accessways that offer reasonably direct routes for pedestrian travel.**

**Finding:**

The proposed amendments are consistent with the 2014 TSP which was deemed to be compliant with the RTFP at that time. These criteria are met.

**3.08.140 Bicycle System Design**

**A. City and county TSPs shall include a bicycle plan, with implementing land use regulations, for an interconnected network of bicycle routes within and through the city or county. The plan shall include:**

**1. An inventory of existing facilities that identifies gaps and deficiencies in the bicycle system;**

**2. An evaluation of needs for bicycle access to transit and essential destinations, including direct, comfortable and safe bicycle routes and secure bicycle parking, considering TriMet Bicycle Parking Guidelines.**

**3. A list of improvements to the bicycle system that will help the city or county achieve the regional Non-SOV modal targets in Table 3.08-1 and other targets established pursuant to section 3.08.230;**

**4. Provision for bikeways along arterials, collectors and local streets, and bicycle parking in centers, at major transit stops shown in Figure 2.15 in the RTP, park-and-ride lots and associated with institutional uses; and**

## **5. Provision for safe crossing of streets and controlled bicycle crossings on major arterials.**

### **Finding:**

The proposed amendments are consistent with the 2014 TSP which was deemed to be compliant with the RTFP at that time. All roadway facilities identified within the TSP with a functional classification of collector or greater are required to have bicycle facilities. These criteria are met.

### **3.08.150 Freight System Design**

**A. City and county TSPs shall include a freight plan, with implementing land use regulations, for an interconnected system of freight networks within and through the city or county. The plan shall include:**

**1. An inventory of existing facilities that identifies gaps and deficiencies in the freight system;**

**2. An evaluation of freight access to freight intermodal facilities, employment and industrial areas and commercial districts; and**

**3. A list of improvements to the freight system that will help the city or county increase reliability of freight movement, reduce freight delay and achieve the targets established pursuant to section 3.08.230.**

### **Finding:**

The proposed amendments are consistent with the 2014 TSP which was deemed to be compliant with the RTFP at that time. These criteria are met.

### **3.08.160 Transportation System Management and Operations**

**A. City and county TSPs shall include transportation system management and operations (TSMO) plans to improve the performance of existing transportation infrastructure within or through the city or county. A TSMO plan shall include:**

**1. An inventory and evaluation of existing local and regional TSMO infrastructure, strategies and programs that identifies gaps and opportunities to expand infrastructure, strategies and programs;**

**2. A list of projects and strategies, consistent with the Regional TSMO Plan, based upon consideration of the following functional areas:**

**a. Multimodal traffic management investments, such as signal timing, access management, arterial performance monitoring and active traffic management;**

**b. Traveler information investments, such as forecasted traffic conditions and carpool matching;**

**c. Traffic incident management investments, such as incident response programs; and**

**d. Transportation demand management investments, such as individualized marketing programs, rideshare programs and employer transportation programs.**

**Finding:**

The Tualatin TSP includes a TSMO plan (Tables 17-19). The proposed amendments are consistent with this plan. The Tualatin Development Code (Chapters 74 and 75), Comprehensive Plan (Chapter 11), associated figures (Exhibit 10, Figure 11-1, 11-2, 11-3, 11-4, 11-5, and 11-6), TSP (Figure 1), and the Public Works Construction Standards (Tualatin Municipal Code Chapter 02-03), provide street improvement standards consistent with all the requirements of Title 1. The Tualatin TSP was previously updated in 2014 (Ordinance #1354-13 (File No. PTA-12-02)), at which time it was deemed to be in conformance with all the requirements of Title 1. The proposed amendments and associated TSP Update adjusts the facilities within the Basalt Creek urban growth expansion area to include a plan for systems consistent with the requirements of this section, and therefore is consistent with Title 1.

**Title 2, Development and Update of Transportation System Plans**

**3.08.210 Transportation Needs**

**A. Each city and county shall update its TSP to incorporate regional and state transportation needs identified in the 2035 RTP and its own transportation needs. The determination of local transportation needs shall be based upon:**

- 1. System gaps and deficiencies identified in the inventories and analysis of transportation systems pursuant to Title 1;**
- 2. Identification of facilities that exceed the Deficiency Thresholds and Operating Standards in Table 3.08-2 or the alternative thresholds and standards established pursuant to section 3.08.230;**
- 3. Consideration and documentation of the needs of youth, seniors, people with disabilities and environmental justice populations within the city or county, including minorities and low-income families.**

**B. A city or county determination of transportation needs must be consistent with the following elements of the RTP:**

- 1. The population and employment forecast and planning period of the RTP, except that a city or county may use an alternative forecast for the city or county, coordinated with Metro, to account for changes to comprehensive plan or land use regulations adopted after adoption of the RTP;**
- 2. System maps and functional classifications for street design, motor vehicles, transit, bicycles, pedestrians and freight in Chapter 2 of the RTP; and**
- 3. Regional non-SOV modal targets in Table 3.08-1 and the Deficiency Thresholds and Operating Standards in Table 3.08-2.**

**C. When determining its transportation needs under this section, a city or county shall consider the regional needs identified in the mobility corridor strategies in Chapter 4 of the RTP.**

**Finding:**

Transportation needs were identified as part of the Basalt Creek Transportation Refinement Plan (Exhibit 3, Page 318), which would be met by adoption of the proposed amendments. The proposed amendments, as well as previously adopted and acknowledged ordinances

(Ordinance No. 1354-13 (File No. PTA-12-02)), are consistent with the above referenced provisions. Specifically:

- The proposed TSP updates are consistent with the mobility principles identified in the 2018 RTP.
- The proposed TSP updates are consistent with the needs identified in the mobility corridor #3 Tigard to Wilsonville.

### **3.08.220 Transportation Solutions**

**A. Each city and county shall consider the following strategies, in the order listed, to meet the transportation needs determined pursuant to section 3.08.210 and performance targets and standards pursuant to section 3.08.230. The city or county shall explain its choice of one or more of the strategies and why other strategies were not chosen:**

- 1. TSMO strategies, including localized TDM, safety, operational and access management improvements;**
- 2. Transit, bicycle and pedestrian system improvements;**
- 3. Traffic-calming designs and devices;**
- 4. Land use strategies in OAR 660-012-0035(2) to help achieve the thresholds and standards in Tables 3.08-1 and 3.08-2 or alternative thresholds and standards established pursuant to section 3.08.230;**
- 5. Connectivity improvements to provide parallel arterials, collectors or local streets that include pedestrian and bicycle facilities, consistent with the connectivity standards in section 3.08.110 and design classifications in Table 2.6 of the RTP, in order to provide alternative routes and encourage walking, biking and access to transit; and**
- 6. Motor vehicle capacity improvements, consistent with the RTP Arterial and Throughway Design and Network Concepts in Table 2.6 and section 2.5.2 of the RTP, only upon a demonstration that other strategies in this subsection are not appropriate or cannot adequately address identified transportation needs.**

**B. A city or county shall coordinate its consideration of the strategies in subsection A with the owner of the transportation facility affected by the strategy. Facility design is subject to the approval of the facility owner.**

**C. If analysis under subsection 3.08.210A indicates a new regional or state need that has not been identified in the RTP, the city or county may propose one of the following actions:**

- 1. Propose a project at the time of Metro review of the TSP to be incorporated into the RTP during the next RTP update; or**
- 2. Propose an amendment to the RTP for needs and projects if the amendment is necessary prior to the next RTP update.**

#### **Finding:**

The proposed TSP update, as well as previously adopted and acknowledged ordinances (Ordinance #1354-13 (File No. PTA-12-02)), are consistent with these provisions. Specifically:



- The previously adopted includes a TSMO plan (Tables 17-19). The proposed amendments are consistent with this plan.
- The previously adopted TSP identifies coordination strategies consistent with the RTFP and identifies a process consistent with the RTFP for consideration of motor vehicle capacity improvements with the RTP and the OHP policy 1G (Exhibit 9, Page 20).
- The Basalt Creek Transportation Refinement Plan (Exhibit 3, Page 313) considered the steps identified in the RTFP as necessary prior to adding motor vehicle capacity and recommended the major system improvements identified in the proposed TSP update.
- The projects identified in the proposed TSP update (Exhibit 9, Pages 26-36) are consistent with the projects listed in the 2018 RTP.

Therefore, the proposed TSP update are consistent with the requirements of this section of the RTFP.

### **3.08.230 Performance Targets and Standards**

**A. Each city and county shall demonstrate that solutions adopted pursuant to section 3.08.220 will achieve progress toward the targets and standards in Tables 3.08-1, and 3.08-2 and measures in subsection D, or toward alternative targets and standards adopted by the city or county pursuant to subsections B and, C. The city or county shall include the regional targets and standards or its alternatives in its TSP.**

**B. A city or county may adopt alternative targets or standards in place of the regional targets and standards prescribed in subsection A upon a demonstration that the alternative targets or standards:**

- 1. Are no lower than the modal targets in Table 3.08-1 and no lower than the ratios in Table 3.08-2;**
- 2. Will not result in a need for motor vehicle capacity improvements that go beyond the planned arterial and throughway network defined in Figure 2.12 of the RTP and that are not recommended in, or are inconsistent with, the RTP; and**
- 3. Will not increase SOV travel to a degree inconsistent with the non-SOV modal targets in Table 3.08-1.**

**C. If the city or county adopts mobility standards for state highways different from those in Table 3.08-2, it shall demonstrate that the standards have been approved by the Oregon Transportation Commission.**

**D. Each city and county shall also include performance measures for safety, vehicle miles traveled per capita, freight reliability, congestion, and walking, bicycling and transit mode shares to evaluate and monitor performance of the TSP.**

**E. To demonstrate progress toward achievement of performance targets in Tables 3.08-1 and 3.08-2 and to improve performance of state highways within its jurisdiction as much as feasible and avoid their further degradation, the city or county shall adopt the following:**

- 1. Parking minimum and maximum ratios in Centers and Station Communities consistent with subsection 3.08.410A;**
- 2. Designs for street, transit, bicycle, freight and pedestrian systems consistent with Title 1; and**

**3. TSMO projects and strategies consistent with section 3.08.160; and  
4. Land use actions pursuant to OAR 660-012-0035(2).**

**Finding:**

The proposed TSP update as well as previously adopted and acknowledged ordinances (Ordinance #1354-13 (File No. PTA-12-02)), is consistent with all of the provisions.

Specifically:

- The previously adopted TSP identified interim performance targets and standards consistent with the RTFP. The City has not adopted alternative targets, and has not applied mobility standards different from those identified in the RTFP.
- The Basalt Creek Transportation Refinement Plan identified and calculated system performance measures consistent with the requirements of the RTFP. These measures were utilized to inform the planning processes necessary to develop the proposed TSP Update.
- City of Tualatin chapter 73C of the Tualatin Development Code has parking standards consistent with all the requirements of this section. The existing TSP was deemed to be in compliance with parking minimums and maximums consistent with the RTFP.
- The City of Tualatin Public Works Construction Code provide for a transportation system design consistent with the requirements of the RTFP.
- The previously adopted TSP provided for the management and operation of the transportation system consistent with the requirements of the RTFP.
- As described in the technical documents, the analysis for the development of the proposed TSP Update was based on the population and employment forecasts documented 2018 RTP and consistent with OAR 660-012-0035(2) (Exhibit 9).

**Title 3** This section pertains to the general location and size of transportation facilities.

**Finding:**

The proposed amendments update the planned size of a transportation facility consistent with the requirements of the RTFP.

**Title 4** This section pertains to parking management and standards.

**Finding:**

The previously adopted TSP (Ordinance #1354-13 (File No. PTA-12-02)) includes provisions for parking minimums and maximums consistent with the RTFP.

- Specifically, TDC Chapter 73C has parking standards consistent with all the requirements of this section.

**Title 5** This section pertains to amendment of the Comprehensive Plan and the TSP.

**Finding:**

The proposed amendments were developed based on the policy framework identified in the TSP and the projects identified are consistent with the projects identified in the 2018 RTP. As

described previously in these findings, this process is consistent with all of the requirements of the RTFP.

**Title 6** This section pertains to requirements associated with amendments to the City TSP.

**Finding:**

The adoption of the proposed TSP update and associated technical appendices (Ordinance #1354-13 (File No. PTA-12-02)) complied with the RTFP requirement for an update of the TSP. The proposed amendments make no amendments that would be inconsistent with the RTFP.

**Metro Ordinance No. 14-1040B Conditions on Addition of Land to UGB**

When the Basalt Creek Planning Area was added to the Metro Urban Growth Boundary (UGB), certain conditions were imposed on the land as contained in Metro Ordinance No. 14-1040B (including “Exhibit F”, and attached to these findings as Exhibit 4). This section addresses the Conditions on Addition of Land to the Urban Growth Boundary (UGB) contained in this ordinance.

**Metro Ordinance No. 14-1040B  
Conditions on Addition of Land to the UGB (“Exhibit F”)**

- I. General Conditions Applicable to All Lands Added to the UGB**
  - A. The city or county with land use planning responsibility for a study area included in the UGB shall complete the planning required by Metro Code Title 11, Urban Growth Management Functional Plan (“UGMFP”), section 3.07.1120 (“Title 11 planning”) for the area. Unless otherwise stated in specific conditions below, the city or county shall complete Title 11 planning within two years after the effective date of this ordinance. Specific conditions below identify the city or county responsible for each study area.**

**Finding:**

The Basalt Creek Concept Plan (Exhibits 2 and 3) was formally adopted by Tualatin in August of 2018. The proposed amendments are consistent with the concept plan and would apply the Tualatin Comprehensive Plan and Development Code within the Basalt Creek Planning Area. Condition “A” is met.

- B. The city or county with land use planning responsibility for a study area included in the UGB, as specified below, shall apply the 2040 Growth Concept design types shown on Exhibit E of this ordinance to the planning required by Title 11 for the study area.**

**Finding:**

The proposed amendments would apply 2040 Growth Concept design types. Condition “B” is met.

**C. The city or county with land use planning responsibility for a study area included in the UGB shall apply interim protection standards in Metro Code Title 11, UGMFP, section 3.07.1110, to the study area until the effective date of the comprehensive plan provisions and land use regulations adopted to implement Title 11.**

**Finding:**

The proposed amendments would apply to properties within the Basalt Creek Planning Area upon their annexation. Until annexation to Tualatin, Washington County is the agency responsible for planning for the properties within the area, which all presently have an “FD-20” zoning designation applied. The FD-20 District recognizes the desirability of encouraging and retaining limited interim uses until the urban comprehensive planning for future urban development of these areas is complete. The provisions of this District are also intended to implement the requirements of Metro’s Urban Growth Management Functional Plan. Condition “C” is met.

**D. In Title 11 planning, each city or county with land use planning responsibility for a study area included in the UGB shall recommend appropriate long-range boundaries for consideration by the Council in future expansions of the UGB or designation of urban reserves pursuant to 660 Oregon Administrative Rules Division 21.**

**Finding:**

The Basalt Creek Planning Area is presently within the UGB, having been brought into the UGB in 2004 by Metro. Condition “D” is met.

**E. Each city or county with land use planning responsibility for an area included in the UGB by this ordinance shall adopt provisions – such as setbacks, buffers and designated lanes for movement of slow-moving farm machinery – in its land use regulations to enhance compatibility between urban uses in the UGB and agricultural practices on adjacent land outside the UGB zoned for farm or forest use.**

**Finding:**

The Basalt Creek Planning Area is within the UGB and completely surrounded by lands also located within the UGB, therefore, Condition “E” no longer applies.

**F. Each city or county with land use planning responsibility for a study area included in the UGB shall apply Title 4 of the UGMFP to those portions of the study area designated Regionally Significant Industrial Area (“RSIA”), Industrial Area or Employment Area on the 2040 Growth Concept Map (Exhibit C). If the Council places**

**a specific condition on a RSIA below, the city or county shall apply the more restrictive condition.**

**Finding:**

The proposed amendments would apply the Industrial Area (IA) Design Type to areas with a Manufacturing Park zoning designation (Exhibit 11, Map 9-1 and Map 9-4). To summarize, the proposed amendments are fully consistent within Title 4 of the UGMFP. Condition “F” is met.

**G. In the application of statewide planning Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces) to Title 11 planning, each city and county with land use responsibility for a study area included in the UGB shall comply with those provisions of Title 3 of the UGMFP acknowledged by the Land Conservation and Development Commission (“LCDC”) to comply with Goal 5. If LCDC has not acknowledged those provisions of Title 3 intended to comply with Goal 5 by the deadline for completion of Title 11 planning, the city or county shall consider, in the city or country’s application of Goal 5 to its Title 11 planning, any inventory of regionally significant Goal 5 resources and any preliminary decisions to allow, limit or prohibit conflicting uses of those resources that is adopted by resolution of the Metro Council.**

**Finding:**

Compliance with Goal 5 (and by extension Title 3) is addressed above under the findings for Goal 5 (Section B). Condition “G” is met.

**H. Each city and county shall apply the Transportation Planning Rule (OAR 660 Div 012) in the planning required by subsections F (transportation plan) and J (urban growth diagram) of Title 11.**

**Finding:**

Compliance with the TPR is addressed above under the findings for OAR Chapter 660 Division 12 (Section C). Condition “H” is met.

**II. SPECIFIC CONDITIONS FOR PARTICULAR AREAS**

**D. Tualatin Area**

- 1. Washington County or, upon annexation to the Cities of Tualatin or Wilsonville, the cities, in conjunction with Metro, shall complete Title 11 planning within two years following the selection of the right-of-way alignment for the I-5/99W Connector, or within seven years of the effective date of Ordinance No. 04-1040, whichever occurs earlier.**
- 2. Title 11 planning shall incorporate the general location of the projected right of way alignment for the I-5/99W connector and the Tonquin Trail as shown on the 2004 Regional Transportation Plan. If the selected right-of-way for the connector follows the approximate course of the “South Alignment,” as shown on the**

**Region 2040 Growth Concept Map, as amended by Ordinance No. 03-1014, October 15, 2003, the portion of the Tualatin Area that lies north of the right-of-way shall be designated “Outer Neighborhood” on the Growth Concept Map; the portion that lies south shall be designated “Industrial.”**

- 3. The governments responsible for Title 11 planning shall consider using the I-5/99W connector as a boundary between the city limits of the City of Tualatin and the City of Wilsonville in this area.**

**Finding:**

The proposed amendments do not directly include Title 11 planning. Condition “D” does not apply.

**Section F: Tualatin Comprehensive Plan**

**The following Chapters of the Tualatin Comprehensive Plan are applicable to the proposed amendments:**

**Chapter 4. Community Growth**

**Section 4.050. General Growth Objectives**

- (1) Provide a plan that will accommodate a population range of 22,000 to 29,000 people.**

**Finding:**

The proposed amendments would apply the City’s existing Comprehensive Plan (TDC Chapter 4) and policies, Planning District designations (Exhibit 14, Map 9-1), and Development Code regulations (TDC Chapters 31-80) regulations consistent with the Basalt Creek Concept Plan and envision future growth consistent with local and regional needs. The Certified Population for Tualatin in 2017, the most recently available figure, was 26,960. The aforementioned Planning District designations in the Basalt Creek Planning Area is projected to result in the creation of 575 new households at full build-out (Exhibit 2, Page 31 – Table 3: Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction), resulting in a population range between 22,000 and 29,000. This objective is met.

- (4) Provide a plan that will create an environment for the orderly and efficient transition from rural to urban land uses.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which included provisions for orderly and efficient transition from rural to urban land uses (Exhibit 3, Page 12 - Local & Regional Planning Context). Urban services such as utilities (Exhibit 11, Maps 12-1 and 13-1) will be extended as properties annex into Tualatin. Existing and planned roadway designations (Exhibit 10, Figure 11-1) have been planned for capacity to serve urban levels of development and include bike lanes

and sidewalks as the area develops consistent with an urban standard (Exhibit 10, Figure 11-4). In order for properties to annex to Tualatin, they must be abutting to the existing City limit, which will help ensure that development and the transition from rural to urban uses occurs in an orderly and efficient, rather than patchwork fashion. This objective is met.

**(6) Arrange the various land uses so as to minimize land use conflicts and maximize the use of public facilities as growth occurs.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan and include the application of zoning designations, and land uses, consistent with the above requirements as well as the need for efficient extension of public facilities to support resulting growth (Exhibit 11, Map 9-1). Further, the proposed zoning designations are either the same, similar, or compatible with existing adjacent zoning designations and have also been laid out with consideration given to buffering provided by roads, landscaping or setbacks, particularly between employment and residential uses (see findings at 3.07.1120(C), above). This objective is met.

**(7) Prepare a balanced plan meeting, as closely as possible, the specific objectives and assumptions of each individual plan element.**

**Finding:**

Various plan elements were considered in the concept planning process for the Basalt Creek Planning Area to amend the Comprehensive Plan (TDC Chapters 4, 7, and 9) and Development Code (TDC Chapters 51, 62, and 75) to apply in said area. The proposed amendments appropriately balance all applicable Comprehensive Plan objectives or policies, thereby meeting this objective.

**(9) Prepare a plan providing a variety of living and working environments.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan and include the application of zoning designations consistent with the above requirements (Exhibit 11, Map 9-1). A range of residential densities and housing types is planned for in the residential areas of the planning area (TDC Chapter 40, 41, and 43), and a range of uses is allowed in the employment areas of the planning area (TDC Chapters 51 and 62), which will provide for a variety of living and working environments. This objective is met.

**(10) Encourage the highest quality physical design for future development.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan and

include the application of zoning designations consistent with the above requirements (Exhibit 11, Map 9-1). Further, upon annexation the Tualatin Development Code, and specifically Chapter 73A (Site Design) will apply to ensure high-quality physical design, as currently found within the existing City limits. This objective is met.

**(11) Coordinate development plans with regional, state, and federal agencies to assure consistency with statutes, rules, and standards concerning air, noise, water quality, and solid waste. Cooperate with the U.S. Fish and Wildlife service to minimize adverse impacts to the Tualatin River National wildlife Refuge from development in adjacent area of Tualatin.**

**Finding:**

The proposed amendments would apply the Tualatin Comprehensive Plan and Development Code to the Basalt Creek Planning Area (TDC Chapters 7, 11, and 60 and CWS Design and Construction Standards). The existing regulatory framework in Tualatin provides for the above described coordination and cooperation, which would apply to an individual property upon annexation to Tualatin. The basalt Creek Planning Area is not in geographic proximity to the Tualatin River National Wildlife Refuge and therefore adverse impacts that might occur are nonexistent or minimal. This objective is met.

**(12) Adopt measures protecting life and property from natural hazards such as flooding, high groundwater, weak foundation soils and steep slopes.**

**Finding:**

The proposed amendments would apply the Tualatin Comprehensive Plan and Development Code to the Basalt Creek Planning Area. The existing regulatory framework in Tualatin provides protections for life and property from natural hazards such as flooding, high groundwater, weak foundation soils and steep slopes, which would apply to an individual property upon annexation to Tualatin (TDC Chapter 70). This objective is met.

**(16) Encourage energy conservation by arranging land uses in a manner compatible with public transportation objectives.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which analyzed the transportation needs of the area, in conjunction with the transportation requirements provided by the Metro UGB expansion. The resulting analysis, the Basalt Creek Transportation Refinement Plan (Exhibit 3, Page 318), analyzed future transportation conditions and evaluated alternative strategies for phased investments that support regional and local needs. The transportation study acted as the backbone for the proposed land use designations and locations to match them with the proposed



transportation system to create energy efficiency, consistent with TDC Chapter 4. This objective is met.

**(17) Maintain for as long a period as possible a physical separation of non-urban land around the City so as to maintain its physical and emotional identity within urban areas of the region.**

**Finding:**

Non-urban land is generally separated from the urban areas by geography and/or public roads. As noted above, Metro is responsible for determining the specific location of the Metro Urban Growth Boundary, which also provides a separation between urban and rural areas. This objective is met.

**(21) Territories to be annexed shall be in the Metro Urban Growth Boundary.**

**Finding:**

The Basalt Creek Planning Area, and any territory that would be annexed to Tualatin in the future from this area, is within the Metro Urban Growth Boundary. This objective is met.

**Chapter 5. Residential Planning Growth  
Section 5.030 General Objectives**

**(1) Provide for the housing needs of existing and future City residents.**

**Finding:**

The proposed amendments, consistent with the Basalt Creek Concept Plan, would apply three different residential zoning designations, Low Density Residential (RL), Medium-Low Density Residential (RML) and High Density Residential (RH), to 24.83, 59.83, and 3.36 buildable acres respectively, for a total of 88.02 buildable acres. The proposed residential areas will help to provide for the housing needs of existing and future City residents. This objective is met.

**(2) Provide housing opportunities for residents with varied income levels and tastes that are esthetically and functionally compatible with the existing community housing stock.**

[...]

**Finding:**

The proposed amendments are consistent with the residential designations in the Basalt Creek Concept Plan, and include both low and high density housing. The higher density housing is intended to provide more affordable housing options, while the low and low-medium levels provide a greater variety of lot sizes and densities to meet this objective. Applicable development standards found in the Tualatin Development Code would apply at the time of future development within the Basalt Creek Planning Area. This

objective is met.

**(4) Locate higher density development where it is convenient to the City's commercial core, near schools, adjacent to arterial and collector streets and, as much as possible, in areas with existing multi-family housing and provide residential opportunities in selected commercial areas through the Mixed Use Commercial Overlay District.**

[...]

**Finding:**

The proposed amendments would designate 3.36 acres of buildable land as High Density adjacent to the Horizon High School and Boone's Ferry Road, an arterial street, as well as the proposed area of Neighborhood Commercial within the Basalt Creek Planning Area. This objective is met.

**(6) Provide areas that will accommodate small-lot subdivisions.**

[...]

**Finding:**

The proposed amendments include proposed zoning designations (Low Density (RL) and Medium-Low Density (RML)) which allow for small-lot subdivisions. This objective is met.

**(11) Require that all residential development adjacent to Expressways be buffered from the noise of such Expressways through the use of soundproofing devices such as walls, berms or distance. Density transfer to accommodate the-se techniques is acceptable.**

[...]

**Finding:**

As shown on the City's Functional Classification and Traffic Signal Plan, no residential development exists adjacent to a roadway classified as an Expressway. This objective is not applicable.

**(13) Provide truck routes for industrial traffic that provide for efficient movement of goods while protecting the quality of residential areas.**

**Finding:**

The proposed amendments include all truck routes that were analyzed and included in the Basalt Creek Concept Plan (Exhibit 10, Figure 11-6). This objective is met.

**(14) Protect residential, commercial, and sensitive industrial uses from the adverse environmental impacts of adjacent industrial use.**

[...]

**Finding:**

The proposed zoning designations (Exhibit 11, Map 9-1) are consistent with the Basalt Creek Concept Plan, which considered the location of said designations to protect residential, commercial, and sensitive industrial uses from the adverse environmental impacts of adjacent industrial use. Application of TDC Chapters 7, 62, and 63 to the will provide specific protections from adverse environmental impacts from adjacent industrial use. This objective is met.

**(17) Protect wooded areas identified on the Natural Features Map found in the Technical Memorandum by requiring their preservation in a natural state, by integrating the major trees in-to the design of the parking lots, buildings, or landscaping areas of multi-family complexes and non- residential uses, or in low density areas through the small lot, common wall, or condominium conditional use. If it is necessary to remove a portion or all of the trees, the replacement landscape features shall be subject to approval through the Architectural Review process, except for conventional single family subdivisions.**

**Finding:**

The Natural Features Map (Map 72-2) does not include any identified wooded areas in the Basalt Creek Planning Area. This objective is not applicable.

**Chapter 06: Commercial Planning Districts**

**Section 6.030 Objectives.**

**The following are general objectives used to guide the development of this Plan:**

**(1) Encourage commercial development.**

**(3) Provide shopping opportunities for surrounding communities.**

**Finding:**

In an effort to serve the commercial need of the future residential areas in the Basalt Creek Planning Area, 2.89 buildable acres of land is proposed to be designated with the Neighborhood Commercial zoning designation. This will provide shopping opportunities for both the residential and employment community in the Basalt Creek Planning Area. This objective is met.

**(2) Provide increased employment opportunities.**

**Finding:**

The proposed area of Neighborhood Commercial (CN) zoning designation is not intended to be the significant job generating use in the Plan Area, however, the 2.89 acres is intended to provide an estimated 33 full time jobs (Exhibit 3, Page 181). The CN zoning designation will expand employment opportunities. This objective is met.

**(4) Locate and design commercial areas to minimize traffic congestion and maximize access.**

**Finding:**

The proposed area of Neighborhood Commercial zoning designation is located at the intersection Boones Ferry Road and Basalt Creek Parkway, within walking distance of future residential neighborhoods and uses the existing arterial roadway system to help minimize traffic congestion and maximize access. This objective is met.

**Chapter 7. Manufacturing Planning Districts**

**Section 7.030. Objectives**

**(1) Encourage new industrial development.**

**Finding:**

The proposed amendments would apply the Manufacturing Park zoning designation to approximately 92.95 buildable acres in the Basalt Creek Planning Area, which would encourage new industrial development and increase the City's industrial lands inventory. This objective is met.

**(2) Provide increased local employment opportunity, moving from 12 percent local employment to 25 percent, while at the same time making the City, and in particular the Western Industrial District, a major regional employment center.**

**Finding:**

The proposed amendments would designate approximately 92.95 buildable acres of land with the Manufacturing Park (MP) zoning designation, which will increase local employment opportunity and assist in moving the City towards the local employment objective while enhancing the industrial land base of Tualatin. This objective is met.

**(3) Improve the financial capability of the City, through an increase in the tax base and the use of creative financing tools.**

**Finding:**

The proposed amendments would enable the City to continue to grow the opportunity for future land development. Future development will increase the revenue generated through taxes to support local government services. This objective is met.

**(9) Construct a north/south major arterial street between Tualatin-Sherwood Road and SW Tonquin Road in the 124<sup>th</sup> Avenue alignment to serve the industrial area.**

**Finding:**

SW 124<sup>th</sup> avenue has been constructed between Tualatin-Sherwood Road and SW Tonquin Road, and will be available to serve the industrial use within the Basalt Creek Planning Area. The proposed amendments would update applicable Comprehensive Plan and Development Code provisions consistent with this objective. This objective is met.

**(12) Protect residential, commercial, and sensitive industrial uses from the adverse environmental impacts of industrial use.**

**Finding:**

The proposed amendments establish specific planning designations. In addition, all industrial development in Tualatin is required to comply with the provisions of TDC Chapter 63 (Industrial Uses and Utilities and Manufacturing Zones - Environmental Regulations) that helps protect residential, commercial, and sensitive industrial uses from the adverse environmental impacts of industrial use. The protections also include stormwater protections, as well as setbacks from sensitive areas. This objective is met.

**Chapter 9. Plan Map**

**Finding:**

The proposed amendments would add a new planning area, known as Planning Area 16. This would become a new subsection 9.046. The proposed new text summarizes the land uses proposed, consistent with the Basalt Creek Concept Plan. The proposed amendments apply the specific planning designations within the area and on Community Plan Map 9-1. This objective is met.

**Chapter 11. Transportation**

**Section 11.610. Transportation Goals and Objectives**

**(2) Goal 1: Mobility and access**

**Maintain and enhance the transportation system to reduce travel times, provide travel-time reliability, provide a functional and smooth transportation system, and promote access for all users.**

**Objectives:**

**Finding:**

The proposed amendments would implement the approved Basalt Creek Concept Plan. The Concept plan included transportation improvements identified by the Basalt Creek Transportation Refinement Plan. These include streets, pedestrian and bicycle facilities, and other forms of transportation, for the Basalt Creek Planning Area that link to the existing system serving the City. This objective is met.

**(3) Goal 2: Safety, improve safety for all users, all modes, all ages, and all abilities within the City of Tualatin.**

**Finding:**

The Basalt Creek Transportation Refinement Plan included detailed crash analysis to assure high risk areas were addressed in the design of the transportation network in Basalt Creek. The streets were designed to provide safe passage for all users, including emergency personnel. All roads, bike paths, and pedestrian paths included in the Basalt

Creek Concept Plan have been reflected in the proposed amendments. This objective is met.

**(4) Goal 3: Vibrant Community. Allow for a variety of alternative transportation choices for citizens of and visitors to Tualatin to support a high quality of life and community livability.**

**Finding:**

The proposed amendments identify a transportation system, including streets, pedestrian and bicycle facilities (Exhibit 11, Maps 11-1 through 11-4; TDC Chapter 72 and TSP Chapter 2). This objective is met.

**(5) Goal 4: Equity. Consider the distribution of benefits and impacts from potential transportation options, and work towards fair access to transportation facilities for all users, all ages, and all abilities.**

**Finding:**

The proposed amendments reflect and implement the approved concept plan. The Basalt Creek Concept Plan included many elements intended to be equitable, including a High Density Residential area intended to provide more affordable housing, close to shopping, jobs and transit. All transportation and pedestrian facilities will comply with accessibility requirements upon construction. This objective is met.

**(6) Goal 5: Economy. Support local employment, local businesses, and a prosperous community while recognizing Tualatin's role in the regional economy.**

**Finding:**

The Basalt Creek Planning Area was identified as a good location for a job center based on its location next to I-5 and existing industrial development. The traffic analysis completed for the Basalt Creek Concept Plan was created in conjunction with the 2035 Regional Transportation Plan (RTP) prepared by Metro. The improvements identified in the 2035 RTP would be expected to accommodate estimated growth in the area. The proposed changes to Tualatin's Transportation System Plan (TSP) are consistent with the 2035 RTP. This objective is met.

**(7) Goal 6: Health/Environment. Provide active transportation options to improve the health of citizens in Tualatin. Ensure that transportation does not adversely affect public health or the environment.**

**Finding:**

The proposed amendments identify a transportation system, including streets, pedestrian and bicycle facilities. All streets will have sidewalks and bike lanes. Additionally, the plan helps implement the Tonquin Ice Age Regional Trail System. This objective is met.

**(8) Goal 7: Ability to Be Implemented. Promote potential options that are able to be implemented because they have community and political support and are likely to be funded.**

**Finding:**

The proposed amendments would implement the Basalt Creek Concept Plan, which included several opportunities to include public participation including outreach events, surveys and open houses. The Basalt Creek Transportation Refinement Plan was created in cooperation with Metro, ODOT, Tri-Met, Washington County, and other surrounding organizations and jurisdictions to resolve regional and statewide transportation issues that impact Tualatin. Chapter 3 of the TSP identifies the variety of funding sources available at the City, County, Region, and State level and their applicability to specific project types. This objective is met.

**Chapter 12. Water Service**

**Section 12.020. Water Service Policies**

**12.020 City of Tualatin water service policies are to:**

**(1) Plan and construct a City water system that protects the public health, provides cost-effective water service, meets the demands of users, addresses regulatory requirements and supports the land uses designated in the Tualatin Community Plan.**

**Finding:**

The proposed amendments identify a water system to serve future development in the Basalt Creek Concept Plan. Because there currently are no public water lines located in the area, the routing of pipes has been modified to follow the proposed new roadways. Once development assumptions have been specified, more specific estimates of future infrastructure needs will be made. The proposed water system has been designed to protect the public health while providing cost effective water service, meeting the demands of users, addressing regulatory requirements, and supporting future residential, industrial and commercial uses within the area. This objective is met.

**(2) Require developers to aid in improving the water system by constructing facilities to serve new development and extend lines to adjacent properties.**

**Finding:**

The proposed amendments identify improvements necessary in the water system to support development. Developers will be responsible for providing utility connections to trunk line systems that serve their development. Costs are identified to allow private development funding of improvements. This objective is met.

**Chapter 13. Sewer Service**

**Section 13.015. Sanitary Sewer System Objectives**

**(1) Plan and construct a City sewer system that protects the public health, protects the water quality of creeks, ponds, wetlands and the Tualatin River, provides cost-effective sewer service, meets the demands of users, addresses regulatory requirements and supports the land uses designated in the Tualatin Community Plan.**

**Finding:**

The proposed amendments identify a sanitary system to serve future development in the Basalt Creek Planning Area. Because no sanitary system of adequate size currently exists within or near the area, development in the area will need to connect to eight gravity sewer mains that exist near the north planning area boundary and one force main currently used for Victoria Woods. The Basalt Creek Planning Area is not yet served by Clean Water Services (CWS). Expansion of the service district area to include Tualatin's portion of the Basalt Creek Planning Area needs to be approved by Clean Water Services at time of Annexation. The proposed sanitary sewer system has been designed to protect the public health and water quality of creeks, ponds, wetlands, and the Tualatin River, while providing cost effective sanitary sewer service, meeting the demands of users, addressing regulatory requirements, and supporting future residential, industrial and commercial uses within the area. This objective is met.

**(2) Provide a City sanitary sewer system in cooperation with Clean Water Services (CWS). The City is responsible for the collection system's smaller lines and the 65th Avenue pump station and CWS is responsible for the larger lines, pump stations and treatment facilities.**

**Finding:**

The proposed amendments identify a sanitary sewer system with lines that serve the Basalt Creek Concept Plan that will be under the City's jurisdiction. The system was designed and will be operated in accordance with Clean Water Services (CWS) requirements. This objective is met.

**(5) Require developers to aid in improving the sewer system by constructing facilities to serve new development as well as adjacent properties.**

**Finding:**

The proposed amendments identify improvements necessary in the sanitary sewer system to support development. Developers will be responsible for providing utility connections to trunk line systems. This objective is met.

**Chapter 14. Drainage Plan and Surface Water Management**

**Section 14.040 Objectives.**

**14.040 The objectives of the Tualatin Drainage Plan and Surface Water Management regulations are:**



**(1) Provide a plan for routing surface drainage through the City, utilizing the natural drainages where possible. Update the plan as needed with drainage studies of problem areas and to respond to changes in the drainage pattern caused by urban development.**

**Finding:**

The proposed amendments identify a plan for routing surface drainage from future development in the Basalt Creek Planning Area. Basalt Creek itself flows to the south into Wilsonville as part of the Coffee Lake Creek Basin. Basalt Creek discharges into the Coffee Lake wetlands. Coffee Lake Creek flows south from the wetlands and combines with Arrowhead Creek before discharging to the Willamette River. Because no storm water system currently exists in the area besides street capacity, a new conveyance system will need to be installed along the new roadways. In addition, site development runoff will need to be treated and detained, if necessary, before being discharged to the public drainage systems. The proposed storm water system has been designed to meet peak flows and runoff volumes, and to meet CWS standards. This objective is met.

**(2) Coordinate the City's Drainage Plan and Storm Water Management regulations with the City's Floodplain District, Wetland Protection District and Natural Resource Protection Overlay District regulations and with the plans of USA and other regional, state, and federal agencies to achieve consistency among the plans.**

**Finding:**

The proposed amendments were developed in coordination with participating agencies in the Basalt Creek Concept Plan and took into account floodplain, wetlands and natural resource protection programs. The concept planning work for the Basalt Creek Concept Plan identified natural areas that are proposed to be included in the City's Natural Resources Protection Overlay (NRPO) (Chapter 72). This objective is met.

**(4) Identify and solve existing problems in the drainage system and plan for construction of drainage system improvements that support future development.**

**Finding:**

The proposed amendments plan for construction of drainage system improvements that support future development in the Basalt Creek Concept Plan. This objective is met.

**(15) Comply with Metro's Urban Growth Management Functional Plan, Title 3.**

**Finding:**

Title 3 requires local jurisdictions to limit or mitigate the impact of development activities on Water Quality and Flood Management Areas which includes wetlands and riparian areas. The Basalt Creek Concept Plan was developed factoring in Metro Title 3

requirements, which are discussed in more detail later in this Analysis and Findings (see discussion under Criterion G. Metro's Urban Growth Management Functional Plan. This objective is met.

## **Chapter 15. Parks and Recreation**

### **Section 15.020 Objectives**

[...]

**(2) Provide a high quality park and recreation system to offset the environmental impact of large areas of commercial and industrial development.**

**(3) Create a park and recreation system that provides diverse recreation opportunity**

#### **Finding:**

There are currently no parks in the Basalt Creek Planning Area. The proposed land use plan came directly from the adopted Concept Plan. All parks within the Basalt Creek area will be consistent with the Park Master Plan, which identified a need for a park within the Basalt Creek Planning Area but did not identify a specific site. Parks, trails, and open spaces are a permitted use in all of the residential districts and will be implemented as they develop, consistent with any requirements of the Park Master Plan. Therefore, while the proposed amendments do not directly reflect new park areas, parks planning will be done as identified through the Parks Master Plan. These objectives are met.

### **Section 15.110. Wetlands and Natural Areas Plan Objectives**

**(1) Identify and protect significant natural resources that promote a healthy environment and natural landscape that improves livability.**

**(2) Protect significant natural resources and provide fish and wildlife habitat, scenic values, water quality improvements, stormwater management benefits, and flood control.**

**(3) Protect significant natural resources that provide recreational and educational opportunities.**

#### **Finding:**

The City previously adopted an ordinance relating to water quality, flood plain management, and erosion control, to comply with Metro's Urban Growth Management Functional Plan (UGMFP) Title 3 (TDC Chapters 33, 36, 70, 72, and 74). The amendments were made to refer to Clean Water Services regulations, which had been found by Metro to be consistent with Title 3, thus bringing Tualatin into conformance with Title 3 as well. Compliance with Title 13 is satisfied by Tualatin's participation in the Tualatin Basin Plan and previously adopted amendments to the Comprehensive Plan and Development Code. Tualatin is within the Clean Water Services district. All

development must comply with Clean Water Services standards for stormwater. The TDC will apply to the Basalt Creek area upon adoption and annexation of any property to Tualatin. The conservation areas will be administered and protected by Clean Water Services and/or the City. Future development in Tualatin must comply with TDC Chapter 74 and Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat. These objectives are met.

**(4) Balance natural resource protection and growth and development needs.**

**Finding:**

The proposed amendments would implement the Basalt Creek Concept Plan. The concept plan was created by first understanding the constraints of the area. These included easements, natural features, wetlands and steep slopes to name a few. The transportation needs were then addressed because this area will be connecting several key transportation routes including playing a role in connecting I-5 and 99W. Once constraints and transportation were addressed, the land uses were designed. This approach assured that the needs of the environment, transportation, jobs, housing and open space were all balanced. In addition, future industrial development in the MBP Planning District will be required to comply with the environmental regulations of TDC Chapter 63, which apply to all industrial planning districts. This objective is met.

**(6) Allow public facilities such as sewer, storm water, water and public streets and passive recreation facilities to be located in significant natural resource areas provided they are constructed to minimize impacts and with appropriate restoration and mitigation of the resource.**

**Finding:**

In the event that public facilities identified in the proposed amendments cannot avoid natural resource areas, mitigation for these impacts will be addressed at the time physical development is proposed (TDC Chapter 72). This objective is met.

**Section G. Tualatin Development Code**

**The following Chapter of the Tualatin Comprehensive Plan are applicable to the proposed amendments:**

**Chapter 33 – Applications and Approval Criteria**

**Section 33.070 – Plan Amendments.**

**(1) Purpose. To provide processes for the review of proposed amendments to the Zone Standards of the Tualatin Development Code and to the Text or the Plan Map of the Tualatin Community Plan.**

**(2) Applicability. Quasi-judicial amendments may be initiated by the City Council, the City staff, or by a property owner or person authorized in writing by the property owner. Legislative amendments may only be initiated by the City Council.**

**Finding:**

The proposed amendments are legislative in nature and have been initiated by the City Staff. This criterion is met.

**(3) Procedure type.**

[...]

**(b) Map or text amendment applications which are legislative in nature are subject to Type IV-B Review in accordance with TDC Chapter 32.**

**Finding:**

The proposed amendments are legislative in nature and have been processed consistent with the Type IV-B requirements of TDC Chapter 32. This criterion is met.

**(4) Specific Submittal Requirements. An application for a plan map or text amendment must comply with the general submittal requirements in TDC 32.140 (Application Submittal).**

**Finding:**

The proposed amendments comply with the applicable submittal requirements of TDC 32.140. This criterion is met.

**(5) Approval Criteria.**

**(a) Granting the amendment is in the public interest.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which was adopted by the Tualatin City Council in August of 2018. The proposed amendments are a necessary step before urban development can occur within the Basalt Creek Planning Area, consistent with the area's inclusion in the Metro UBG. Statewide Planning Goal 2 requires all parcels in each city and county to be designated with a planning district. The proposed amendment will apply the Neighborhood Commercial (NC), Manufacturing Park (MP), Low Density Residential (LDR), Medium-Low Density Residential (MLDR) and High-Density (HDR) zoning designations within the Basalt Creek Planning Area, after future annexation of territory to Tualatin (Exhibit 11, Map 9-1). The amendments to the TSP demonstrate compliance with the public interest through compliance with the Oregon Transportation Planning Rule (TPR) and the Regional Transportation Plan (RTP), as implemented through the requirements of the Regional Transportation Functional Plan (RTFP). The proposed amendments are in the public interest. This criterion is met.

**(b) The public interest is best protected by granting the amendment at this time.**

**Finding:**

The proposed amendments would update the Tualatin Comprehensive Plan, Development Code, and TSP, to be applicable to the Basalt Creek Planning Area, upon annexation of an individual property to Tualatin. The TSP updates are required to ensure all streets within the Basalt Creek Concept Plan are fully incorporated into the City transportation network, and to assure compliance with the State Transportation Planning Rule (TPR) requirements as outlined in OAR Chapter 660 Division 12 (Section C, above), which demonstrates that the existing and planned street network can accommodate the proposed zoning designations. The public interest is best protected by granting the amendments and updates at this time. This criterion is met.

**(c) The proposed amendment is in conformity with the applicable objectives of the Tualatin Community Plan.**

**Finding:**

The applicable objectives of the Tualatin Community Plan, as contained in the Tualatin Development Code (TDC) (Chapters 1-30 of the code are the Community Plan), have been considered, and are discussed below. This criterion is met.

**(d) The following factors were consciously considered:**

**(i) The various characteristics of the areas in the City;**

**Finding:**

The proposed amendments are implementing the approved Basalt Creek Concept Plan. The plan area is located at the south end of the city with residential uses adjacent to the north, the Horizon High School to the north east, the Southwest Tualatin Plan area to the west and the City of Wilsonville to the south. The plan was designed in conjunction with the City of Wilsonville to assure the area transitioned between the two Cities. To the north, the plan features residential uses to help transition the existing residential development. Buffers are proposed between the plans proposed residential areas and the planned business park areas to help assure compatibility. Buffers are also proposed between residential uses and the proposed Basalt Creek Parkway. The private Horizon High school is surrounded by residential uses, with proposed neighborhood commercial nearby. The Business Park uses will have to comply with the requirements of district (zone) which include will essentially require any new development to feature lushly landscaped park-like settings, intended to foster a campus-like environment. These design features along with the preservation of the natural areas through NRPO's will help assure the characteristics of the area. This criterion is met.

**(ii) The suitability of the areas for particular land uses and improvements in the areas;**

**Finding:**

The Concept Plan explains that in 2004, Metro identified a shortfall of industrial land and a study identified good candidates for industrial development by looking at soil classification, earthquake hazard, slope steepness, parcel size, accessibility to regional transportation and necessary services, and proximity to existing industrial uses. Several areas of land identified as good candidates for industrial development were added to the UGB by Metro via Ordinance 14-1040B in 2004, two of which comprise the Basalt Creek Planning Area. The current 2040 Growth Concept Map identifies the Basalt Creek Planning Area as industrial, but the Ordinance does provide some flexibility to include housing in the Planning Area. The Ordinance identified “Outer Neighborhood” as a potential land use in the northern portion of the Basalt Creek Planning Area, to provide some housing and as a buffer for existing residential neighborhoods in Tualatin. All improvements required to implement the land uses are also reflected in the proposed amendments. This criterion is met.

**(iii) Trends in land improvement and development;**

**Finding:**

The trend for development in the Basalt Creek Concept Plan is for industrial and residential development as evidenced by existing uses in the area. In addition, the majority of the area has been designated Industrial by Metro, though the Ordinance (Exhibit 4) makes some allowance for residential as well. Some Neighborhood Commercial has been included to assure adequate commercial services are available to the new residential population as well as the employment uses proposed. The proposed amendments would apply land uses and street plans for the area, consistent with trends in land improvement and development in the area. This criterion is met.

**(iv) Property values;**

**Finding:**

Prior to 2004, the land in the Basalt Creek Concept Plan was outside of the UGB and regulated by Washington County. Currently the properties within the UGB expansion feature an FD-20, Future Development 20-acre minimum lot size, designation. By inclusion of the study area into the UGB and, subsequently, into Tualatin’s Urban Planning Area the value of property has likely increased. The area can now be developed to urban densities consistent with the Planning District (zoning/land use) designations (Exhibit 11, Map 9-1) and receive urban services, thus increasing property value. The overall industrial land market, however, will determine the final property value. This criterion is met.

**(v) The needs of economic enterprises and the future development of the area; needed right-of-way and access for and to particular sites in the area;**

**Finding:**

The Metro analysis associated with Ordinance No. 14-1040B (Exhibit 4) looked at the economic needs of the entire Metro area with respect to land that should be added to the urban growth boundary (UGB). The conclusion of the analyses was to add land for industrial purposes, within the Basalt Creek Concept Plan. At the local level, the proposed amendments would apply the Manufacturing Park (MP) zoning designation to approximately 92.95 net buildable acres of future development. The other land uses, while economic engines in their own right, such as the three residential designations and the Neighborhood Commercial, are intended to play a support role as well (Exhibit 11, Map 9-1). This criterion is met.

**(vi) Natural resources of the City and the protection and conservation of said resources;**

**Finding:**

As discussed previously in Section B under the finding for Goal 5, the natural resources are identified and protected through applicable regulations of the TDC, and protection and conservation of said resources is implemented by Clean Water Services. This criterion is met.

**(vii) Prospective requirements for the development of natural resources in the City;**

**Finding:**

No development of natural resources is proposed as part of the proposed amendments. This criterion is not applicable.

**(viii) The public need for healthful, safe, esthetic surroundings and conditions; and**

**Finding:**

The proposed amendments satisfy the public need for healthful, safe, esthetic surroundings and conditions by applying land use designations to the Basalt Creek Planning Area, to ensure compatibility with adjoining lands, implement transportation improvements, prescribe required infrastructure to serve the area and address environmental protection requirements. Further, Oregon Statewide Planning Goal 2 requires all parcels in each city and county to be designated with a planning district. Therefore, the public need for healthful, safe, aesthetic surroundings and conditions will best be served by granting the amendments at this time. This criterion is met.

**(ix) Proof of change in a neighborhood or area, or a mistake in the Plan Text or Plan Map for the property under consideration are additional relevant factors to consider.**

**Finding:**

The change that has occurred is the expansion of the UGB pursuant to Metro Ordinance No. 14-1040B (Exhibit 4) to include the Basalt Creek Planning Area. The proposed amendments are timely and necessary to apply urban planning designations to establish the type of development that may occur in the future. This criterion is met.

**(e) If the amendment involves residential uses, then the appropriate school district or districts must be able to reasonably accommodate additional residential capacity by means determined by any affected school district.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which included school planning by the affected school district for the Basalt Creek Planning Area, the Sherwood School District. As noted above, the Sherwood School District has indicated that they have no planned facilities within the Basalt Creek Planning Area. Further, specific notice of the proposed amendments has been sent to the Sherwood School District, providing an opportunity to comment directly on the proposed amendments. This criterion is met.

**(f) Granting the amendment is consistent with the applicable State of Oregon Planning Goals and applicable Oregon Administrative Rules, including compliance with the Transportation Planning Rule TPR (OAR 660-012-0060).**

**Finding:**

Compliance with the TPR is addressed above under the findings for OAR Chapter 660 Division 12 (Section C, above). This criterion is met.

**(g) Granting the amendment is consistent with the Metropolitan Service District's Urban Growth Management Functional Plan.**

**Finding:**

Compliance with the Urban Growth Management Functional plan is addressed above under Section D (Metro Code). This criterion is met.

**(h) Granting the amendment is consistent with Level of Service F for the p.m. peak hour and E for the one-half hour before and after the p.m. peak hour for the Town Center 2040 Design Type (TDC Map 9-4), and E/E for the rest of the 2040 Design Types in the City's planning area.**

**Finding:**

The Basalt Creek Transportation Refinement Plan (Exhibit 2, Page 318) analyzed planned transportation infrastructure to determine the effectiveness of the identified infrastructure projects. Based on the criteria above, Level of Service E/E would apply to the Basalt Creek



Concept Plan. As demonstrated in Table 20 of the Refinement Plan, assuming all identified transportation infrastructure projects are constructed and land uses are built out (by the year 2035), all intersections will meet the standard listed above. The TSP makes all required street classification updates in the Basalt Creek area to accommodate the plan at the required traffic levels. This criterion is met.

**(i) Granting the amendment is consistent with the objectives and policies regarding potable water, sanitary sewer, and surface water management pursuant to TDC 12.020, water management issues are adequately addressed during development or redevelopment anticipated to follow the granting of a plan amendment.**  
[...]

**Finding:**

The analysis of Chapter 12, Water Services is provided above in response to Criteria 3 of this section. The proposed amendments identify a water system to serve future development in the Basalt Creek Planning Area (Exhibit 11, Map 12-1). Because there currently are no public water lines located in the area, the routing of pipes has been modified to follow the proposed new roadways. Once development assumptions have been specified, more specific estimates of future infrastructure needs will be made. The proposed water system has been designed to protect the public health while providing cost effective water service, meeting the demands of users, addressing regulatory requirements, and supporting future residential, industrial and commercial uses within the area. This criterion is met.



July 2, 2018 FINAL

(Adopted August 13, 2018 by City of Tualatin and August 6, 2018 by City of Wilsonville)

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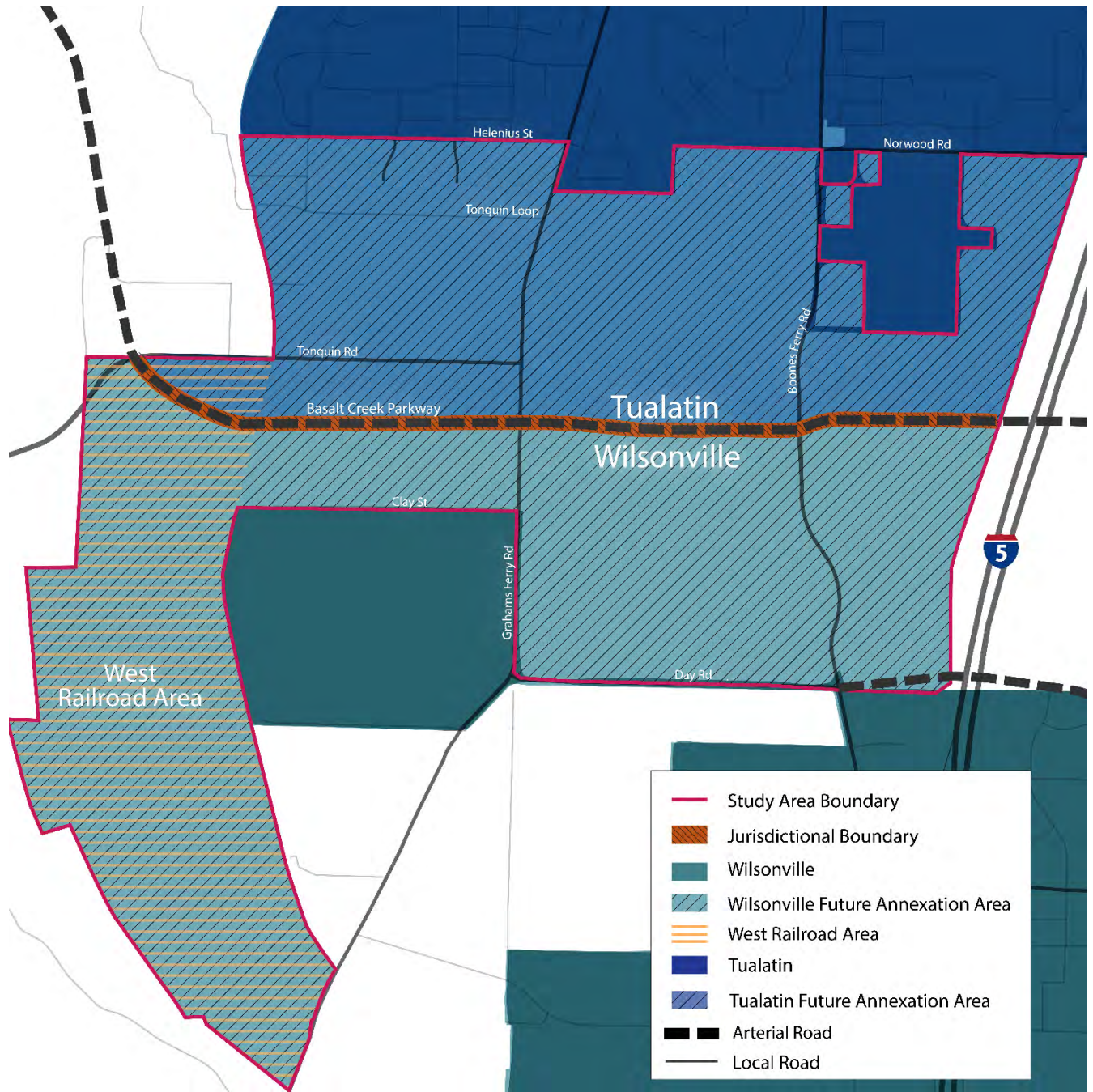
# Introduction

## The Basalt Creek Planning Area

The Basalt Creek Planning Area consists of 847 acres located in Washington County between the Cities of Tualatin and Wilsonville. The Planning Area is irregularly shaped, generally oriented east-west with an extension southward at the western edge, which is commonly referred to as the West Railroad Area. The West Railroad Area is divided from the rest of the Planning Area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The rest of the Basalt Creek Planning Area is bound by Norwood and Helenius Roads to the north, Interstate 5 (I-5) to the east, Coffee Lake Creek to the west, and Day Road to the south until it reaches Coffee Creek Correctional Facility, where the boundary turns north on Graham's Ferry and then westward again on Clay Road. The area also has distinctive natural features, particularly its namesake - Basalt Creek - and the surrounding wetlands habitat running north-south through the eastern half of the Planning Area. The primary existing land uses in Basalt Creek are rural agriculture, industrial, and rural residential consisting of low-density single-family housing. Washington County recently completed construction of a portion of the Basalt Creek Parkway, extending 124<sup>th</sup> Avenue and connecting Tualatin-Sherwood Road to Grahams Ferry Road. In the future, the Parkway will run east-west across the Planning Area between Grahams Ferry Road and Boones Ferry Road, and eventually extend over I-5. The parkway will be a high-capacity major freight arterial with limited access to local streets providing industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas.



Figure 1 Basalt Creek Planning Area and jurisdictional boundaries.



A more detailed description of the Planning Area, including natural and historic resources, existing land uses and regulatory context can be found in the Existing Conditions Report (Appendix A).

## What is a Concept Plan?

A concept plan identifies a vision and guides future land use and transportation decisions for the planning area. It helps ensure the area has the land capacity to contribute to meeting local and regional land use and transportation goals. Concept plans also ensure compliance with state land use goals,

regional policies, and other plans, including existing transportation plans. A concept plan sets the framework for future development and outlines an implementation strategy for future provision of urban services (water, sanitary sewer, and storm water systems), public services (such as transit, parks, and open space), and protection of natural and cultural resources.

## Basalt Creek Concept Plan

The Basalt Creek Concept Plan guides development in the Basalt Creek Planning Area over the next twenty years. To accomplish this, the plan:

- Establishes a vision for urbanization of the Basalt Creek Planning Area that will meet local and regional goals
- Coordinates future land use, transportation and infrastructure investments between Tualatin, Wilsonville, and Washington County
- Establishes a new jurisdictional boundary between Tualatin and Wilsonville (to determine which parts of the Planning Area may be annexed into and served by each city)
- Identifies preferred land uses across the area
- Recommends high-level designs for transportation and infrastructure systems to support future development consistent with local, regional and state goals
- Sets specific action items and implementation measures

*Figure 2 Basalt Creek Planning Area in regional context.*



In 2004, Metro identified the Basalt Creek Planning Area as a good candidate for industrial development because it is near I-5, adjacent to Wilsonville's industrial area to the south, and contains large, flat sites suitable for industrial users. Metro passed an ordinance in 2004 to annex land into the existing Urban Growth Boundary (UGB), which included the Basalt Creek Planning Area, to ensure a sufficient regional supply of land for employment growth over the next twenty years. Based on Metro's 2014 Employment and Housing Forecast, Metro projected the region would grow by 474,000 people and 365,000 jobs by

2035. The Basalt Creek Planning Area was expected to accommodate about 1,200 new housing units and 2,300 new jobs (mostly industrial, with some service jobs and few retail jobs). A detailed explanation of these figures and the Industrial Land Alternative Analysis can be found in the Existing Conditions Report (Appendix A, starting on page 17).

In the Metro region, areas brought into the UGB are required to have a land use and transportation Concept Plan before urban development can occur. The intent of the Basalt Creek Concept Plan is to meet this requirement and provide a roadmap for the development of the area that is consistent with state, regional and local land use planning laws. This Concept Plan involved a collaborative effort between two local jurisdictions – the Cities of Tualatin and Wilsonville.

While several concept plans were developed over the last decade for other UGB annexation areas (e.g. Southwest Tualatin Plan, Tonquin Employment Area Plan, and Coffee Creek Industrial Area), Basalt Creek is somewhat unusual. Its large size, location between (rather than at the edge of) other urbanized areas, and requirement to be jointly planned by two different cities—each with their own identity, goals and local governance—make it different from most other concept plans.

While the process and context were unique, the final Basalt Creek Concept Plan incorporates the key elements consistent with other concept plans and meets all state and regional requirements for a concept plan.

*Table 1 Summary Table of Basalt Creek Concept Plan Elements*

Element	Description
Jurisdictional Boundary	Follows the alignment of the Basalt Creek Parkway centerline with Tualatin to the north and Wilsonville to the south.
Land Use and Development	Land uses in Wilsonville focus on employment, while Tualatin has a mix of employment and housing. Housing in the northern part of the area is meant to buffer existing residential neighborhoods from non-residential land uses. There is a small retail node just east of the Basalt Creek Canyon and north of the jurisdictional boundary in the Planning Area, which will serve residents and workers. The land suitability analysis influenced the most appropriate locations for employment-based land uses. Land use types and densities were balanced to meet obligations for providing regional employment capacity while limiting negative impacts on congestion and traffic levels.
Transportation	Major new roads and improvements will be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP), which is also coordinated with the 2014 Metro Regional Transportation Plan (RTP). Basalt Creek Parkway, portions of which are currently under construction, will be a major east-west arterial, with limited access (connecting only at Grahams Ferry and Boones Ferry Roads), creating a new connection between I-5 and 99W. Further roadway improvements—such as adding capacity to north-south collectors, widening Day Road to five lanes, and two additional I-5 crossings at Day and Greenhill—will be needed to handle future traffic levels as the area is built out. Local roads connecting to this network will be planned and built by property owners as the area develops.
Bicycle and Pedestrian Framework	Opportunities for bike and pedestrian connections are identified, and additional bike/pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards.
Transit	Transit service in the area will be coordinated between TriMet and SMART. Service will build on existing bus routes to enhance service and provide good connectivity both north-to-south and east-to-

	west through the Planning Area.
Parks & Open Space	The Basalt Creek Canyon natural area spans both cities and there are opportunities for regionally-connected trails and open space in the Planning Area. The Cities will each work to create a park plan for the area as part of their respective citywide plans and will coordinate on trail planning particularly as it relates to the Basalt Creek Canyon.
Natural Resources	The Cities recognize that the Basalt Creek Canyon is a significant natural resource and have agreed to coordinate on a joint approach to natural resource management practices. There are also significant riparian and upland habitat areas in the West Railroad Area. All natural resources in the Planning Area are mapped on Figure 13.
Water	Each city will provide its own drinking water infrastructure within its jurisdiction, with connections to existing water lines.
Sewer	Each city will provide sanitary sewer service for development within its jurisdiction to the extent reasonably possible with the understanding that a future agreement may address potential cooperative areas. Tualatin will coordinate with its provider – Clean Water Services (CWS) – to extend service to this area.
Stormwater	New stormwater infrastructure will be primarily integrated with the local road network. Tualatin, Wilsonville and CWS acknowledge they must follow requirements established for their respective stormwater MS4 permits. Much of the area is in a basin that drains toward Wilsonville. Each City will serve its own jurisdictional area. The Cities and CWS will adopt an Intergovernmental Agreement that addresses areas where cooperative stormwater management is needed.
Implementation Strategies and Tools	Recommendations for a public facilities phasing plan include conceptual overviews of the recommended facilities and Class 5 concept level costs and a general overview of possible funding strategies. The development phasing will include recommended near and long-term strategies for land use development. Implementation recommendations include sequential action items necessary for implementing the plan and readying the Basalt Creek Planning Area for future development.

# The Planning Process

The Basalt Creek Concept Plan was developed through several years of planning that included extensive research and analysis and a variety of opportunities for input from stakeholders and citizens. The public was engaged at key points and invited to participate through a visioning workshop, an open house, online surveys, and community outreach meetings. The full Public Involvement Plan can be found in Appendix B.

## Decision Making Process

The Tualatin and Wilsonville City Councils were the ultimate decision-making body for the final Basalt Creek Concept Plan. Joint Council meetings were held involving both City Councils at important project milestones. This role included approval of the guiding principles, selection of the preferred land use scenario, and identification of the future jurisdictional boundary and key elements of the plan. Individual City Council meetings were also held to provide periodic updates and discuss measures, ordinances, and resolutions specific to each city to adopt and implement the Basalt Creek Concept Plan. To ensure the greatest level of cooperation and collaboration with local and regional partners, the planning process included a project management team with staff from both cities, an advisory Agency Review Team (ART), and both cities’ Planning Commissions.

## Joint Council

Joint City Council meetings were held at key decision-making stages in the project with the Joint Council serving as the final decision-making body for the plan. There were five Joint Council meetings between October 2013 and December 2015. The purpose of Joint Council meetings was to approve Guiding Principles, determine jurisdictional boundaries, select a preferred land use scenario, and identify key elements for the final concept plan. All Joint Council meetings were advertised and open to the public. Themes from the Joint Council meetings were further developed into the Guiding Principles and included:

- Meeting regional responsibility for jobs & housing
- Capitalizing on the Planning Area's assets
- Protecting existing neighborhoods
- Maintaining cities' unique identities
- Exploring creative approaches to land use, including integration of employment and housing
- Ensuring appropriate transitions between land uses
- Integrating high-quality design and amenities for employment

## Project Management Team

The Project Management Team (PMT) was composed of each city's project managers, department directors, relevant staff, and project consultant (see Appendix K for full list of members).

The PMT met regularly to check the status of major deliverables, track and maintain a regular project schedule, coordinate materials for individual and Joint Council work sessions and meetings, plan public events and outreach strategies, and develop consistent messaging for project outcomes. The Project Consultant team representatives participated in the PMT meetings on a bi-weekly basis as needed. The plan's content was guided and produced by the project consultant team and reviewed by the PMT.

## Agency Review Team

The Agency Review Team (ART) represented local service providers and regional partners, who advised staff members of both cities about regulatory and planning compliance (see Appendix K for full list of members). Input gathered from the ART was incorporated into the Concept Plan and included in regular staff updates to the Planning Commissions and City Councils. Involvement was required for some key agencies that needed to approve or concur with the Concept Plan, while other agencies were invited to participate in the planning process as their advice was needed on specific issues. Metro, CWS, Washington County, and the Sherwood, Tigard-Tualatin and West Linn-Wilsonville school districts participated in the ART to provide support and concurrence with the Concept Plan.

In addition to the above-mentioned, ART member agencies included the Oregon Department of Transportation (ODOT), Tualatin Valley Fire & Rescue, and the Bonneville Power Administration (BPA). Other agencies were invited to the planning process when their specific advice was necessary, specifically the City of Sherwood, City of Tualatin (including Planning, Community Development, Building, Community Services, Economic Development, Engineering, Parks and Recreation, and Public Works departments/divisions), City of Wilsonville (including Planning, Community Development, SMART Transit, Public Works, Engineering, Parks and Recreation, Natural Resources, and Building

departments/divisions), Clackamas County, Northwest Natural, Portland General Electric, and Tri-Met. This collaborative analysis and joint decision-making set a framework for the Basalt Creek Concept Plan to have the greatest possible chance for success for the community.

The ART met three times throughout the project – in June and September of 2014, and then again in February 2016. The first meeting provided an opportunity to present an overview of the Basalt Creek Concept Plan project and process to the ART and inform members of key milestones and decision points where their input would be needed. The project consultant also presented the proposed methodology for the Existing Conditions report, particularly soliciting feedback on the market analysis, infrastructure analysis, and transportation analysis components. The second meeting served to solicit feedback from ART members on the draft Existing Conditions report, clarify issues surrounding infrastructure, provide an overview of public feedback, and present the land suitability analysis for review. The third meeting was held on February 19, 2016 to further discuss transit, parks and open spaces, schools, parks, and trails.

## Information Gathering

The project consultant conducted research on the existing conditions and future needs in the Planning Area, as well as reviewed previous planning efforts affecting the area. This research included land use, transportation, the real estate market, geology, water and sewer infrastructure, stormwater, natural resources and parks. The Existing Conditions Report provides additional background information in Appendix A.

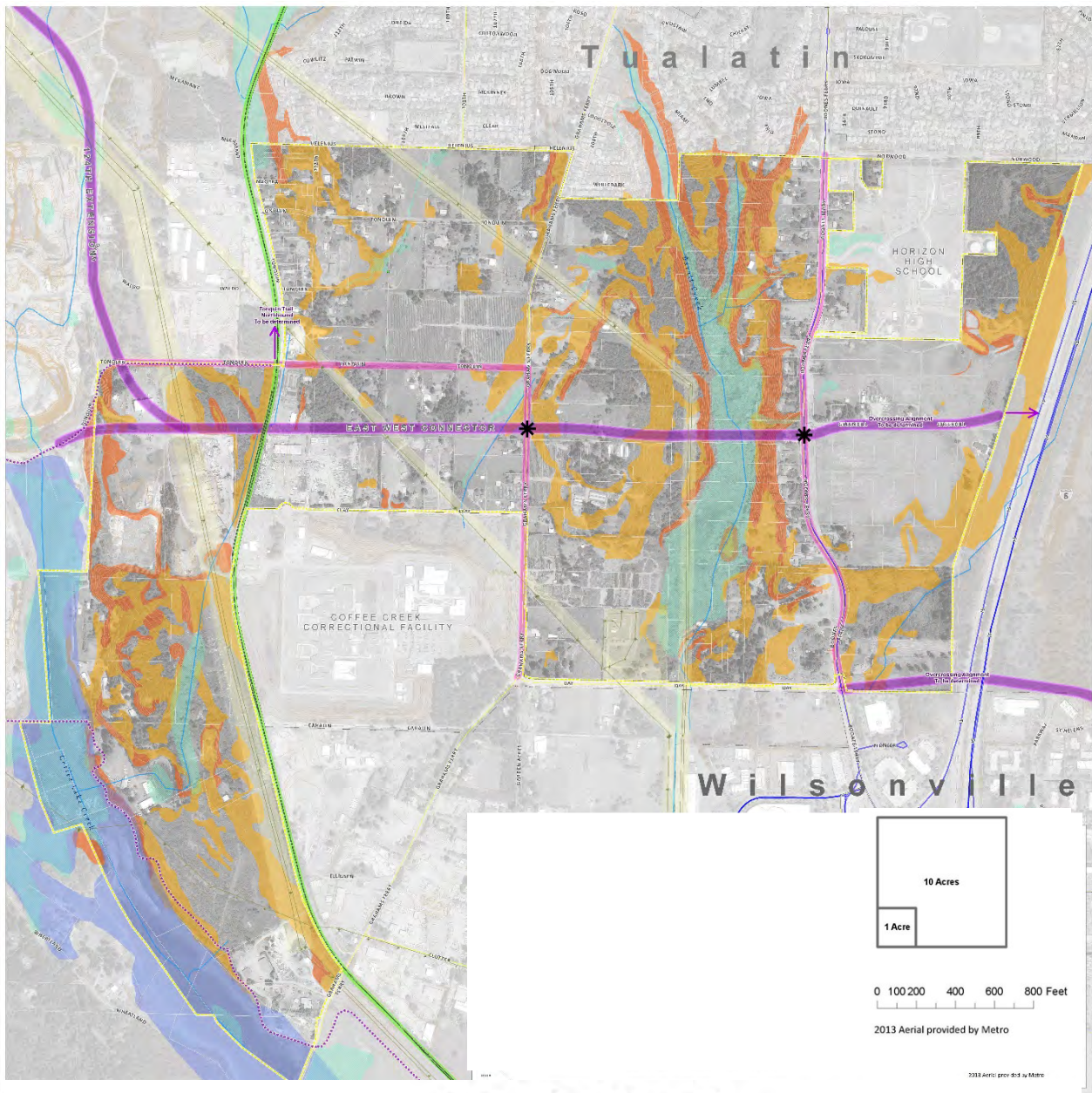
## Public Involvement Plan

A Public Involvement Plan, developed by the PMT, was used to guide outreach strategies and events throughout the planning process (Appendix B).

## Public Workshop

The planning process began with a community workshop for the Basalt Creek Concept Plan on June 17, 2014. This was a visioning workshop and open house attended by roughly 40 people and solicited input on priorities and preferences for future land use and transportation in the Planning Area. Key outputs included initial scenarios that identified important issues for the area, including a desire to keep the Basalt Creek Canyon as open space, the need for residential buffer areas, traffic challenges and ideas for new parks. Results indicated a preference for appropriate transitions between land uses and protection of existing neighborhoods, but an openness to a range of employment and commercial uses. Instant polling at the workshop was combined with the results of the online survey for a total of 160 responses from participants living both inside and outside the Planning Area. Survey results included a strong interest in public access to natural resources and were less focused on housing or industrial warehousing. This participation informed the establishment of Guiding Principles for the project.

Figure 3 Example of the Basalt Creek Planning Area Base Map used for workshop activity. Participants used these maps to draw and design a vision for future uses of the Basalt Creek Planning Area.



## Basalt Creek



## Stakeholder Interviews/Focus Groups

The Basalt Creek concept planning process included over a dozen focus group meetings and stakeholder interviews with developers and property owners in June and July 2014. Developer discussions included industrial, office, retail, residential, and mixed-use development. Knife River, Coffee Creek Correctional, Ibach Citizen Involvement Organizations and the Chamber of Commerce from each City also provided input. These discussions focused on future industrial development types, housing preferences, land assembly, and employer amenities. Property owners expressed a desire for flexibility in land uses and concern over how development will impact quality of life in the area. Developers were concerned with industrial development types changing, along with changing housing preferences, the land assembly challenge, and what employers will consider amenities in the area. These discussions informed the Concept Plan's market analysis, land suitability analysis, building prototypes, development types and land use placements for testing different land use scenarios for the Planning Area.

## Open House

A second open house was held on April 28, 2016 to share the draft Concept Plan elements, including land use, road network and improvements, transit, bike, pedestrian and trail network improvements, parks, natural areas, and infrastructure systems. Members of the public were invited to share feedback on the Concept Plan generally as well as specific options for future parks, natural areas, and the bike, pedestrian and trail network. Participants expressed general support for the preferred alternative presented at the Open House, and during instant polling, shared a desire to use the area for recreation, neighborhood parks and conservation areas.

## Email and Website Updates

The Project Management Team (PMT) typically sent monthly updates to those on the interested parties list via email and to property owners via postal mail, which included approximately 300 people. Council and Planning Commission work sessions and updates were scheduled and held throughout the project, including before critical milestones and Joint Council meetings, all of which were open to the public and notice provided on City websites and the project website.

## Scenario Testing and Concept Plan Development

### What is Scenario Planning?

Scenario planning is a tool used to estimate the likely future effects of growth and development patterns in a specific area. This information helps local governments make decisions about what type of land use, transportation and infrastructure plans and policies will best meet community needs in the future. Scenario planning helps identify challenges and opportunities for desired growth and allows exploration of different approaches to achieve the community vision for an area. Unlike a plan, scenarios are very specific, intending to model likely future land uses. Learning from these, a plan can be developed to allow for several beneficial scenarios.

### Scenario Planning for Basalt Creek Planning Area

Scenarios were used to understand how different land use decisions, infrastructure investments, other regulations and policies might impact the future outcomes in Basalt Creek – and how well they achieve



the guiding principles. The scenarios that were designed and tested for the Basalt Creek Planning Area integrated many different variables (such as different land uses and service areas) and the relationships between those variables. By modifying the scenarios, the impact of different sets of decisions were able to be better understood.

The scenario testing for Basalt Creek sought to answer questions about the implications of various development and infrastructure options. Taken together, these questions formed objectives for the scenario evaluation.

- Where should the boundary between Tualatin and Wilsonville be?
- What combination of land uses is most appropriate for the area?
- What infrastructure is needed to support future development, and what will be the cost of that infrastructure?
- Which agencies will provide public services to different parts of the area?
- How will traffic generated by new development in this area impact traffic flows and congestion levels, both locally and regionally?
- How will the benefits and costs of serving the area be balanced fairly between Tualatin and Wilsonville?

The project team created and evaluated a Development Base Case and tested Alternative Development Scenarios. These development scenarios used existing buildings from both jurisdictions to model potential future development and reflect existing zoning and development regulations in the Envision Tomorrow modeling program (see Appendices C1 and C2).

During the scenario development process, jurisdictional boundary discussions were ongoing and different scenarios considered different boundary alternatives. A series of five scenarios were developed in an ongoing iterative process that tested the following variables: the location and amount of different land uses, the location of the jurisdictional boundary, location of service boundaries, and design of infrastructure systems. The PMT also developed performance measures associated with the Guiding Principles, in addition to local and regional goals, to compare the different scenarios. As a complex set of conditions, the variables tested were interrelated and needed to be combined in scenarios to understand how changes in one variable impacted the others.

These scenarios were vetted by the project's PMT and each City Council, and then fully analyzed for the transportation, infrastructure, and land use implications. Based on these analyses, discussions among the PMT, and feedback from the Joint Councils, a preferred scenario was developed. The preferred scenario became the basis for the Basalt Creek Concept Plan.

## Final Plan Development

The final phase of the project included further refinement of the Concept Plan using the preferred scenario, setting the jurisdictional boundary, and drafting an implementation strategy for the Concept Plan. The final Basalt Creek Concept Plan was designed to meet all the requirements associated with areas added to the urban growth boundary (see Title 11 Compliance Memo in Appendix D) and was forwarded to Metro for review. The Councils from the City of Tualatin and the City of Wilsonville each adopted the Concept Plan by resolution. Comprehensive Plan amendments and implementation strategies and tools are to be consistent with this Plan.

# Concepts that Shaped the Plan

Guiding Principles represent the collective interests and goals for the Basalt Creek Planning Area as agreed to and established by the Joint Council. They provided a framework for gathering input and developing transparent and meaningful measures that helped inform the decision-making process for this plan (see Appendix E for Guiding Principles Memo which provides further descriptions).

1. Maintain and complement the Cities' unique identities
2. Capitalize on the area's unique assets and natural location
3. Explore creative approaches to integrate jobs and housing
4. Create a uniquely attractive business community unmatched in the metropolitan region
5. Ensure appropriate transitions between land uses
6. Meet regional responsibility for jobs and housing
7. Design cohesive and efficient transportation and utility systems
8. Maximize assessed property value
9. Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

In addition to the Guiding Principles, during a Joint Council meeting, the Councils also identified ten key elements for successful implementation of the Basalt Creek Concept Plan that relate to key functions such as the sewer, water, and transportation services, land use and natural resources in the area. These considerations informed the key elements of the Concept Plan (see Appendix E for 10 Considerations of Success for further descriptions).

## Planning Area Conditions

The project consultant team conducted research on the existing conditions and future needs in the Planning Area, as well as reviewed previous planning efforts affecting the area. The project team studied land use, transportation, the real estate market, geology, water and sewer infrastructure, stormwater, natural resources and parks.

## Planning Context and Urban Growth Boundary

The Portland Metropolitan Area Urban Growth Boundary (UGB) includes three counties and 24 cities. Metro administers the UGB, which includes a mandatory six-year assessment of whether it includes sufficient land to accommodate 20 years of expected development for residential and job growth.

During the 2004 analysis, Metro identified a shortfall of industrial land and a study identified good candidates for industrial development by looking at soil classification, earthquake hazard, slope steepness, parcel size, accessibility to regional transportation and necessary services, and proximity to existing industrial uses. Several areas of land identified as good candidates for industrial development were added to the UGB by Metro via Ordinance 04-1040B in 2004, two of which comprise the Basalt Creek Planning Area. The current 2040 Growth Concept Map identifies the Basalt Creek Planning Area as industrial, but the Ordinance does provide some flexibility to include housing in the Planning Area. The

Ordinance identified outer neighborhood as a potential land use in the northern portion of the Planning Area, to provide some housing and a buffer for existing residential neighborhoods in Tualatin.

The industrial designation from Metro is defined within the Regional Framework Plan's Glossary as "an area set aside for industrial activities. Supporting commercial and related uses may be allowed, provided they are intended to serve the primary industrial users. Residential development shall not be considered a supporting use, nor shall retail users whose market area is substantially larger than the industrial area be considered supporting uses."

## The Land

### *Landscape Context*

The general character of the area's landscape was shaped by the Glacial Lake Missoula Ice Age floods, a series of cataclysmic floods that shaped the landscape of the Columbia River Gorge and the Willamette Valley during the last Ice Age. The Ice Age Tonquin Trail Master Plan describes the area as "comprised of upland prairie fragments, and oak and madrone woodlands. Rare wildflowers are found near basalt hummocks (scablands) to the west of the Planning Area, and rare reptiles (pond turtles) and amphibians (northern red-legged frogs) live in the kolk ponds." Remains from the Ice Age floods that can be seen in and around the Basalt Creek Planning Area include glacial deposits, scablands, kolk ponds (ponds formed by eddies during the Missoula Floods), and flood channels. The terrain includes significant slopes of more than 25% and with a change in elevation from 250 ft above mean sea level (amsl) to a maximum elevation of 350 ft amsl.

### *Existing Land Use*

The primary existing land uses in the Basalt Creek Planning Area are rural agriculture, industrial and rural residential consisting of low-density single-family housing. There are areas of agricultural uses, including a nursery, landscaping supply, and blueberry farms. Existing industrial land users include gravel quarries and cement manufacturing in the northwest corner of the Planning Area. The existing housing in the area consists of detached single-family on large lots. A significant portion of single-family homes are located on the eastern edge of the Basalt Creek Canyon along Boones Ferry Road.

### *Adjacent Land Uses*

The Planning Area is bounded to the north by Tualatin residential neighborhoods, to the south by Wilsonville commercial and industrial uses, I-5 to the east, and to the west by Coffee Lake Creek, wetland habitat, and rural and industrial lands.

- The southernmost residential neighborhoods of Tualatin, including recently-built subdivisions such as Victoria Gardens, are located to the north of the Planning Area. These neighborhoods are zoned a mix of low- and medium-low density residential and are comprised primarily of high-quality, detached, single-family homes. Also, to the north is the 30-acre campus of Horizon High School (a private high school). The campus is bordered on three of its sides by the Planning Area.
- To the west, the Planning Area is bordered by unincorporated portions of Washington County including the Southwest Tualatin Concept Plan area where active quarries and an asphalt plant are located. Further west of the Southwest Tualatin Concept Plan area is the Tonquin Employment Plan area which falls within the City of Sherwood's urban planning area. Most of this land is undeveloped or vacant at this time.

- South of the Planning Area are existing and planned commercial, office and industrial uses located within the City of Wilsonville. The employment areas around SW Commerce Circle, Ridder Road, and 95<sup>th</sup> Avenue include advanced manufacturing, clean tech, warehouse, distribution, and logistics businesses. The Coffee Creek Planning Area abuts the Basalt Creek Planning Area along the south side of Day Road and south and west to the existing Wilsonville city boundary. The City adopted a Master Plan and Industrial Form-based Code for this area to create a high caliber business district.
- Adjacent to the southern border of the Planning Area is Coffee Creek Correctional Facility. This is a state-owned correctional facility with 1,250 female inmates, and a fluctuating number of male inmates (around 400) undergoing intake until they are transferred to another facility. The Correctional Facility employs 435 people with day and nighttime shifts comprising a 24-hour workforce.

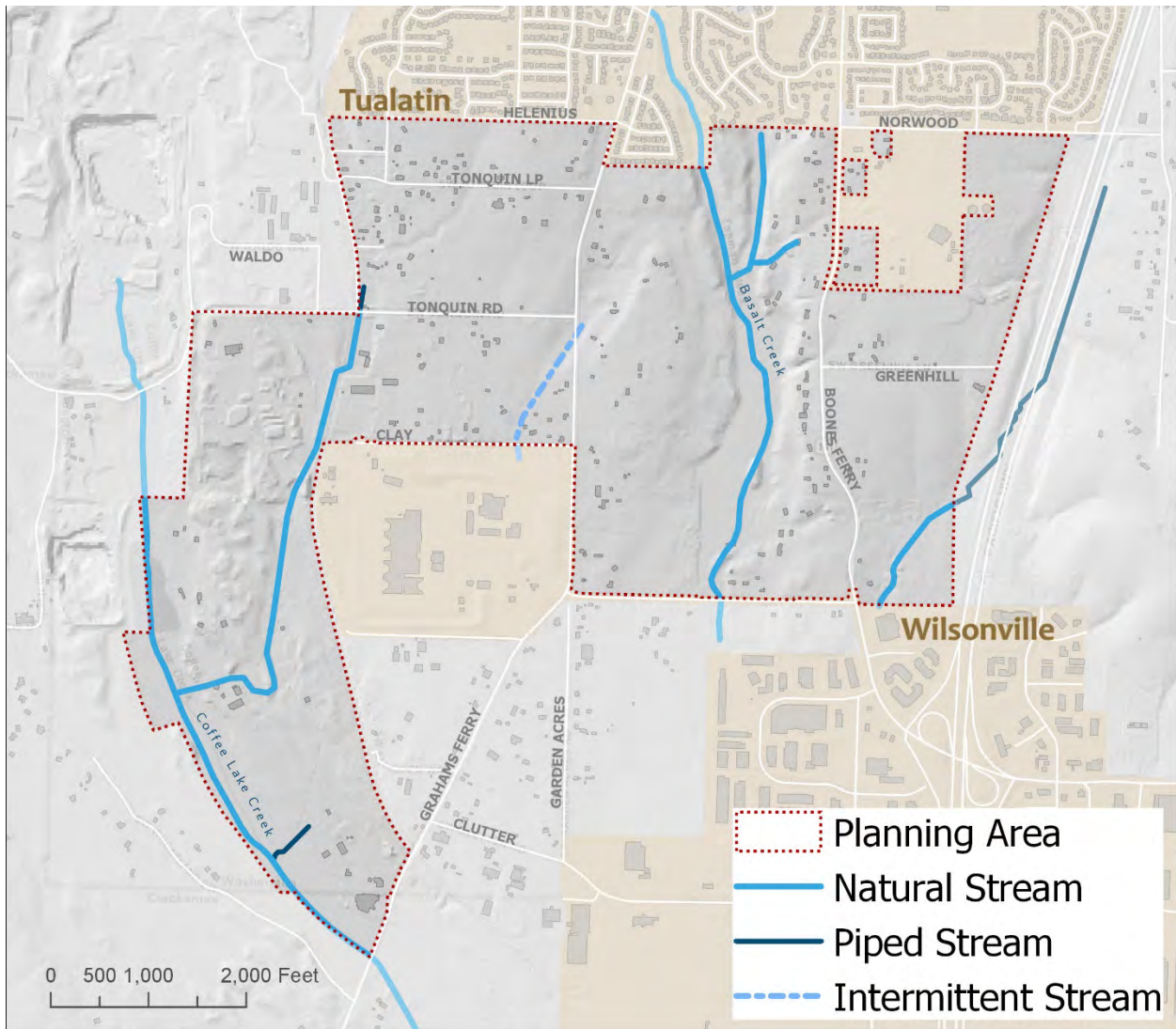
### *Natural Resources*

Wetlands, floodplain, upland habitat, streams, open water and riparian areas provide important natural resources in the planning area. Within the Basalt Creek Canyon and Coffee Lake Creek basin, there are open water, emergent and scrub-shrub wetlands. The small, forest patches scattered throughout the planning area provide travel corridors and habitat for a variety of species including Red-legged Frogs and the Pileated Woodpecker. Land suitability studies for this area identified constrained lands including 18,845 feet of natural streams; 1,402 feet of underground or piped streams, defined as water that flows under the surface in a definite channel; and 789 feet of intermittent streams in the Planning Area.

There are two main streams in the Planning Area, Basalt Creek (also known as Seeley's Creek or Tappin Creek) and Coffee Lake Creek and its east tributary, which run through the West Railroad Area. There is also an underground, piped stream near I-5 along the eastern edge of the Planning Area. Coffee Lake Creek forms the western boundary of the Planning Area. There are also 69 acres of wetlands (8% of the Planning Area), including 49 acres of open water in the Planning Area.

There are 116 acres of land designated by Metro as Water Quality and Flood Management Areas. Following Metro's designations and associated regulations, local jurisdictions determine development rules and requirements that affect these areas. Clean Water Services, who regulates environmental lands in the City of Tualatin and elsewhere in Washington County and the City of Wilsonville, have local ordinances in place that go beyond the level of conservation otherwise required by Metro. Existing local standards from each City would apply upon annexation of property into either Wilsonville or Tualatin.

Figure 4 Map of Streams by Category.



### *Buildable Lands Assessment*

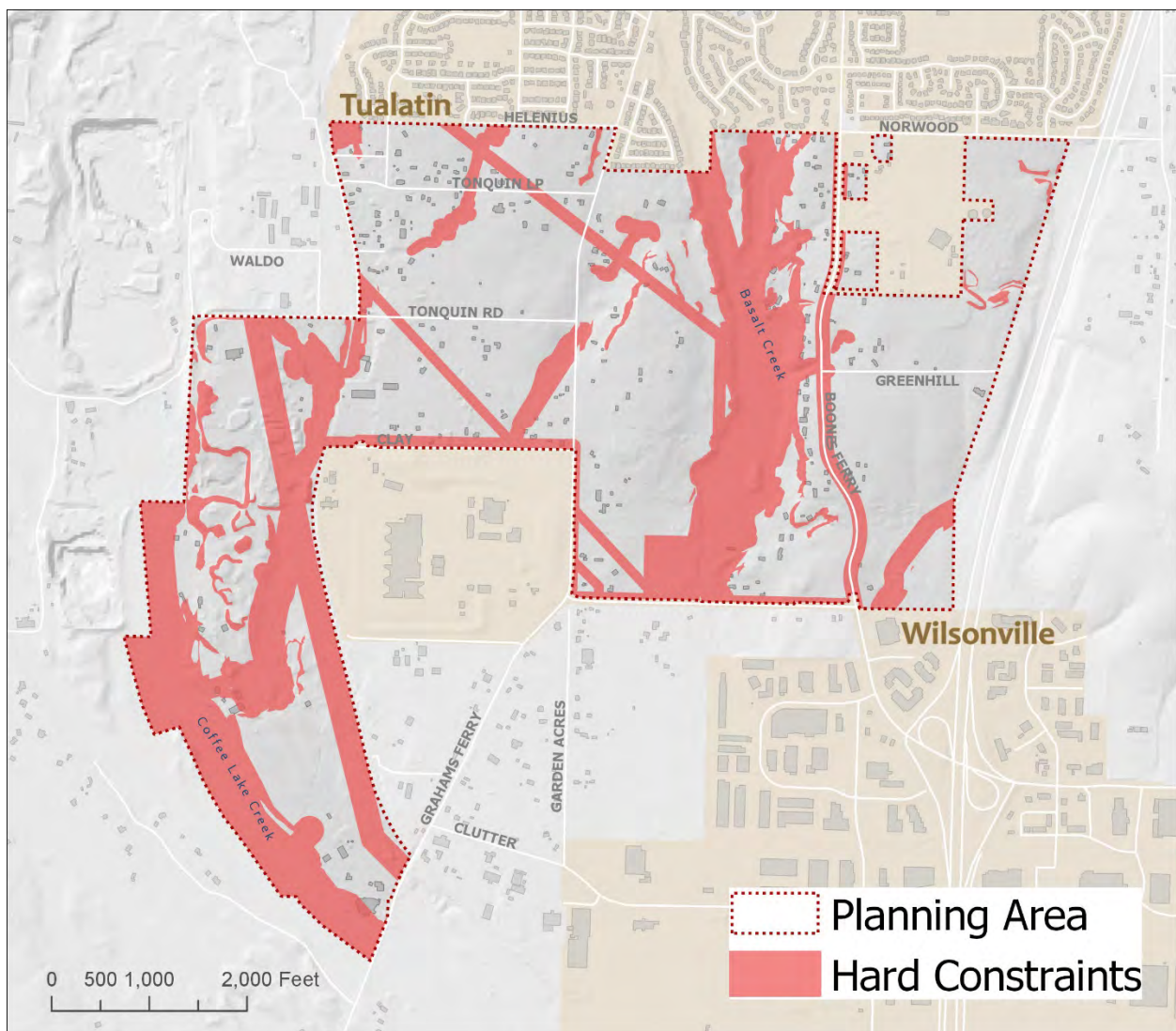
A buildable lands assessment for the Basalt Creek Planning Area (see Appendix F) screened out parcels where there is limited or no development potential to identify the places where development is most suitable given the environmental and regulatory context. There is a range of factors that influence development potential within the Planning Area, but they can be divided into two categories: hard and soft constraints. Hard constraints are either physical attributes or legal requirements that prohibit new development. These areas are excluded from the analysis. Soft constraints are where physical attributes or legal requirements allow some development with guidance on appropriate land uses and development densities. Assumptions regarding the amount of development in these areas followed Metro guidelines calling for restrained development.

### Land Suitability Analysis

Determining the development capacity for the Planning Area starts with the buildable lands assessment and then further analyzes the land supply to estimate development capacity on any given parcel. The Planning Area includes land that is constrained by streams and easements. This land supply analysis then evaluates existing land uses, as provided by tax lot data via Metro's Regional Land Information System (RLIS), visual surveys of the area via aerial photographs and online tools such as Google Earth, and site visits for verifying stream conditions and alignments.

After completing this more detailed review of the land supply to determine development suitability, the land suitability analysis is combined with the buildable lands assessment to remove constrained land and to create a geographically referenced database of developable land within the Planning Area.

Figure 5 Map of Hard Constraints within the Basalt Creek Planning Area.

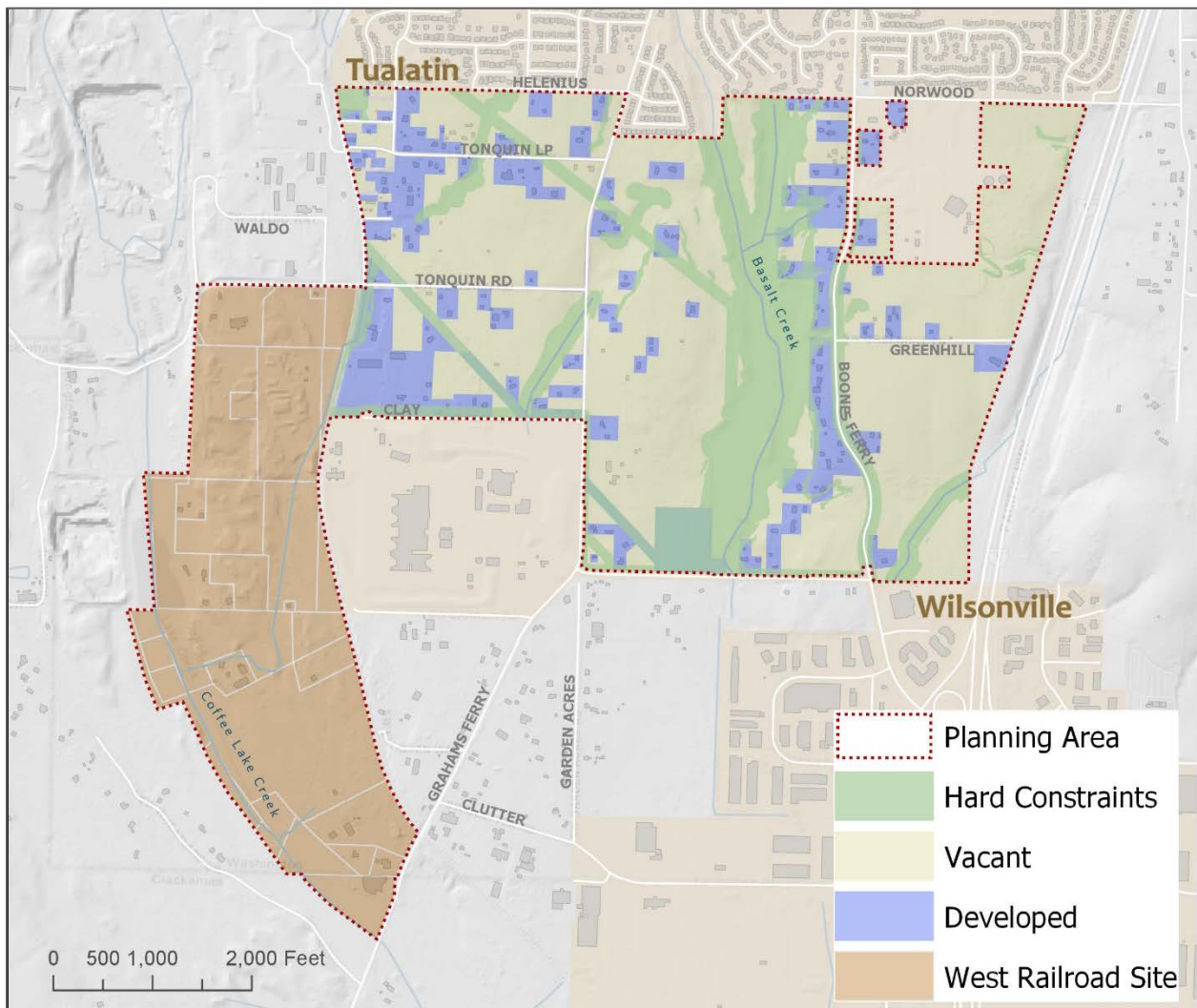


The goal is to classify every parcel within the Planning Area into one of the categories described below:

Table 2 Land Supply within the Basalt Creek Planning Area by Type and with Acreage.

Land Supply by Type and Acreage		
Land Type	Acres	Description
Vacant Land	331	Unconstrained land that is ready to build with no major structures located on the site
Developed Land	125	Land already built upon which includes acreage covered by roadways
Constrained Land	153	Land that cannot be built upon due to environmental or other hard constraints
West Railroad Area	238	Excluded from development plan due to large amount of constraints and limited access
<b>Total Land Supply</b>	<b>847</b>	

Figure 6 Land Supply by Type.



There were no redevelopment assumptions incorporated in this analysis. The values associated with the existing buildings were high enough to preclude redevelopment for purposes of determining the development types used during scenario testing. Thus, the developable land estimate for the Planning Area is 331 acres. This analysis forms the foundation for determining land use and development capacity on each parcel in the Planning Area. The development plan for the Basalt Creek Planning Area excludes the West Railroad Area from development due to the large amount of constraints on the land and limited access.

## Infrastructure and Services

### *Roadways*

The Concept Plan looked at the existing transportation system and the planned transportation system developed as part of the TRP, which includes phased investments to support regional and local transportation needs through 2035. The plan provides 18 transportation investments broken into short, medium and long-term projects, all of which are important to ensure that the transportation network functions at acceptable levels over time. The key element is the East-West Connector to the 124th Avenue extension, the future and partially constructed Basalt Creek Parkway.

### *Sanitary Sewer*

Currently, no sewer service is provided to the Planning Area. Existing homes use septic systems. Wastewater conveyance to the south of the Planning Area is under jurisdiction of the City of Wilsonville. Sewer service to the north of the Planning Area in Tualatin is provided by the City of Tualatin and Clean Water Services.

The nearest treatment facility to the north of the Planning Area is the CWS Durham Advanced Wastewater Treatment Facility (AWTF). Eight gravity sewer mains exist near the north Planning Area boundary that could provide connection points for wastewater from the Basalt Creek Planning Area into the Tualatin collection system. The Victoria Woods Pump Station and associated force main are also located just to the north of the Planning Area boundary. From these connection points, wastewater flows by gravity toward the AWTF, crossing the Tualatin River via the Lower Tualatin Pump Station in Tualatin Community Park. Pump stations will be required to lift flows from the Planning Area into the existing gravity system. Expansion of the service district area to include Tualatin's portion of the Basalt Creek Planning Area needs to be approved by Clean Water Services at time of Annexation.

The nearest treatment facility to the south of the Planning Area is the City of Wilsonville Wastewater Treatment Plant (WWTP), located approximately 3.2 miles south of the Planning Area. This facility was recently expanded to accommodate growth within the current city limits and allow for additional buildout to accommodate growth outside the city limits in Urban Growth Boundary expansion areas. Approximately half (300 acres) of the Basalt Creek Planning Area was accounted for in the year 2030 build-out capacity assessment conducted as part of the facility expansion.

The City of Wilsonville's Coffee Creek Master Plan identifies a new sanitary main line to be constructed. After the adoption of that plan, more analysis was completed and determined the appropriate location of the sanitary sewer line to be along Garden Acres Road from Ridder Road and extending north to near Day Road and then continuing up Grahams Ferry Road. A second sanitary sewer line will extend from Garden Acres east and north to Day Road extending east to Boones Ferry Road. These lines are intended to provide conveyance of wastewater within the Coffee Creek area and are also intended to serve flows



from the Basalt Creek Planning Area to the WWTP. The Sanitary Sewer Collection System Master Plan has analyzed a range of potential flows from the Planning Area.

The Tualatin Sanitary Sewer Master Plan Update is currently being updated and includes the Basalt Creek Planning Area as a sewer basin. The City of Wilsonville updated its Sanitary Sewer Collection Systems Master Plan (MSA, 2014) which included the Basalt Creek Planning Area as a contributing area. The resulting updated master plans identify the improvements needed to increase the capacity of each system to convey flow from the Basalt Creek Planning Area.

### *Drinking Water*

The Basalt Creek Planning Area currently has no municipal water infrastructure in place. Tualatin currently purchases its municipal water from the Portland Water Bureau. The City of Wilsonville Water Treatment Plant draws its potable water from the Willamette River. Based on the topography, the Basalt Creek Planning Area could be served from the south through The City of Wilsonville's distribution system or from the north through the City of Tualatin's distribution system. Lower elevations of the Basalt Creek Planning Area can be adequately served through existing lines in Wilsonville's Pressure Zone B.

### *Stormwater*

Existing stormwater infrastructure consists of roadside drainage ditches and culverts. Culverts in the Planning Area are under the jurisdiction of Washington County and may not have capacity for future urban conditions. Culverts to the south of the Planning Area are part of the City of Wilsonville stormwater system. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the Planning Area. Culverts may need to be upsized to provide adequate capacity for runoff from new impervious areas, unless onsite retention or infiltration is required when the location of public drainage or the topography of the site make connection to the system not economically feasible.

Basalt Creek itself flows to the south into Wilsonville as part of the Coffee Lake Creek Basin. Basalt Creek discharges into the Coffee Lake wetlands. Coffee Lake Creek flows south from the wetlands and combines with Arrowhead Creek before discharging to the Willamette River.

The City of Wilsonville's 2012 Stormwater Master Plan identifies capital improvement Project CLC-3 to restore a portion of the Basalt Creek channel, west of Commerce Circle, to increase capacity. The master plan also identifies Project CLC-1 for construction of a wetland for stormwater detention purposes, north of Day Road, to serve an area that includes the Basalt Creek Planning Area. The July 2014 Updated Prioritized Stormwater Project List identifies CLC-3 as a mid-term project (6 to 10 years) and CLC-1 as a long-term project (11 to 20 years).

Locations where stormwater runoff from the Basalt Creek Planning Area could connect to existing stormwater infrastructure will require evaluation of the conveyance systems at time of development.

### *Schools*

The Planning Area falls within the Sherwood School District, which has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School. Most of these schools are within three miles of the edge of the Basalt Creek Planning Area.

The Planning Area is near Tualatin High School, one of two high schools in the Tigard-Tualatin School District. The district also includes three middle schools and ten elementary schools. It serves 12,363 students overall. Horizon Christian High School (private) has 160 students enrolled on their campus with a vision of serving up to 1,000 students in the future. Existing parks, libraries, and schools are mapped in the Existing Conditions Report (see Appendix A).

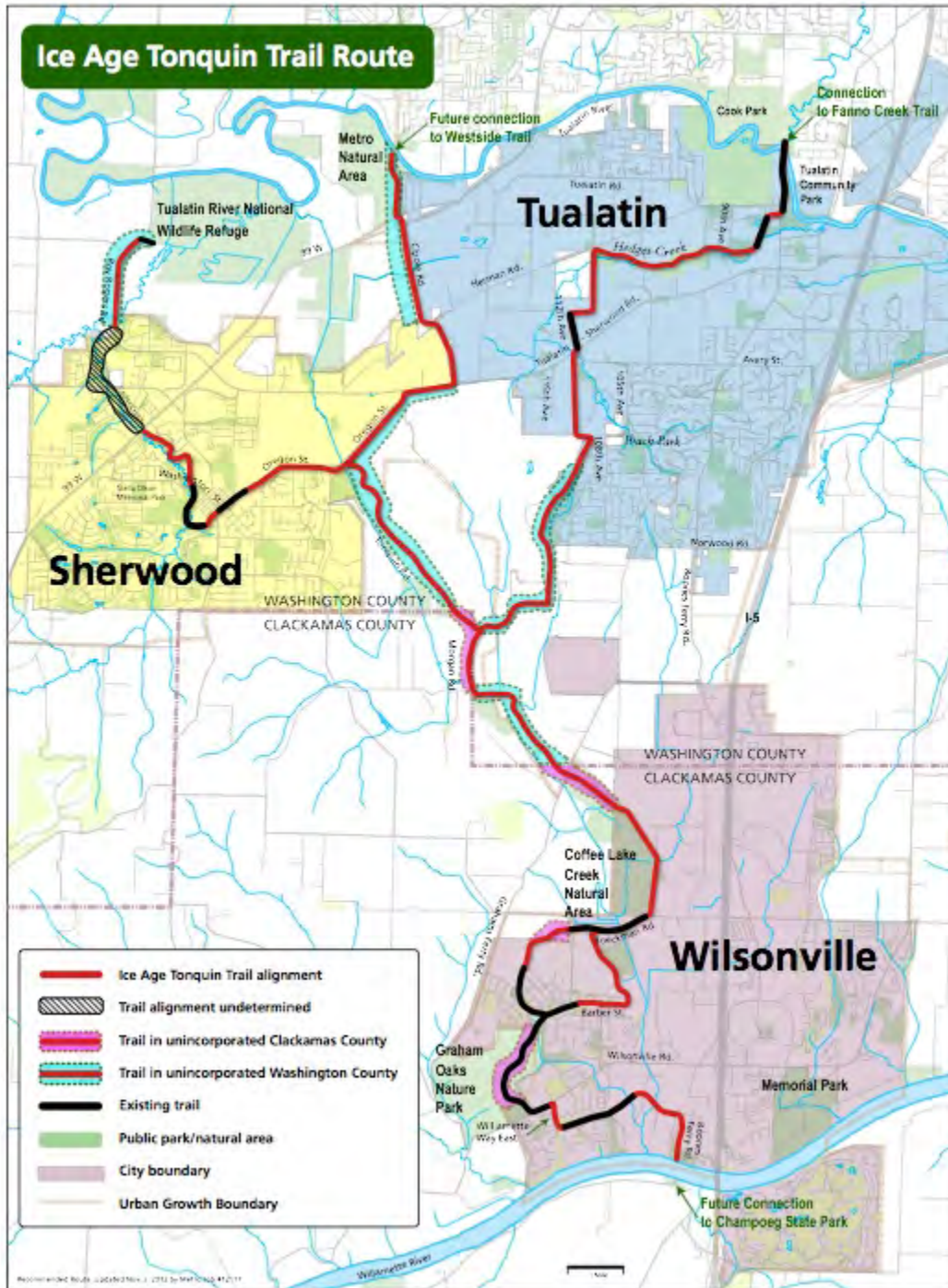
### *Parks*

No parks currently exist within the Planning Area. Wilsonville Parks owns and maintains 16 different public parks, the closest of which is Canyon Creek Park located in Northeast Wilsonville on the other side of I-5. It has 1.41 developed acres and 6.87 acres of natural area popular for picnics and walking. The Other Wilsonville parks are located approximately 2 miles south of the Planning Area, including Graham Oaks Nature Park, which will be connected to the Planning Area when the regional Ice Age Tonquin Trail is complete. City of Tualatin Parks and Recreation owns and maintains 9 different parks, with Ibach Park being the closest to the Planning Area. Ibach includes an award winning and nationally recognized playground that incorporates Tualatin's pre-historic, Native American, and pioneering past, with information on the cultural and natural history of the area.

### *Trails*

Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional jurisdictions to embark on trail implementation efforts. The proposed trail alignments show about 22 miles of trails connected through Tualatin, Wilsonville and Sherwood, and includes a section traversing the Basalt Creek Planning Area.

Figure 7 Map from the Ice Age Tonquin Trail Master Plan



## Market Analysis

A market analysis (Appendix G) to identify the expected development potential for the Basalt Creek Planning Area as a future industrial and urban growth area was conducted by Leland Consulting Group.

The Planning Area is contiguous with several other employment and industrial areas in the southwestern part of the Portland metropolitan region. The market area for the Concept Plan includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas. Each of these three cities is expecting business expansion and job creation. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Industry clusters in which both cities are already highly competitive are expected to continue and provide significant business and job growth in the future. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. The amount of industrial development (including warehousing, production, flexible office/industrial space, high tech, etc.) in both cities is significantly larger than the amount of office development. Office development—nationally and regionally—is not expected to bounce back from the recession with the same resiliency as industrial space.

Employment development in the Planning Area will benefit from a number of competitive advantages. A major feature and competitive advantage of this “Southwest Metro” employment cluster in general, and the Basalt Creek Planning Area in particular, is its immediate access to I-5, the west coast’s most important transportation route. Additional advantages are access to I-205, Highway 217, nearby arterial roads, and transit service, a growing and educated workforce, and established and expanding industry clusters nearby. Employment corridors are located along transportation arterials that include the 124<sup>th</sup> Avenue Extension and the Basalt Creek Parkway located east west along the future jurisdictional boundary.

The market area’s location and current demographics are also encouraging for new housing development. The Planning Area is immediately south of several south Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. The neighborhoods create a positive environment for residential development along the northern edge of the Basalt Creek Planning Area.

The Planning Area is already served by several major regional and sub-regional retail nodes located nearby—Bridgeport Village, central Tualatin, and Wilsonville’s Argyle Square. Any commercial space built in the Basalt Creek Planning Area will primarily serve residents and employees, as is consistent with Metro’s employment area designation.

# Concept Plan for Basalt Creek

## Concept Plan Overview

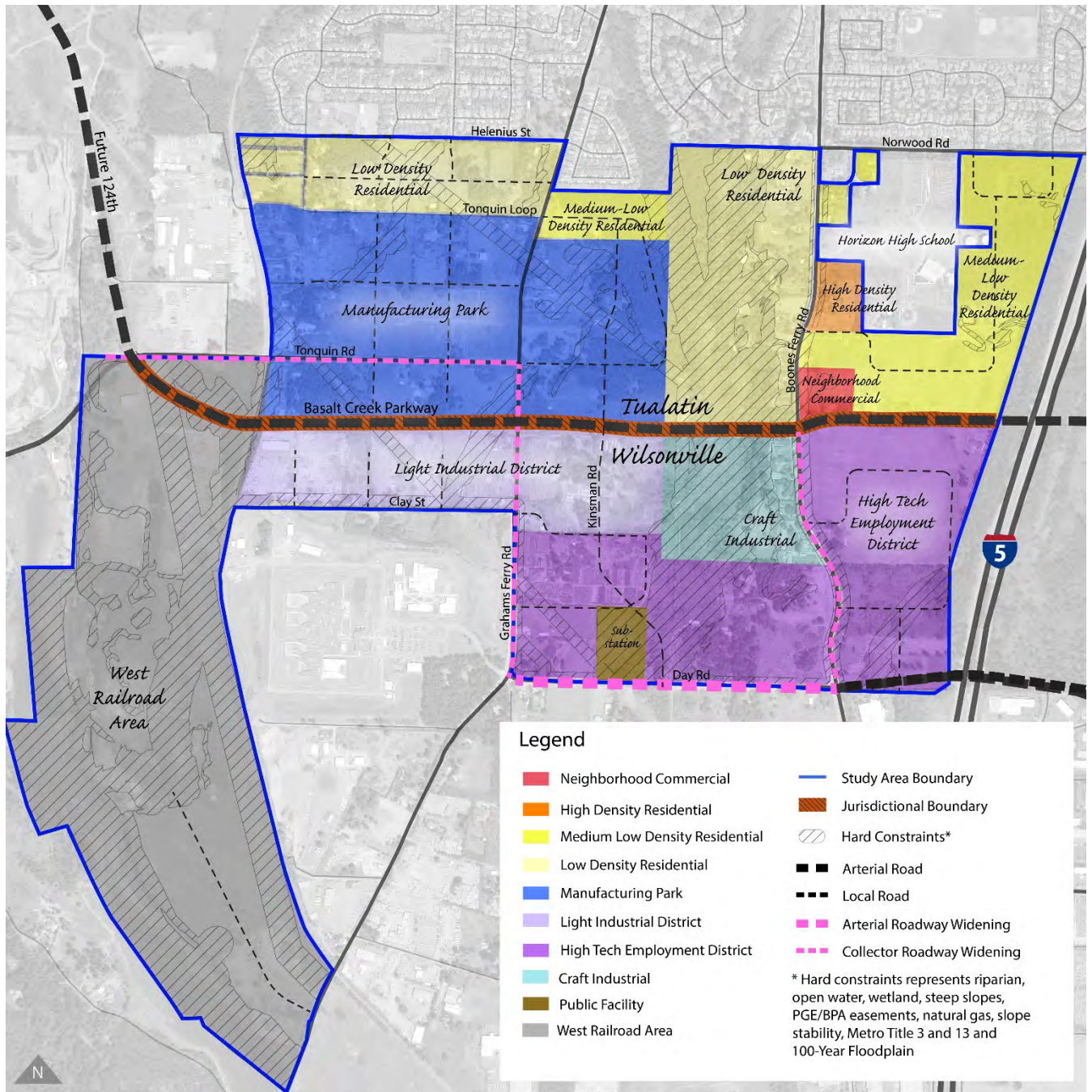
The Basalt Creek Concept Plan guides development within the Planning Area over the next twenty years. It identifies preferred land uses across the area and coordinates future land use, transportation and infrastructure investments between Tualatin, Wilsonville, and Washington County. The partnership between the two cities which shaped this Plan must continue during implementation to drive successful development in the future.

In Ordinance No. 04-1040B, the Metro Council concluded that the Basalt Creek Planning Area can be planned for industrial use given there are urban services in the vicinity and that urbanization will have no effect on agricultural practices on adjacent land due to its isolation from agricultural activities. The Metro Council identified the area as the most suitable exception area under consideration for warehousing and distribution, a significant industrial need facing the region. The land use framework for the Concept Plan supports job growth in the area, while preserving natural space, buffering residential areas, and improving connectivity throughout the Planning Area.

Key considerations and conclusions informed the Basalt Creek Concept Plan:

- While there is a unified Concept Plan for the Basalt Creek area, it was also important to customize the land use types and implementation measures for each city.
- Natural features, topography, and future roads identified in the Basalt Creek TRP influenced infrastructure service areas and the jurisdictional boundary.
- Operating separate infrastructure systems along the jurisdictional boundary affords each jurisdiction the ability to develop and manage their own public utility systems.
- The topography and geology in this area may present development challenges and infrastructure costs may be higher than average.
- Various employment types impact performance of the transportation system differently; for example, retail uses generate more trips than industrial or warehousing.
- There are uncertainties in estimating assessed value and property tax revenue of future development due to unpredictability of the market and the extent to which the modeled development types will be built over time; likewise, it is difficult to accurately estimate SDC revenue for future development.
- The West Railroad Area has significant environmental, infrastructure, and transportation constraints and costs to serve new development; this area is likely to take longer to develop than the rest of the Planning Area. When there is development interest, future planning would need to be conducted.

Figure 8 Basalt Creek Land Use Concept Map



## Key Elements of the Concept Plan

- Jurisdictional Boundary Determination
- Land Use and Development
- Transportation
- Transit
- Bicycle, Pedestrian and Trail
- Parks and Open Space
- Natural Resources
- Water
- Sewer
- Stormwater
- Implementation & Phasing

## Jurisdictional Boundary, Land Use and Development

The Basalt Creek Planning Area is divided between the Cities of Tualatin and Wilsonville, and the Basalt Creek Parkway serves as the jurisdictional boundary between the two. Of the 847 acres in the Basalt Creek and West Railroad Areas, approximately 367 acres will be in the Tualatin planning area and 480 acres will be in the Wilsonville planning area. The land use patterns in the Concept Plan are responsive to the setting and to the existing conditions. Since the area is well suited and intended for industrial and housing uses, much of the Planning Area is designated for employment land uses. The Concept Plan land use pattern also anticipates the inclusion of transitional areas via development design standards to buffer new industrial land from adjacent existing uses and neighborhoods.

The land use designations on the map represent real-world development types. Each development type (i.e. Manufacturing Park) is defined by a set of buildings, which are based on real buildings in each of the cities. Tualatin's land use designations which are north of the jurisdictional boundary are consistent with its current development code, and Wilsonville's land use designations, south of the jurisdictional boundary, are consistent with its current development code.

Using the land suitability analysis, and looking at adjacent land uses, the project team identified appropriate land use designations for properties within the Planning Area. These land use designations were further refined, and appropriate densities selected to provide for regional employment capacity and housing while also maintaining traffic counts consistent with the TRP.

Tualatin land uses include a mix of residential and employment development types, with the housing land use designations in the northern and northeastern portions of the Planning Area. The Plan calls for a small retail node just east of the Basalt Creek Canyon located to serve residents and workers. Wilsonville land uses include a mix of employment development types and a modest opportunity for live/work housing. These land uses support adjacent and nearby industrial areas such as the Coffee Creek Industrial Area and provide flexibility to meet a range of market demands. These uses could also be a good fit for the City's Industrial Form-based Code, recently adopted for the Coffee Creek Industrial Area, if the City wanted to extend it north into the Basalt Creek Planning Area.

## Development Types

Table 3 Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction

Jurisdiction	Land Use Designation	Buildable Acreage	Households		Employment	
			Count	Density per Gross Acre	Count (jobs)	Jobs per Gross Acre
Tualatin	High Density Residential	3.36	67	19.9	-	-
	Medium-Low Density Residential	59.83	374	6.3	-	-
	Low Density Residential	24.83	134	5.4	-	-
	Neighborhood Commercial	2.89	-	-	33	11.3
	Manufacturing Park	92.95	-	-	1,897	20.4
	Functionally Unbuildable	10.37	-	-	-	-
	<b>Tualatin Subtotal</b>	<b>194.23</b>	<b>575</b>			<b>1,929</b>
Wilsonville	Craft Industrial	1.25	6	4.8	27	21.7
	Light Industrial District	35.30	-	-	581	16.5
	High Tech Employment District	94.47	-	-	1,916	20.3
	Functionally Unbuildable	5.62	-	-	-	-
	<b>Wilsonville Subtotal</b>	<b>136.64</b>	<b>6</b>			<b>2,524</b>
<b>Total</b>		<b>330.87</b>	<b>581</b>		<b>4,453</b>	

### Tualatin

**Employment.** The Concept Plan allocates substantial land as Manufacturing Park, which is expected to accommodate 1,897 new jobs, calculated based on the expected square footage of development in this area and the average square footage needed per employee. The Manufacturing Park is located along the northern edge of the future Basalt Creek Parkway on the land west of Basalt Creek Canyon, including both sides of Tonquin Road and Graham’s Ferry (as shown on the above map).



**Housing.** Most of the remaining land north of the proposed Basalt Creek Parkway (beyond employment land) is allocated to a mix of residential uses at varying densities. The Concept Plan organizes residential land uses into two general areas that are intended to have easy access to services and be connected to parks, schools, and natural areas.

1. The plan focuses the lowest density housing (a mixture of low-density and medium-low density) along the northern portion of the Planning Area and low density along the west side of Boone's Ferry Road, adjacent to existing neighborhoods of Tualatin. This land is expected to accommodate 134 new households.
2. The eastern portion of the Tualatin future annexation area is anticipated to be a mixture of high and medium-low density residential; the land immediately east of Boones Ferry Rd is intended for high density housing; The remainder of the land east and south of Horizon School is planned for medium-low density residential. This eastern subarea is expected to accommodate 407 new housing units in Tualatin. This land is near the intersection between Boones Ferry Road and the new Basalt Creek Parkway.

**Commercial.** Neighborhood Commercial is planned north of the jurisdictional boundary and east of the Basalt Creek Canyon at, or near, the northeast corner of the intersection of Boones Ferry Road / Basalt Creek Parkway. It is intended to serve residents and workers.

#### *Wilsonville*

**High-Tech Employment District.** Most of the buildable acres in the Planning Area south of the proposed Basalt Creek Parkway are devoted to a mix of higher-density employment land. The High-Tech Employment District is expected to accommodate the largest number of jobs (1,916) with a mix of warehousing, manufacturing and office buildings. This land use is in the southern and eastern sections of the Planning Area, covering all Wilsonville land east of Boones Ferry Road and most of the land south of Clay Street extending to Day Road and bordered to the west by Coffee Creek Correctional Facility.

**Craft Industrial.** The southwest corner of the intersection of Boones Ferry Road and the new Basalt Creek Parkway is planned as Craft Industrial, which allows for a mix of smaller-scale commercial uses, which may include live-work units. These envisioned development types respond to the topography on those parcels and their location directly south across the Parkway from residential land and southwest of the neighborhood commercial node across the Parkway in Tualatin. Craft Industrial is a better fit with those surrounding uses, providing a transition to the higher intensity employment uses to the south. This area allows less than 20 percent residential use and is expected to accommodate 27 new jobs and 6 new housing units in the form of live-work units.

**Light Industrial District.** This land is located across the southern edge of the future Basalt Creek Parkway just north of Coffee Creek Correctional Facility and will be able to accommodate 581 new jobs primarily in warehousing and light manufacturing.

#### *West Railroad Future Planning Area*

The West Railroad Area is divided from the rest of the Planning Area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The area is heavily constrained by wetlands habitat (as seen in Figure 5), steep slopes, and fragmented property ownership. Initial estimates show it would be costly to serve this area with adequate water, sewer, and transportation infrastructure due to

its location. These initial cost estimates for the infrastructure are included in Appendix H (Basalt Creek Concept Plan Transportation Technical Analysis and Solutions Memo) and Appendix I (Basalt Creek Concept Plan Infrastructure Technical Memo). Topography and the PNWR line also create a relative separation between this area and the rest of the Basalt Creek Planning Area as well as access issues for freight trucks. Given these constraints, the area has potential for resource conservation and future public access to nature. Additional land uses may be appropriate but will need further analysis.

Because it is considered to have much lower development potential than the rest of the Planning Area, a future land use scenario was not created for this area at this time – it is being considered an area for future study and consideration. Once development and the extension of infrastructure occurs in the rest of Basalt Creek as well as the Coffee Creek Industrial Area, additional analysis should be completed on infrastructure service costs and appropriate land uses. The West Railroad Area is south of the Basalt Creek Parkway and in the City of Wilsonville future annexation area. Wilsonville’s Comprehensive Plan amendment to adopt this Concept Plan will include a designation of Area of Special Concern for the West Railroad Area. The area will require master planning before any development occurs.

## Transportation

### Key Transportation Solutions

The TRP sets the layout of major new roads and improvements for the area. Prior to land annexing into either city, a cooperative funding strategy needs to be agreed upon between the City of Wilsonville, the City of Tualatin, and Washington County to build out the transportation network as set forth in the TRP. The network must also coordinate with plans for the area as set out in the Metro Regional Transportation Plan.

The Basalt Creek Parkway, of which the segment between 124th Avenue/Tonquin Road to Grahams Ferry Road is already under construction, is the major east-west arterial through the area. The Parkway allows for limited local access providing important freight connections between Tonquin, Southwest Tualatin, and Basalt Creek Employment Areas to I-5. It also serves as a future jurisdictional boundary between Tualatin and Wilsonville.

Additional road improvements are necessary to handle projected traffic levels as the area develops, including adding capacity to north-south collectors and Day Road as well as two additional I-5 crossings (at Day Road and Greenhill). As the area develops, property owners will plan and build local roads connecting to this network. These roadway improvements will include enhanced bike and pedestrian facilities and connections to the future transit system.

### Roadway Network

The roadway network for the Basalt Creek Concept Plan is shown in Figure 9. The transportation network includes projects considered likely to be in place by 2035. Metro’s model for forecasting depends partly on the projects planned for the Basalt Creek Planning Area, as well as those planned for the region (Metro’s 2035 Gamma model). Metro’s 2014 RTP, which lists projects reasonably likely to be funded by 2040, informed this analysis. Table 4 shows potential capacity-related projects from the 2014 RTP list. The projects in the RTP originate from the Basalt Creek TRP (see Figure 10 below).

The planned roadway network includes the projects and facilities described in Table 4 below, with one exception. The East-West Arterial Overcrossing is not included on Figure 9 as that segment of the Basalt Creek Parkway is anticipated to be constructed after 2040. Figure 9 also depicts where local connections may be needed to provide access and circulation to existing development and developable parcels. Both Level of Service (LOS) and Volume to Capacity (V/C) performance measures are shown. Level of service (LOS) ratings and volume-to-capacity (v/c) ratios are two performance measures of intersection operations.

**Level of Service:** relates the traffic service to a given flow rate of traffic and divides the quality of traffic into six levels ranging from Level A to Level F. A represents the best traffic where the driver has the freedom to drive with free flow speed and Level F represents the worst quality of traffic.

**Volume-to-capacity (v/c) ratio:** A decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. A lower ration indicates smooth operations and minimal delays as the ratio approaches 1.0 congestion increases and performance is reduced. Above that the intersection is at capacity and considered failing.

*Table 4 2014 RTP Projects Assumed for 2035 Forecasting*

Project Number	Project and Description	TRP Time Period	In Place by 2035?
10736	124 <sup>th</sup> Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – new two-lane roadway extension	2014-2017	Yes
11243	Day Rd. (Grahams Ferry Rd. to Boones Ferry Rd.) – widen to five lanes	2018-2024	Yes
10588	Grahams Ferry Rd. (Helenius St. to county line) – widen to three lanes	2025-2032	Yes
10590	Tonquin Rd. (Grahams Ferry Rd. to Oregon St.) – widen to three lanes	2025-2032	Yes
11438	Tonquin Rd./Grahams Ferry Rd. – add traffic signal	2025-2032	Yes
11469	124 <sup>th</sup> Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – widen to five lanes	2025-2032	Yes
11470	East-West Arterial (Grahams Ferry Rd. to Boones Ferry Rd.) – new five-lane roadway extension	2025-2032	Yes
11487	Boones Ferry Rd. (East-West Arterial to Day Rd.) – widen to five lanes	2025-2032	Yes
11488	Boones Ferry Rd./Commerce Circle/95 <sup>th</sup> Ave. – Intersection improvement and access control	2025-2032	Yes
11489	Boones Ferry Rd./I-5 Southbound – add second southbound right turn lane on ramp	2025-2032	Yes
11490	Day Rd. Overcrossing (Boones Ferry Rd. to Ellgsen Rd.) – new four-lane roadway extension/overcrossing of I-5	2033-2040	Yes
11436	East-West Arterial Overcrossing (Boones Ferry Rd. to east side of I-5) – new four-lane roadway extension/overcrossing of I-5	2033-2040	<b>No</b>

Source: <http://www.oregonmetro.gov/regional-transportation-plan>

Figure 9 Transportation Preferred Alternative 2035

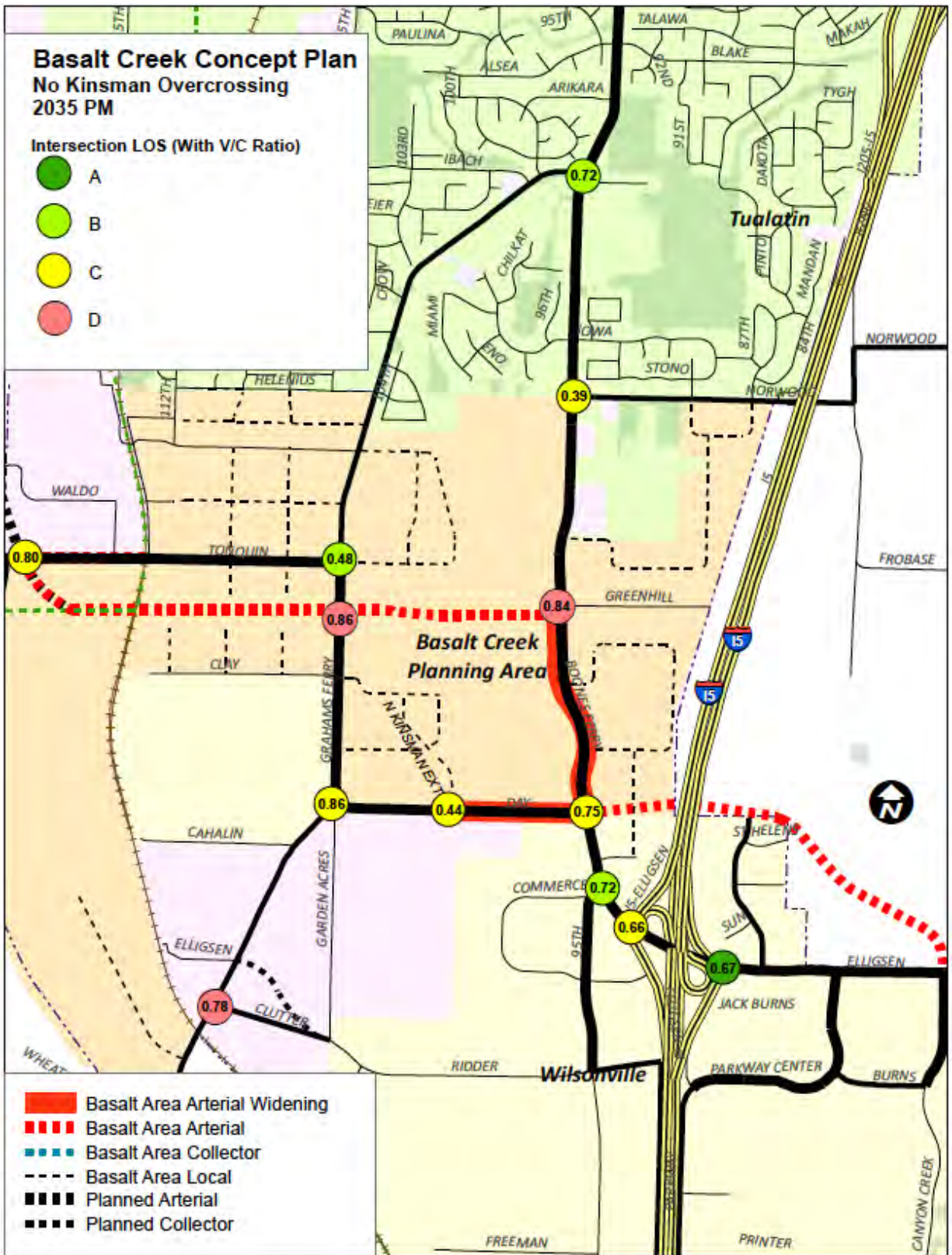
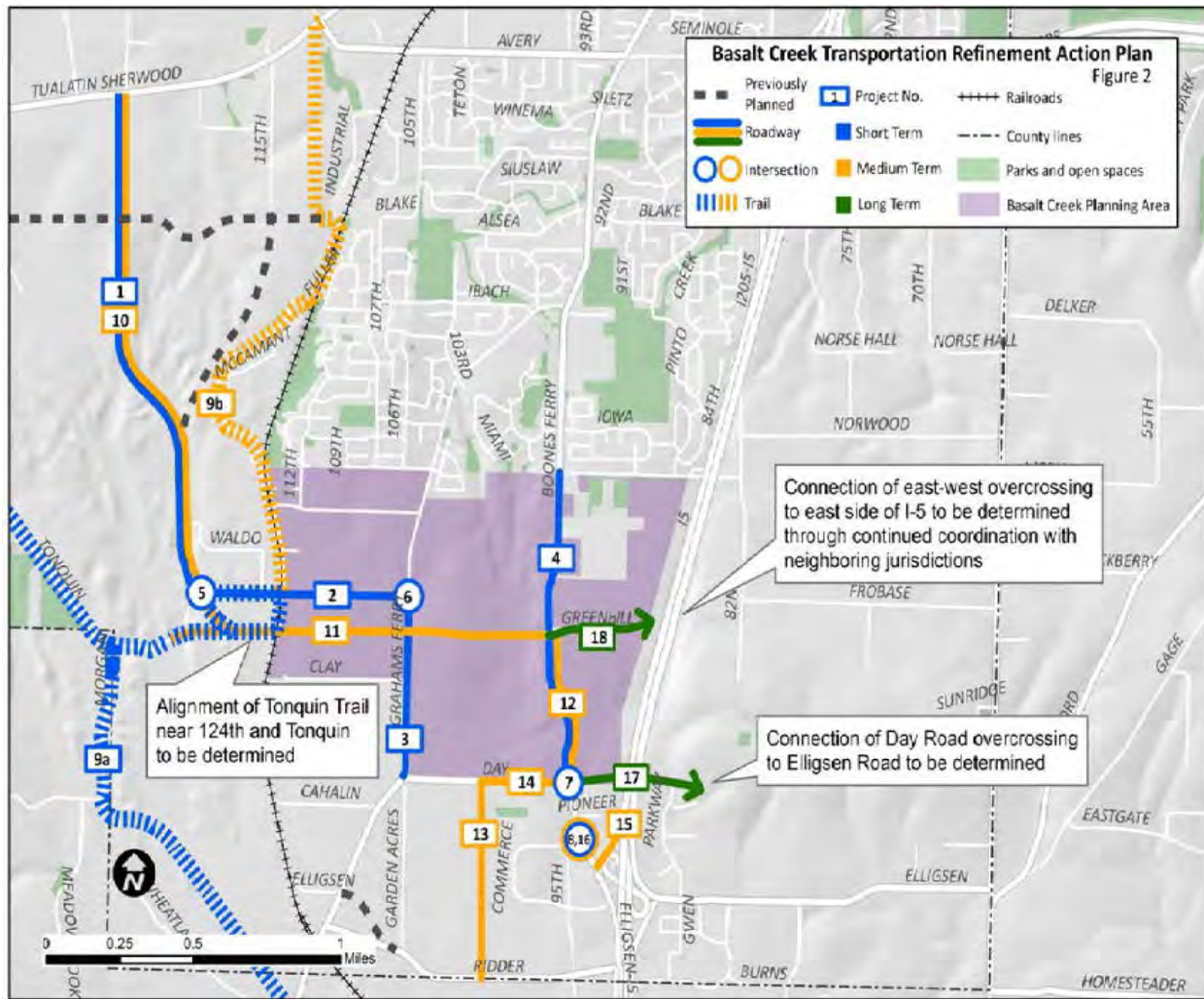


Figure 10 Basalt Creek Transportation Refinement Plan



See Appendix J for more information on the full project list.

The Concept Plan analyzed alternatives regarding future development – and therefore trip generation -- in the Basalt Creek/West Railroad area. The land uses assumed for the Concept Plan are key inputs in traffic forecasting and future traffic operations. Assumptions about regional land use (and intensity of trip generation) beyond the Concept Plan area in 2035 also have a strong impact on forecasting and future operations. Table 5 outlines the trip generation by land use in the Planning Area. The trips generated by the land uses in the Concept Plan are consistent with the trip generation assumed in the TRP and the 2014 RTP.

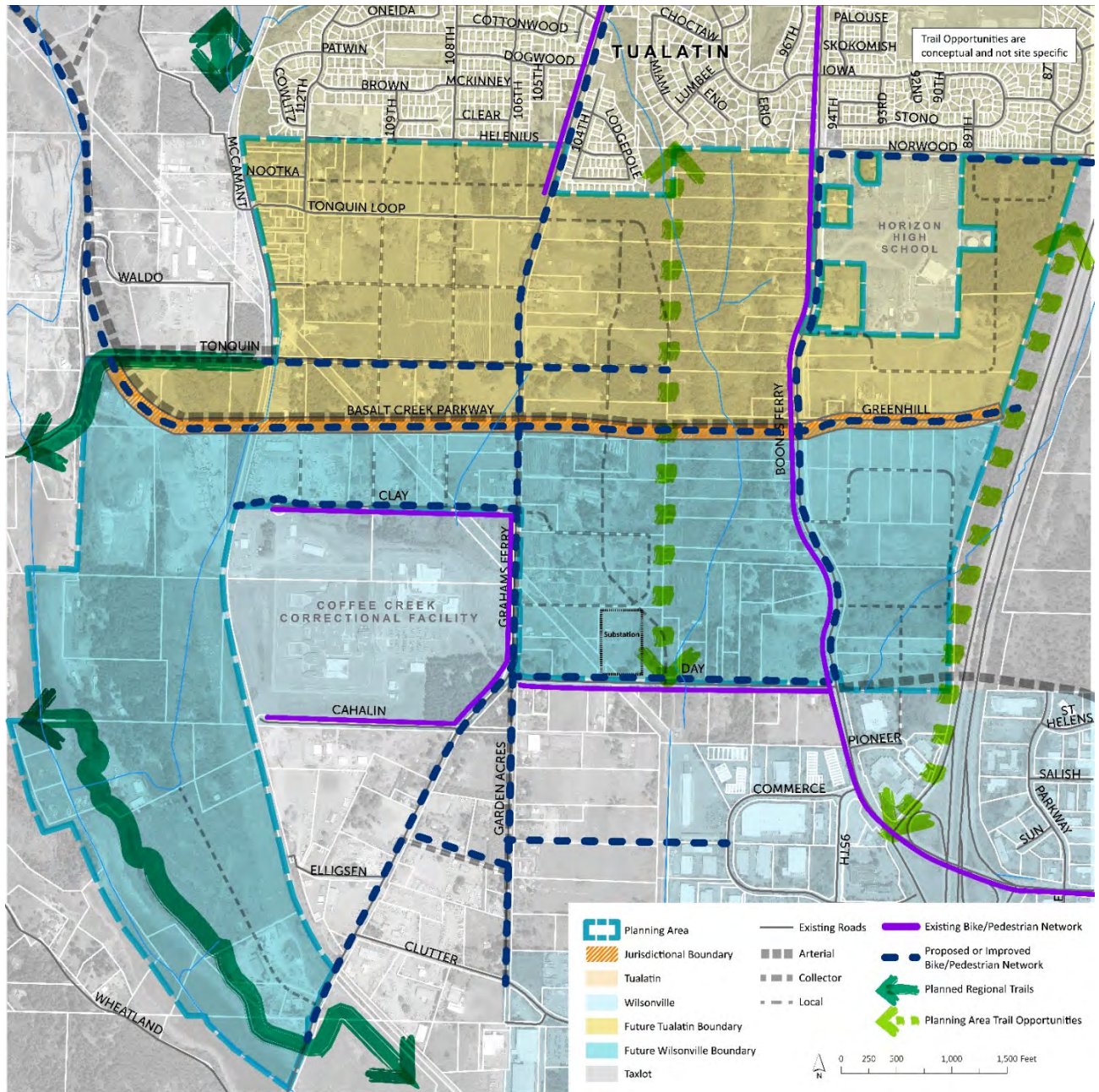
Table 5 Trips by Land Use Designation

Jurisdiction	Land Use Designation	Trips	Trips per Acre
Tualatin	High Density Residential	42	12.52
	Medium-Low Density Residential	236	3.94
	Low Density Residential	85	3.41
	Neighborhood Commercial	24	8.26
	Manufacturing Park	725	7.80
	Tualatin Subtotal/Average	1,111	5.72
Wilsonville	Craft Industrial	16	12.95
	Light Industrial District	218	6.17
	High Tech Employment District	717	7.59
	Wilsonville Subtotal/Average	951	6.96
Planning Area	<b>Planning Area Average</b>		<b>6.23</b>
	<b>Total Trips</b>	<b>2,062</b>	

### Bicycle and Pedestrian Framework

As noted in the existing conditions, the bicycle and pedestrian network is incomplete in the Planning Area. Additional bike and pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards and in conjunction with predicted traffic flows. The map below illustrates the location of these proposed upgrades, along with identified trail opportunities that would further enhance connectivity in the Planning Area and to surrounding areas.

Figure 11 Bikes, Trails, and Pedestrian Network Map



While existing bike and pedestrian facilities run along Boones Ferry Road, Day Road, and sections of Grahams Ferry Road, planned improvements will increase safety and completeness. The additional facilities will offer significant east/west connections along the new Basalt Creek Parkway and Tonquin Road as well as an important north/south connection along the length of Graham’s Ferry Road within the Planning Area. These improvements will make connections between the proposed neighborhood commercial area on Boones Ferry Road with residential neighborhoods and employment areas as well as the future transit network. Given the nature of the Basalt Creek Parkway, an over or underpass may be preferred or necessary to make the best bike/pedestrian connections in the Planning Area.

Coordination between the cities, Washington County, Metro, ODOT, and possibly BPA will be necessary for a feasibility study, implementation and funding.

Most participants polled at the April 2016 Open House suggested they would like to use future bike and pedestrian facilities to access recreation or for exercise, with almost half anticipating using these facilities at least once a week. These new connections will not only provide improved connectivity but also valuable access to local recreational areas, trails, and natural areas.

With the conservation of significant natural areas, the plan outlines opportunities to connect these spaces to pedestrian and bike facilities in key locations to create active and passive recreation, outdoor education, and public art amenities. The two main opportunities for trails within the Basalt Creek Planning Area are a Basalt Creek Canyon Ridge Trail and the I-5 easement Trail, which are shown in Figure 11 as Planning Area Trail Opportunities marked by large light green arrows. When trail alignments are considered in the future, access to the natural resource will not take priority over protection and enhancement.

Currently, Basalt Creek Canyon is a barrier to east/west movement through the Planning Area. A north/south connection to the west of the Canyon would further improve the network and make connections to east/west roads that run north and south of the Canyon. The Basalt Creek Canyon Ridge Trail opportunity would be located upland, not within Basalt Creek, near or along the ridge of the Basalt Creek Canyon. This trail could be connected to the regional trail network by extending Tonquin Road with bike/pedestrian facilities across Graham's Ferry to the new ridge trail. There is also opportunity to create a trail parallel to I-5 in the ODOT regional easement that would provide an additional north/south connection that would connect to existing bike and pedestrian facilities.

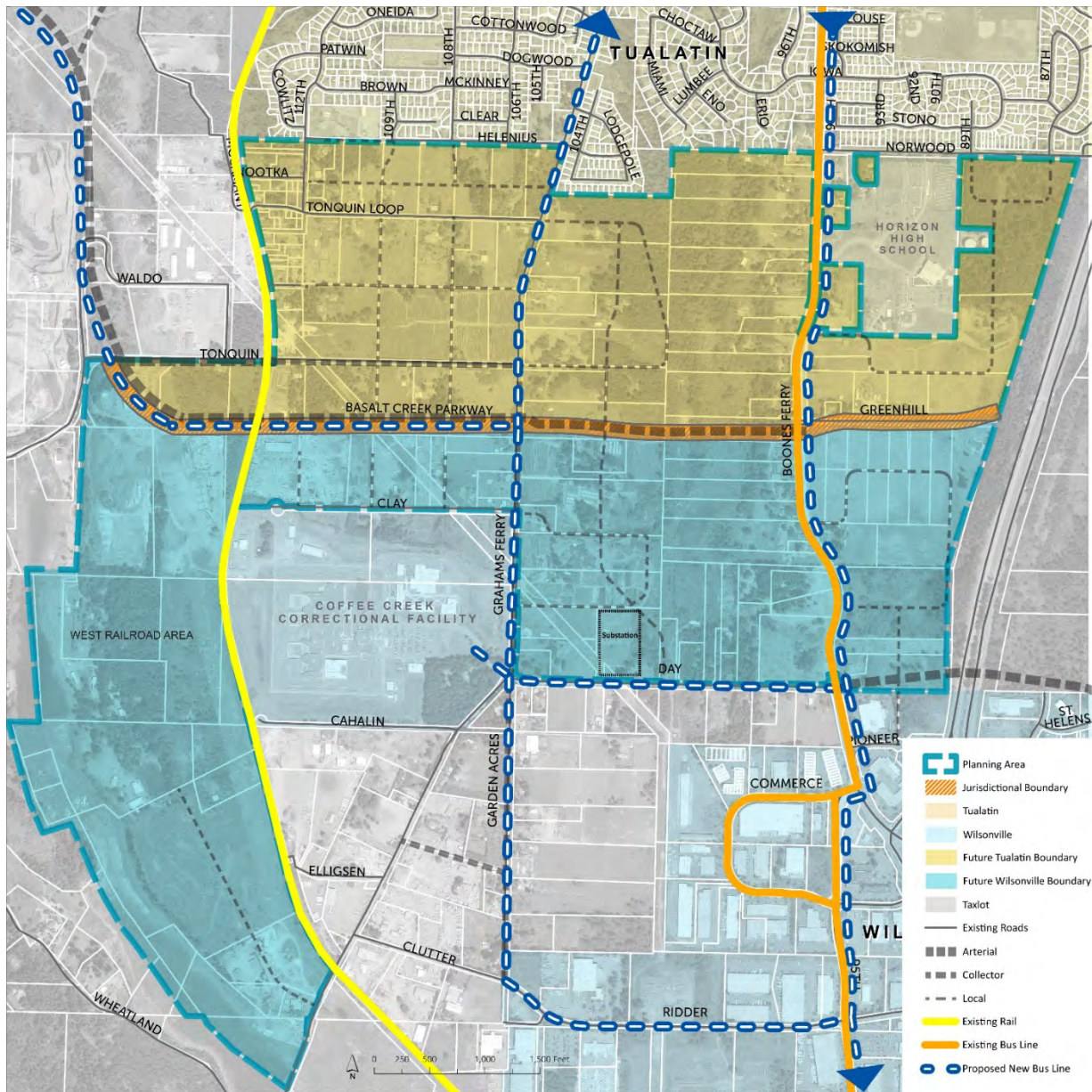
Decision-making on investments should prioritize connections that link pedestrian and bike networks to transit stops and near locations with higher planned density. Potential funding sources for improving the bike/pedestrian network include Washington County (MSTIP) and Metro (i.e. MTIP, RFFA, SW Corridor, Natural Area Bonds).

Coordination with Metro, Tualatin Community Services Department, and the Wilsonville Parks and Recreation Department will be necessary to establish a local trail network with regional connections. Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional implementation of the regional Ice Age Tonquin Trail, which is intended to complement the Ice Age Floods National Geological Trail Planning (the national trail will be a network of driving routes with spurs for biking and walking, from Montana to the Pacific Ocean). The preferred alignment for the regional Ice Age Tonquin Trail includes a section bordering the Basalt Creek Planning Area as part of a 22-mile trail alignment through Wilsonville, Tualatin, and Sherwood with trail facility types varying by location based upon landscape and setting. The Ice Age Tonquin Trail is intended to connect in the north to the Tualatin River Greenway Trail, Fanno Creek Trail, and the Westside Trail, and to the south to the Willamette River.



## Future Transit Framework

Figure 12 Future Transit Framework



The creation of additional bus lines along existing and new routes in the Basalt Creek Planning Area will be necessary to increase connectivity and to support the job and household growth envisioned for this area. Transit service in the area requires coordination between TriMet and SMART to enhance service along existing bus routes and to provide effective connections north-to-south and east-to-west through the Planning Area. This service would also provide access to surrounding and regional employment centers and residential neighborhoods. Transit service should facilitate riders commuting to and from work and visiting major local destinations such as the Wilsonville and Tualatin Town Centers. As such, transit service should reflect development and density patterns as the area grows.

SMART and TriMet routes will be integrated with the bike, pedestrian, and trail services with key access points along Grahams Ferry Road, Boones Ferry Road, Day Road, SMART Central, and the Correctional Facility. All extensions will comply with ADA requirements. SMART will continue to serve Wilsonville, including the areas annexed within the Planning Area into Wilsonville. The Cities will work with TriMet to integrate with SMART service. Lawmakers and staff will work together to ascertain the impacts of and process for a possible service boundary change.

The existing Portland and Western Railroad (PNWR) runs along the western side of the Basalt Creek Planning Area. In addition to transporting freight, it also provides the Westside Express Service (WES), a commuter rail line serving Beaverton, Tigard, Tualatin and Wilsonville. WES runs on weekdays during the morning and afternoon rush hours, with trains every 30 minutes, connecting commuters to both the TriMet and SMART transit systems. The feasibility of a new WES station serving the Basalt Creek Planning Area should be studied with increased development and ridership demand.

## Civic Uses

The Basalt Creek Concept Plan does not quantify the specific need or locations for civic uses such as libraries, parks and elementary schools within the Planning Area, but a minimum park space of a 15- to 20-acre Neighborhood Park is needed to serve Tualatin residents and businesses in the Planning Area. The facilities for provision of schools and parks will be determined and funded as development occurs in the area and will be based on level of service standards for the subsequent population expansion. However, during scenario planning, assumptions were built into the model for the size and capacity of residential development types to serve as a guide. The development scenarios assumed school districts, cities, and other service providers would use their site selection and land acquisition processes to acquire the land needed for these facilities. Locations of any necessary facilities will be determined through a collaborative planning effort between the cities and service providers, as such they are not included on any plan maps. Cities have decided to provide library services for the Basalt Creek population through existing libraries that will be sized to accommodate the additional demand.

## Schools

Capacity is the main concern for school planning. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Planning Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 1,156 future households in the Basalt Creek Planning Area.

The Planning Area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.

The Basalt Creek Planning Area is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow the District to accommodate an additional 2,000 students district-wide (according to information on the District's website <http://www.sherwood.k12.or.us/information/bond-visioning-process>).

Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The Planning Area is located very close to Tualatin High School. The Tigard-Tualatin

School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the Planning Area and currently serves 160 students but plans significant expansion in the future.

The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the Planning Area. Although, the Basalt Creek Planning Area could provide opportunities for shared facilities, such as parks and recreation spaces.

## Parks and Open Space

One of the guiding principles of the Basalt Creek Concept Plan is to protect key natural resources and sensitive areas while making recreational opportunities accessible by integrating new parkland, open spaces, natural areas and trails in the Planning Area and connecting to existing regional networks.

The Planning Area provides an interesting opportunity for different types of parks, given the variety of land uses and the extensive Basalt Creek Canyon natural area: active and passive neighborhood parks, pocket parks, and even perhaps a large community or regional facility. It also provides opportunities for jogging, hiking, or other outdoor recreation by area employees and nearby residents.

Cities will determine specific locations of facilities as part of citywide parks planning and implementation, and will adopt funding methods for acquisition, capital and operating costs for parklands in the Basalt Creek Planning Area, including the use of their current System Development Charges for parks. Locating parks near schools, natural areas or other public facilities is preferable, especially when it provides an opportunity for shared use facilities. As in any park development, the acquisition is best done in advance of annexation and extension of services, with development of the parks occurring as the need arises.

At the time of this writing, both cities are going through a Park and Recreation Master Plan update. This update has considered the Basalt Creek Planning Area in the types of services and facilities that will be needed to serve residents and businesses in this area. Each City will include their respective portions of the Basalt Creek area in their independent Parks and Recreation Master Plan.

## Natural, Historical and Cultural Resources

### Overview

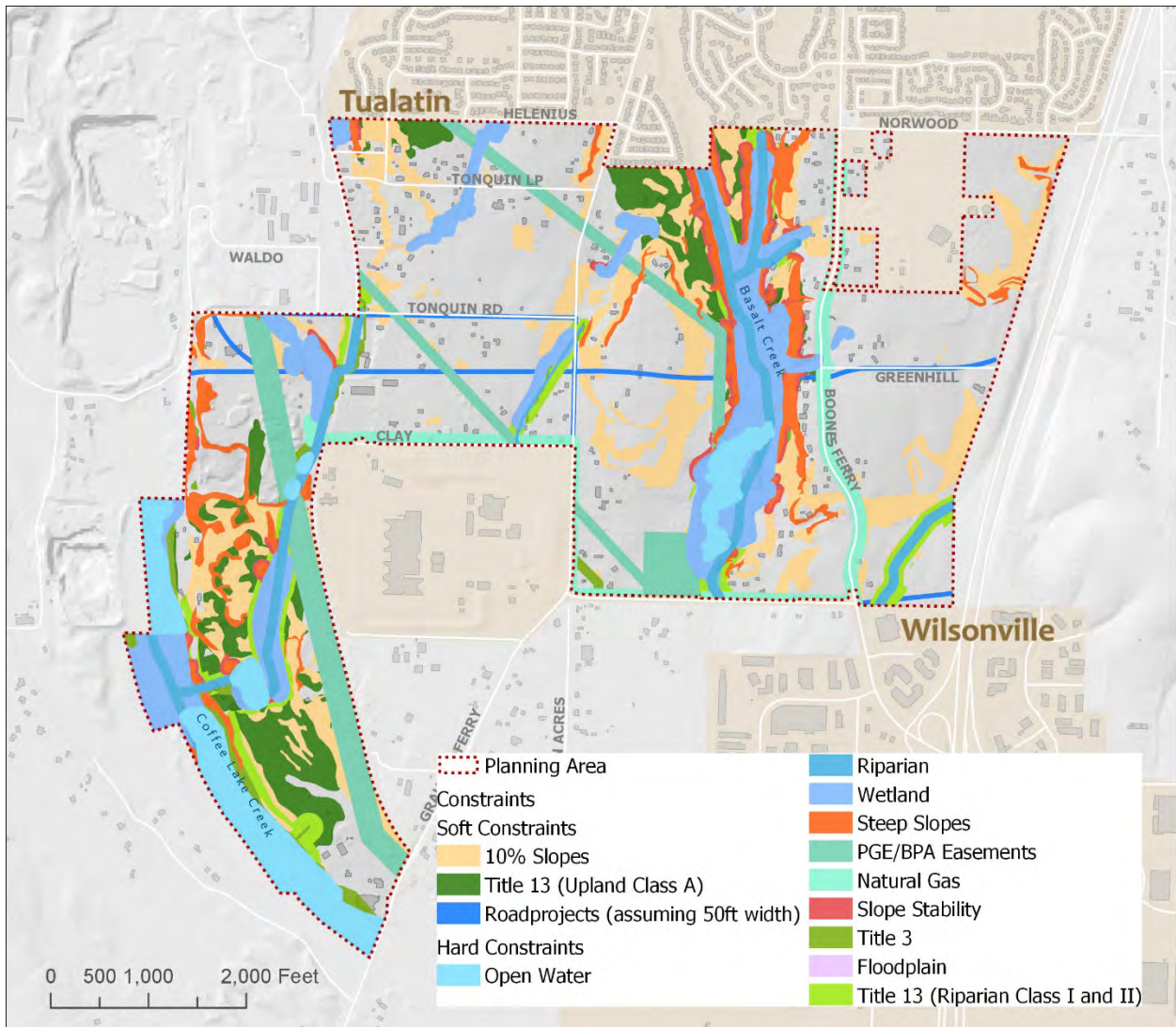
The future vitality of the Basalt Creek Planning Area hinges on development that efficiently locates job growth on the land most suited for it, while preserving and capitalizing on the natural and cultural resources in the area. The identification of environmentally sensitive lands followed the regulatory framework described briefly below and is illustrated on the Natural Resources Map (Figure 13) and in the Existing Conditions Report (Appendix A starting on page 86).

Developable lands for all scenario planning incorporated these findings. Since Clean Water Services and Wilsonville have local regulations compliant with state and regional environmental protection requirements, and in some cases that go above and beyond basic requirements, the constraints analysis used them as a foundation for determining the necessary buffering around a natural feature.

Environmental constraints are summarized below and unless otherwise noted were fully excluded from the developable land input in the scenario testing for the Basalt Creek Concept Plan:

- Open Water
- Streams
- Wetlands
- Floodplains (50% reduction of developable area)
- Title 3 Water Quality and Flood Management protections
- Title 13 Nature in Neighborhoods (20% reduction of developable area in areas designated Riparian Habitat Classes I and II)
- Steep Slopes (25% slopes and greater)

Figure 13 Natural Resources Map



## Regulatory Framework for Conserving Natural Resources

### Oregon Statewide Planning Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces

Goal 5 protects natural resources and conserves scenic and historic areas and open spaces by directing local governments to adopt protection programs. Titles 3 and 13 of Metro’s Urban Growth Management Functional Plan implements Goal 5 in the Portland Metro region.

#### Metro Title 3: Water Quality, Flood Management and Fish and Wildlife Conservation

Title 3 requires local jurisdictions to limit or mitigate the impact of development activities on Water Quality and Flood Management Areas which includes wetlands and riparian areas. An inventory was conducted in 2001. There are 116 acres of land in the Basalt Creek Planning Area that have been designated by Metro as Water Quality and Flood Management Areas under Title 3. These lands are restricted for development and buffered by a vegetated corridor. Any development within the vegetated corridor must be mitigated by environmental restoration and/or stormwater retention and water quality measures. As a result of Title 3, these lands were excluded from the developable lands input in the scenario testing.

*Table 6 Title 3 Wetlands by Category and Acres*

Category	Acres	Description
Open Water	49 acres	Includes 50 ft. buffer
Streams	31 acres	Includes 15 to 50 ft. buffers
Wetlands	69 acres	Includes 25 to 50 ft. buffers

#### Metro Title 13: Nature in Neighborhoods

Title 13 requires local jurisdictions to protect and encourage restoration of a continuous ecologically viable streamside corridor system integrated with upland wildlife habitat and the urban landscape. Metro’s regional habitat inventory in 2001 identified the location and health of fish and wildlife habitat based on waterside, riparian and upland habitat criteria. These areas were named Habitat Conservation Areas.

*Table 7 Title 13 HCA Categories with Acreage*

HCA Categories	Acres	Description
Riparian Wildlife Habitat Class I	130	Area supports 3 or more riparian functions
Riparian Wildlife Habitat Class II	31	Area supports 1 or 2 primary riparian functions
Riparian Wildlife Habitat Class III	7	Area supports only secondary riparian functions outside of wildlife areas
Upland Wildlife Habitat Class A	103	Areas with secondary riparian value that have high value for wildlife habitat
Upland Wildlife Habitat Class B	72	Area with secondary riparian value that have medium value for wildlife habitat
Upland Wildlife Habitat Class C	37	Areas with secondary riparian value that have low value for wildlife habitat
Designated Aquatic Impact	52	Area within 150 ft. of streams, river, lakes, or wetlands

Areas	that are not considered regionally significant natural resources but could have some adverse impacts
-------	--

Development in Title 13 areas is not prohibited but generally discouraged within the Basalt Creek Planning Area. Areas designated Riparian Habitat Classes I and II require 20% reduction in developable lands. Low impact design and mitigation strategies would be important to any development that might happen to maintain the function of these important ecological areas.

Both the City of Wilsonville and Clean Water Services have local ordinances in place that go beyond the level of conservation required by Title 3 and existing local standards from each City would apply upon annexation of a Planning Area property into either Wilsonville or Tualatin. Future development in Tualatin must comply with Clean Water Services’ Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat, including the Tualatin River Watershed and the entire City of Tualatin. Within the City of Wilsonville, the Significant Resource Overlay Zone (SROZ) includes floodplains, wetlands, riparian corridors, and vegetated corridors. Impact areas are generally considered to be the areas within 25 feet of a Significant Resource area. Development can only be permitted through review of a Significant Resource Impact Report (SRIR) analyzing the impacts of development within mapped significant resource areas.

### Natural Resource Protection and Enhancement Strategies

Most of the land with environmental constraints is in or near Basalt Creek Canyon and the West Railroad Area. To protect the natural areas, the Cities have agreed to management practices consistent with Metro Title 3 and 13. The Canyon is very valuable to the area and it needs to be protected, while also having visual or physical public access points in appropriate locations to connect to the bicycle, pedestrian and recreational facilities in the area and to serve the needs of residents and local employees. Future protection and enhancement opportunities may include: controlling invasive plant species, such as reed canary grass, Himalayan blackberry and English ivy, reintroducing native plants into aquatic and upland habitats, retaining and installing snags and woody debris. Important species include Red-legged Frogs, the Pileated Woodpecker, Oregon white oak, Ponderosa pine, and Geyer willow (see Appendix A for more information).

### Cultural Resources

Community members through the planning process have identified the old Carlon Schoolhouse as a historically significant landmark. It sits off Grahams Ferry Road near Day Road and was in use as a school until the late 1800s. While the area has an interesting geologic history, it has not been identified as a resource for any significant archaeological artifacts.



Figure 14 Picture of the Carlon Schoolhouse from Tualatin Life Newspaper on August 19, 2014 by Loyce Martinazzi

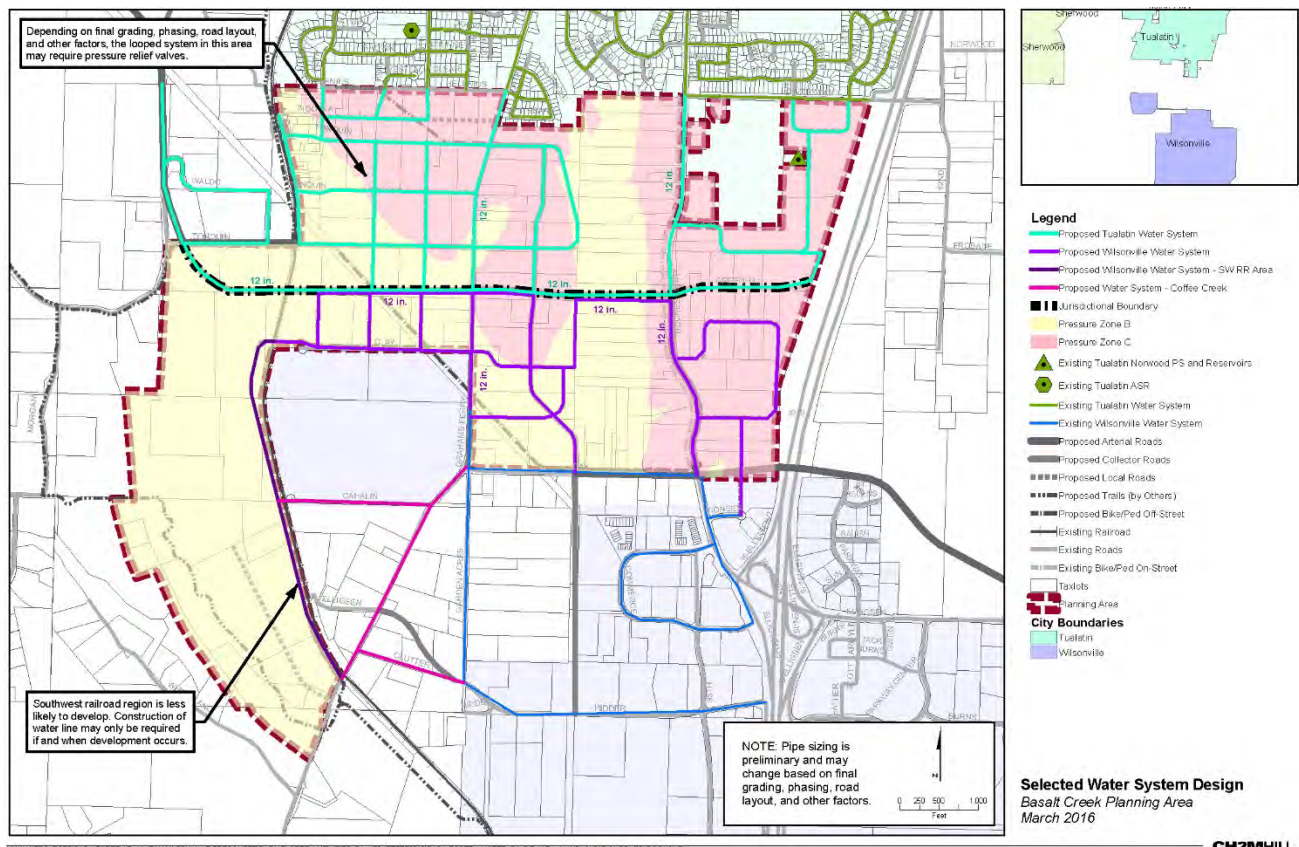
## Infrastructure

For the conceptual infrastructure systems, high level planning calculations were completed to estimate water demand and sewer flows (Appendix I). These values can vary widely depending on the actual future development. Each City's individual master plans will be used to provide demand and flow projections when further planning the area.

## Water

The conceptual water systems designed to serve the Basalt Creek Planning Area are shown below in Figure 15. The systems are independent looped systems that will not be connected to each other. Water lines for each city may be located along the proposed east-west arterial road, the future Basalt Creek Parkway, and other roadways throughout the Planning Area.

Figure 15 Water Systems Concept for Basalt Creek Planning Area



The existing service zones (levels B and C) from both communities provide sufficient pressure to provide service within each city's planning area. The Tualatin pressure zones B (ground elevations 192 feet to 306 feet) and C (ground elevations 260 feet to 360 feet) will serve the Basalt Creek Planning Area. To provide service to Wilsonville's pressure zone I C area (ground elevations 275 feet to 410 feet), the City has identified a need to install a booster pump station to serve the higher elevation areas (above approximately 285 feet) south of Greenhill Road. The booster pump station is one of the CIP projects listed in the 2012 Wilsonville Water Master Plan and has been included in the City's city-wide cost estimates.

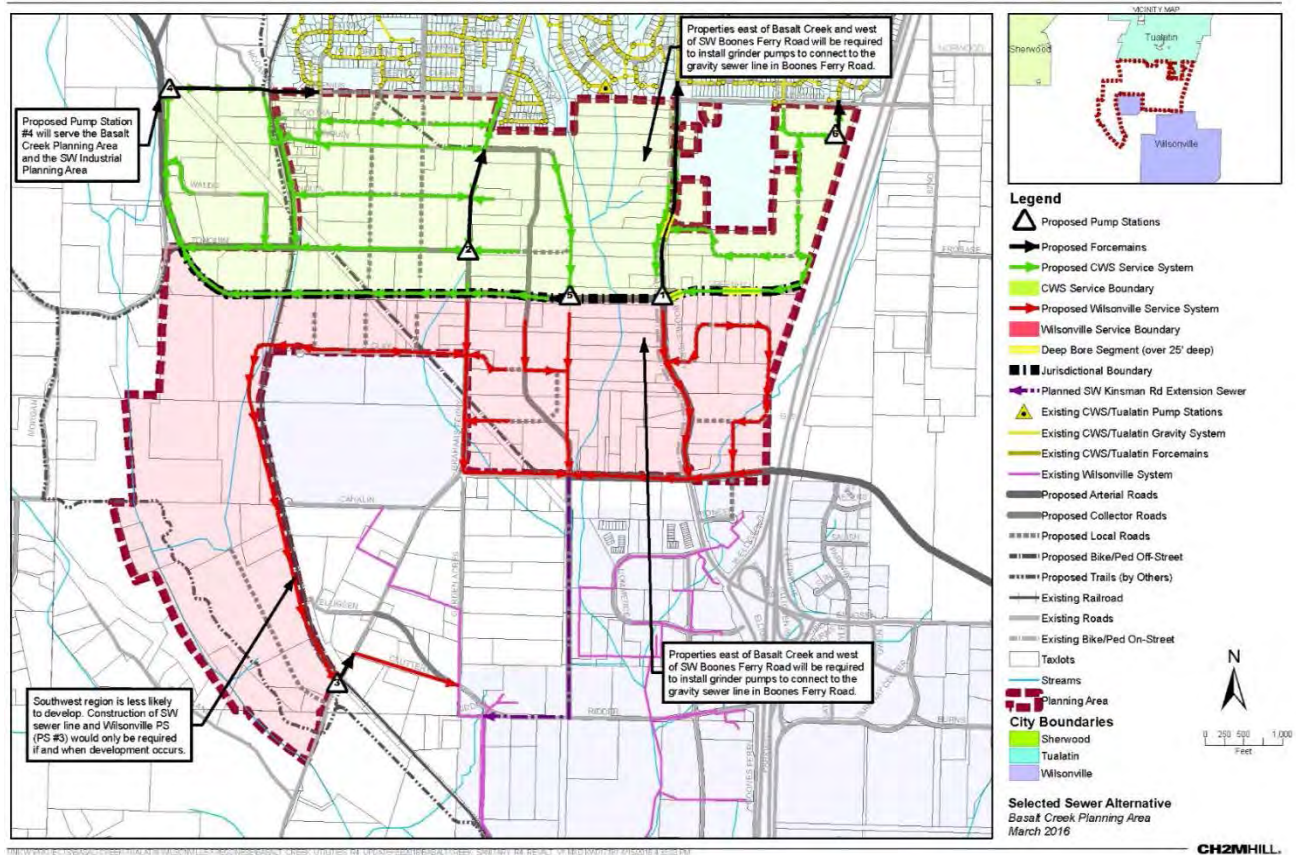
The Coffee Creek water system is shown outside of the Basalt Creek Planning Area (east of the railroad, west of SW Grahams Ferry Road, and south of SW Clay Road) to illustrate Wilsonville’s water system and how to connect services to the West Railroad Area. That portion of the system would be installed and funded by development within the Coffee Creek Master Plan area.

The West Railroad Area has a much lower potential for development due to several constraints including slope, geology, wetlands, habitat areas, access, and existing uses. Cost estimates to serve this area have been included as a separate column but would only be required if and when development occurs.

### Sanitary Sewer

The conceptual sanitary sewer systems are shown in Figure 16. While topography will be a major challenge, the sanitary systems use gravity as much as possible and sewers generally flow to the south and west following the slopes of the existing ground and along existing and proposed roadways and trails to avoid streams and natural areas. These systems include new pump stations, which are used to lift wastewater to higher elevations where it can then be transported by gravity flow systems.

Figure 16 Sanitary Sewer Systems Concept for Basalt Creek Planning Area



Five pump stations are proposed to serve the Tualatin system, managed and maintained by Clean Water Services (CWS), and one pump station is required for the proposed Wilsonville system.

In the area between Basalt Creek Canyon and Boones Ferry Road in both Tualatin and Wilsonville service boundaries, residents and business owners who wish to connect to the proposed gravity system (or are



required due to septic failure) likely will require a private grinder pump to connect to public sewer. A grinder pump consists of a collection tank that grinds waste and pumps it to the public sewer system.

The conceptual sewer system connects to the existing Tualatin system at SW 112th Avenue between SW Cowlitz Drive and SW Nootka Street, at SW Grahams Ferry Road and SW Helenius Street, at SW Boones Ferry Road and SW Norwood Road, and at SW Vermillion Drive and SW Norwood Road. The sewer system connects to the existing Wilsonville system in Garden Acres Road to SW Day Road, Grahams Ferry Road and Boones Ferry Road (the sewer line initially contemplated in the Coffee Creek Master Plan and included in the analysis for this Concept Plan has changed, shifting from a SW Kinsman Road extension to Garden Acres Road).

### Stormwater Drainage

Stormwater detention and treatment will occur at local facilities and no regional facilities are planned for the area. Each City will serve its own jurisdiction area independently. The Cities acknowledge that they must follow requirements established in their guiding respective NPDES (National Pollution Discharge Elimination System) MS4 (Municipal Separate Storm Sewer System) permits. All flows that outlet within each city will be guided by their respective protocols, design standards, and/or stormwater management plans. Public stormwater systems are included in the road network cost estimate. Stormwater systems outside of the public right-of-way are assumed to be part of the development costs, which have not been estimated.

# Implementation and Phasing Strategy

## Implementation Measures

Implementing the Concept Plan will take a predictable path in this area:

- First, each City will work with the County to update their Urban Planning Area Agreement.
- Each City will also amend its comprehensive plan to include the essential elements of the Concept Plan.
- Next, the Cities ensure that the zoning and/or development code is updated to enable development in the Planning Area, and includes appropriate zoning standards
- Generally, annexation is predicated on investor interest, and the expectation is that investors will finance the extension of services.
- Either city may decide to invest in service extension as a way to spur development or may decide to help a group of investors develop an area, for example by providing the formation of a Local Improvement District of other funding mechanism.

## Action Items

### 1. Amend Urban Planning Area Agreements

Comprehensive planning within the regional Urban Growth Boundary (UGB) is coordinated between Washington County and cities through Urban Planning Area Agreements (UPAAs). Upon adoption of the Concept Plan both Cities will work with the County to update their respective UPAAs. The UPAAs will acknowledge the future jurisdictional boundary and outline what areas may be annexed into by each city. The amended UPAAs provide the transfer of planning authority to the Cities enabling them to proceed with annexation and development.

### 2. Amend Comprehensive Plans

Tualatin, which has a “one map” system where the zoning and comprehensive plan are essentially the same map, will be adopted after adoption of the Concept Plan anticipated by May 2019.

Wilsonville, which has a “two map” system where the Comprehensive Plan shows future conditions and not necessarily zoning, will adopt Comprehensive Plan amendments soon after the adoption of the Concept Plan. The Comprehensive Plan amendments will draw from the Concept Plan and use its definitions of uses and standards to design the amendments.

### 3. Assure zoning is compatible with future land use

Each city will need to assess its zoning codes and ensure that they permit the anticipated uses with appropriate development standards. This will be made fairly easy in that each city has its own development types, drafted around current zoning code standards. However, new uses anticipated in some of the development types will need some zoning code amendments.

In addition, the Cities will need to consider special design elements of the Concept Plan and determine if their respective development codes need to be updated. Specifically, the City of Tualatin will want to

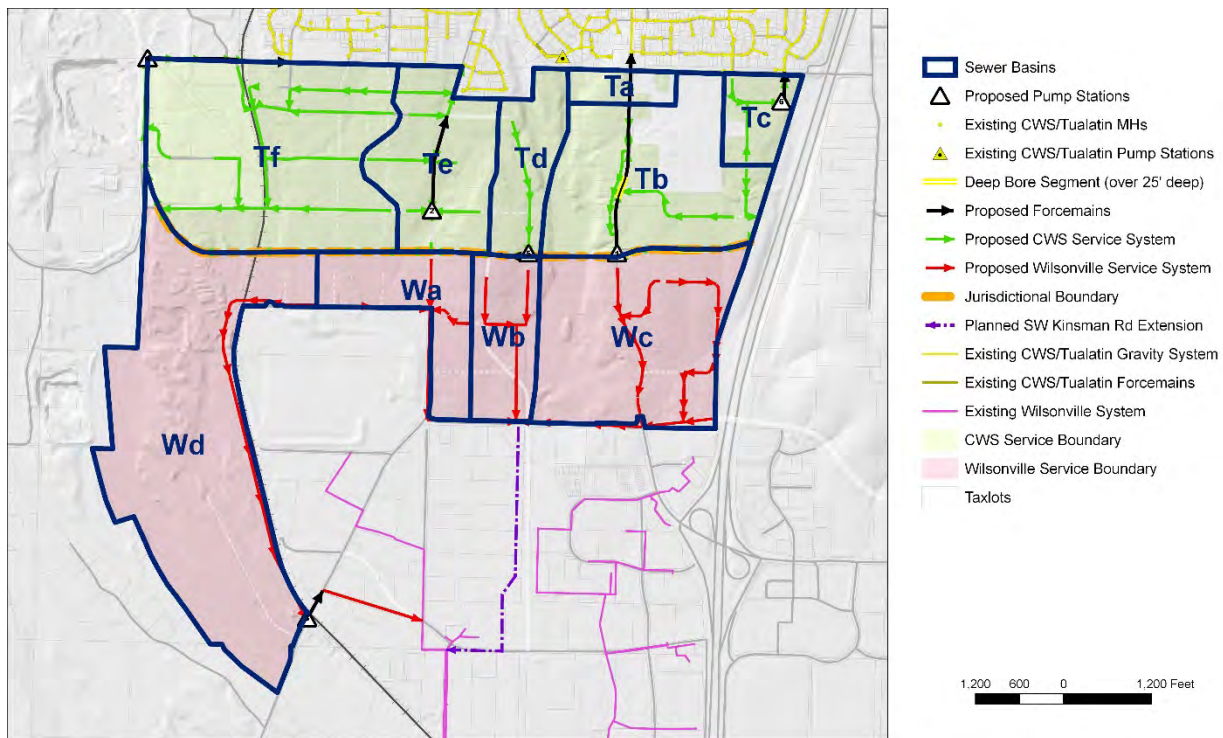
determine what design standards are relevant to creating appropriate transitions between residential and employment uses, and the City of Wilsonville will want to consider the application of its Industrial Form-based Code to help create a uniquely attractive business community.

#### 4. Annex as demand occurs based on feasible phasing

Utility improvements will be made as properties are annexed and developed in each city, so phasing will be driven by the pace of development. Generally, utility improvements will begin at the boundaries of the Planning Area that are adjacent to the existing city services and progress outward. Most of the utility infrastructure follows existing or proposed roadways and construction should be coordinated with new road construction and existing roadway improvements.

The most formative of the utilities (sewer, water and roads) will be sanitary sewer. This is because it is a gravity system that must be hooked into an existing sanitary system or drained to a pump station that will lift the sewage via pressure line to an existing sanitary line.

Figure 17 Implementation Map



Based on the Sewer Master Plan, several natural phasing districts are evident. These are shown on Figure 17. Tualatin has six potential phases based on existing sewer basins and five pump stations. No one sewer basin is dependent on the other, so these areas could develop in any sequence. If the initial installation can install the pump station and pressure line, development can proceed in increments, from the pump station uphill to the extent of the sewer basin. Figure 17 shows Tualatin stages advancing from Ta through Tf.

Wilsonville has four basins, three gravity and one with a pump station. Figure 17 shows phasing progressing from Wa through Wd. District Wd, which serves the West Railroad Area, is the most

constrained and likely to see development last in the Planning Area. The other three are gravity lines that can be constructed independently. They can proceed from the inlet to the existing gravity system uphill in the basin.

In both cities, the water and transportation infrastructure can be installed as needed although some enabling projects may be required to be constructed prior to development to connect properties to existing systems. Efficiency may be achieved when the underground utilities are constructed concurrently with the transportation system.

#### 5. Consider capital improvements to spur development

In both systems, the sewer basin is large enough that it contains several property owners. Each city has a method of reimbursing the developer for installing infrastructure when other development hooks in. However, the Cities may find that in some cases, the property owners of developers cannot finance the infrastructure themselves. In that case, the city may decide to participate in one of several ways:

- Finance the infrastructure themselves, charging reimbursement as projects hook up
- Create a cooperative financing district such as a Local Improvement District or Reimbursement District, that would allow the infrastructure to be installed by a primary party and paid off over time by the property owners, relieving some of the burden of a large capital financial commitment
- Develop the infrastructure as an inducement for desired development, such as for an important job creating project

#### 6. Master planning processes

Many of the ideas proposed in this Concept Plan will require project development to determine the specific needs, feasibility, locations, costs, and other details through each City's master planning process. Typically master plans are completed for infrastructure services, parks, open space, and trails. Master plans include public involvement processes, including Planning Commission review and City Council adoption.



# BASALT CREEK CONCEPT PLAN

Attachment A: Basalt Creek Concept Plan  
Technical Appendices (Final)



# Existing Conditions Report

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Basalt Creek Planning Area

October 2014



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# I. Introduction

In the Metro region, areas brought into the Urban Growth Boundary are required to have a land use and transportation Concept Plan. The intent of the Concept Plan is to provide a roadmap for the development of the area consistent with state, regional and local land use planning laws. This Existing Conditions report is the first step in the development of the Concept Plan for the Basalt Creek planning area. It includes detailed information on the existing landscape, regulatory, infrastructure, social and economic conditions within and relevant to the planning area.

The information presented in this Report provides the foundation from which to understand development capacity within the planning area, and the regulatory context in which development will occur. Here, analysis paints a quantitative picture of future growth potential, and identifies both opportunities and constraints for development of the area, using the regulatory framework as a guide.

This Report will inform land use and transportation decisions related to the Basalt Creek planning area, and provide the basis for the Concept Plan. The report is organized into eight sections (including introduction):

## II. Local and Regional Planning Context

Summarizes regional and local plans that influence the planning area. These plans also include regulatory requirements related to land development and provide an explanation of the area's regional role, as well as the constraints guiding the location of future development.

## III. Natural and Historic Resources

Summarizes the natural and environmental features of the area and identifies historic or cultural resources within the planning area. This section provides a context for how environmental features might shape development in the planning area as both amenities and constraints.

## IV. Public Facilities

Summarizes school, fire, library, park and police resources within or adjacent to the planning area. This information will inform decisions about additional resources that may be needed within the planning area to support projected growth.

## V. Commercial, Industrial and Residential Real Estate Markets

Analyzes the existing markets for employment and residential development relevant to the planning area. This section provides a foundation for understanding future real estate demand to inform the development of a land use plan that can accommodate projected growth and promote economic development.

## VI. Infrastructure

Provides a detailed assessment of water, sewer and stormwater infrastructure capacity relevant to the planning area. This information provides a foundation for developing an infrastructure plan that is integrated with the existing system and provides efficient and cost effective solutions to serve the area.

## VII. Transportation

This section describes information on projects planned and under development within the planning area and provides an overview of the transportation planning that has been completed to date. This section describes the transportation framework from which to build the local network as part of the Concept Plan.

## VIII. Land Capacity Analysis

The land capacity analysis is a quantitative and spatial analysis of the planning area that implements the regulatory framework and identifies infrastructure and transportation constraints. This analysis provides the canvas on which to paint the Concept Plan.

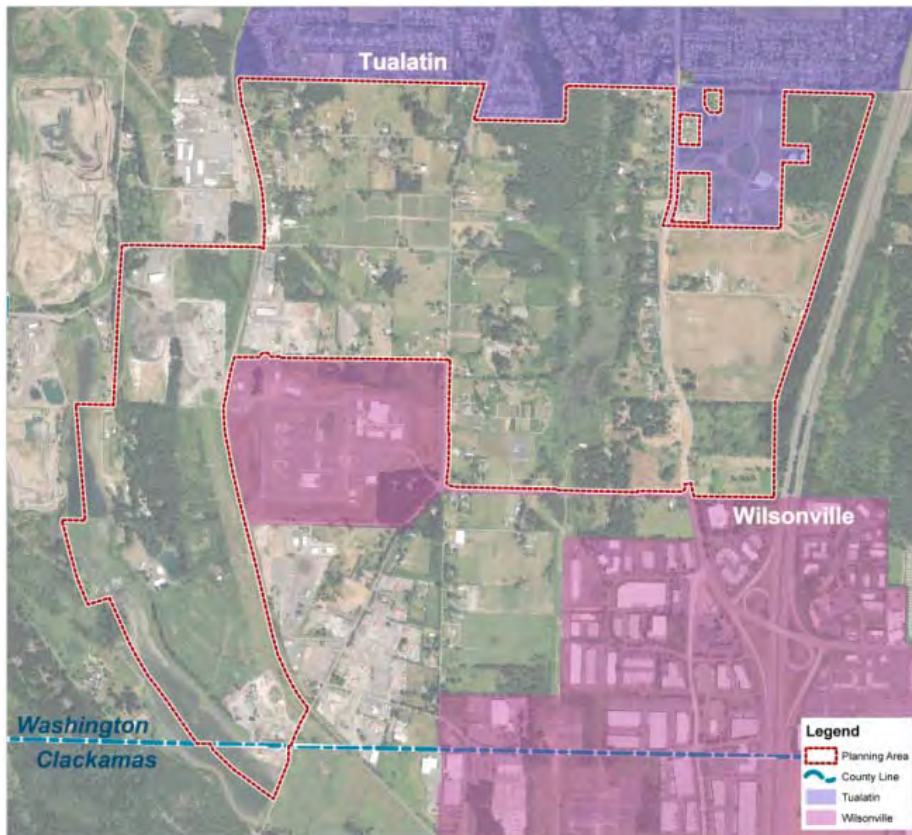


Figure 1 Basalt Creek planning area, City of Wilsonville and City of Tualatin boundaries. Source: Fregonese Associates 2014.

## Planning Area Boundaries

The Basalt Creek planning area consists of 847 acres between the cities of Tualatin (to the north) and Wilsonville (to the south). It is primarily within Washington County, with a very small portion in the southwest corner located in Clackamas County (Figure 1).

The planning area is irregularly shaped, with a “finger” that extends southward from the western side. Generally referred to as the West Railroad area, this portion is divided from the rest of the study area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The majority of the Basalt Creek planning area is generally bounded by Norwood and Helenius Roads to the north, I-5 to the east, Coffee Lake Creek to the west, and Day Road to the south until it reaches Coffee Creek Correctional Facility, where the boundary turns north on Graham’s Ferry and then westward again on Clay Road.

The southern residential communities in Tualatin and Horizon High School are not included in the study area. However, three large noncontiguous parcels in the area around Horizon High School are included in the planning area, as they are privately owned (Figure 2).

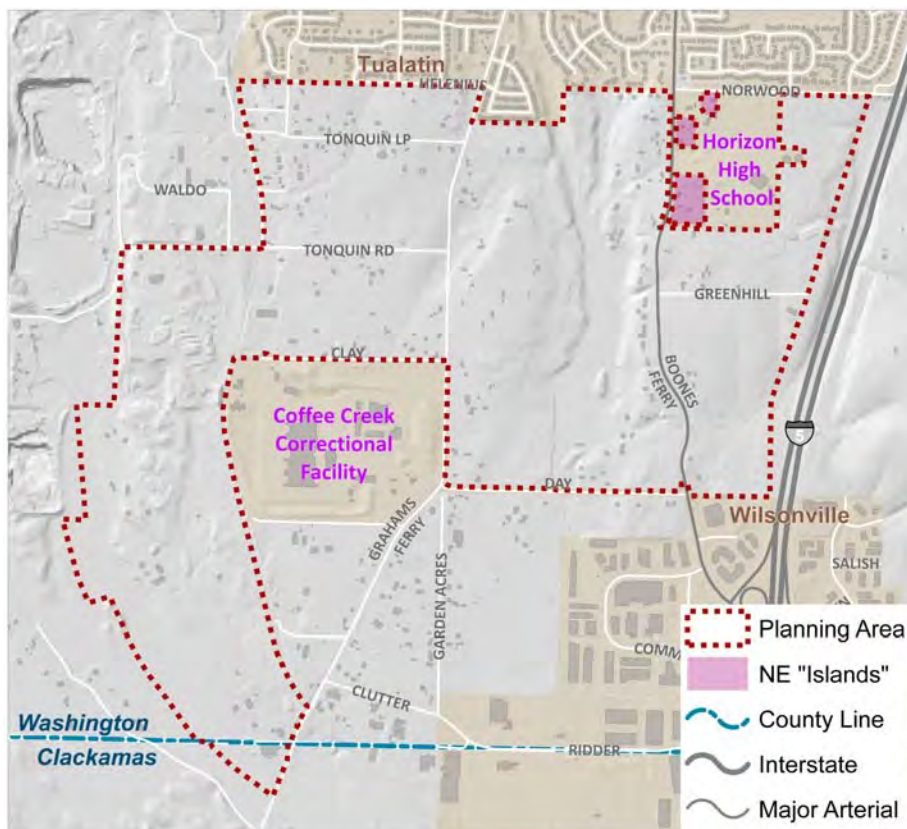


Figure 2 Planning area “islands,” Coffee Creek Correctional Facility and Horizon High School campus. Source: Fregonese Associates 2014.

# II. Local & Regional Planning Context

## Current Zoning

The majority of the Basalt Creek planning area falls within Washington County and is zoned as Future Development 20-Acre District (FD20). This interim designation was applied to the area following inclusion in the UGB (2004), through Washington County Ordinance No. 671 (2007). This designation will apply until the final Concept Plan is approved and Comprehensive Plan designations for the Basalt Creek area are adopted by each jurisdiction. The FD20 zoning designation is intended to encourage retention of existing land uses until these steps are complete. FD20 restricts subdivision of existing parcels into tax lots smaller than 20 acres.<sup>1</sup>

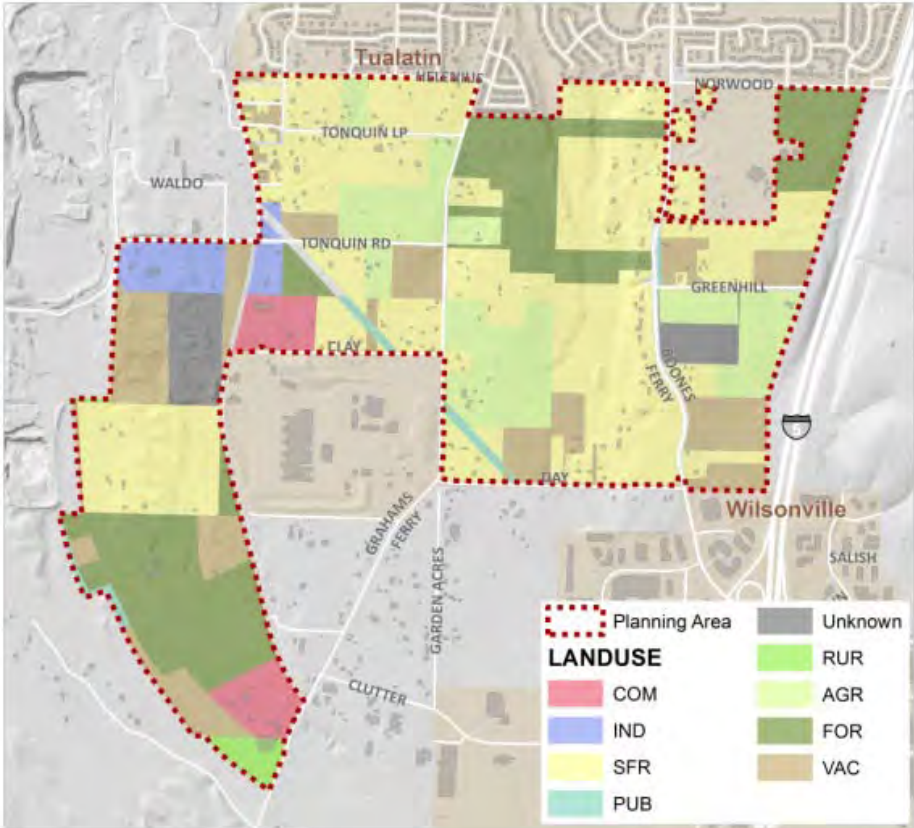


Figure 3 Existing land use in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

Each jurisdiction (Tualatin and Wilsonville) has a property owner-initiated annexation process, so changes to current zoning will happen at the time of annexation, on a parcel-by-parcel basis. A very small area (7.8 acres), in the southwest corner of the planning area falls within unincorporated Clackamas County (Figure 1), and is zoned as Rural Residential Farm Forest 5-Acre District (RRFF5).

<sup>1</sup> For a full description of allowed and prohibited uses in the FD-20 zone see the Washington County Community Development Code Section 308.



## Existing Land Uses

The primary existing land uses in Basalt Creek are rural agriculture, industrial and some rural residential consisting of low-density single-family housing (Figure 3). There are substantial areas of agricultural uses, including nurseries (such as Chick-a-Dee Gardens Nursery), landscaping supply (Pro Gro, in the furthest southwest corner of the planning area) and blueberry farms, among others. Existing industrial land users include gravel quarries and cement manufacturing (Knife River Corporation) in the northwest corner (Figure 4).

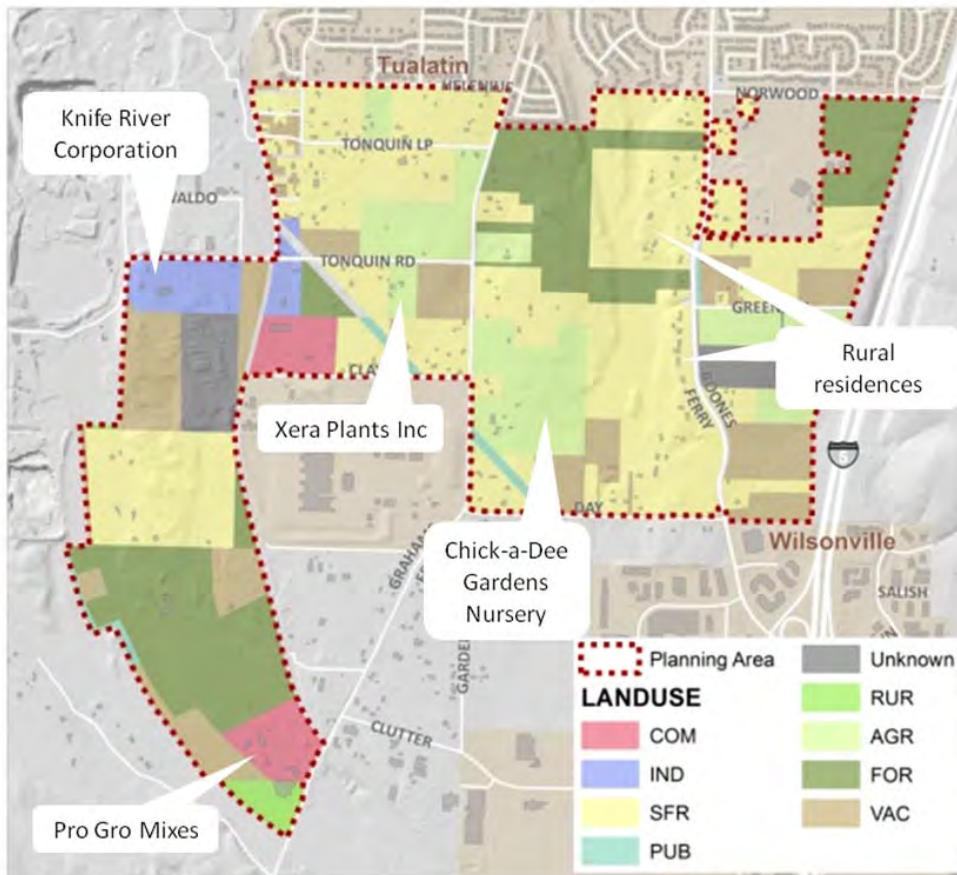


Figure 4 Locations of major businesses and residential areas in the Basalt Creek planning area. Source: Fregonese Associates, RLIS, Google Maps 2014.

Currently, 239 people live in the area in 90 single-family housing units, and 258 employees work in the area (Figure 5). The existing housing in the Basalt Creek area is detached single-family on large lots. Several single family homes are located on the eastern edge of the Basalt Creek ravine along Boones Ferry Road.

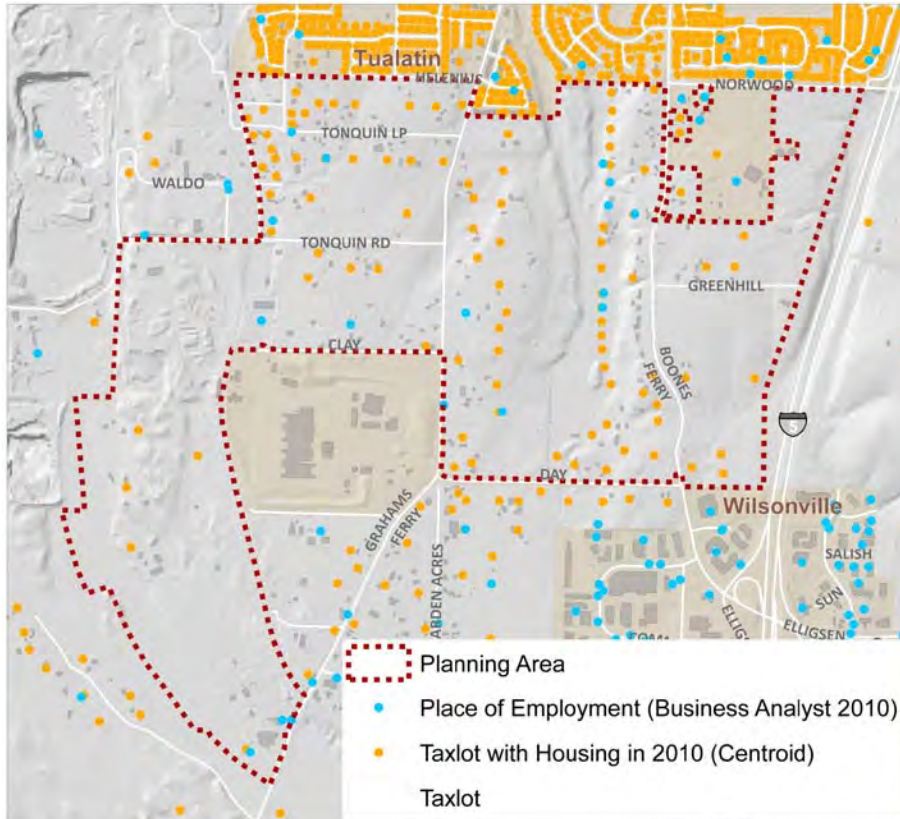


Figure 5 Existing Housing Units and Employment in the Basalt Creek planning area Source: Fregonese Associates, ESRI Business Analyst 2014.

## Adjacent Land Uses

The planning area is bounded to the north by Tualatin residential neighborhoods, to the south by commercial and industrial uses, I-5 to the east, and to the west by Coffee Lake Creek, wetland habitat, and rural and industrial lands (Figure 6).

The southernmost residential neighborhoods of Tualatin, including recently-built subdivisions such as Victoria Gardens, are located to the north. These neighborhoods are comprised primarily of high-quality, detached, single-family homes. Also to the north is the 30-acre campus of Horizon High School. The campus is bordered on three of its sides by the planning area (Figure 7). To the west, the planning area is bordered by unincorporated portions of Washington County (within the Southwest Tualatin Concept Plan area) and active quarries--including the Knife River Corporation quarry and asphalt plant, which falls partially in the planning area along Western Railroad. Further west of the Southwest Tualatin Concept Plan area is the Tonquin Employment Plan area which falls within the City of Sherwood's urban planning area (though not yet fully annexed). Most of this land is undeveloped or vacant.

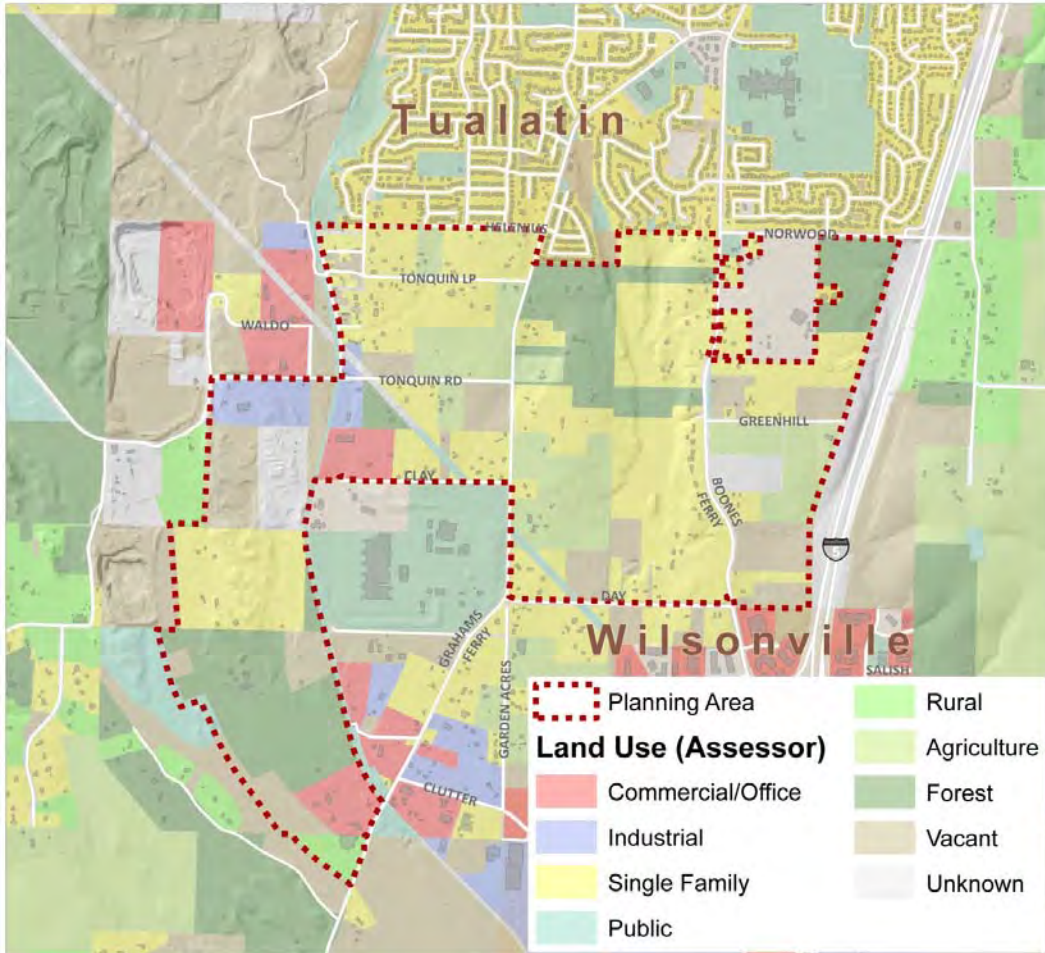


Figure 6 Land Uses Adjacent to Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

South of the planning area are commercial, office and industrial uses located within the City of Wilsonville. Also adjacent to the southern border of the planning area is Coffee Creek Correctional Facility (Figure 8). This is a state-owned correctional facility with 1,250 female inmates, and a fluctuating small number of male inmates (around 400) undergoing intake until they are transferred to another facility. The Correctional Facility employs 435 people with day and nighttime shifts comprising a 24-hour workforce.<sup>2</sup>

South of the Correctional Facility, also abutting the planning area, along the south side of Day Road, is the Coffee Creek planning area, for which the City adopted a Master Plan for industrial development. Figure 9 shows the Basalt Creek planning area and its geographic relationship to the Coffee Creek, Southwest Tualatin and Tonquin Employment planning areas. Figure 9 also shows existing commercial and industrial and employment areas.

<sup>2</sup> Reynolds, Vicki. Public Information Officer for Coffee Creek Correctional Facility. Personal communication, July 2<sup>nd</sup>, 2014.



Figure 7 Aerial image of the Horizon High School Campus (30 acres), just outside of the planning area. Source: Fregonese Associates 2014.

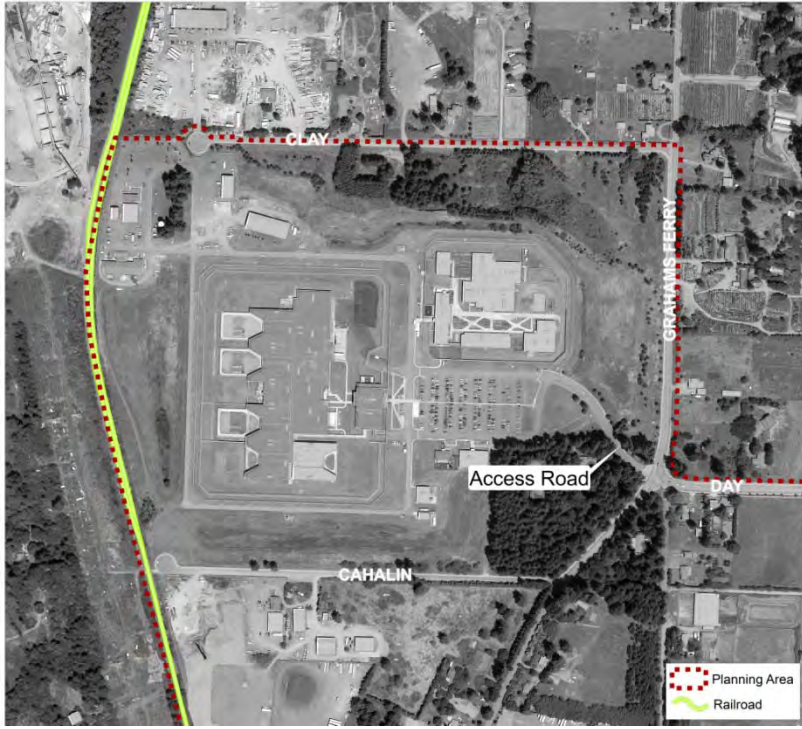


Figure 8 Aerial image of Coffee Creek Correctional Facility (108 acres). Source: Fregonese Associates 2014.

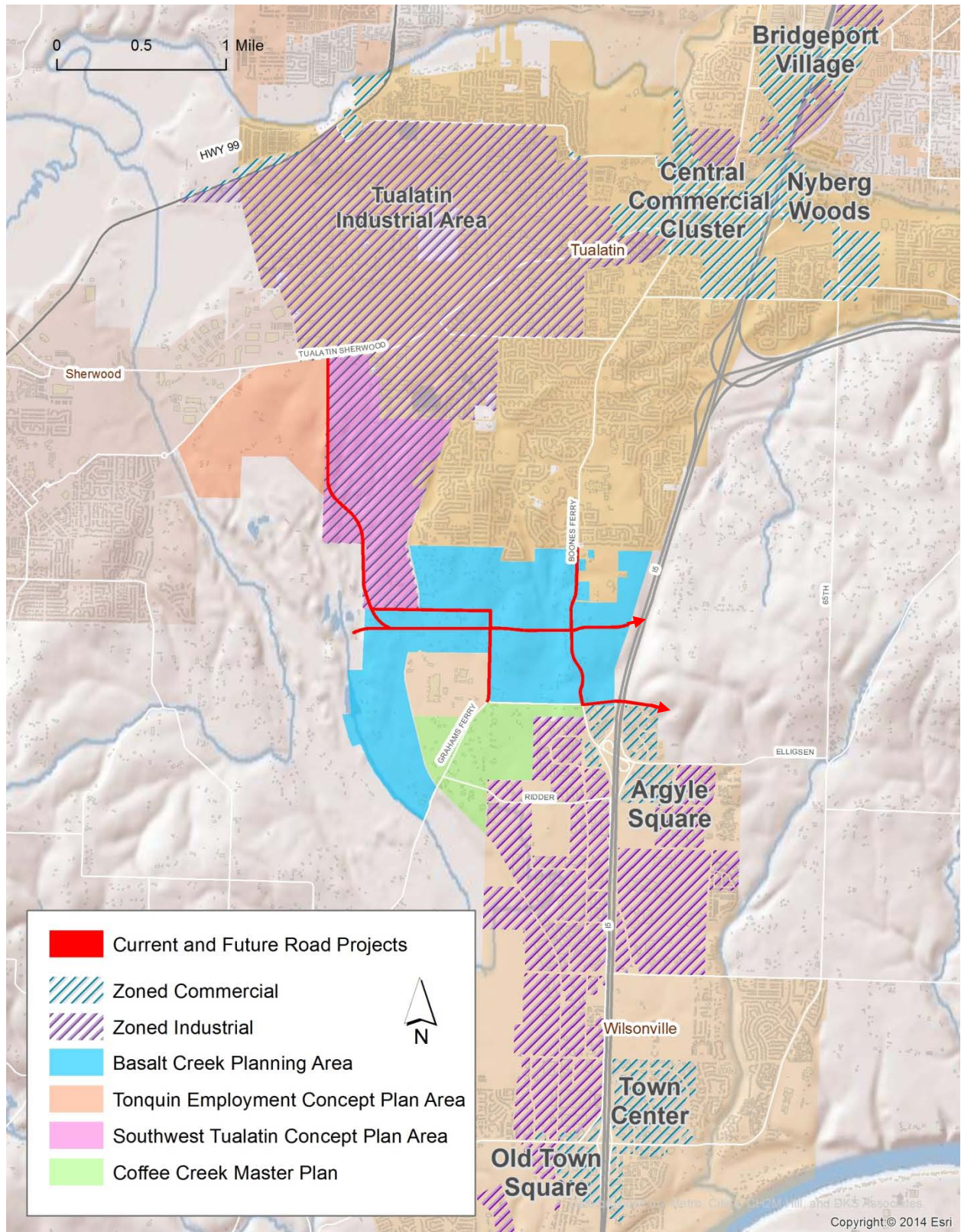


Figure 9 Planning and employment areas near the Basalt Creek planning area. Source: Fregonese Associates, Cities of Tualatin and Wilsonville 2014.

## Regional Plans and Regulatory Requirements

The 25 cities and three counties within the Portland Metropolitan Area share a single Urban Growth Boundary (UGB), administered by the Metro Regional Government. As required by state law, Metro assesses its Urban Growth Boundary every five years to determine whether it includes sufficient land to accommodate 20 years of development for residential, commercial, and industrial uses. In 2002 Metro passed Ordinance No. 02-696B, expanding the UGB by over 20,000 acres to accommodate forecasted increases in housing and jobs through the year 2022. This brought land around Damascus, Oregon City, Tualatin, Wilsonville, Beaverton and Hillsboro into the UGB.

In reviewing the 2002 expansion ordinance, the Land Conservation and Development Commission (LCDC) found that “the Council added capacity to the UGB but did not add sufficient capacity to accommodate the full need for land for industrial use.” In 2003 the LCDC ordered the Metro Council to add capacity to the UGB for the unmet portion of industrial land needs. Metro evaluated land adjacent to the UGB to determine which land would be most suitable for industrial employment. In 2004 the Council released an appendix to the 2002 Urban Growth Report that included an Employment Land Need Analysis for the years 2002-2022, in addition to an Industrial Land Alternative Analysis Study. These studies were used to identify additional industrial lands to be included in the 2004 ordinance.

Criteria used by the Council to determine suitability of land for industrial uses included soil classification (with a preference for lowest suitability farmlands), earthquake hazard, slope steepness, and parcel size (with a preference for larger parcel size). Among those lands deemed suitable, further factors to identify Industrial Areas and Regionally Significant Industrial Areas included: distribution (area serves to support industrial land for major regional transportation facilities), service (availability and access to specialized utilities), access (within two miles of I5, I-205, I-84, State Route 224), proximity (located within close proximity of existing like uses) and primary use (predominately industrial uses).<sup>3</sup>

Two areas of land identified in the 2004 ordinance as good candidates for industrial development now comprise the Basalt Creek planning area. In Ordinance 04-1040B, these two areas are referred to as the Coffee Creek (partial) and Tualatin study areas. The main section of the Basalt Creek area (identified in the 2004 ordinance as the Tualatin study area) was identified as suitable for industrial development due to its proximity to the I-5 corridor, and to an existing industrial area (in Wilsonville). In addition, portions of the area are relatively flat. The ordinance notes that, due to these characteristics, “...the Tualatin study area is most suitable for warehousing and distribution, among other industrial uses.”<sup>4</sup>

At the time of the Ordinance’s adoption, two major concerns were identified that resulted in additional conditions being placed upon the planning area: First, residents expressed concerns about compatibility between Tualatin’s southern neighborhoods and the proposed industrial uses in the planning area. Secondly, the cities of Tualatin and Wilsonville desired to preserve the opportunity to choose an

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<sup>3</sup> A detailed description of the methodology used for identifying Industrial Land can be found in Exhibits D and E to Ordinance No. 04-1040B, an Industrial Land Alternative Analysis Study (a 2004 addendum to Metro’s 2002 Urban Growth Report).

<sup>4</sup> Metro Ordinance No. 04-1040B Exhibit G P17

alignment for the I-5/99W connector as the southern portion of the alignment passes through the Tualatin study area. In response to these concerns the Metro Council extended the deadline for Title 11 planning. The revised deadline called for Title 11 Concept Planning to occur within two years following the final alignment for the I-5/99W connector or within seven years, whichever was shorter.<sup>5</sup>

It is further stated in the 2004 ordinance (in response to the community concerns about transitions from residential to industrial lands) that so long as the South Alignment of the connector falls close to the one shown on the 2040 growth concept map it will serve as a buffer between the residential development to the north and industrial development to the south. Within the Ordinance a special section dedicated to specific conditions for particular areas states that “If the selected right of way for the connector follows the approximate course of the ‘South Alignment’ as shown in the Regional 2040 Growth Concept map...the portion of the Tualatin Area that lies north of the right of way shall be designated ‘outer neighborhood’ on the Growth Concept map; the portion that lies south shall be designated ‘industrial.’ The ordinance further states, “The government responsible for Title 11 planning shall consider using the I-5/99W connector as a boundary between the city limits of the City of Tualatin and the City of Wilsonville in this area.”<sup>6</sup>

As defined in the Metro Regional Framework Plan, a designation of “outer neighborhood” describes areas outlying cities that are primarily residential, relatively further from employment and shopping areas than other residential areas, and have larger lot sizes and lower population densities than inner neighborhoods.<sup>7</sup>

The Metro Regional Framework Plan describes the industrial designation as “an area set aside for industrial activities. Supporting commercial and related uses may be allowed, provided they are intended to serve the primary industrial users. Residential development shall not be considered a supporting use, nor shall retail users whose market area is substantially larger than the industrial area be considered supporting uses.”<sup>8</sup>

As stated in the 2004 Ordinance, the planning timeline for the Basalt Creek area was extended to allow for the planning of the I-5/99W Connector. The I-5/99W Connector Study recommended an alternative that spreads east-west traffic across three smaller arterials rather than a single expressway. Although specific alignments for these arterials were not defined, the eastern end of the Southern Arterial was generally located within the Basalt Creek planning area, south of Tonquin Road. The Basalt Creek Transportation Refinement Plan (TRP) established the specific alignment for this arterial (now referred

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<sup>5</sup> Metro Ordinance No. 04-1040B Exhibit F P2. The relative complexity of planning for this area (due to its equidistance from two cities, and the regional infrastructure improvements being considered in and around Basalt Creek) led Metro to grant an extension for compliance, moving the deadline from 2012 to September 2016 (through a Urban Growth Management Functional Plan compliance request).

<sup>6</sup> Metro Ordinance No. 04-1040B P3

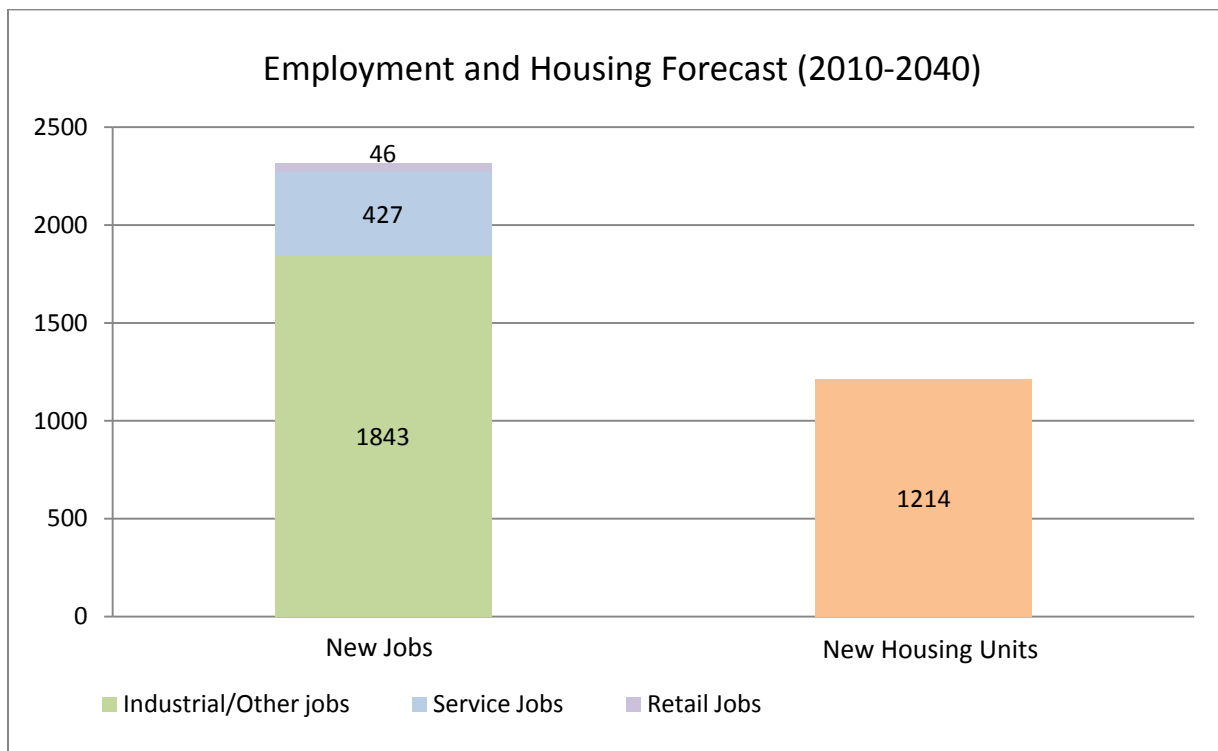
<sup>7</sup> Metro Regional Framework Plan Appendix G-J Glossary P369

<sup>8</sup> Metro Regional Framework Plan Appendix G-J Glossary P366

to as the East-West Connector). The TRP was completed in 2013 and several priority projects were adopted in the 2010 Regional Transportation Plan.<sup>9</sup>

The current 2040 Growth Concept Map identifies the Basalt Creek planning area as industrial, but the ordinance does provide some flexibility to include housing in the planning area. Table 1 summarizes the most recent forecast estimate (the Gamma Version) for the Basalt Creek planning area at the Transportation Analysis Zone (TAZ) level. An older forecast (the Beta Version), upon which the Basalt Creek Transportation Refinement Plan (TRP) was based, projected somewhat higher employment levels by 2035. Both forecasts will be used in concept planning for the Basalt Creek area, with the forecasts serving as “sideboards,” representing the high and low ends of the range of households and jobs the area may need to accommodate. The geographical units used for the forecasts are called Transportation Analysis Zones (TAZs). The boundaries and identification numbers of TAZs changed between the Beta (older) and Gamma (newer) forecast, and are both depicted on the map in Figure 10.

Table 1 Employment and Housing Forecast 2010-2035. Source: Metro 2014.



<sup>9</sup> An update to the Regional Transportation Plan (RTP) was published July 18<sup>th</sup>, 2014. Because the analysis for this report was completed before that date, 2014 RTP updates are not considered here. The updated Regional Transportation Plan can be accessed here: <http://www.oregonmetro.gov/regional-transportation-plan>



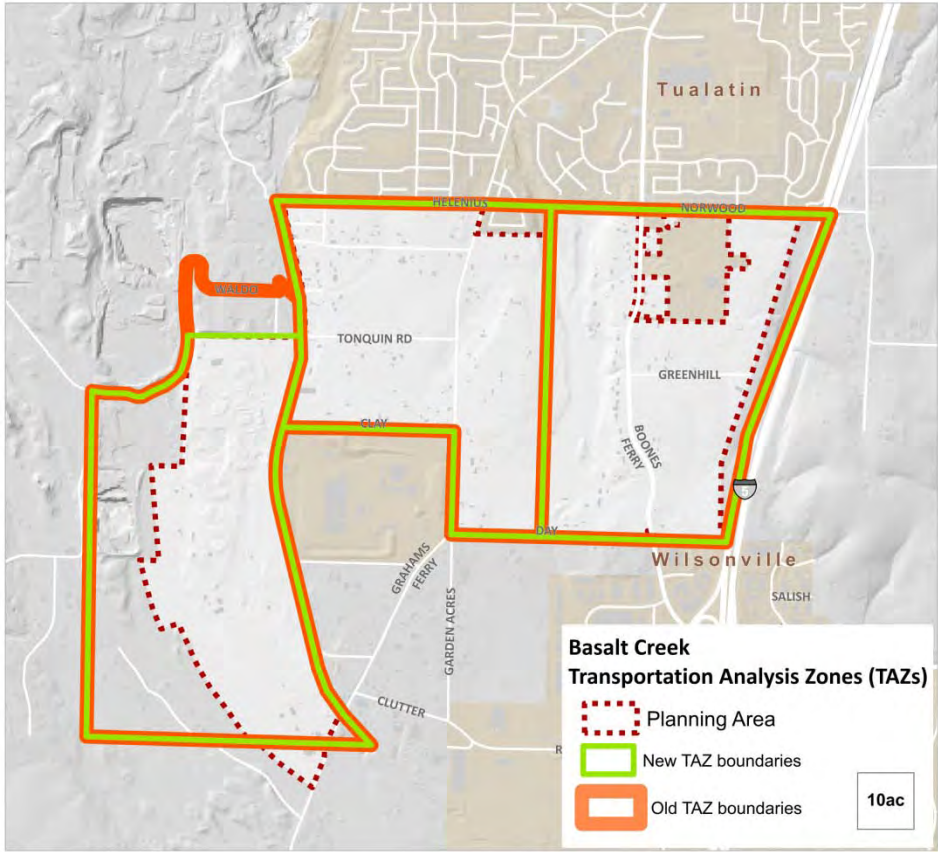


Figure 10 Transportation Analysis Zones (TAZs) covering the Basalt Creek planning area Source: Fregonese Associates, RLIS 2014.

Local Plans

The following section provides a brief summary of local plans, focused on identifying the policies and goals relevant to the Basalt Creek planning area. Within these plans are goals and policies for transportation, land use planning and economic development. These will be used to guide the development of the concept plan and comprehensive plan recommendations.

Joint Plans

Basalt Creek Transportation Refinement Plan (2013)

This plan was a joint effort between the Cities of Tualatin and Wilsonville, Washington County, and Metro. The primary purpose of the Refinement Plan is to establish a major transportation connection from Tualatin-Sherwood Rd to I-5 in North Wilsonville through the Basalt Creek planning area. This connection was identified as a regional transportation priority in order to connect and provide access to existing and future hubs of industrial land uses.

Through the Refinement Plan process, an alignment was established for what is, for now, being referred to as the East-West Connector (Project 11, Figure 11). It is intended to be a new major arterial with five

lanes and vehicle access limited to three intersections – 124<sup>th</sup> Avenue (anticipating a southward extension of 124<sup>th</sup> to Tonquin Road in the near future, see Projects 1 and 10 in Figure 11), Graham’s Ferry Road and Boones Ferry Road. Tonquin Road (Project 2 in Figure 11) will be improved but left as a parallel three-lane property-access road.

While the primary focus of the Refinement Plan was establishing the alignment of the aforementioned East-West Connector, it includes recommendations for an additional 17 transportation investments broken into short, medium, and long term phases. These include improvements to Grahams Ferry Road, Boones Ferry Road, and Day Road to adequately meet the need for improved regional freight mobility.

Improvements to the section of Boones Ferry Road between Norwood and Day Roads have already been completed. This new roadway includes bike lanes and sidewalks. These projects combined with the East-West Connector provide the foundation for a robust transportation network and ensure the Elligsen Road interchange will function at a high level. The project to extend 124<sup>th</sup> Avenue is in the design phase, with an estimated completion date of December 2016.

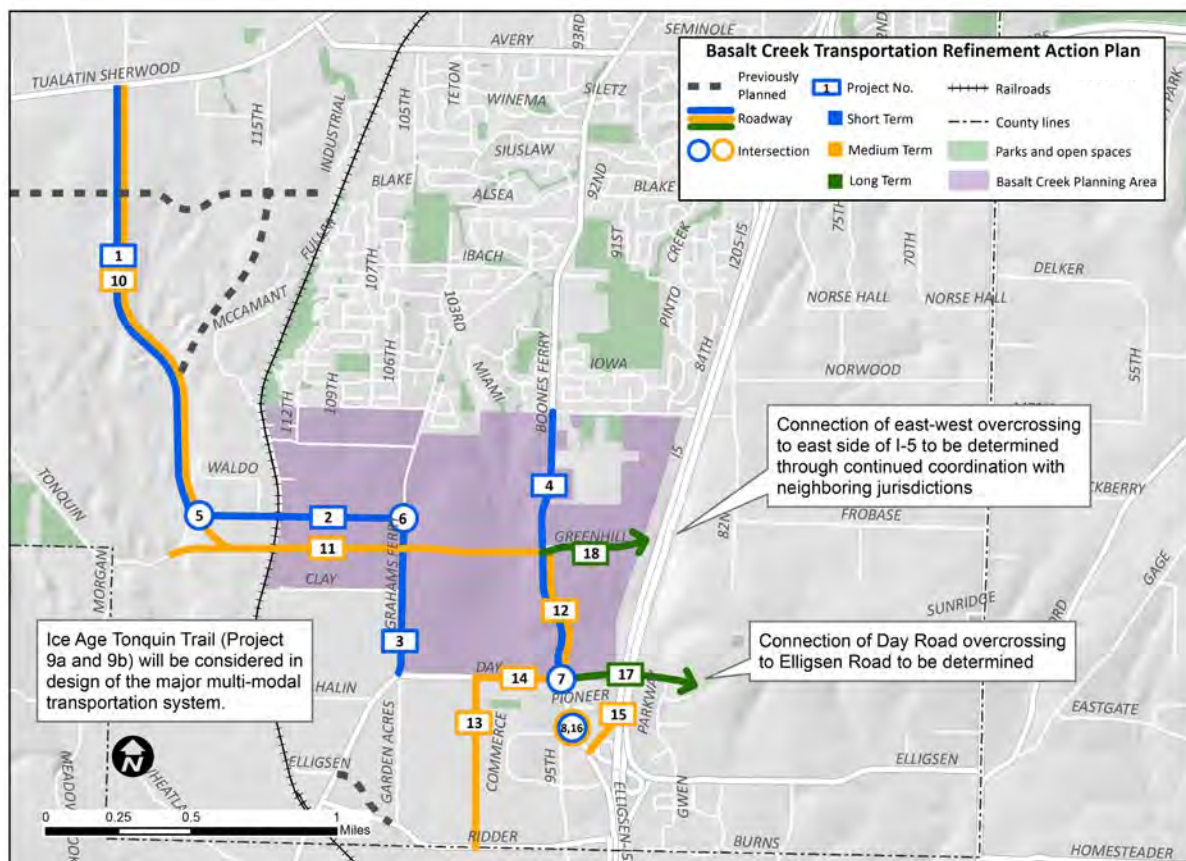


Figure 11 Projects identified in the Basalt Creek Transportation Refinement Plan (TRP).

## Wilsonville

### Transportation System Plan (2013)

The TSP integrates goals to reduce vehicle collision rates, decrease VMT (vehicle miles travelled) per capita, and minimize vehicle delays for truck trips per capita. Other objectives include significantly increasing connectivity for walking and biking trips. Policy 27 of the plan states an intention to “upgrade and/or complete the street network on the west side of I-5, including Coffee Creek and Basalt Creek areas, to serve the warehousing, distribution, and other industrial uses located there.” The TSP proposes widening of Grahams Ferry Road if called for by the Basalt Creek Transportation Refinement Plan.

### Economic Development Strategy (2012)

This document was an update to a 2007 Economic Opportunities Analysis. The Strategy was produced to guide City investments and regulations as well as supporting efforts from the private sector. The resulting recommendations are long-term strategies oriented toward deliberative, balanced, efficient and fair economic development. These include: prioritizing land use and infrastructure planning, balancing economic development with quality of life, and treating all businesses fairly (whether they are new or established). The Strategy reviews factors impacting the Wilsonville economy, which will also have a substantial impact on economic development in the Basalt Creek planning area. Some of these include: regional and interstate accessibility; vacant land base; a balance between the number of jobs and available housing units, and local industry clusters. Actions from the Strategy include workforce development, promoting infill development and redevelopment, and streamlining the development code and permitting process, among others.

### Parks & Recreation Master Plan (2007)

The goal of the Parks and Recreation Master Plan is to promote “active and passive recreation opportunities in a safe, accessible, and comprehensive system of facilities, parks, trails and open spaces to support the recreational interests of citizens of all ages.” The plan calls for implementation of the Ice Age Tonquin Trail Master Plan in partnership with Metro, the Cities of Sherwood and Tualatin, and Washington County.

### Water System Master Plan Update (2012)

This update of the 2002 Water System Plan encompasses Wilsonville’s network of water pipelines, storage tanks, valves and hydrants. Its objective is to assure that good quality public facilities and services are available with adequate (but not excessive) capacity to meet community needs, serving all urban development within the incorporated City limits. In anticipation of future development, industrial demand estimates were increased by 25% to reflect potential redevelopment, infill, and higher-use water customers within existing structures. The planning process resulted in the creation and utilization of a “highly accurate and dynamic hydraulic model” of the water system that can be used to quickly investigate potential system impacts from new users. The plan does not specifically address the Basalt Creek planning area, though it includes the adjacent area on the south side of Day Road.

### Stormwater Master Plan (2012)

This plan aims to implement a stormwater program that supports quality of life and meets regulatory requirements. It includes cross section illustrations of streetscape improvements recommended to mitigate stormwater issues. Stormwater patterns in the Basalt Creek planning area will impact stormwater management in Wilsonville, as Basalt Creek discharges into the Coffee Lake Creek wetlands west of the railroad, approximately midway between SW Freeman Drive and SW Boeckman Road. This plan notes that Basalt Creek overtops its banks during moderate storm events, flooding the parking lot along the western side of the Commerce Circle Business Park. Construction of a wetland for stormwater detention is a proposed flooding mitigation measure. The recommended location is at the crossing of Day Road over Basalt Creek, to provide temporary storage for increased runoff from future industrial development north of Day Road and decrease flooding around Commerce Circle.

### *Tualatin*

### Tualatin Tomorrow Vision and Strategic Action Plan (2014)

This Plan puts forth a vision for Tualatin in 2030. The plan includes an I-5/99W Connector to separate long-haul and regional commercial–industrial and commuter traffic from local traffic on Tualatin-Sherwood Road. Strategy TTC13 is to increase regional transit linkages (bus and rail, for example) with the cities of Sherwood, Lake Oswego, and Portland.

### City Council Goals (2013-2015, updated Feb. 2014)

Basalt Creek is specifically mentioned in Goal #8 of this City Council goals document, which is to “expand opportunities for vibrant parks and recreational facilities including greenway trails and bike/pedestrian trails.” Sub-goal 8.4 is to “plan and preserve natural resources through the Basalt Creek Concept Plan,” with the Community Development and Community Services Departments identified as playing leading roles in achieving this goal. Other goals include: a connected, informed and engaged citizenry, enhanced transportation options, and an expanded tax base strengthened through smart, balanced growth.

### Transportation System Plan Update (2014)

This update to the 2001 TSP includes seven project goals: access and mobility, safety, vibrant community, equity, economy, health and the environment, and feasible implementation. It includes recommendations to serve the varying needs of transit riders, bicyclists, pedestrians, freight traffic, and drivers. The Basalt Creek area was included within the Tualatin planning area boundary and thus is considered in this plan’s recommendations. The plan includes findings from the Basalt Creek Transportation Refinement Plan and includes the widening of Boones Ferry Road south of Norwood (now complete), the southward extension of 124<sup>th</sup> Avenue, and the upgrade of Grahams Ferry Road from a minor to major collector. It proposes looking for a potential shared use park-and-ride location in south Tualatin to expand transit access for residents of that area, which would also be useful for future residents of the northern part of the Basalt Creek planning area.

The TSP also includes adding more bus pullouts along Boones Ferry Road, possibly extending into the Basalt Creek planning area. The bike/pedestrian map indicates the addition of a multiuse path across the northern portion of the Basalt Creek planning area. WES service enhancements are also explored, including the possibility of extending the line south of Wilsonville, adding more frequent service, and construction of an additional WES station in the south of Tualatin (near the Basalt Creek planning area). The TSP also discusses possible expansion of the Tualatin Shuttle program.

#### [Linking Tualatin Market Study \(2012\)](#)

As part of the Linking Tualatin project a market study was prepared that outlines current and anticipated market conditions impacting viable development forms in the north part of the City. It covers housing, retail, office and industrial/flex space market conditions and demand projections. This study should be considered in planning for Basalt Creek because it is in the same general market area. This study also lists viable near-to-mid-term development forms,, which may also be appropriate for Basalt Creek. Key conclusions of the study include:

- The Primary Market Area (City of Tualatin) can expect continued growth in residential, retail, office and industrial uses
- The lower rents achievable in a suburban setting will limit some of the development types that the market is likely to bring into the area.
- Significant increases in density can be achieved without greatly raising construction costs.

#### [Economic Development Strategic Plan](#)

This plan describes a high-level strategy to direct local economic development efforts in the City of Tualatin. It recognizes priorities for infrastructure development and quality of life addressed by other master plans, in addition to identifying important industry clusters. The Plan recommends approaches to retain and expand existing businesses as well as attract new businesses. The five target industry clusters identified include: advanced manufacturing; health care and related businesses; corporate and business services; food processing, distribution and wholesale; wood, paper, printing and related businesses.

#### [Water Master Plan \(2013\)](#)

The Water Master Plan was a comprehensive analysis of the City of Tualatin’s water system. The plan covers Tualatin’s network of water pipelines, storage tanks, valves and hydrants. Its purpose is to identify system deficiencies, determine future water distribution system supply requirements, and recommend water system facility improvements that correct existing deficiencies and provide future system expansion. The Plan did not anticipate the Basalt Creek planning area, as concept planning and determination of the city limit boundary had not been complete. At the time of its writing, it was expected that the Water Master Plan would be updated in the future to include Basalt Creek.

### Sanitary Sewer Master Plan (2014)

The 2014 Sanitary Sewer Master Plan is currently on hold until completion of the Basalt Creek planning process. It will provide a comprehensive analysis of the city's sanitary sewer system, including Tualatin's network of gravity & force main lines and pump stations. Its purpose is to identify system deficiencies, determine future collection system requirements, and recommend sanitary sewer system facility improvements that correct existing deficiencies and provide future system expansion.

## Area Plans

### *Coffee Creek Master Plan (2007)*

The Coffee Creek planning area is comprised of 216 acres to the south of the Basalt Creek area. It has been designated by Metro as a Regionally Significant Industrial Area (RSIA) and includes strict limits on the amount and size of retail, service, residential and office uses allowed to be developed there. Forecasts in the Plan suggest that between 1,736 and 1,890 jobs could be added to the area between 2006 and 2026, with over 90% identified as industrial.

No parcels in the planning area have been annexed yet; Wilsonville's process is property-owner initiated and the area has seen little development since the Plan's adoption. The City has identified form-based code as a tool to streamline the development process and is creating a Form Based Code (FBC) and pattern book to apply to the Coffee Creek area.<sup>10</sup> More information about how new infrastructure in the Coffee Creek and Basalt Creek planning areas might be coordinated, see Section V: Infrastructure.

### *Southwest Tualatin Concept Plan (2010)*

The Southwest Tualatin Concept Plan (SWCP) is a guide for the industrial development of a 614-acre area (448 net buildable acres) located outside the city south of SW Tualatin-Sherwood Road and generally between SW 115th and 124th Avenues. The Southwest Tualatin area is adjacent to and directly west of the Basalt Creek planning area, and is adjacent to/east of the Tonquin Employment Area. It extends south to Tonquin Road and is located in the vicinity of the Tigard Sand and Gravel quarry. A portion of the area was designated a Regionally Significant Industrial Area (RSIA) by Metro in 2004, with the assumption that it would be developed with a mix of light industrial and high-tech uses in a campus-like setting. The Concept Plan estimates that 3,500 new jobs will be located in the area by the year 2035 (2010 forecast).<sup>11</sup>

Currently there is no water or sewer infrastructure in this planning area. However, the City of Tualatin Water and Sewer Master Plans both include the Concept Plan area in the hydraulic modeling and capital improvement project (CIP) identification. Recommended improvements include:

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<sup>10</sup> City of Wilsonville Community Development Department webpage: <http://www.ci.wilsonville.or.us/594/Light-Industrial-Form-Based-Code>. Retrieved August 21st, 2014.

<sup>11</sup> This number is slightly smaller than the result from Metro's model, which forecast in 2005 that 3,735 new jobs would be added to the area by 2035.

## Water

- A new Level A reservoir (CIP Project R-1) and pipeline projects (P-6 and P-16)
- 13,000 linear feet of 16-inch-diameter pipe to provide a looped water supply

## Sewer

- A new 24-inch pipeline located in Tualatin-Sherwood Road, extending from the Concept Plan area/URA easterly to SW Avery Street;
- Increase existing 12- to 21-inch pipe to 18-inch and 36-inch pipeline extending from near the SW Tualatin Sherwood Road/SW Avery Street intersection to the existing Bluff/Cipole Trunk
- Upsize existing trunk line pipe diameters.

## Stormwater

- New conveyance system along roadways
- Facility(ies) to treat and detain (if necessary) site development runoff

The sequencing of infrastructure construction will be coordinated with the timing of development in the area, as well as with the Basalt Creek planning area.

### *Tonquin Employment Area Concept Plan (2010)*

This planning area is comprised of 300 acres designated industrial land northwest of (but not adjacent to) the Basalt Creek planning area. It is bounded on its eastern edge by the future 124<sup>th</sup> Avenue extension. It was added to the UGB in 2004 and will be annexed to the City of Sherwood on a case-by-case, property owner-initiated basis. Creation of an Employment Industrial Zone is proposed to implement this plan. The regional employment forecast projects the addition of 2,290 more jobs during the next 20 years, 83% being industrial and 17% a mix of retail, commercial, services and office.

# III. Natural and Historic Resources

The purpose of this section is to describe the natural and historic resources in the planning area, as well as the regulatory framework through which they may be protected, conserved or mitigated for.

## Natural Features

The Basalt Creek planning area is named for the creek flowing north to south through the area, eventually draining into the Willamette River. Basalt Creek has alternatively been known as Seeley's Creek and Tappin Creek. The area primarily drains into the Willamette River; a small area in the northeast corner drains into the Tualatin River.

The general character of the area's landscape was shaped by the Glacial Lake Missoula Ice Age floods, a series of cataclysmic floods that formed the Columbia River Gorge and the Willamette Valley during the last Ice Age. Remains from the Ice Age floods that can be seen in and around the Basalt Creek planning area include glacial erratic, scablands, kolk ponds, flood channels and ripple marks. Today, the area has been described as being "comprised of upland prairie fragments, and oak and madrone woodlands. Rare wildflowers are found near basalt hummocks (scablands) to the west of the planning area, and rare reptiles (pond turtles) and amphibians (northern red-legged frogs) live in the kolk ponds."<sup>12</sup>

In 2009, federal legislation was passed to create the National Park Service's Ice Age Flood National Geologic Trail in order to bring the dramatic story of the Ice Age Floods to the public's attention. The Trail is intended to be a network of marked touring routes extending across parts of Montana, Idaho, Washington and Oregon, with several special interpretive centers located across the region. This federal legislation will help bring funding and tourism to local trails that will be a part of the region-wide Ice Age Trail network. Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional jurisdictions to embark on trail implementation efforts. The proposed trail alignments show about 22 miles of trails connected through Tualatin, Wilsonville and Sherwood, and includes a several-mile section traversing the Basalt Creek planning area (Figure 12).

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<sup>12</sup> Ice Age Tonquin Master Plan, 2012 P24:  
[http://www.oregonmetro.gov/sites/default/files/tonquin\\_trail\\_master\\_plan.pdf](http://www.oregonmetro.gov/sites/default/files/tonquin_trail_master_plan.pdf)



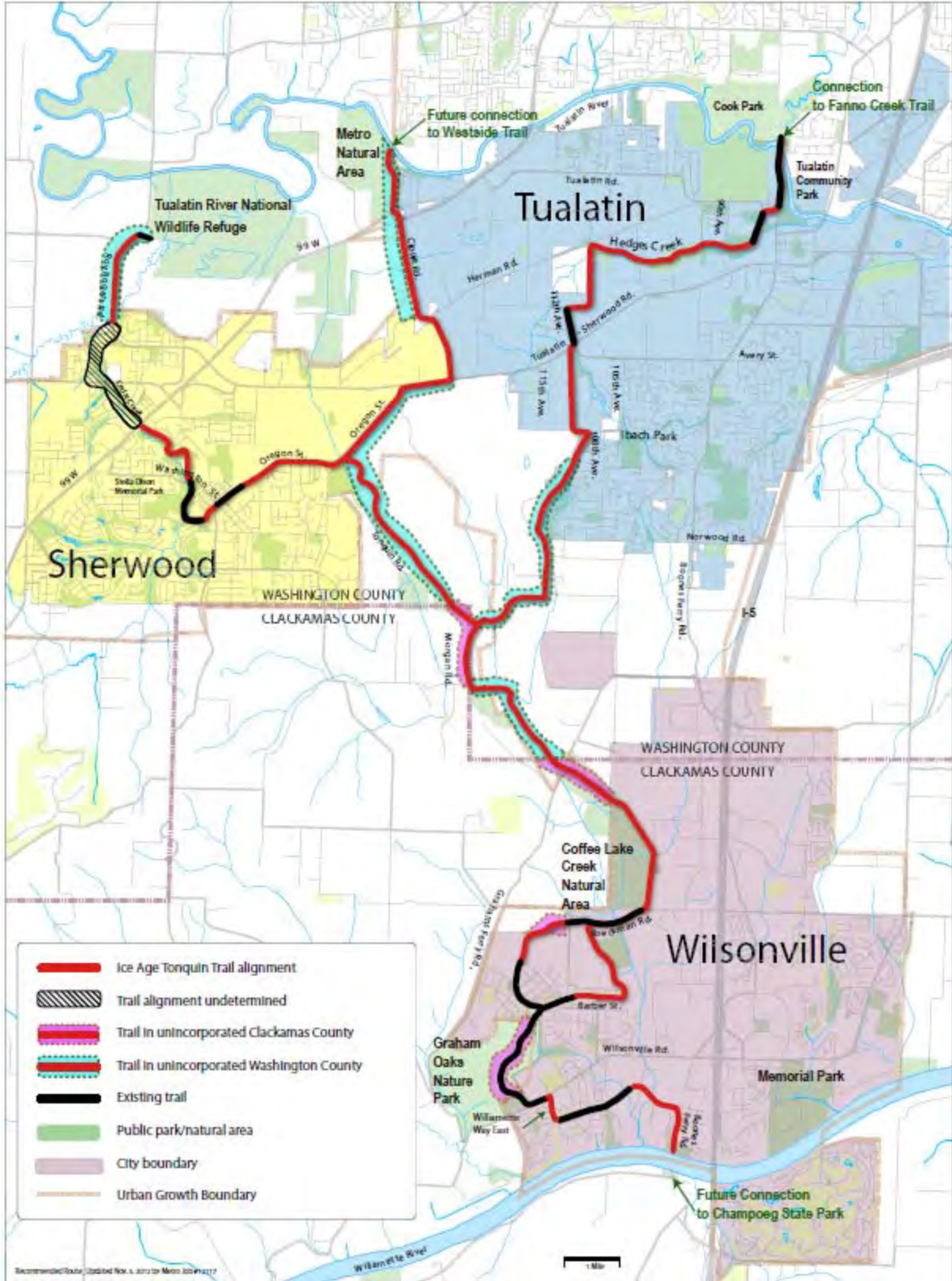


Figure 12 Proposed Trail Alignment from Metro's Ice Age Tonquin Trail Master Plan, 2013.

## Groundwater Hydrology

The Basalt Creek planning area falls primarily in the Middle Willamette Sub Basin, with a very small section in the northeast corner falling in the Tualatin Sub Basin (Figure 13). Within the Middle Willamette Sub Basin, the planning area is predominately in the Abernethy Creek Watershed (the small portion in the Tualatin Sub Basin is in the Fanno Creek Watershed). Abernethy Creek flows for approximately 16 miles through the hills east and north of Oregon City, joining the Willamette River from the east. The total drainage area of Abernethy Creek is 30 square miles.<sup>13</sup>

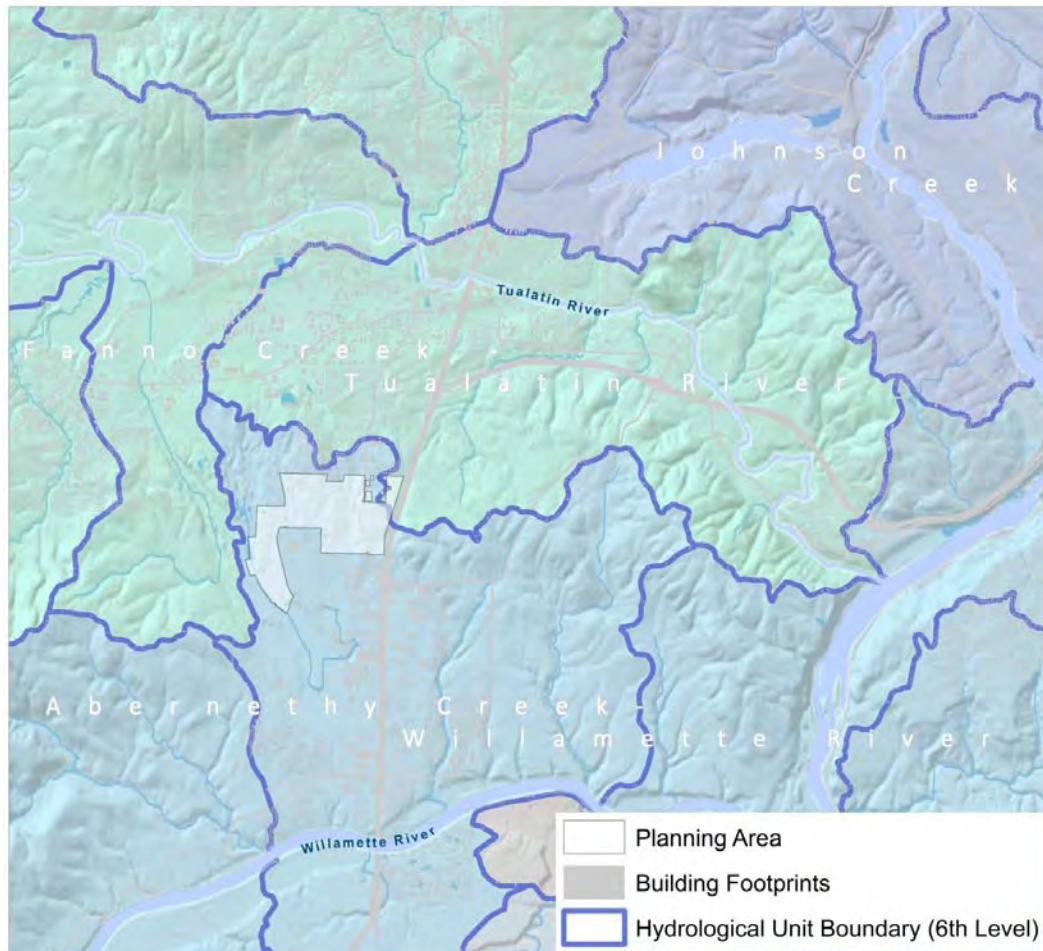


Figure 13 Basalt Creek planning area in the context of the Middle Willamette and Tualatin River Watersheds. Source: Fregonese Associates, RLIS 2014.

## Soils

Hydrologic soils are assigned a letter designation of A, B, C or D, based on the rate of water transmission through the soil, or how well the soil drains. Class A soils have the best infiltration and drainage. Class B soils will infiltrate water into the soil somewhat quickly and drain marginally well. They have a lower

<sup>13</sup> Flood Insurance Study for Clackamas County, Oregon, Vol. 1 (2008)  
<http://oregonriskmap.com/index.php/mappingtools/all-downloads/pdf/37-clackamas-co-fis-vol1/file>

runoff potential. Class C soil infiltrates fairly poorly and drains poorly. Class D soils infiltrate water into the soil very slowly and have correspondingly high runoff potential. There is no Class A soil in the planning area (Figure 14). Well-drained soils comprise 85% of the area and 13% of the area is comprised of poorly draining soils. The remaining 1.7% is split between moderately well- and somewhat-poorly drained soils.

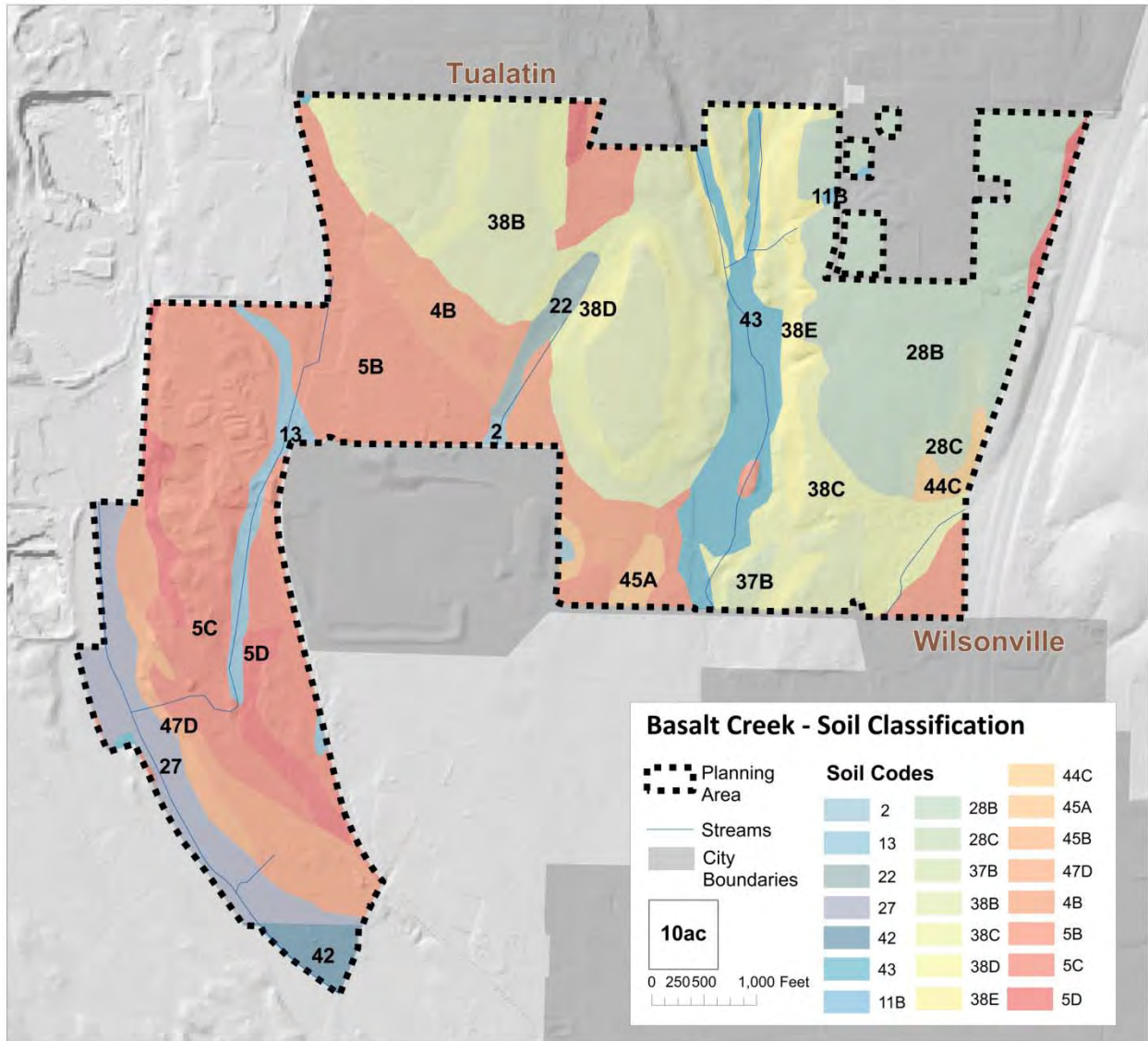






















Figure 14 Hydrologic Classification of Soils in the Basalt Creek planning area. Source: Fregonese Associates, USDA Soil Survey 2014.

**Table 2** Descriptions of Hydrologic Soil Classifications from Figure 14. Source: USDA Soil Survey 2014.

Map Symbol	Soil Code	Soil Description	Acres	% of Planning Area	Drainage
	2	Amity silt loam	1.9	0.2%	Somewhat poorly drained
	13	Cove silty clay loam	15.2	1.8%	Poorly drained
	22	Huberly silt loam	8.2	1.0%	Poorly drained
	42	Humaquepts, ponded	7.5	0.9%	Poorly drained
	43	Wapato silty clay loam	41	4.8%	Poorly drained
	11B	Cornelius and Kinton silt loams, 2 to 7 percent slopes	0.9	0.1%	Moderately well-drained
	28B	Laurelwood silt loam, 3 to 7 percent slopes	109	12.9%	Well-drained
	28C	Laurelwood silt loam, 7 to 12 percent slopes	10.4	1.2%	Well-drained
	37B	Quatama loam, 3 to 7 percent slopes	4	0.5%	Moderately well-drained
	38B	Saum silt loam, 2 to 7 percent slopes	131.5	15.5%	Well-drained
	38C	Saum silt loam, 7 to 12 percent slopes	102.7	12.1%	Well-drained
	38D	Saum silt loam, 12 to 20 percent slopes	12.1	1.4%	Well-drained
	38E	Saum silt loam, 20 to 30 percent slopes	30.1	3.6%	Well-drained
	44C	Willamette silt loam, 7 to 12 percent slopes	5.7	0.7%	Well-drained
	45A	Woodburn silt loam, 0 to 3 percent slopes	7.2	0.9%	Moderately well-drained
	47D	Xerochrepts-Rock outcrop complex	10.3	1.2%	Well-drained
	4B	Briedwell silt loam, 0 to 7 percent slopes	50.2	5.9%	Well-drained
	5B	Briedwell stony silt loam, 0 to 7 percent slopes	148.7	17.6%	Well-drained
	5C	Briedwell stony silt loam, 7 to 12 percent slopes	55.1	6.5%	Well-drained
	5D	Briedwell stony silt loam, 12 to 20 percent slopes	25.9	3.1%	Well-drained
	<b>Subtotals</b>		<b>839.4</b>	<b>99.1%</b>	

## Streams and Wetlands

There are two main streams running through the planning area – Basalt Creek (also known as Seeley’s Creek or Tappin Creek) and an unnamed, intermittent creek to the west. Coffee Lake Creek forms the western boundary of the planning area (Figure 15).

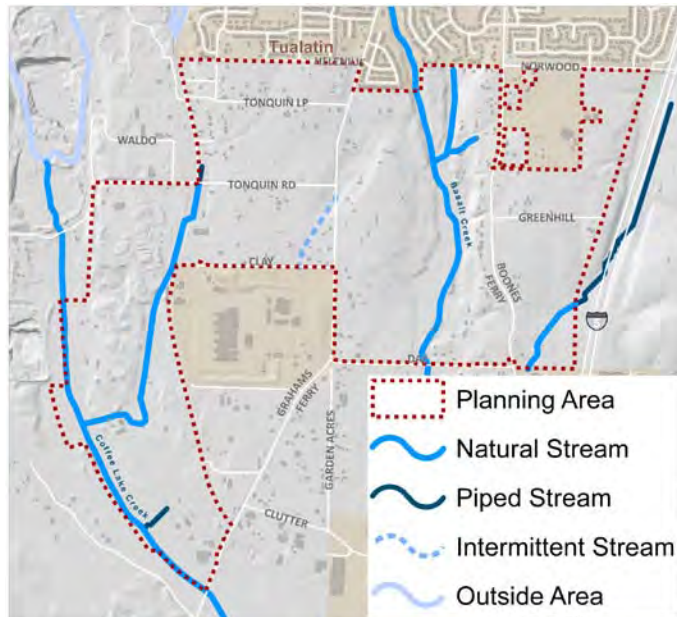


Figure 15 Natural, Underground and Intermittent Streams in Basalt Creek planning area. Source: Fregonese Associates, RLIS, City of Wilsonville field survey 2014.

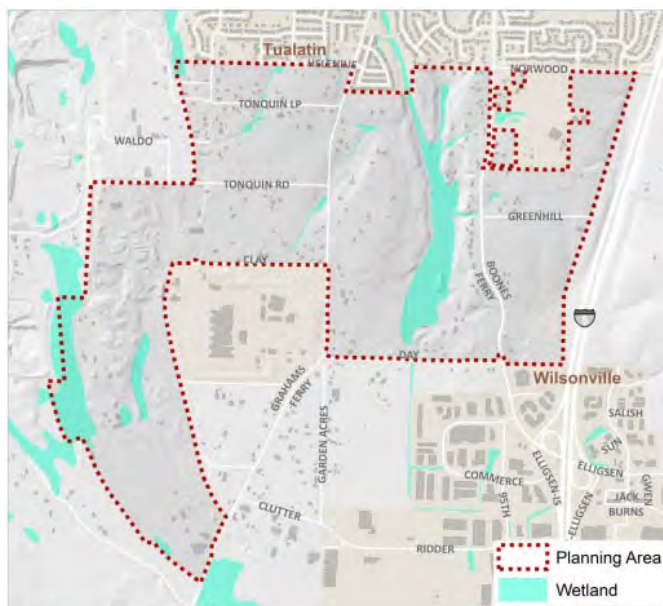


Figure 16 Wetlands in Basalt Creek planning area. Source: Fregonese Associates, RLIS, City of Wilsonville field survey 2014.

Through a combination of RLIS data and field work by the City of Wilsonville it has been determined that there are 11,478 feet of natural streams, 8,157 feet of underground streams and 1,402 feet of intermittent streams in the planning area.<sup>14</sup> In the plan area there are 69 acres of wetlands (8% of the planning area (Figure 16), including 49 acres of open water.

### Floodplain

On the western border of the planning area (Figure 17) there are 53 acres of land (6% of the area) around Coffee Lake Creek that are within the 1% annual chance flood event area, as designated by the Federal Emergency Management Agency (FEMA) in a 2005 revision of the Washington County Flood Insurance Study (FIS).<sup>15</sup> The small portion of the planning area within Clackamas County is unaffected by the 1% annual chance flood event area, as identified in the Clackamas County FIS (2008).<sup>16</sup>

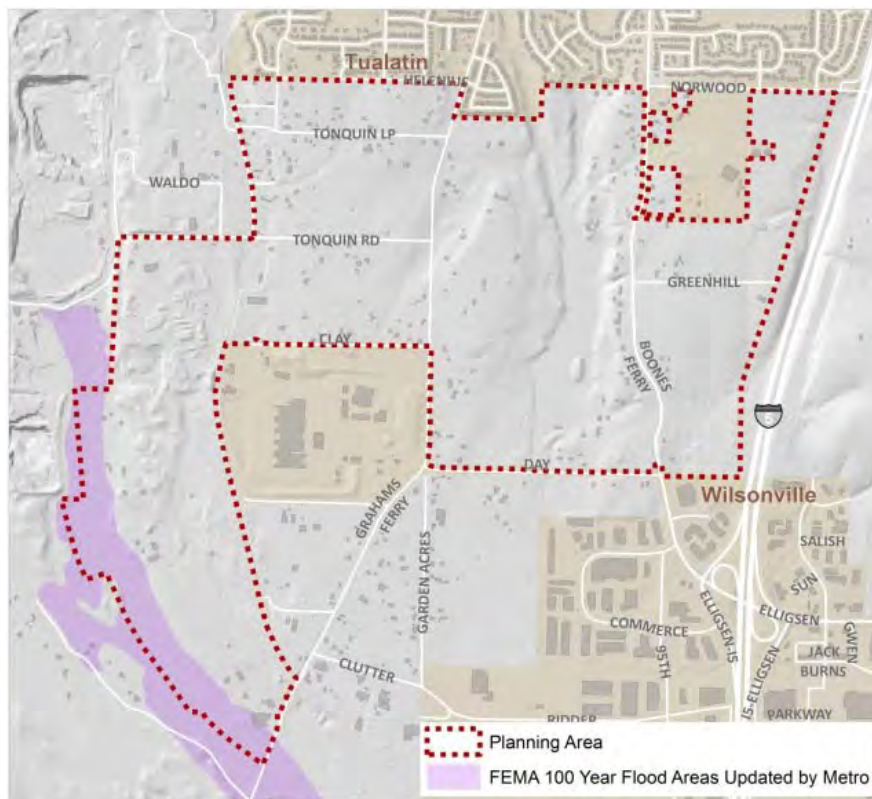


Figure 17 FEMA 1% annual chance flood event area in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014, FEMA 2007.

<sup>14</sup> Data sources: RLIS, Wetland Delineation Report for proposed Boones Ferry widening, additional wetlands digitized by FA based on 2013 and 2012 (leaf free) aerials.

<sup>15</sup> In 2005 the original 1980 FIS study was revised to incorporate new floodplain data for Ash Creek, Fanno Creek and Summer Creek in the unincorporated areas of Washington County in response to the largest flood event to occur since 1980, the November 1996 flood along Fanno Creek. Source:

<http://www.oregonriskmap.com/index.php/mappingtools/all-downloads/pdf/174-washington-co-fis-2005-part1/file>

<sup>16</sup> FIS for Clackamas County, Oregon, 2008.

## Regulatory Framework for Conserving Natural Resources

### *Oregon Land Use Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces*

The purpose of Goal 5 is to protect natural resources and conserve scenic and historic areas and open spaces. It directs local governments to adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. In the Metro region Titles 3 and 13 of Metro's Urban Growth Management Functional Plan provides a regional framework for local governments to implement Goal 5.

### *Metro Title 3: Water Quality, Flood Management and Fish and Wildlife Conservation*

Metro's Title 3 requires local jurisdictions to limit or mitigate the impact of development activities on Water Quality and Flood Management Areas which include wetlands and riparian areas. In 2001 Metro conducted a regional inventory of wetlands and riparian areas protected by Title 3.

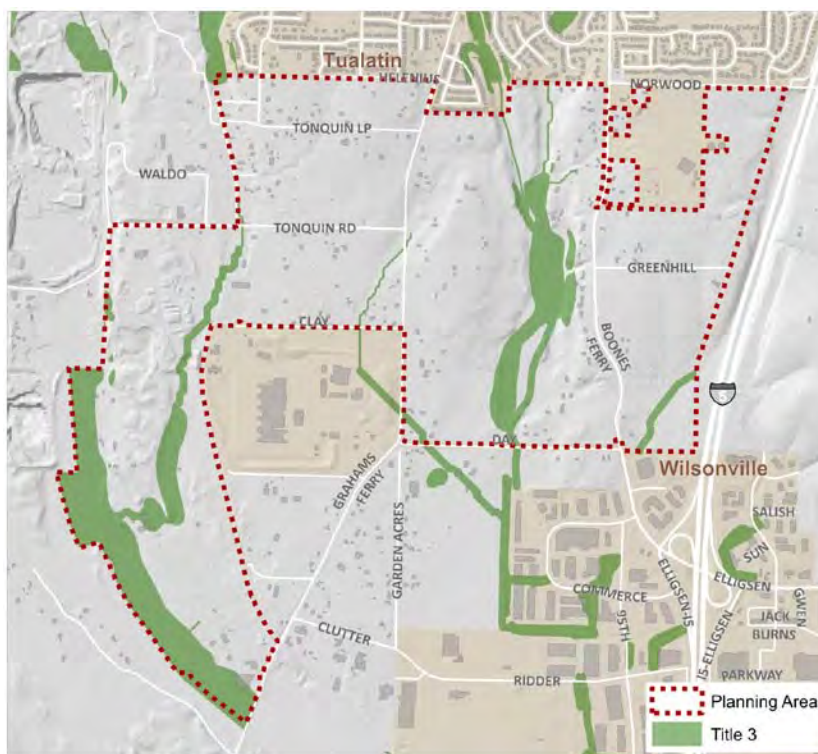


Figure 18 Title 3 lands (116 acres; 14% of total area) in Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

There are 116 acres of land in the Basalt Creek planning area that have been designated by Metro as Water Quality and Flood Management Areas under Title 3 (Figure 18). These lands are restricted for development and buffered by a vegetated corridor (the width of which is determined by factors described in the Natural Resources section of this document). Any development within the vegetated

corridor must be mitigated by environmental restoration and/or stormwater retention and water quality measures, as determined by the performance standards described in Metro’s Title 3. Both the City of Wilsonville and Clean Water Services have local ordinances in place that go beyond the level of conservation required by Title 3 and so existing local standards from each City would likely apply upon annexation of a planning area property into either Wilsonville or Tualatin.

*Metro Title 13 – Nature in Neighborhoods*

Title 13 is a policy requiring local jurisdictions to protect and encouraging them to restore a continuous ecologically viable streamside corridor system integrated with upland wildlife habitat and the urban landscape. In 2001 Metro conducted a regional habitat inventory and identified the location and health of fish and wildlife habitat based on different sets of criteria for waterside, riparian and upland habitat. These areas were named Habitat Conservation Areas (HCAs).

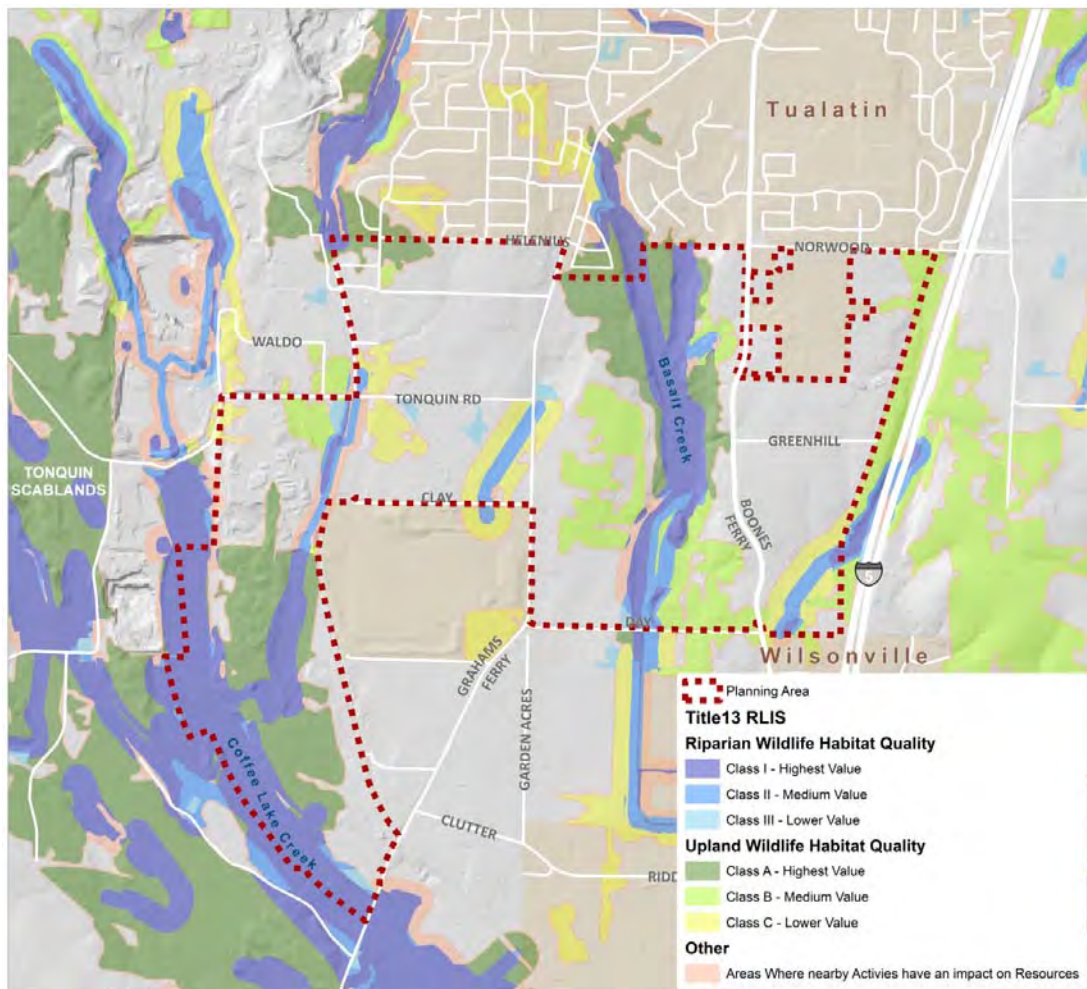


Figure 19 Title 13 lands in the Basalt Creek planning area (431 acres total, 51% of total area).<sup>17</sup> Source: Fregonese Associates, RLIS 2014.

<sup>17</sup> Note that most of these lands, other than Classes I and II of Riparian Habitat, can still accommodate some level of development.



Development is not restricted in HCAs on land that was brought into the UGB before December 28, 2005<sup>18</sup>. However, it is strongly encouraged that HCAs are taken into consideration during the concept planning process. Development in areas designated as protected under Title 13 in the Basalt Creek area is generally discouraged. If development does take place incorporation of low impact design and mitigation strategies to maintain the functionality of these important ecological areas will be important.

In the planning area there are 130 acres designated as Riparian Wildlife Habitat Class I, 31 acres designated as Class II, and 7 acres Class III. In addition, 103 acres are designated as Upland Wildlife Habitat Class A, 72 acres are Class B, and 37 acres are Class C (Figure 19). Designated impact areas comprise 52 acres.

*Washington County Comprehensive Plan – Rural/Natural Resource Element*

No land within the planning area is identified by the Washington County Comprehensive Plan as a Significant Natural Resource. The nearest Significant Natural Resource area is comprised of the Tonquin Scablands, to the west of Coffee Lake Creek.

*Clean Water Services Design & Construction Standards (2007)*

Clean Water Services (CWS) is the regional agency that manages stormwater in the urban areas of the Tualatin River Watershed, including the entire City of Tualatin. CWS holds a regional National Pollutant Discharge Elimination System (NPDES) storm water permit. *Chapter 3: Sensitive Areas and Vegetated Corridors* describes the methodology used by CWS to determine mitigation requirements in sensitive areas such as vegetated corridors surrounding streams and wetland habitat.

**Table 3** Vegetated Corridor Widths Adjacent to the Sensitive Area Where Activity is Not Redevelopment. Source: Clean Water Services Design and Construction Standards, Chapter 3.

Sensitive Area Type	Width: Slope < 25%	Width: Slope ≥ 25%
<b>Existing or created wetlands:</b>		
< 0.5 acres and isolated	25 ft	Variable from 25-200 ft
< 0.5 acres and isolated	50 ft	Variable from 50-200 ft
≥ 0.5 acres	50 ft	Variable from 50-200 ft
Natural lakes, ponds, and in-stream impoundments	50 ft	Variable from 50-200 ft
<b>Springs:</b>		
Intermittent flow	0	15 ft.
Perennial flow	50 ft.	Variable from 50-200 ft
<b>Intermittent Streams draining:</b>		
< 10 acres	0	0
≥ 10 to < 50 acres	15 ft	Variable from 50-200 ft
≥ 50 to < 100 acres	25 ft	Variable from 50-200 ft
≥ 100 acres	50 ft	Variable from 50-200 ft
<b>Perennial Streams:</b>		
Other than Tualatin River	50 ft	Variable from 50-200 ft
Tualatin River	125 ft	Variable from 50-200 ft

<sup>18</sup> Metro Title 13: Nature in Neighborhoods 2007, S3.07 P85.

These standards exceed the level of conservation required by Metro’s Title 3 (Table 3). Permitted development must comply with CWS’s Design and Construction Standards & Service Provider Letters (SPLs) for impacts to vegetated corridors.

*City of Wilsonville – Significant Resource Overlay Zone (SROZ)*

Within the City of Wilsonville, the Significant Resource Overlay Zone (SROZ) includes floodplains, wetlands, and riparian corridors around significant resources and upland habitat, as well as vegetated corridors around areas designated as Significant Resources. Impact areas are generally considered to be the areas within 25 feet of a Significant Resource area. Development is allowed in portions of the SROZ (i.e. upland forests), but can only be permitted through review of a Significant Resource Impact Report (SRIR). An SRIR is a report that delineates specific resource boundaries and analyzes the impacts of development within mapped significant resource areas.<sup>19</sup> A table comparing these methodologies can be found in Section VIII: *Land Capacity Analysis*.

Table 4 Metro Water Quality Resource Area Slope Calculations. Source: Metro 2014.

Protected Water Feature Type	Slope Adjacent to Protected Water Feature	Starting Point for Measurements from Water Feature	Width of Vegetated Corridor (Setback)
Primary Protected Water Features	< 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	50 ft
Primary Protected Water Features	≥ 25% for 150 ft or more	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	200 ft
Primary Protected Water Features	≥ 25% for less than 150 ft	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	Distance from starting point of measurement to top of ravine (break in ≥ 25% slope), plus 50 ft
Secondary Protected Water Features	< 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	15 ft
Secondary Protected Water Features	≥ 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	50 ft

<sup>19</sup> Full requirements for an SRIR can be found in Section 4.139.05 of the Wilsonville Zoning Code (pp. B-133 - 138). Section 4.139 also outlines mitigation standards for development encroaching on an Impact Area or Significant Resource Overlay Zone as well as development activities that would trigger a Class I or II Administrative Review Process, in addition to a list of special provisions.

## Cultural and Historic Resources

In addition to the unique geologic history of the Basalt Creek area, community members have identified the old Carlon Schoolhouse (Figure 20) as being historically significant. Off Grahams Ferry Road, behind Chick-a-Dee Nursery and not far from Day Road, the structure has often been overlooked as an important historic school that was used in the late 1800s, up until just before the first Tualatin schools. In 1939, the Carlon School District consolidated with Tualatin. It is still in good condition, maintained through a foundation.<sup>20</sup>



Figure 20: The Carlon Schoolhouse. Source: Martinazzi, Loyce. Tualatin Life Newspaper August 19, 2014.

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<sup>20</sup> Addington, Yvonne, Board Member of Tualatin Historical Society. Email communication, August 19<sup>th</sup>, 2014.

# IV. Public Facilities

## Schools

The study area falls within the Sherwood School District (88J), which has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School (Figure 21).

The planning area is near Tualatin High School, one of two high schools in the Tigard Tualatin School District. The district includes three middle schools and ten elementary schools. It serves 12,363 students overall. Horizon Christian High School (private) has 160 students enrolled on their campus with a vision of serving up to a 1,000 students in the future.<sup>21</sup>

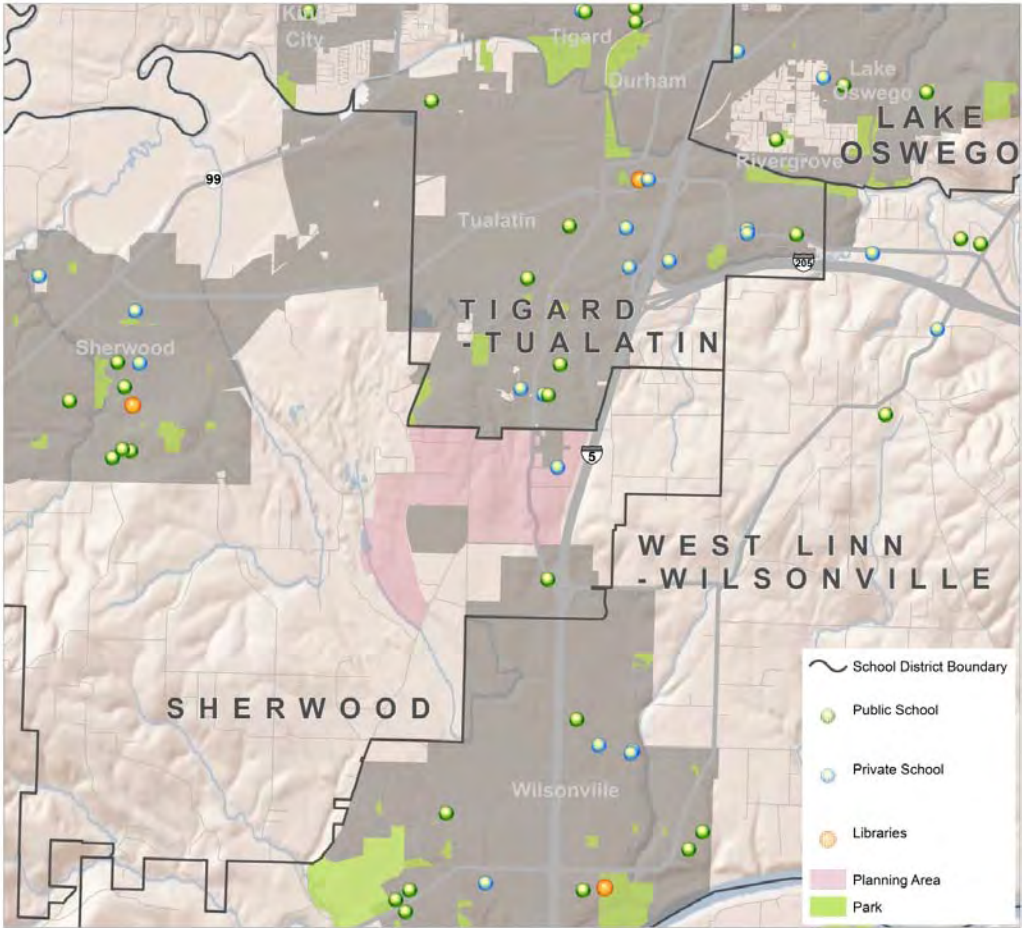


Figure 21 Schools, libraries and parks near the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

<sup>21</sup> Levasa, Roger. Director of Development for Horizon Church. Personal communication July 31<sup>st</sup>, 2014.

## Parks

Wilsonville Parks owns and maintains 16 different public parks. City of Tualatin Parks and Recreation owns and maintains 9 different parks (Figure 21).

## Libraries

There are three libraries in the general vicinity of the planning area (Figure 21): the Tualatin Public Library located at 18878 SW Martinazzi Avenue, serving 24,420 residents, the Wilsonville Public Library located at 8200 SW Wilsonville Road, and the Sherwood Public Library at 22560 SW Pine Street, which serves 17,579 residents.

## Fire

There are three Tualatin Valley Fire & Rescue (TVF&R) stations in general proximity of the Basalt Creek area (Stations 33, 34, 52). The TVF&R training center is just west of the planning area boundary (Figure 22).

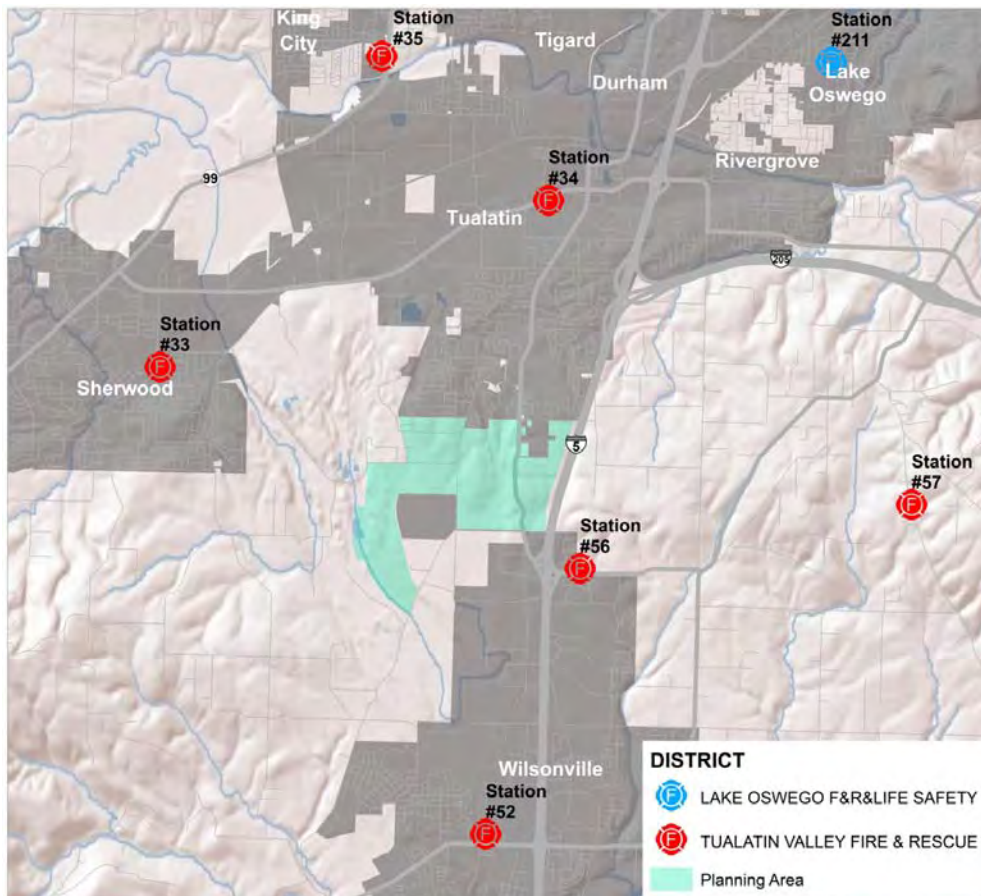


Figure 22 Fire station locations and service area boundaries near the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

## Police

Currently the Washington County Sheriff's Office provides law enforcement services in the Basalt Creek planning area. The Washington County Sheriff's Department and Jail are located about twenty miles from the planning area, in downtown Hillsboro.

Wilsonville contracts with the Clackamas County Sheriff's Office to provide law enforcement services to the City. The contract makes certain special services available to the City as well, including its detectives division, hazardous materials team, special investigations unit and traffic team. It also provides the city with a dedicated chief of police, school resource officer, and detective, in addition to 15 deputies. The Clackamas County Jail facility is located about 20 miles east of Wilsonville, in Oregon City.

The Tualatin Police serve the area inside the city's limits. The police department consists of 38 sworn officers and an additional 8.5 professional staff members providing administrative support.<sup>22</sup> The department includes a detective unit, police services unit, school resource unit, Honor Guard (volunteer-based), park rangers, police reserves and a traffic team. The Tualatin Police Department does not have a facility to hold prisoners, and utilizes the Washington County Jail in Hillsboro.

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<sup>22</sup> Tualatin Police Department Website: <http://www.tualatinoregon.gov/police/police-services-unit> retrieved July 31st, 2014.

# V. Commercial, Industrial & Residential Real Estate Markets

The purpose of this section is to provide a picture of existing real estate market conditions and the outlook for office, residential, and retail development in Basalt Creek and adjacent areas.



Figure 23 Photo of planning area: Grahams Ferry Road, looking north into the Basalt Creek planning area. Source: Leland Consulting Group 2014.

## Industrial and Office Market

Basalt Creek is located near the center of one of the region’s largest clusters of employment land, which includes existing developed areas in the cities of Tualatin, Wilsonville, and Sherwood, as well as the planned future employment areas of Southwest Tualatin, Tonquin, and Coffee Creek). A market area was defined for this report so results can be compared with future analysis (Figure 24). The market area includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas.

The Metro Regional Government projects rapid employment growth of 2.3% annually for the market area through 2035—about 40% faster than the employment growth in the overall region (1.7 %). This pattern indicates that ongoing business expansion and job creation is expected for these three cities, comprising a large portion of the southwestern metropolitan area.

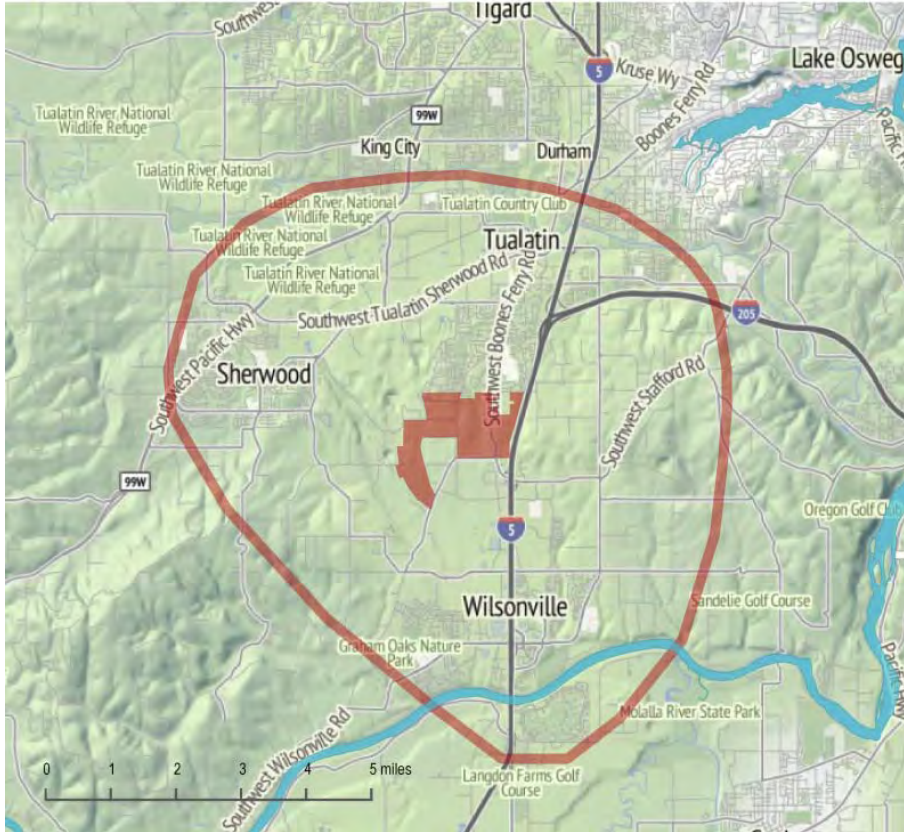


Figure 24 Market Analysis Area for the Basalt Creek area. Source: Leland Consulting Group, 2014.

Tualatin and Wilsonville have independently identified a series of industry clusters in which the two cities are already highly competitive, and in which they expect future significant business and job growth. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. Leading organizations within these clusters include Lam Research, Legacy Meridian Park Medical Center, the Oregon Institute of Technology, Mentor Graphics, and Xerox Corporation. Businesses in these categories would be well-suited to locate in the Basalt Creek planning area.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Development peaked during the 1990’s and has slowed following the recession; however, industrial development in particular is expected to resume and accelerate in coming years due to a desire to “onshore” jobs (bring employment back from overseas), shorten supply chains, and take advantage of lower domestic costs in some industries. Between 1980 and 2014, the cities of Tualatin and Wilsonville saw on average over 400,000 square feet of industrial and office building development annually, and 56.6 acres of industrial and office land development annually. The amount of industrial development (including warehousing, production, flexible office/industrial space, etc.) in both cities is significantly larger (more than seven times) than the amount of office development. This general dynamic is expected to persist for the foreseeable future.



Building types vary significantly within the market area: some industrial facilities contain more than 200,000 square feet of building area, while many other small office and industrial flex spaces are less than 20,000 square feet in size. The floor area ratio (FAR) of most buildings, however, generally falls within the range of 0.2 to 0.4, which generally indicates one- to three-story buildings with large areas for parking and/or freight movement. A small number of office buildings have higher FARs up to about 1.0, which indicates more dense buildings and some structured parking.

Going forward, employment development in the Basalt Creek area will benefit from a number of competitive advantages. These include its direct access to I-5, superior to other employment areas in the region; access to I-205, Highway 217, arterial roads, and transit service; a growing and educated workforce; and established and expanding industry clusters.

## Housing Market

Basalt Creek's location is also an asset for residential development for housing: the planning area is immediately south of several South Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. The market area's current demographics are encouraging for new housing development. When compared to the Portland Metropolitan Area overall, this market area has a higher percentage of family households, larger households, higher household and per capita incomes, residents with college degrees, and residents who work in white collar jobs.

## Retail/Commercial Market

There are already several major regional and sub-regional retail nodes located to the north and south of the planning area—at Bridgeport Village, central Tualatin, and in Wilsonville. Thus any commercial space built in Basalt Creek will most likely serve primarily local residents and employees. These larger centers are located at I-5 interchanges. Retail in the Basalt Creek area would not have this same advantage. Whereas regional retail is anchored by fashion, consumer electronics, entertainment, and furniture/household goods, neighborhood retail is typically anchored by grocery stores, pharmacies and restaurants, and supplemented by other local goods and services.

## Industrial and Office Market Conditions

### *Regional Employment Context*

As discussed in *Section I: Local and Regional Planning Context*, Basalt Creek is contiguous with a number of other employment and industrial areas in the southwestern part of the Portland Metropolitan Region, including those in the cities of Tualatin, Wilsonville, and Sherwood. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region, comparable in size to the agglomeration in northern Hillsboro (though smaller than the employment lands near Portland International Airport).

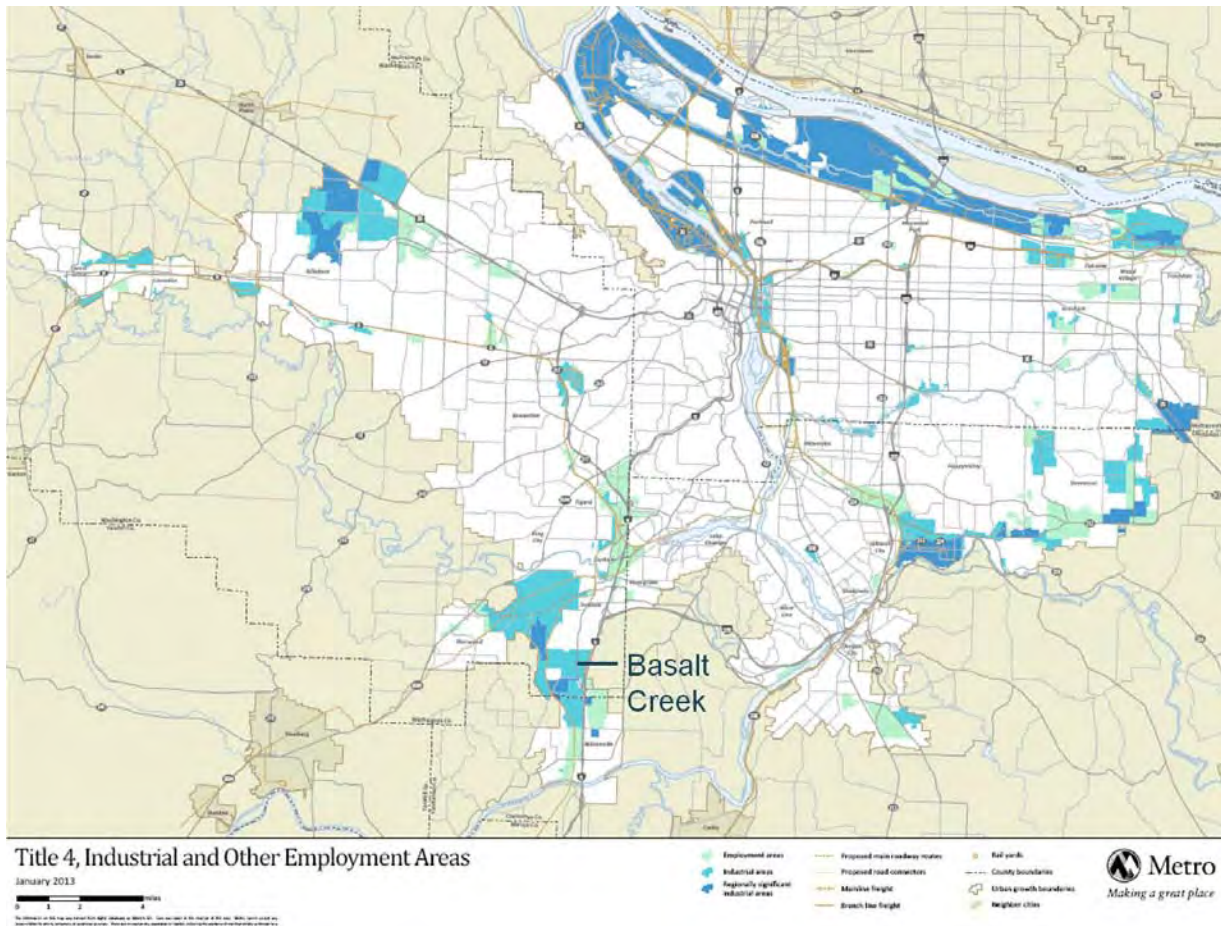


Figure 25 Title 4 Industrial and Other Employment Areas in Portland Metro Area. Source: Metro 2014.

A major feature and competitive advantage of this “Southwest Metro” employment cluster in general--and the Basalt Creek area in particular--is its immediate access to I-5, the west coast’s most important transportation route (Figure 25). Via I-5, the Basalt Creek area is closely connected to downtown Portland, numerous Willamette Valley communities, and major metropolitan areas in Washington and California. Interstate-205 and Highway 217 are also close by and easily accessible from the area. These freeway connections are a major benefit for industrial users (for whom distribution is an important site selection factor) and office-based businesses (which require access for their clients, suppliers, workforce, and collaborators).

*Industrial and Office Development, 1980 to 2014*

Figure 26 and Figure 27 below show the pace of industrial and office development in the cities of Tualatin and Wilsonville beginning in 1980. The vertical columns represent the building area (square feet) of development within each of the two cities in a given year, while the dashed line is a longer-term trend line, showing a five-year rolling average of built area for both cities combined. These historical

development trends are one data set that shapes expectations for future employment development in both cities and the Basalt Creek planning area.

Since 1980, both cities have seen considerably more industrial development than office development. Over this 34-year period, an average of 340,000 square feet of industrial space and 67,000 square feet of office space has been built in the two cities combined. Thus, the amount of industrial development has been about five times as great as office development.

### Industrial Development, Tualatin and Wilsonville, 1980 - 2014

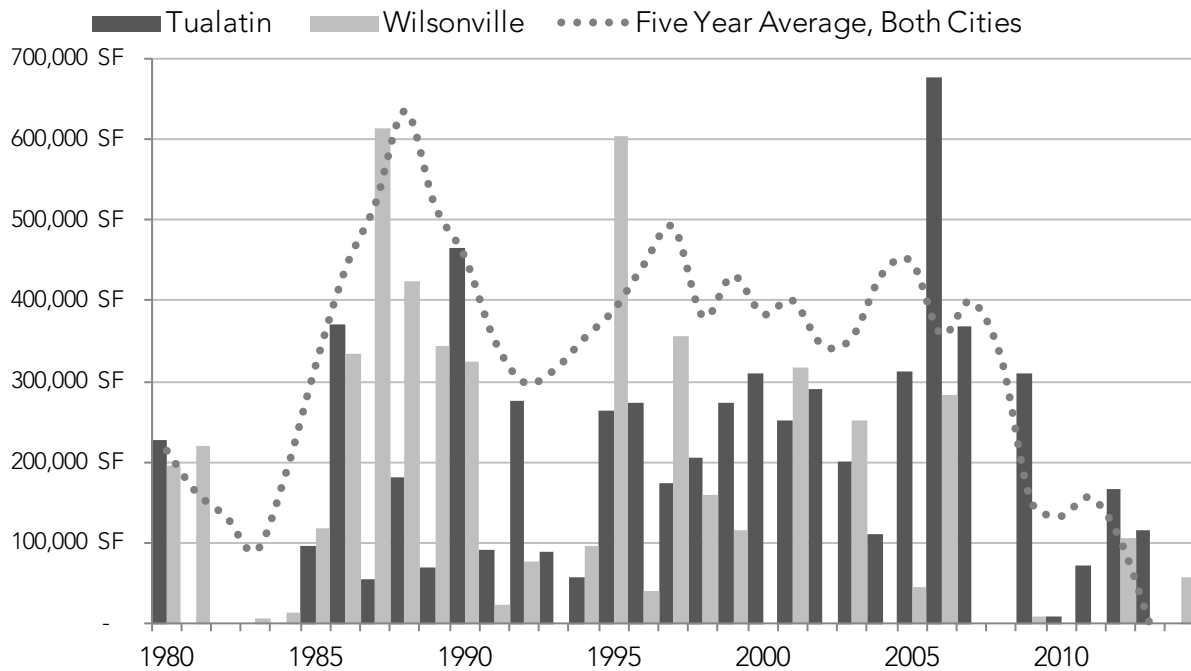


Figure 26 Industrial Development, Tualatin and Wilsonville, 1980 to 2014. Source: CoStar, Leland Consulting Group, 2014.

## Office Development, Tualatin and Wilsonville, 1980 - 2014

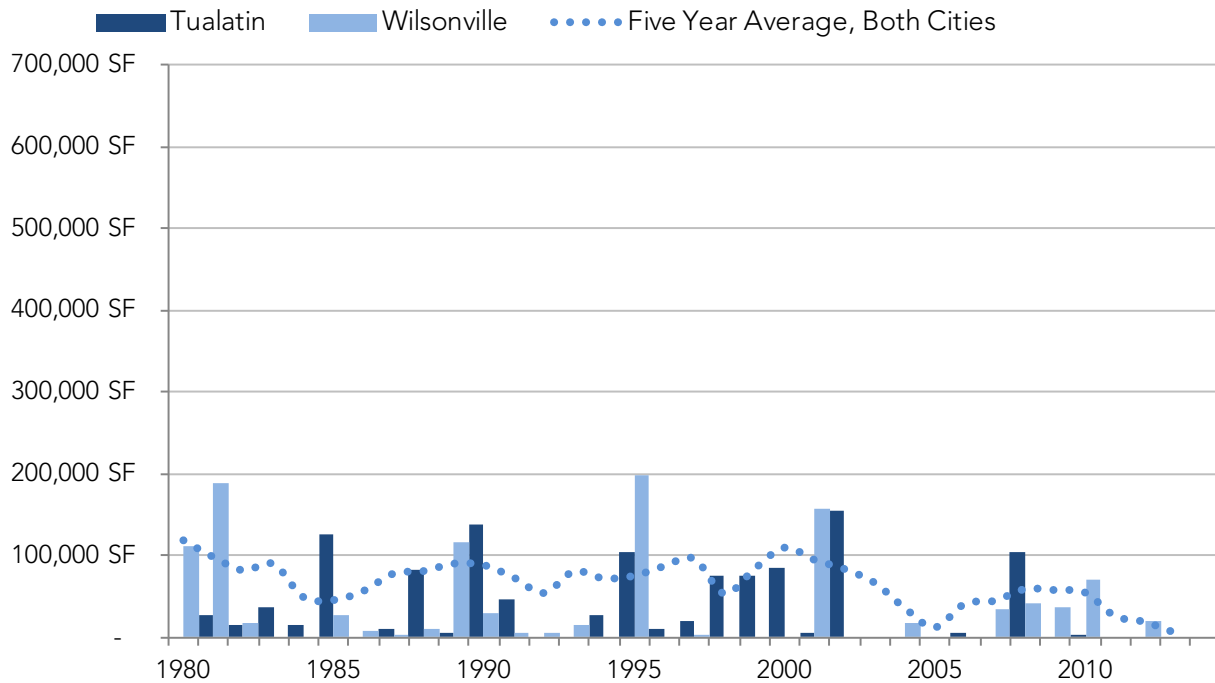


Figure 27 Office Development, Tualatin and Wilsonville, 1980 to 2014. Source: CoStar, Leland Consulting Group, 2014.

The past decade has been a slow period for both industrial and office development. The recession slowed industrial development beginning in 2008, particularly in Wilsonville. The pace of recent industrial development has been about half of development during the 1990s and early 2000s—considered to be a time of robust activity for industrial developers (see Figure 26). Office development has also slowed, although this trend began in 2003, before the recession. Office development in the past decade has also taken place at about half the pace of office development in the 1990s (Figure 27). Clearly, both industrial and office development go through significant peaks and troughs. By focusing on the five-year rolling-average trend line, however, a somewhat more consistent pattern of development can be seen.

### *Employment Building and Site Attributes*

Table 5 shows some key attributes of industrial and office development in Tualatin and Wilsonville. From looking at these attributes, it can be determined that:

- On average, 43.1 acres of industrial land and 13.6 acres of office land per year have been developed in both cities combined. Wilsonville has seen about 25 acres of employment land development per year, 16.3 acres of industrial land, and 8.3 acres of office land. Tualatin has seen about 32 acres of employment land development per year, 26.8 acres of industrial land, and 5.3 acres of office land. Employment land in Basalt Creek is likely to develop more slowly than this pace because there is less

developable land in the study area than the cities as a whole. However, development in Tualatin and Wilsonville can be used to gauge the rate of employment land development in Basalt Creek.

- Average industrial building sites (9.1 and 6.5 acres in Tualatin and Wilsonville respectively) tend to be larger than office building sites. Industrial buildings also tend to be larger than office buildings. Floor area ratios (FAR) are helpful to understanding the physical form of buildings on their sites. Most industrial buildings have a FAR of 0.2 to 0.4. Most office buildings have FARs between 0.3 and 0.5; however, there are some newer office buildings in Tualatin that feature structured parking and FARs up to 1.0. These FARs are consistent with Metro’s analysis and future projections.

**Table 5** Attributes of Industrial and Office Development in Tualatin and Wilsonville. Source: CoStar, Leland Consulting Group 2014. SF: Square feet; FAR: Floor area ratio, the ratio of a building’s size in square feet (or gross building area) to the size of the piece of land upon which it is built.

	Industrial			Office		
	Tualatin	Wilsonville	Total	Tualatin	Wilsonville	Total
<b>Total Area (SF)</b>	10,470,000	8,390,000	18,860,000	1,260,000	1,250,000	2,510,000
<b>Av. Annual Development, 1980 - 2014</b>						
<i>Square Feet</i>	186,960	150,980	337,940	34,632	32,985	67,617
<i>Acres</i>	26.8	16.3	43.1	5.3	8.3	13.6
<b>Building Averages, 2000 - 2014</b>						
<i>Square Feet</i>	60,224	80,000	-	31,807	35,000	-
<i>Acres</i>	9.1	6.5	-	4.2	2.0	-
<b>Typical Floor Area Ratios (FAR)</b>	0.2 to 0.4	0.2 to 0.4	-	0.4 to 1.0	0.3 to 0.5	-

It is of note that, while the averages shown here are useful for high-level planning purposes, both industrial and office buildings vary considerably in size, scale, and purpose. For example, the industrial building category includes flex buildings, which can often be divided into 5,000 square foot tenant spaces and feature significant amounts of office and showroom space. The industrial category also includes distribution and warehouse buildings, which can be hundreds of thousands of square feet in size. Sample industrial and office buildings are pictured below in Figures Figure 28, Figure 29 and Figure 30.

*Typical Industrial Buildings: Office/Distribution and Flex*

The first building pictured below (Figure 28) is located in the Wilsonville Business Center west of I-5 and contains a mix of office space (left foreground) and warehouse/distribution space, where freight trucks are parked. The second building pictured below (Figure 29) is a typical flex industrial building located in the Tualatin Industrial Center, which features high ceiling heights, freight loading, and small, flexible spaces that can serve as a combination of office, showroom, and/or industrial.



Figure 28 Example of typical building with a mix of office space and warehouse/distribution space.



Figure 29 Example of typical flex industrial building, located in Tualatin.

*Headquarters Office Building (Mentor Graphics)*

The Mentor Graphics building (Figure 30) is located east of I-5 between the Elligsen Road and Wilsonville Road interchanges. Despite its size and height, the FAR of the building is similar to other buildings in the area because of its extensive campus, landscaped areas, and surface parking.



Figure 30 Mentor Graphics Headquarters Office Building in Wilsonville.

Office Development Outlook

Office development—nationally and regionally—is not expected to bounce back from the recession with the same resiliency as industrial space. Office development in the short- and long-term faces several challenges. In the short-term, the Portland region’s employment levels have just recovered in 2014 to their pre-recession (2008) levels. While office vacancies are far lower than several years ago, there is not yet market pressure for new development. As Table 6 shows, the region is expected to add just 288,000 square feet of office in 2014, or 0.6% of the total regional inventory of nearly 47 million square feet. Tualatin’s current vacancy rate of 20.5% suggests a soft market, though that space will be occupied in the long term. The market is expected to improve as the region and nation continue to recover from the recession, and businesses grow and add jobs. However, office development is not expected to return to levels seen in the 1990s without a major upturn in the economy.

Table 6 Current Office Market Summary, Portland Metro Region. Source: CoStar, Leland 2014.

Market	Existing Inventory		Vacancy	YTD Net	Under Const. &	Class A
	# Blds	Total RBA	%	Absorption	Complete YTD	Rates
Portland CBD	374	26,309,983	10.0%	(36,157)	288,000	\$25.58
Lake Oswego/West Linn	142	1,144,080	8.5%	13,170	0	\$25.50
North Beaverton	151	3,246,113	6.7%	37,420	0	\$26.33
Sunset Corridor/Hillsboro	359	10,374,721	6.2%	111,442	0	\$21.53
Tigard	226	3,313,116	10.4%	35,859	0	\$24.27
Tualatin	68	1,263,266	20.5%	10,099	0	\$22.28
Wilsonville	59	1,252,446	7.1%	9,476	0	\$20.50
<b>Totals</b>	<b>1,379</b>	<b>46,903,725</b>		<b>181,309</b>	<b>288,000</b>	

Tualatin and Wilsonville’s Economic Positioning and Goals

The Cities of Tualatin and Wilsonville are proactively pursuing economic development in order to provide high paying jobs for their residents, strengthen their tax bases, offer quality public services, and enable general prosperity in the communities. The two Cities’ main economic development plans relevant to Basalt Creek are shown in Table 7 below.

Table 7 Relevant Economic Development Plans. Source: Cities of Tualatin and Wilsonville.

Tualatin	Wilsonville
<ul style="list-style-type: none"> <li>• Economic Development Strategic Plan (2014)</li> <li>• Industry Cluster Analysis (2014)</li> <li>• Linking Tualatin Market Study (2012)</li> <li>• Southwest Tualatin Concept Plan (2010)</li> </ul>	<ul style="list-style-type: none"> <li>• Economic Development Strategy (2012)</li> <li>• Coffee Creek Master Plan (2007)</li> </ul>

## Target Industry Clusters

Tualatin and Wilsonville have both identified a series of targeted industry clusters. According to Tualatin's Industry Cluster Analysis, a cluster is an agglomeration of similar and related businesses and industries that are mutually supportive, regionally competitive, attract capital investment, encourage entrepreneurship, and create jobs. For example, 57% of Tualatin's jobs fall within its five key industry clusters, which also provide wages that are on average 70% (\$35,000) higher than those in all other industries.

Clusters reflect a community's strengths and competitive advantages, suggest which sectors of the economy are most likely to generate jobs in the future, and provide policy makers with guidance about the types of land, buildings, infrastructure improvements, and other actions needed to grow jobs in the future.<sup>23</sup>

Both Tualatin and Wilsonville have determined that they excel in the following three industry clusters<sup>24</sup>:

### *Advanced Manufacturing (and related activities)*

This cluster is a significant driver of both cities' economies. It is Tualatin's largest cluster, accounting for 22% of jobs in the city. It accounts for a significant portion of Wilsonville's economy; computer and electronic product manufacturing was Wilsonville's largest industry sector as of 2012, and includes several of the city's largest employers such as Xerox, TE Connectivity, and Rockwell Collins.

The Oregon Institute of Technology (OIT), now educating students in the engineering, technology, management, and health sciences fields from its Wilsonville campus, is an important anchor institution for the Southwest Metro economy. The Cities are looking for ways to capitalize on OIT's presence and to strengthen partnerships between the school and private businesses.

Growth in this cluster will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to this cluster's continued success.

### *Corporate and Professional Services*

This cluster accounts for 12% of Tualatin's jobs, and was the second-largest industry sector in Wilsonville as of 2012. Major employers include: Portland General Electric (PGE) and Express Employment Professionals in Tualatin, and Mentor Graphics in Wilsonville. Growth in this cluster will result in ongoing demand for office land and buildings in Basalt Creek and other areas. A variety of locational factors tend to be important to corporate and professional service firms, including: a

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<sup>23</sup> Wilsonville's EOA uses the term industry "sectors." The terms cluster and sector are used interchangeably here

<sup>24</sup> The economic figures included below are drawn from the Cities' economic development plans.



skilled workforce, available land or office space, transportation connections, and nearby restaurants and commercial services.

### *Health Care and Medical-Related.*

This cluster is important in both cities: it is the third-largest in Tualatin and fourth largest in Wilsonville. Tualatin's health care cluster is anchored by Legacy Meridian Park Medical Center (among Tualatin's largest employers), and also includes associated industries such as clinics, laboratories, physician offices, and assisted living centers. Wilsonville's largest health care-related employers (as of completion of the 2012 Economic Development Strategy) were Infinity Rehab and Avamere, both ambulatory (outpatient) service providers. Wages in this cluster are well above average.

Because of the diversity of health care businesses, firms in this cluster can operate in health care-specific zones (such as Tualatin's Medical Center zone), or general employment zones (such as Wilsonville's Planned Development Industrial zone). In some cases, health care firms that serve smaller, more localized populations can locate in retail/commercial zones.

In addition to the three clusters described above that have been identified as targets for both cities, Tualatin and Wilsonville have also identified these industry clusters:

### *Other Industrial Clusters.*

Both Cities have identified additional industrial target clusters that could locate in the Basalt Creek area. Tualatin has identified two other industry clusters likely to generate demand for industrial land and buildings: food processing and distribution, and wood, paper, printing, and related industrial activities. Wilsonville identified a number of other industrial business types: light manufacturing and warehouse/showroom operations; specialty contractors and construction firms; sustainable product manufacturing and distribution; miscellaneous manufacturing; and wholesale trade.

Growth in these clusters will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to these clusters' ongoing success.

### *Other Professional and Commercial Services.*

Wilsonville's 2012 Economic Development Strategy also identifies creative services (such as transportation logistics, legal services, management consulting, and accounting) as a target cluster. Similar to corporate and professional services, growth in this cluster should result in demand for office land and buildings in Basalt Creek and other areas.



Figure 31 Lam Research Facility, Tualatin. Photo credit: Tualatin Chamber.

## Sub-Regional Context

Transportation is fundamentally important to these employment areas, and transportation connectivity has the potential to make a whole that is greater than the sum of its parts by enabling firms to trade goods and services easily. I-5 is the most important single transportation corridor. The 124<sup>th</sup> Avenue Extension and East-West Connector will also be very important in knitting the employment areas together. Regional connectivity will be challenged due to the limited access nature of the East-West Connector. This large agglomeration of employment areas has the potential to create economic momentum, and also the potential to be a source of competition for the Basalt Creek area. This is because the areas can project a powerful combined brand, while also competing for individual employers who are looking for sites.

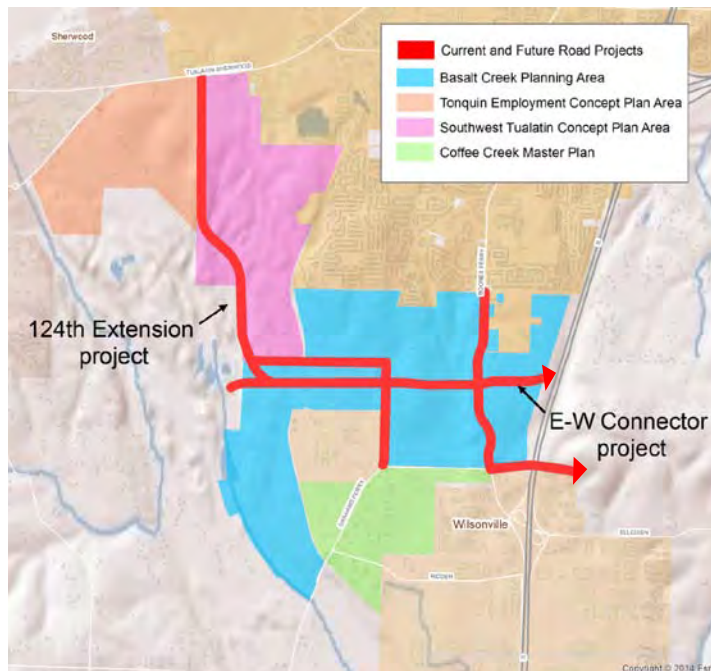


Figure 32 Major TRP road projects in relationship to the Basalt Creek planning area and planned areas nearby Source: Fregonese Associates 2014.

## Established Employment Areas

The Tualatin and Wilsonville employment areas have capacity for additional businesses and jobs. To the west of I-5, Wilsonville's employment area tends to contain more industrial, manufacturing, distribution, and flex businesses and buildings; to the east of I-5, a larger share of businesses are office-based professional service firms, such as Mentor Graphics and Xerox Corporation. However, the zoning is the same (Planned Development Industrial) throughout the entire Wilsonville employment area.

## Planned Employment Areas

Southwest Tualatin, Tonquin Employment Area, and Coffee Creek are planned employment areas located within the UGB that have yet to be served by infrastructure or see new private development. Annexation and development in the areas are property-owner initiated. The following summarizes the current activity in each of the planning areas.

- The Southwest Tualatin concept plan area: Most of the area remains an active quarry; the City expects this use to continue for an indeterminate period.
- The Coffee Creek industrial area: No development or annexation has taken place in Coffee Creek since the adoption of the master plan; land assemblage challenges, and lack of City services and a financing plan to build those services are the primary obstacles to development here.
- The Tonquin employment area is a 300-gross-acre area located in the City of Sherwood. It is planned for light industrial development with a small amount of ancillary retail/commercial services.

## Employment Strengths and Challenges

Basalt Creek's primary strengths/competitive advantages and challenges vis-à-vis industrial and office development are as follows:

### *Strengths and Competitive Advantages*

- Tualatin and Wilsonville's established and successful industry clusters in advanced manufacturing, professional services, and a variety of other industrial and office-based employment categories. Large contiguous cluster of existing and planned employment areas.
- Excellent access to I-5, as well as I-205 and Highway 217. Additional transportation strengths include existing and planned arterial roads, and local and regional transit service provided by TriMet, WES Commuter Rail, and SMART.
- Educated workforce
- Market success of recent industrial, office, and retail developments

## Challenges

- Vision and regulation. This Concept Plan and subsequent Comprehensive Plan and zoning amendments need to be in place prior to development.
- Planning, financing, and construction of new infrastructure. This is because roads, water, sanitary sewer, and other infrastructure for urban expansion areas are expensive. Cities are often focused on maintaining and improving existing infrastructure and therefore do not budget to make extensive extensions. Developers of individual sites typically cannot afford to build out a comprehensive set of infrastructure to serve multiple properties.
- Lot sizes and property aggregation. There is a mix of large and small lots throughout the Basalt Creek area. The time and cost required to secure properties from multiple parties in order to aggregate developable industrial or office properties of adequate size can be a significant deterrent to developers.
- Natural features including wetlands and slopes. Basalt Creek and its surrounding slopes and wetland areas run north-south through the planning area, dividing it into east and west sections.
- The market for new office development continues to be slow. However, the planning area will not be ready for private development for several years, which may allow enough time for this market to recover.

## Housing Market Analysis

### *Demographic Context*

The City of Tualatin, compared to the Portland Metropolitan Statistical Area (MSA), has a higher percentage of family households (two or more related people), larger average households, higher household incomes, and higher per capita incomes. A larger share of residents has college degrees (42.3%) and is employed in white collar jobs (67.5%) compared to the region. Tables Table 8, Table 9 and Table 10 provide additional perspective on the demographics of the subject cities compared to the Portland MSA.

Wilsonville, compared to the Portland MSA, has a higher percentage of family households and smaller households--likely because the city has a higher share of young households (in the 25-34 age category) and seniors, Baby Boomers, and retirees. Each age group has different housing preferences. Wilsonville also has a larger share of residents with college degrees (39.3%) and white collar jobs (70.1%).<sup>25</sup>

While the Basalt Creek market area includes both Tualatin and Wilsonville, its demographics are generally more similar to those in Tualatin. When compared to the Portland MSA, the market area has a

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<sup>25</sup> Data shows information about *jobs held by residents of the given geographical areas*, not the jobs within those areas

higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs. In general, these demographics are favorable to housing development in the Basalt Creek area; they also reflect the types of residents most likely to locate in the planning area.

**Table 8** Demographic Summary of the Basalt Creek planning area. Source: ESRI Business Analyst, Leland Consulting Group. 2014 Data except where noted.

	Tualatin	Wilsonville	Basalt Creek
<b>Comparison to Portland MSA:</b>	<ul style="list-style-type: none"> <li>• More families</li> <li>• Larger HHs</li> <li>• Higher HH Income</li> <li>• Higher PC Income</li> <li>• More college degrees</li> <li>• More white collar emp.</li> </ul>	<ul style="list-style-type: none"> <li>• Fewer families</li> <li>• Smaller HHs</li> <li>• More Gen Y</li> <li>• More Boomers</li> <li>• More low-income HHs</li> <li>• More college degrees</li> <li>• More white collar emp.</li> </ul>	<ul style="list-style-type: none"> <li>• More families</li> <li>• Larger HHs</li> <li>• Higher HH incomes</li> <li>• Higher PC incomes</li> <li>• More college degrees</li> <li>• More white collar emp.</li> </ul>

**Table 9** Demographic Summary of the Basalt Creek planning area (Continued). Source: ESRI Business Analyst, Leland Consulting Group. 2014 Data except where noted.

Demographic Attribute	Tualatin	Wilsonville	Basalt Creek	Portland MSA
<b>Population</b>	26,520	21,235	73,786	2,296,285
<b>Number of Households</b>	10,170	8,638	28,121	896,982
<b>Family Households (2010 Census)</b>	68%	59%	68%	64%
<b>Household Size (Average)</b>	2.60	2.32	2.57	2.52
<b>Household by Size (2010 Census)</b>				
1 and 2 person	57%	68%	58%	61%
3 and 4 person	33%	25%	32%	29%
5 + person	10%	7%	10%	10%
<b>Median Household Income</b>	\$64,324	\$59,812	\$70,256	\$57,441
<b>Per Capita Income</b>	\$32,672	\$31,995	\$33,336	\$30,135
<b>Population By Age</b>				
0 to 24	35%	31%	34%	32%
25 - 34	14%	16%	13%	15%
35 - 44	15%	14%	15%	14%
45 to 54	14%	13%	14%	14%
55 to 64	13%	11%	12%	13%
65 +	9%	15%	11%	13%
<b>Median Age</b>	35.7	37.0	36.6	37.5

Key:  Low  High

**Table 10** Demographic Summary of the Basalt Creek planning area (Continued). Source: ESRI, Leland Consulting Group. 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	Basalt Creek Market Area	Portland MSA
<b>Education and Employment</b>				
Less than High School	9.7%	8.0%	8.0%	9.4%
High School or Equivalent	16.5%	20.4%	18.2%	22.1%
Associate's or some college	31.5%	32.3%	32.5%	34.2%
Bachelor's or Advanced Degree	42.3%	39.3%	41.3%	34.3%
<b>Occupation</b>				
"White Collar"	67.5%	70.1%	69.3%	63.1%
"Blue Collar"	11.3%	14.1%	13.5%	19.5%
<b>Housing</b>				
Median Home Value	\$331,190	\$349,927	\$337,289	\$275,516
<b>Housing Tenure</b>				
Owner Occupied Housing Units	51.9%	43.4%	55.0%	56.2%
Renter Occupied Housing Units	42.6%	50.5%	39.8%	37.7%

Key: Low High

Finally, the South Tualatin residential neighborhoods immediately to the north of Basalt Creek reflect many of the demographic attributes typical of Tualatin’s population. The neighborhoods—including low volume local roads, street trees, parks, and schools—create a positive environment for residential development within the Basalt Creek area, particularly along the northern edge.

## Recent Housing Development

Table 11 below shows the recent residential permitting trends in the cities of Tualatin and Wilsonville, and in Villebois, a master-planned community in Wilsonville. Villebois is shown here because: it is the largest master planned community (482 acres) that has been developed recently in the Southwest Metro area; it is a defined area that has been planned to include a range of housing, parks, and commercial services; due to its success in the marketplace in recent years, housing absorption has been relatively rapid (adjusting for the recession), and many houses sell for a premium when compared to the competition in other areas. Naturally, recent housing built in these areas provides one benchmark from which to estimate future demand.

As Table 11 shows, the housing types that have been permitted and built in these areas correlate closely to the types of people and households who live there; the housing types also likely reflect zoning and other regulatory and market forces. Recent housing permitted in Tualatin is composed largely of large- and medium-lot single-family housing. No small lot single-family housing (lots smaller than 4,000 square feet) or attached single-family housing has been permitted since 2004. About 20% of the recently permitted housing in Tualatin is multifamily—market rate and affordable apartments, condominiums,

and senior housing. Very little existing multifamily housing is located in the neighborhoods immediately north of Basalt Creek; most of Tualatin’s multifamily housing is clustered further north near downtown Tualatin, between Tualatin-Sherwood Road and Avery Street, and the Bridgeport Village area. The majority were built prior to 2000, although the 367-unit Eddyline at Bridgeport (under construction) is a notable exception. Historically, this multifamily share is relatively typical; multifamily has comprised about 20% of total housing in many communities during the past five decades.

Wilsonville’s housing is more diverse and features a significantly higher percentage of small lot single-family and multifamily housing, and much less large- and medium-lot single-family housing. Again, this is likely to due to market, demographic, and regulatory reasons. The broad housing mix reflects the presence and growth of the four “S groups” in Wilsonville: seniors, singles, single-parent households, and starter households. The large multifamily share (66%) is partially due to the large number of new 20- and 30-something households recently formed, which will slow in coming years. Villebois’ housing mix is similar to that in Wilsonville overall. However, during the time period surveyed (2000 to 2012) a larger percentage of small-lot single-family homes, townhouses and duplexes were built in Villebois, along with a smaller percentage of multifamily housing. Villebois’ developers and National Association of Realtors (NAR) surveys show that most American households, Baby Boomers included, prefer single-family homes over multifamily homes, but that they are quite open to smaller lot and home sizes, especially when the surrounding neighborhood is attractive and walkable.

**Table 11** Residential Development in Tualatin and Wilsonville by Housing Type. Sources: HUD; City of Wilsonville, New Home Trends, Leland Consulting Group. Due to data availability, Table 12 shows housing built in Tualatin between 2004 and 2014; and permits issued in Wilsonville between 2000 and 2012.

Housing Type	Tualatin	Wilsonville	Villebois
	Recent Permits	Recent Permits	Recent Permits
Large Lot Single Family	44%	9%	8%
Medium Lot Single Family	36%	10%	8%
Small Lot Single Family	0%	12%	35%
Attached Single Family	0%	2%	6%
Multifamily	20%	66%	43%
<b>Total</b>	100%	100%	100%

## Retail/Commercial Market Analysis

In addition to new residents and employees that may locate in the Basalt Creek area, the residents of the Tualatin neighborhoods located immediately to the north are important sources of support for retail. Residents spend more of their retail dollars locally than employees or passersby, and therefore are generally a more important source of demand for retail goods and services. Approximately 4,000

households live in the area between Norwood Road and Tualatin-Sherwood Road. These households already have other places to shop, particularly on and near Tualatin-Sherwood Road. However, based on existing traffic counts and interviews with residents and developers, it is clear that some of these residents are already accustomed to driving south through the Basalt Creek area to access I-5 or other destinations.

Retailers also look at traffic counts as an important demand indicator, since retail relies on pass-by traffic for support. Boones Ferry Road carries average daily traffic (ADT) of about 15,000 in 2014<sup>26</sup>, which is high enough to suggest that it will be a good retail location in the future. Traffic counts on Grahams Ferry Road are below 6,000 ADT, and therefore it is likely to be a less desirable retail location. Traffic counts such as these likely reflect trips being made by residents and employees of the Southwest Metro area and beyond. The 124<sup>th</sup> Avenue Extension, which will be built to the western edge of the study area, and the planned East-West Connector Road that will run across the study area, are also important transportation arterials along which retail will seek to locate. A prime location for retail may be at the intersection of Boones Ferry Road and the East-West Connector Road.

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<sup>26</sup> Source: ESRI Business Analyst, 2014



# VI. Infrastructure

The objective of this section is to identify existing stormwater, wastewater conveyance and treatment, and potable water infrastructure that could be used to provide services for the Basalt Creek planning area. Existing jurisdictions and service agreements are also described, in addition to discussion of important areas of special consideration in and near existing receiving waters.

## Policy Guidance on Infrastructure

The discussion in this section is framed by the Cities' desire to have a better understanding of how provision of services such as wastewater collection and treatment and potable water distribution serving Basalt Creek can function in the most efficient and economical manner.

Specifically the Cities are interested in determining, from a technical standpoint, if wastewater can be conveyed and treated more efficiently and cost-effectively by relying on gravity or if pump stations are more appropriate. This should consider improvement costs related to the collection systems (such as incremental pipe capacity needs in both cities; pump station construction, long term operations and maintenance costs; and treatment capacity needs at both treatment plants). Should pump stations be less desirable from a technical standpoint, what are non-technical issues that would need to be resolved? Part of answering this question is to identify where specific areas of Basalt Creek naturally drain and whether it makes sense from a technical point of view for wastewater to cross jurisdiction boundaries. This evaluation raises a policy question for the City of Wilsonville of whether or not they are willing to collect and treat wastewater that could be generated by land outside of their City supposing the service lines and jurisdictional lines are not the same.

Additionally, the Cities desire to evaluate and determine if there are efficiencies for the water system if the source of water is from the Willamette River. Another topic to explore is if it is a good idea to interconnect the two systems. The Cities are asking if it makes more sense to provide water services to Basalt Creek from the south rather than from the City of Tualatin's existing system. This exploration presents another policy question for the City of Tualatin about accepting water from the Willamette River.

## Stormwater Infrastructure

Existing stormwater infrastructure within the Basalt Creek planning area consists of roadside drainage ditches and culverts. Culverts in the planning area are under the jurisdiction of Washington County and range from 12 to 30 inches, as shown in Figure 33. It is assumed that the existing culverts may not have capacity for future urban conditions and will need to be upsized to provide adequate capacity for runoff from new impervious areas, unless onsite detention or infiltration is required. Roadway drainage for SW Boones Ferry Road was recently transferred from the jurisdiction of Oregon Department of Transportation (ODOT) to that of Washington County, but the County does not yet have the

geographical information system (GIS) data available. Culverts to the south of the planning area are part of the City of Wilsonville stormwater system.

Basalt Creek itself flows to the south into Wilsonville as part of the Coffee Lake Creek basin. Basalt Creek discharges into the Coffee Lake wetlands. Coffee Lake Creek flows south from the wetlands and combines with Arrowhead Creek before discharging to the Willamette River.

Existing stormwater drainage basins based on existing topography and infrastructure are also shown in Figure 33, along with Oregon State Planning Goal 5, Significant Resource Areas near receiving waters. As can be seen in Figure 33, large portions of the planning area are Significant Resource Areas. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the planning area.

The City of Tualatin is a co-permittee of Clean Water Services (CWS) watershed-based National Pollutant Discharge Elimination System (NPDES) permit, which includes the municipal separate storm sewer system (MS4) stormwater discharge permit. The City of Tualatin owns and operates the stormwater system within the city.

The City of Wilsonville owns and operates the public stormwater conveyance system to the south of the planning area. The City of Wilsonville is an NPDES MS4 co-permittee with Clackamas County and twelve other cities and service districts within the County (Permit Number 101348).

The City of Wilsonville's 2012 Stormwater Master Plan identifies a capital improvement project to restore a portion of the Basalt Creek channel to increase capacity to accommodate impacts caused by a reverse grade south of Day Road near the Commerce Circle area. The project is programmed for mid-term (6 to 10 years) implementation in the July 2014 Prioritized Stormwater Capital Improvement Plan (July 2014 Prioritized Project list). The master plan also identifies a regional detention facility to serve an area that includes the Basalt Creek planning area. This project is identified in the July 2014 Prioritized Project List as a long-term project (10 to 20 years).

Locations where stormwater runoff from the Basalt Creek plan area could connect to existing stormwater infrastructure in the future are shown in Figure 33 and summarized in Table 12. Should these locations be considered to receive stormwater discharge from the Basalt Creek plan area, the downstream conveyance system will need to be evaluated for capacity and condition.

## Wastewater Infrastructure

Currently, no sewer service is provided to the planning area. Existing homes are, therefore, assumed to be using individually permitted and managed septic systems, but a public records request has not been made to confirm this assumption for each property in the planning area.

### Wastewater Collection and Conveyance

Wastewater conveyance to the north of the planning area is under the jurisdiction of the City of Tualatin, who maintains a service agreement with CWS for wastewater collection and treatment at the Durham Advanced Wastewater Treatment Facility located at 16060 SW 85th Avenue in Tigard, a straight line distance of approximately 2.5 miles north of the Basalt Creek planning area. The City owns the

wastewater conveyance system (up to 18-inch diameter) within the City, while CWS owns larger pipes, pump stations, force mains, and treatment facilities.

Eight gravity mains exist near the north planning area boundary and could provide connection points for wastewater from the Basalt Creek plan area into the Tualatin collection system. The 200 gpm Victoria Woods Pump Station and associated force main are also located just to the north of the planning area boundary, west of the southern end of SW Eno Place. From these connection points, wastewater flows by gravity toward the treatment plant, crossing the Tualatin River via the Lower Tualatin Pump Station in Tualatin Community Park and associated force main. Pumping would be required to lift flows from the planning area into the existing gravity system.

Wastewater conveyance to the south of the planning area is under jurisdiction of the City of Wilsonville. Wastewater from the City of Wilsonville is conveyed to and treated at the Wilsonville Wastewater Treatment Plant located at 9275 SW Tauchman Street, approximately 3.2 miles south of the planning area.

The City of Wilsonville's Coffee Creek Industrial Area Plan identifies a new sanitary main line to be constructed in a future segment of Kinsman Road between Ridder and Day Roads. These lines are intended to provide conveyance of wastewater within the Coffee Creek area and are also intended to serve flows from the Basalt Creek planning area. Three existing possible connection points into the Wilsonville collection system were also identified. From these connection points, wastewater flows by gravity to the Wilsonville Wastewater Treatment Plant. The ongoing Sanitary Sewer Collection System Master Plan project has analyzed a range of flows from the planning area to identify trunk capacity, pipe size, and improvements needed to accept flow from the planning area. Connection Point 10 at Pioneer Road in Commerce Circle would require a lift station to deliver flow from the planning area into the Wilsonville system.

A brief description and location of the eight potential points of connection to the Tualatin conveyance system and three existing potential points of connection to the Wilsonville conveyance systems are shown in Figure 34 and summarized in Table 13. Wilsonville's planned sanitary main line in Kinsman Road is also shown in Figure 34.

#### Consideration of the Basalt Creek Planning Area in Sanitary Sewer Master Plans

The *Tualatin Sanitary Sewer Master Plan Update* has been put on hold until the Basalt Creek planning process is complete. The City of Wilsonville is in the process of updating its Sanitary Sewer Collection Systems Master Plan (MSA, 2014) and is including Basalt Creek as a contributing area. The resulting updated master plans will identify improvements needed to increase the capacity of each system to convey flow from the Basalt Creek planning area.

Clean Water Services conducted a system capacity evaluation to accept flows from the Basalt Creek planning area and the SW Concept Plan Area in addition to flows from the City of Tualatin (CH2M HILL, 2012). This study assumed that flow contributions would be routed to the Sherwood trunk line (located north of Tualatin-Sherwood Road) rather than through local service lines. A lift station would be required to convey flow from the Basalt Creek area to the Sherwood trunk line. The distribution of flow

to each of the cities and where connections need to be made will be determined as part of the Basalt Creek Concept Plan.

### Wastewater Treatment

The nearest treatment facility to the north of the planning area is the CWS Durham Advanced Wastewater Treatment Facility (AWTF). This facility currently receives about 22.6 million gallons per day (mgd) in dry weather flow (CWS, 2013). Future flow projections, updated in 2011, did not include any areas outside of the existing Durham AWTF service area (CH2M HILL, 2011). Therefore, treatment of Basalt Creek wastewater flows at the Durham facility will require review of the plant capacity and analysis of impacts to level of service within the existing service area. In addition, expansion of the service district area to include the Basalt Creek planning area (or any portions thereof) needs to be evaluated.

The nearest treatment facility to the south of the planning area is the City of Wilsonville Wastewater Treatment Plant (WWTP). This facility was recently expanded to an average dry weather flow capacity of 4 mgd, with flow projections and design bases of improvements accounting for an ultimate buildout capacity of 7 mgd. The current 4 mgd is capacity designed to accommodate growth within the current city limits, and the 7 mgd buildout capacity is designed to accommodate additional growth areas outside the city limits. Expansion to 7 mgd can be achieved by adding a third primary clarifier and adding a membrane bioreactor to the aeration basins. Approximately half (300 acres) of the Basalt Creek planning area (identified as the “North Wilsonville” area in the technical assessments) was accounted for in the year 2030 buildout capacity assessment (7 mgd). Early development of the Basalt Creek planning area, in conjunction with other planned developments will require review of the timing of the next WWTP expansion phase.

### Potable Water Infrastructure

The delivery of potable water to customers is impacted by many factors. Of the many requirements, pressure and flow are two that are closely tied and impact all water infrastructure decisions. Residential water service typically has a minimum pressure of 30 pounds per square inch (psi) and a maximum dictated by plumbing code of 80 psi. The pressure in a gravity fed system similar to the Wilsonville and Tualatin systems is constantly fluctuating based on the demand on the system at any given time. As demand goes up, reservoir levels go down, causing pressure in the system to be reduced. When demand reduces, water is placed/pumped back into the reservoirs, bringing the system pressure back. Storage requirements on a system are driven by customer demand and fire flow requirements because these reservoirs are not only providing system pressure, but also emergency storage.

In order to evaluate how the Basalt Creek area will be served with water, the existing City of Wilsonville and City of Tualatin Water Master Plans were reviewed. Below is a summary of the information gathered from those reports, and how that might impact water service to the Basalt Creek planning area.

### City of Tualatin

The City of Tualatin water system currently provides drinking water to approximately 26,000 people, through 6,700 residential, commercial, industrial and municipal connections. The system consists of four hydraulically connected pressure zones that include five steel storage reservoirs with a combined storage capacity of 13 MG. A sixth storage reservoir with an additional 1.0 MG capacity (in level C) is anticipated to be online in fall 2015. The water supply is purchased wholesale from the Portland Water Bureau with a maximum available capacity of 10.8 mgd. The current (2013) MDD is 9.5 mgd, providing approximately 1.3 mgd of excess capacity at this time. Projected MDD in 2039, without the Basalt Creek planning area, is 14.2 mgd. Table 14 shows the City's existing pressure zones.

### City of Wilsonville

The City of Wilsonville's water system currently provides drinking water to approximately 21,000 people. The system consists of three hydraulically connected services areas (A, B, and C) supplied by three steel storage reservoirs and a small underground concrete reservoir (Charbonneau) with a capacity of 7.6 million gallons (MG). Table 15 shows the capacity and hydraulic grade of each of the pressure zones.

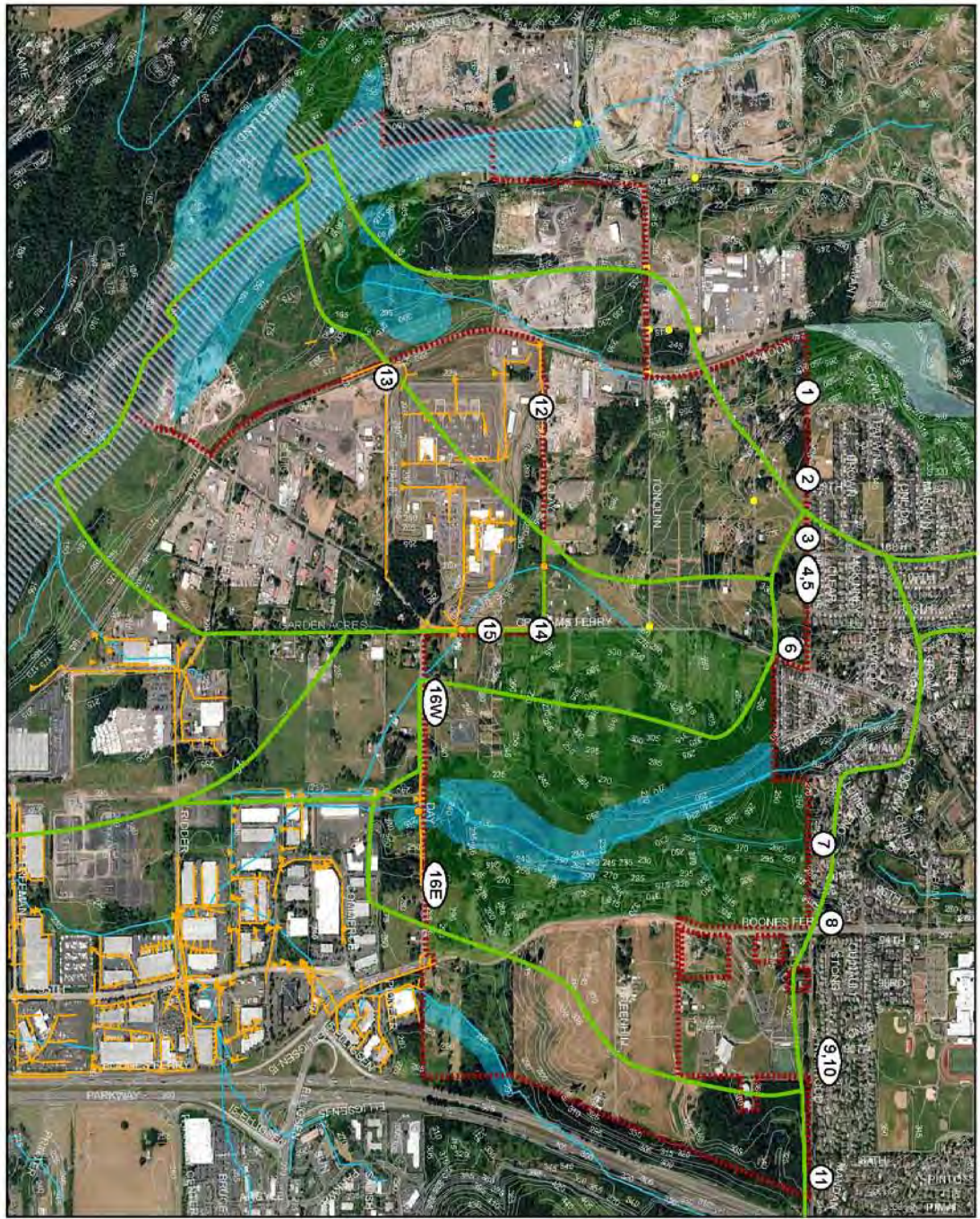
The water supply source is the Willamette River Water Treatment Plant jointly owned by the City of Wilsonville and the Tualatin Valley Water District (TVWD). The plant has a current rated capacity of 15 mgd, but the buildings and piping and some of the unit processes were designed for an ultimate supply capacity of 70 mgd, with Wilsonville owning 20 mgd and TVWD owning 50 mgd of that capacity. The plant was designed for on-site expansion. TVWD sold 5.0 mgd of treated water capacity to the City of Sherwood in 2006. Based on Wilsonville's 2012 Water Master Plan, projected (2020) maximum day demands (MDDs) for the plant is 14.9 mgd, which includes the 5.0 mgd delivery to Sherwood, plus a 0.75 mgd allowance for new industrial users.

### Basalt Creek Planning Area

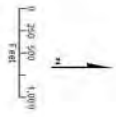
The Basalt Creek planning area currently has no municipal water infrastructure in place. The area topography ranges from approximately 250 feet above mean sea level (msl) to a maximum elevation of 350 feet msl. Based on the topography, the Basalt Creek planning area could be served from the south through The City of Wilsonville's distribution system (Pressure Zones B and C) or from the north through the City of Tualatin's distribution system from Pressure Zone B and C. Lower elevations of the Basalt Creek planning area (below elevation 285) can be adequately served by Wilsonville's Pressure Zone B through existing 15-inch and 18-inch distribution lines that are adjacent to the area. A political factor in determining service boundaries is Tualatin's requirement for a public vote before switching to water supply from the Willamette River; the City currently receives its potable water primarily from the Bull Run reservoir near Mount Hood. A vote would only be required if Willamette River water was used to serve a part of Basalt Creek that ended up within Tualatin's jurisdiction.

Tualatin's and Wilsonville's Pressure Zone C reservoirs are located adjacent to each other on the East Side of I-5. The I-5 pipe crossings that connect to these reservoirs are in different locations. Analysis

needs to be completed to determine if the existing pipe configurations from each of these reservoirs provide adequate pressures to serve the higher elevations of Basalt Creek with emergency water demands. To provide for the additional flow to these higher elevations, it may be necessary to add booster pumping capacity within each City's water system. The City of Wilsonville master plan identifies a future I-5 crossing for their Zone C reservoir as well as a future Pressure Zone D reservoir that would address pressure needs to the higher elevations. Figure 35 identifies the potential pressure zones and existing adjacent infrastructure.



- LEGEND**
- Planning Area
  - No Resource
  - Water Area and Wetland
  - Wildlife Habitat
  - Water Area/Wetland & FW Habitat
  - Significant Natural Area
  - 100-year Floodplain
  - Washington County Culverts
  - Wilsonville Culverts
  - Wilsonville Stormwater Outlets
  - Wilsonville Stormwater System
  - CONTOUR\_SFT
  - Stream channels
  - Delineated Drainage Basin
  - Potential Point of Connection to Existing System (see Table 1)



**FIGURE 1**  
Existing Stormwater Infrastructure  
and Drainage Area  
Basalt Creek Planning Area

**CH2MHILL**

Figure 33 Existing Stormwater Infrastructure and Drainage Area near the Basalt Creek planning area  
Source: CH2M Hill, 2014

**Table 12** Potential Points of Connection to Existing Stormwater Facilities for the Basalt Creek planning area. Source: CH2M Hill 2014.

Map ID	Description	Location	Outlet	
1	12-inch PVC	112 <sup>th</sup> Ave.	Outfall at SW Cowlitz Dr. to Kolk Pond, approximately 900 feet from planning area.	
2	12-inch PVC	109 <sup>th</sup> Ave. and in Helenius Rd. to the east of	Detention facility at SW Helenius Rd. between 109 <sup>th</sup> Ave. and SW 108 <sup>th</sup> Ave.	
3	12-inch PVC	108 <sup>th</sup> Ave.	Connection Points 3 through 6 all outlet to Basalt Creek, which runs through the eastern portion of the planning area. The outfall is located west of Lodgepole Rd. Basalt Creek runs south through the planning area, then through piped and natural channels for approximately 3 miles to the confluence with Coffee Lake Creek, which then flows another 1.5 miles through natural and straightened channels to the Willamette River. Basalt Creek forms a part of the City of Wilsonville's stormwater drainage system.	
4	12-inch PVC	106 <sup>th</sup> Ave.		
5	12-inch PVC	Helenius Rd., east of 106 <sup>th</sup> Ave.		
6	12-inch PVC	Grahams Ferry Rd. at Whitebark Ln. and at Helenius St.		
7	Detention and/or water quality facilities	South of Eno Pl. and Erio Pl.		Both facilities outlet to Basalt Creek.
8	15-inch ADS	Boones Ferry Rd. at Stono Dr.		Connection Points 8 through 10 ultimately outfall to a natural watercourse approximately 0.5 mile to the north of the planning area near Columbia Dr. and Chehalis St. in Tualatin. This watercourse then flows north for approximately 2.5 miles through natural and piped conveyance to the Tualatin River.
9	15-inch CSP	Stono Dr. between Boones Ferry Rd. and 89 <sup>th</sup> Pl.		
10	18-inch CSP	89 <sup>th</sup> Pl.		
11	12-inch CSP	Mandan Dr.	Outfalls at the Chieftain/Dakota Greenway outfall to a natural watercourse, which then flows 2.6 miles northeast to the Tualatin River.	
12	12-inch capped lateral (N)	Clay Rd.	Capped lateral connects to 12-inch main line in Clay Rd., which connects to private 12-inch line. This system outlets to a tributary of Coffee Lake Creek.	
13	42-inch pipe	Cahalin Rd. south of Coffee Creek Correctional Facility	Outlets to a tributary to Coffee Lake Creek, 3.4 miles upstream of the Willamette River (via natural and straightened reaches).	
14	12-inch capped laterals (N and E)	Intersection of Grahams Ferry Rd. and Clay Rd.	Two capped laterals connected to 12-inch main line in Grahams Ferry Road. Outlets to Basalt Creek tributary crossing north of Day Rd.	
15	12-inch capped laterals (E)	Grahams Ferry Rd. between Clay Rd. and Day Rd.	Two capped laterals connected to main line in Grahams Ferry Rd, connected to 12-inch main line, which outlets to Basalt Creek tributary	



Map ID	Description	Location	Outlet
16E and 16W	12-inch and 15-inch pipe	Day Rd, east of Grahams Ferry Rd.	crossing north of Day Rd. 12-inch pipe connects curb inlets east and west of Basalt Creek culverts to 15-inch main line, which outlets to detention/water quality facility west of the Basalt Creek culverts, then connects to open and piped Basalt Creek channel to join Coffee Lake Creek after approximately 2 miles, which then flows an additional approximately 1.75 miles to the Willamette River.

ADS = Advanced Drainage Systems; CSP = corrugated steel pipe; PVC = polyvinyl chloride.

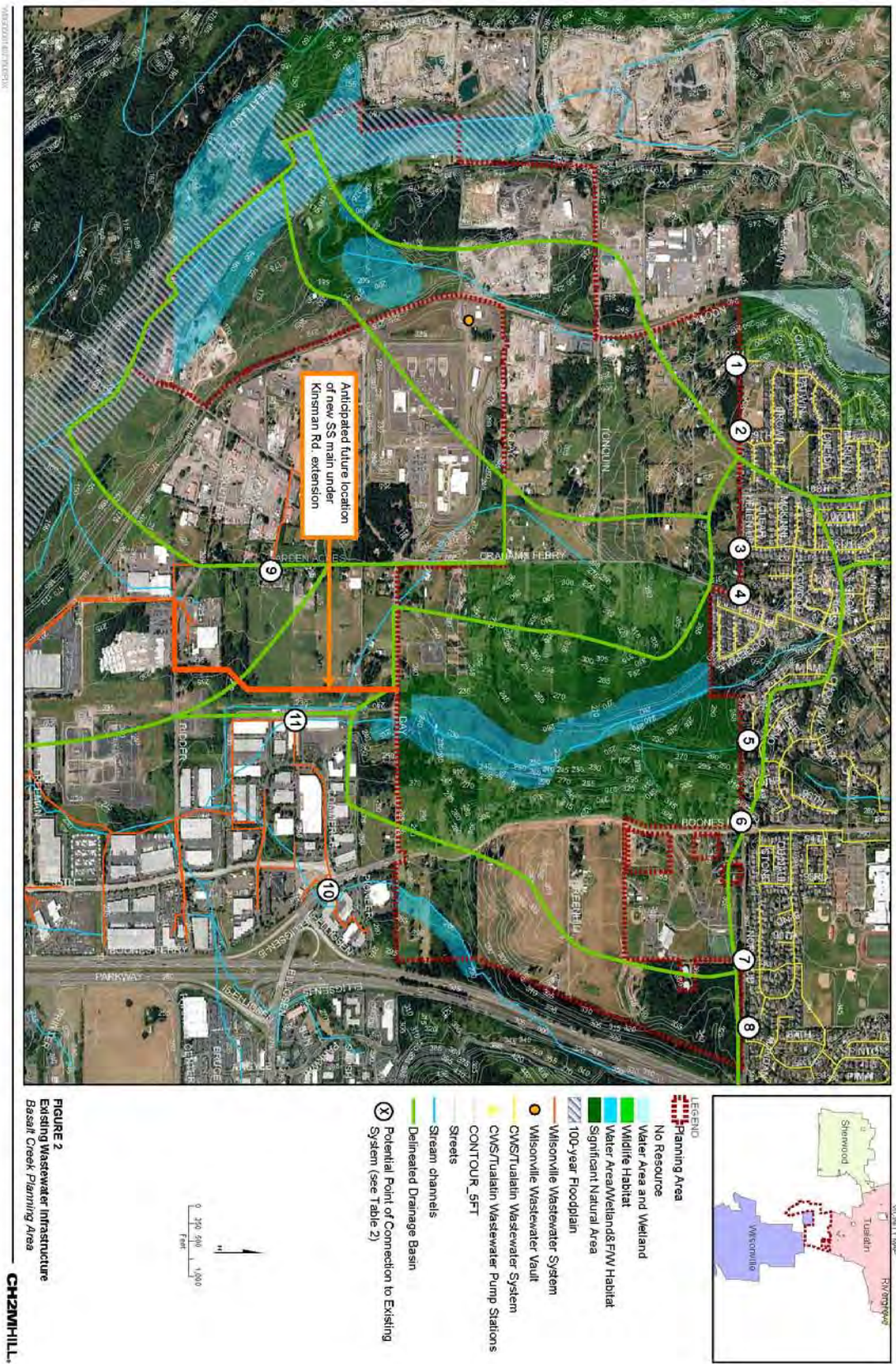


Figure 34 Map of Existing Wastewater Infrastructure near the Basalt Creek planning area. Source: CH2M Hill 2014.

**Table 13** Potential Points of Connection to Existing Wastewater Systems for the Basalt Creek planning area. Source: CH2M Hill 2014.

Map ID	Facility Description	Location
1	10-inch gravity main	112 <sup>th</sup> Ave.
2	8-inch gravity main	109 <sup>th</sup> Ave.
3	8-inch gravity main	106 <sup>th</sup> Ave.
4	8-inch gravity main	Grahams Ferry Rd. @SW Helenius Rd
5	Victoria Woods Pump Station	Eno Pl.
6	8-inch gravity main	Boones Ferry Rd.
7	8-inch gravity main	Southwest of the intersection of Norwood Ave. and 89 <sup>th</sup> Ave.
8	8-inch gravity main	Vermillion Dr.
9	18-inch gravity main	Garden Acres Rd.
10	8-inch gravity main	Boones Ferry Rd. at Pioneer Court (Commerce Circle area)
11	12-inch gravity main	West of Commerce Circle

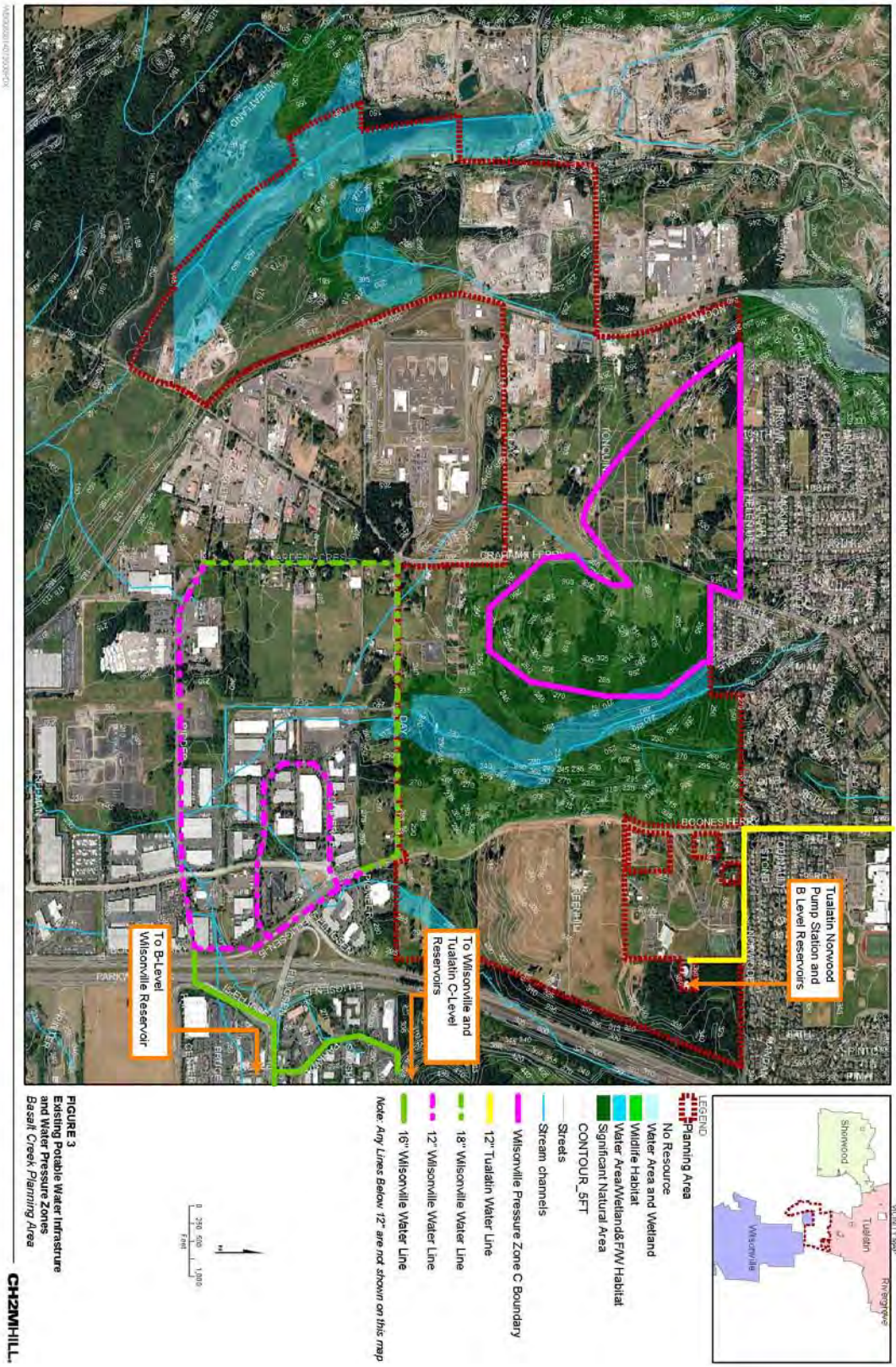


Figure 35 Map of existing potable water infrastructure and water pressure zones in and near Basalt Creek planning area. Source: CH2M Hill 2014.

Table 14 City of Tualatin Water System—Existing Pressure Zones. Source: CH2M Hill 2014.

Pressure Zone	Maximum/Minimum Hydraulic Grade Line (feet mean sea level)	Storage Volume (million gallons)
A	295	7.2
B	399	5.0
C	506	1.8
Bridgeport	360	-

Table 15 City of Wilsonville Water System—Existing Pressure Zones. Source: CH2M Hill 2014.

Pressure Zone	Static Hydraulic Grade Line (feet mean sea level)	Storage Volume (million gallons)
A	320	0.6
B	400	5
C	506	2

# VII. Transportation

This section documents the existing transportation system and presents the planned transportation system developed as part of the Basalt Creek Transportation Refinement Plan (TRP). The purpose of the TRP was to identify a major transportation connection between 99W and I-5, in furtherance of the I-5/99W Connector Studies which call for additional east-west traffic alternatives. The plan provides 18 transportation investments broken into short, medium and long term phases, all of which are critical to ensuring that the transportation network functions at acceptable levels over time. The key element is the East-West Connector to 124<sup>th</sup> Avenue extension. This section discusses the pedestrian and bicycle existing and planned facilities, the current transit system and planned improvements to transit, and details the motor vehicle conditions for base year (2010) and future year (2035) conditions based on the Basalt Creek TRP.

## Motor Vehicle System

This section documents base year and future year motor vehicle demand, presents intersection operations, and describes the planned improvements for the motor vehicle system.

### *Motor Vehicle Demand*

Existing a.m. and p.m. peak hour (2010) motor vehicle volumes in the Basalt Creek planning area were collected for the Basalt Creek Transportation Refinement Plan, the SW 124<sup>th</sup> Avenue Extension Study, the Tualatin TSP, and the Wilsonville TSP. The 2010 volumes, along with percentage of truck traffic, are displayed in Figure 36. These plans applied the Metro Regional travel demand model to estimate 2035 future year p.m. peak hour motor vehicle volumes. The resulting 2035 volumes are displayed in Figure 37.

The Basalt Creek Transportation Refinement Plan applied the Metro regional travel demand model (2009 RTP), which provides estimates of both existing year (2005) and future year (2035) p.m. peak hour trips entering and exiting Transportation Analysis Zones (TAZs). TAZs divide the Portland Metro region into areas that represent sources of vehicle trips within the area, based on a combination of the roadway network, land use information, the Urban Growth Boundary (UGB), zoning, and comprehensive plan designations. Because the demand model covers both TAZs within and around the Basalt Creek planning area, the 2035 model volumes account for both local and regional growth.

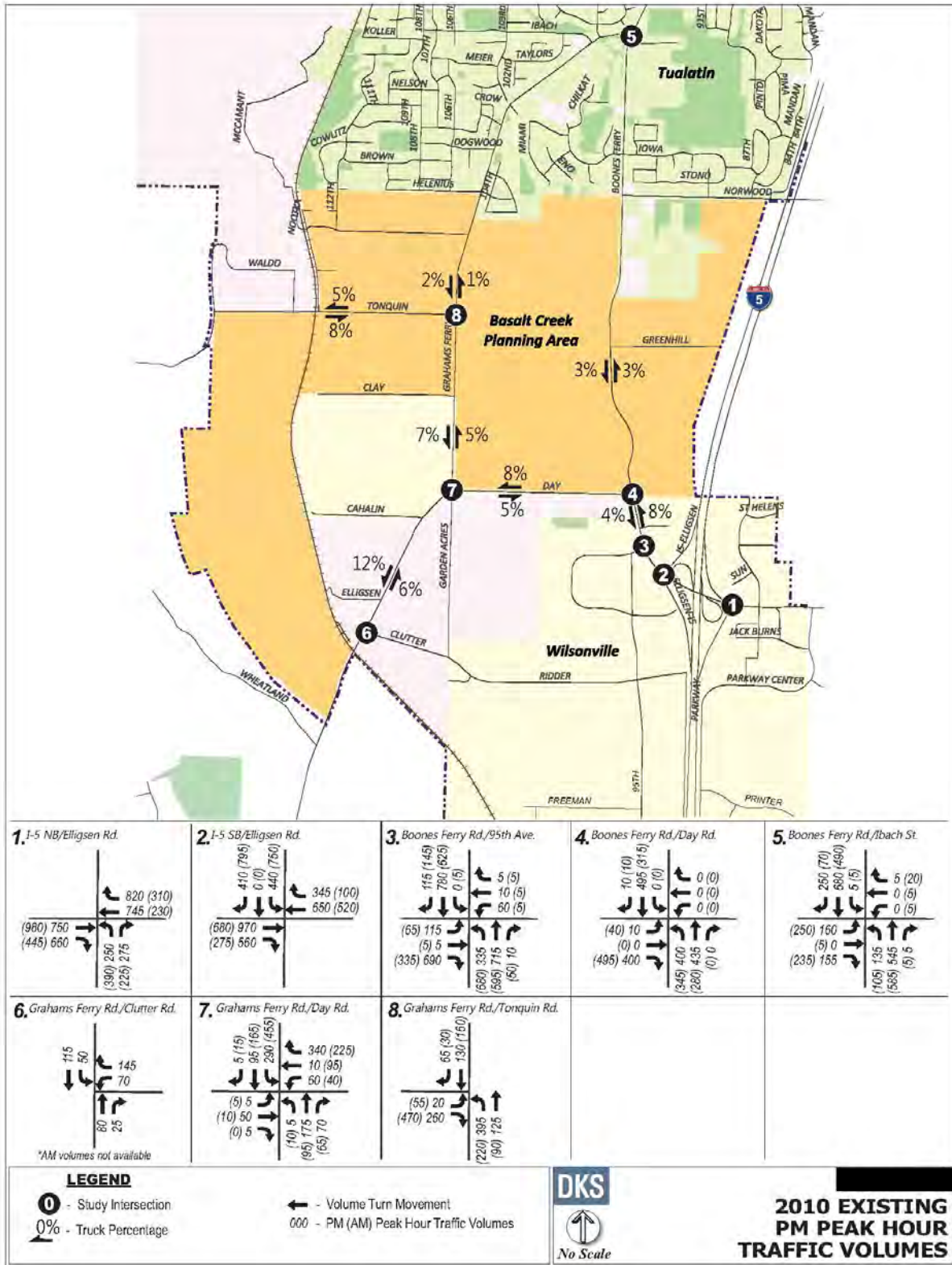


Figure 36 2010 Existing PM Hour Traffic Volumes by intersection in planning area. Source: DKS Associates 2014.

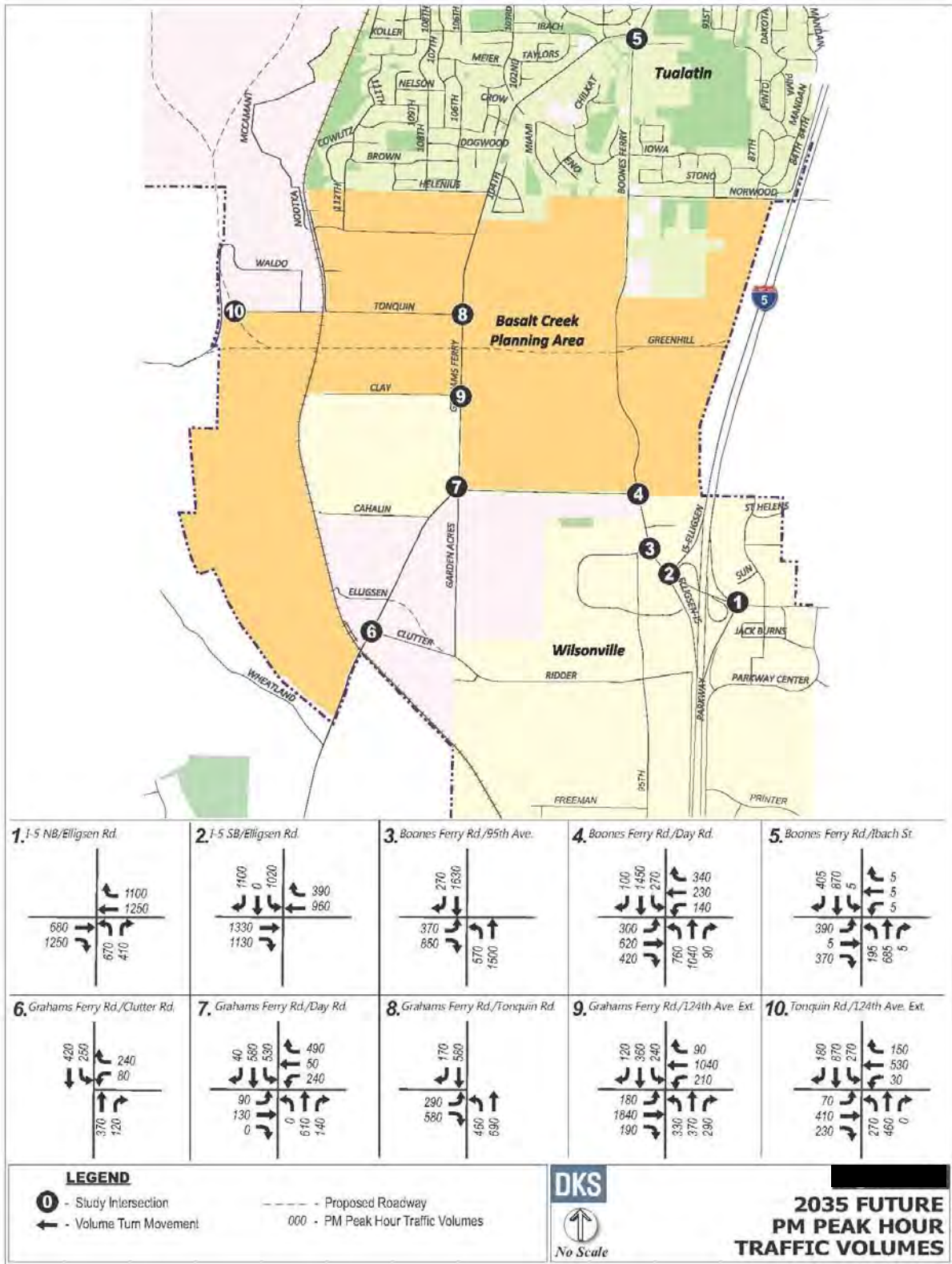


Figure 37 2035 Future PM Hour Traffic Volumes by intersection planning area. Source: DKS Associates 2014.



As shown in Figure 38, the Basalt Creek planning area is made up of three TAZs. Table 16 provides model trip p.m. peak hour estimates for each of the three TAZs. Between 2005 and 2035, the planning area is expected to generate an additional 2,255 trips—a 460% increase from the 2005 estimate of 490 trips.

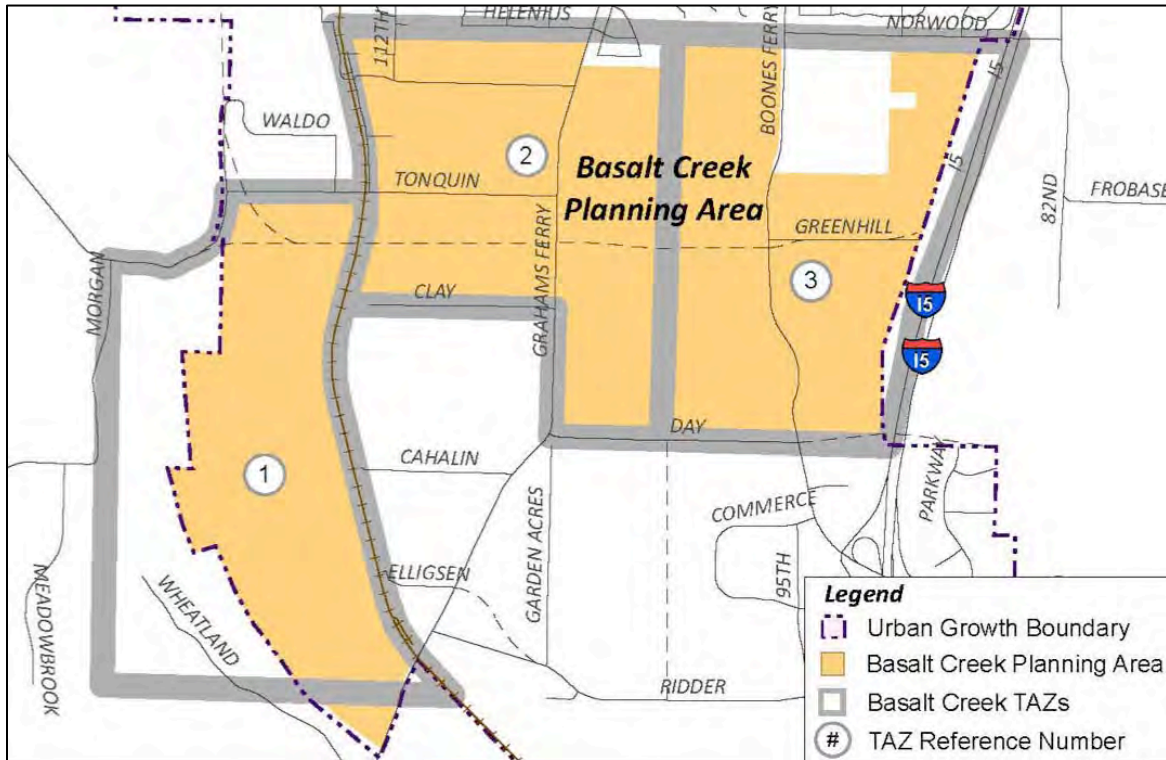


Figure 38 Basalt Creek planning area TAZ Structure. Source: DKS Associates 2014

Table 16 Basalt Creek planning area Estimated PM Peak Hour Trips<sup>27</sup>. Source: DKS, Metro.

TAZ	2005			2035		
	Entering	Exiting	Total	Entering	Exiting	Total
1	99	267	366	308	559	867
2	50	32	82	528	416	944
3	27	15	42	506	428	934
<b>Total</b>	<b>176</b>	<b>314</b>	<b>490</b>	<b>1,342</b>	<b>1,403</b>	<b>2,745</b>

<sup>27</sup> Within Metro’s regional model, TAZs 1-3 are represented by regional TAZs 1019, 1013, and 1014, respectively.

The growth between the 2005 and 2035 model volumes was interpolated to represent model growth for the smaller 2010-to-2035 time increment. This interpolated growth was added to the base year (2010) traffic volumes shown in Figure 36, resulting in the forecast 2035 volumes shown in Figure 37.

## Motor Vehicle Operations

Based on the volumes shown in Figure 36 and Figure 37, previous planning studies have documented motor vehicle conditions near the Basalt Creek planning area for existing conditions and for the future planning horizon year 2035. The 2035 motor vehicle conditions assume that the 18 projects in the Basalt Creek Transportation Refinement Plan's Action Plan, shown in Table 18 and Figure 39, will be constructed by 2035.<sup>28</sup> The resulting 2010 and 2035 p.m. peak hour intersection operations are shown in Table 17.

Table 17 P.M. Peak Hour Motor Vehicle Operations. Source: DKS Associates, Metro 2014.

Intersection	Jurisdiction	Mobility Target	Existing Year (2010)		Future Year (2035)	
			PM LOS	PM V/C	PM LOS	PM V/C
I-5 NB/Elligsen Rd <sup>A</sup>	ODOT	0.85	A	0.55	B	0.82
I-5 SB/Elligsen Rd <sup>A</sup>	ODOT	0.85	C	0.60	C	<b>0.89</b>
Boones Ferry Rd/95th Ave <sup>A</sup>	Washington County	0.99	C	0.84	C	0.87
Boones Ferry Rd/Day Rd <sup>A</sup>	Washington County	0.99	C	0.64	E	0.99
Boones Ferry Rd/Ibach St* <sup>B</sup>	Washington County	0.99	B	0.70	D	0.98
Grahams Ferry Rd/Clutter Rd* <sup>C</sup>	Washington County	0.99	A/B	0.31	A/F	<b>&gt;1.50</b>
Grahams Ferry Rd/Day Rd <sup>A</sup>	Wilsonville	D	B	0.55	D	0.95
Grahams Ferry Rd/East-West Arterial <sup>A</sup>	Washington County	0.99	-	-	E	<b>1.00</b>
Grahams Ferry Rd/Tonquin Rd <sup>A</sup>	Washington County	0.99	A/B	0.44	C	0.88
124th Ave/Tonquin Rd <sup>D</sup>	Washington County	0.99	-	-	F	<b>&gt;1.50</b>

**Bolded and Red** indicates intersection does not meet mobility targets

Worst mainline LOS/worst side street LOS reported for unsignalized intersections

\*Existing year is 2011 for these intersections

<sup>A</sup> Operations from: Basalt Creek Transportation Refinement Plan, November 2012.

<sup>B</sup> Operations from: Tualatin Transportation System Plan, February 2013.

<sup>C</sup> Operations from: Wilsonville Transportation System Plan, June 2013.

<sup>D</sup> Operations from: SW 124<sup>th</sup> Ave Extension Traffic Impact Analysis Hybrid Scenario Report, January 2013.

<sup>28</sup> Not all 18 projects may be included in the 2014 financially constrained RTP project list.

As shown in the above table, five of the ten study intersections are expected to operate worse than the accepted level of mobility in the 2035 p.m. peak hour.<sup>29</sup> While the mobility target shown for the I-5 ramps is 0.85, it may be increased to 0.90 if it can be shown with at least 95 percent probability that queues will not spillback onto the mainline or to the portion of the ramp needed for safe deceleration. Therefore, it is possible that the I-5NB/Elligsen Road intersection may meet the mobility target if queuing is not an issue. Further study is needed for a higher level of certainty.

It is important to note that the forecasting for Basalt Creek Transportation Refinement, 124th Avenue Analysis, and the two city TSPs was performed using earlier versions of the regional travel demand model that assumed more intense development in Basalt Creek and other adjacent areas. The regional model has since been updated (with Metro's "Gamma" model version, for the 2014 Regional Transportation Plan). While the new model was not used for the analysis summarized in this report, it is significant that the overall trip numbers for the planning area are lower due to a decreased forecast for housing units and retail jobs (which produce far more trips than industrial or other commercial employment). This decreased trip forecast (Table 18), in combination with a concept plan that will strategically consider appropriate land uses, multimodal transit networks, local road connections and existing plans for road expansions, will likely mitigate some of the operational deficiencies shown in Table 17.

**Table 18** Comparing Housing and Employment Forecasts for 2025 in the Basalt Creek planning area.  
Source: Metro 2014.

	New Households	New Retail Employment	New Service Employment	Other New Employment	Total New Employment
Forecast used in Basalt Creek TRP (Beta Version)	1386	467	581	1514	2562
New Forecast (Gamma Version)	1214	46	427	1843	2316
Change between Beta and Gamma forecasts	-172	-421	-154	+329	-246

The 124<sup>th</sup> Avenue extension is planned to be a five lane roadway; however, the operations shown for the 124<sup>th</sup> Avenue/Tonquin Road intersection assume 124<sup>th</sup> Avenue as a three lane facility. As a five lane facility, it is possible that the intersection may meet the mobility target.

At the time of the Basalt Creek Transportation Refinement Plan, the 2035 operational analysis assumed that the East-West Connector (i.e., 124<sup>th</sup> Avenue south of Tonquin Road) would be located north of Tonquin. However, the arterial is currently planned to be located south of Tonquin. Therefore, operations in Table 17 may vary—especially the Grahams Ferry Road/East-West Connector and Grahams Ferry Road/Tonquin Road intersections—assuming the south alignment of the arterial.

<sup>29</sup> Operational issues may also exist in the a.m. peak hour for one or more of the study intersections. Morning peak hour analysis was not available for this study.

## Basalt Creek Transportation Refinement Plan Projects

The Basalt Creek Transportation Refinement effort included a recommendation for phased investments to support regional and local transportation needs through 2035. The resulting Action Plan includes the projects shown in Table 18 and Figure 39. Analysis showed that the entire set of projects would be needed to support the local and regional growth reflected in the adopted 2035 RTP model (discussed earlier), and all projects on the list are included in the assumed network on which the operations results shown in Table 17 were based.

The Action Plan project list represents the transportation framework needed to accommodate the RTP's future growth assumptions. However, this framework is different from a list of "reasonably likely" projects (i.e., projects from a financially constrained plan) that would inform a Transportation Planning Rule analysis that would support changes to comprehensive plan/zoning designations. Table 18 includes information on whether each project is identified in the Federal RTP (i.e., reasonably likely) or whether the project was from the State RTP or another source (i.e., not reasonably likely).

Major capacity improvements beyond those listed in Table 18 are not anticipated. Therefore, the trips generated in the study area, as shown in Table 16, are considered "sideboards" for the Basalt Creek planning area, meaning that trip generation lower than these totals should allow the Action Plan network to operate acceptably in 2035. Within this framework, the East-West Connector is a special case requiring further discussion.

### East-West Connector Considerations

While the East-West Connector project is not part of the federal financially constrained project list in the adopted RTP, the first phase of this facility has been fast-tracked and funding has been identified for construction between 124<sup>th</sup> Avenue/Tonquin Road and Grahams Ferry Road and is recommended to be included in the 2014 financially constrained RTP list. Therefore, this section (part of Washington County's 124<sup>th</sup> Avenue Extension project) can be considered "reasonably likely" for TPR purposes.

Partner agencies on the Basalt Creek Transportation Refinement Plan identified key characteristics that should be included in the East-West Connector in order to support development. These included:

- Design for 45 mph and posted speed limit of 45 mph
- Access spacing of one-half mile to one mile

This means the only accesses provided within the study area would occur at the Grahams Ferry Road and Boones Ferry Road intersections. Additional roadway or pedestrian/bicycle crossings between the north and south sides of the facility would need to be grade-separated.

Table 19 Basalt Creek Refinement Action Plan

ID	Project	Short-Term	Medium-Term	Long-Term	Cost (\$2012)	Previously Planned?
1	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Construct three lane road extension with bike lanes and sidewalks	x			\$20,000,000	Federal RTP
2	Tonquin Road (124 <sup>th</sup> Avenue to Grahams Ferry Road): Widen to three lanes with bike lanes and sidewalks, grade separate at railroad, improve geometry at Grahams Ferry Road <sup>1</sup>	x			\$10,500,000	Federal RTP
3	Grahams Ferry Road (Tonquin Road to Day Road): Widen to three lanes with bike lanes and sidewalks	x			\$5,400,000	Federal RTP
4	Boones Ferry Road (Norwood Road to Day Road): Widen to three lanes with bicycle and pedestrian improvements	x			\$10,800,000	In design
5	124 <sup>th</sup> Avenue/Tonquin Road Intersection: Signal (may include Tonquin Trail crossing)	x			_ <sup>2</sup>	-
6	Grahams Ferry Road/Tonquin Road Intersection: Signal	x			\$500,000	Federal RTP
7	Boones Ferry Road/Day Road Intersection: Add second southbound through approach lane	x			_ <sup>3</sup>	-
8	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Construct dual left-turn and right-turn lanes; improve signal synchronization, access management and sight distance	x			\$2,500,000	Federal RTP
9a	Tonquin Trail (Clackamas County Line to Tonquin Loop Road): Construct multi-use trail with some segments close to but separated from road	x			\$8,900,000 <sup>4</sup>	Federal RTP
9b	Tonquin Trail (Tonquin Loop Road to Tualatin-Sherwood Road): Construct multi-use trail with some segments close to but separated from road		x		\$7,100,000 <sup>4</sup>	Federal RTP
10	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Widen from three to five lanes with bike lanes and sidewalks		x		\$14,000,000	Federal RTP
11	East-West Arterial (124 <sup>th</sup> Avenue to Boones Ferry Road): Construct 5 lane roadway with railroad and creek crossings, integrate segment of Tonquin Trail <sup>5</sup>		x		\$57,900,000	State RTP
12	Boones Ferry Road (East-West Arterial to Day Road): Widen to five lanes with bike lanes and sidewalks		x		\$1,100,000	State RTP
13	Kinsman Road Extension (Ridder Road to Day Street): Construct three lane road extension with bike lanes and sidewalks		x		\$10,400,000	Federal RTP
14	Day Road (Kinsman Road to Boones Ferry Road): Widen to five lanes with bike lanes and sidewalks		x		\$5,800,000	Similar to RTP project
15	I-5 Southbound off-ramp at Boones Ferry Road/Elligsen Road: construct second right turn lane		x		\$500,000	No
16	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Access management		x		_ <sup>6</sup>	-
17	Day Road Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Elligsen Road			x	\$33,700,000 -\$44,100,000 <sup>7</sup>	State RTP
18	East-West Arterial Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Stafford Road. Integrate multi-use path in corridor that connects to Tonquin Trail			x	\$38,000,000	State RTP
<b>TOTAL</b>		<b>\$59M</b>	<b>\$97M</b>	<b>\$72-82M</b>	<b>\$228-238M</b>	

<sup>1</sup> Grade separation for Tonquin Road is optional. An at-grade crossing would reduce cost by around \$2,000,000

<sup>2</sup> Cost included in Project 1

<sup>3</sup> Coordinate with Project 4. Cost of approach lane included in estimate for Project 12

<sup>4</sup> Tonquin Trail cost estimated by Metro as part of trail planning effort

<sup>5</sup> Project 11 can potentially be built in two phases funded separately, west and east of Grahams Ferry Road. However, traffic benefits needed in the medium term (around 2030) will not be realized unless entire project is completed

<sup>6</sup> Project details to be determined by further coordination between City of Wilsonville and ODOT. Cost expected to be minimal

<sup>7</sup> Specific alignment approaching Elligsen Road will determine project cost. Alignment to Parkway Center Drive is estimated at \$33,700,000, and alignment to Canyon Creek Road is estimated at \$44,100,000

\* Time frames may shift with updates to the RTP

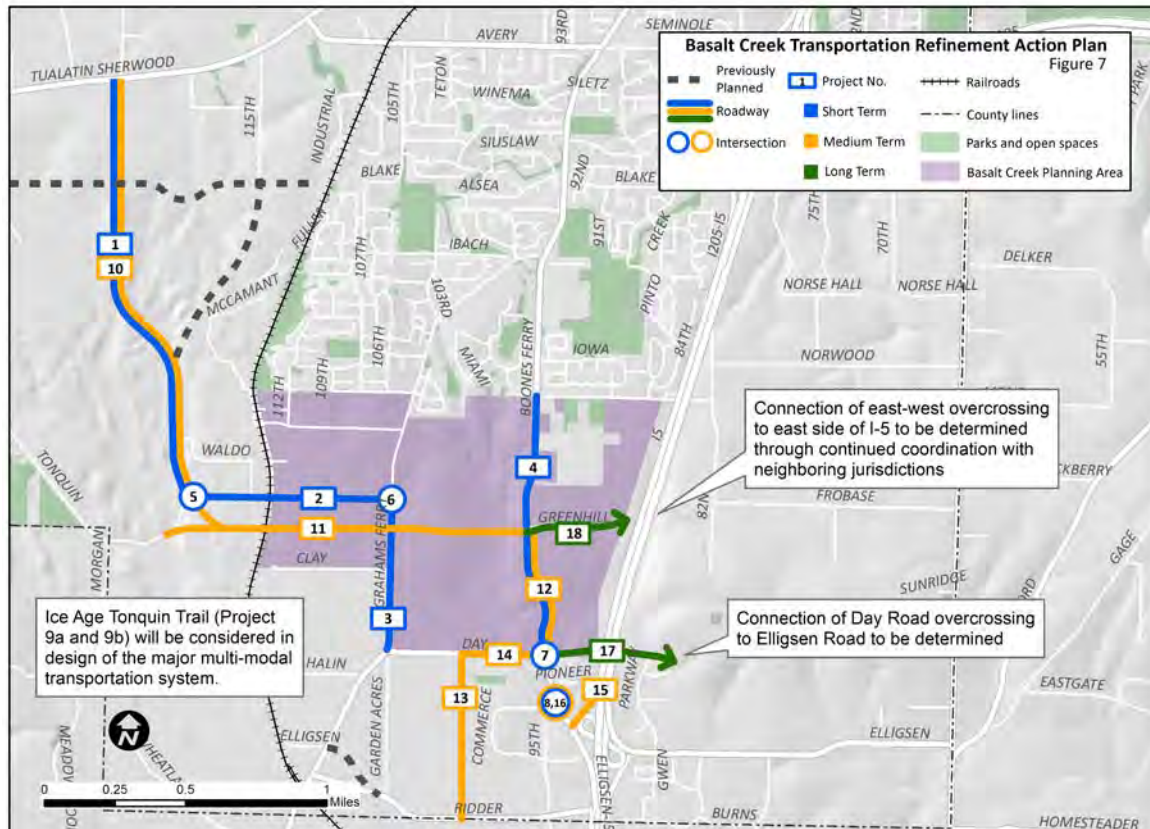


Figure 39 Basalt Creek Transportation Refinement Plan (TRP)

## Pedestrian and Bicycle System

The Basalt Creek planning area is primarily served today by Tonquin Road, Grahams Ferry Road, and Boones Ferry Road. However, except for Boones Ferry Road, as shown in Figure 41 and Figure 42, these roads generally do not provide adequate pedestrian and bicycle connections to the Basalt Creek planning area.

While there are adopted design standards and several planned projects that address deficiencies in the existing pedestrian and bicycle system, there are a few rural roads in the Basalt Creek planning area without planned pedestrian and bicycle improvements, including:

- 112<sup>th</sup> Avenue south of Brown Street
- Clay Street

- Grahams Ferry Road north of Tonquin Road
- Tonquin Loop

As the area develops, these rural roads should be improved to meet urban standards.

## Transit System

TriMet currently runs a bus route on Boones Ferry Road through the Basalt Creek planning area (Route 96). This route connects north Wilsonville (at Commerce Circle), Tualatin, and downtown Portland with frequent commuter service during the weekdays. As shown in Figure 39, the route runs along Boones Ferry Road with stops spaced approximately ¼ mile through the Basalt Creek planning area. Weekend transit service, however, is not provided in the planning area.

South Metro Area Regional Transit (SMART) runs transit service to Commerce Circle via Route 2X (Barbur Boulevard Transit Center to SMART Central with a stop at the Tualatin Park & Ride and Route 5 (Commerce Circle to SMART Central). Route 2X runs limited service to Commerce Circle Monday through Friday; Route 5 runs with frequent service Monday through Friday.

TriMet’s WES commuter rail service runs along the rail tracks through the planning area, connecting Wilsonville to Beaverton. While it stops in Wilsonville and Tualatin, it currently does not stop in the planning area.

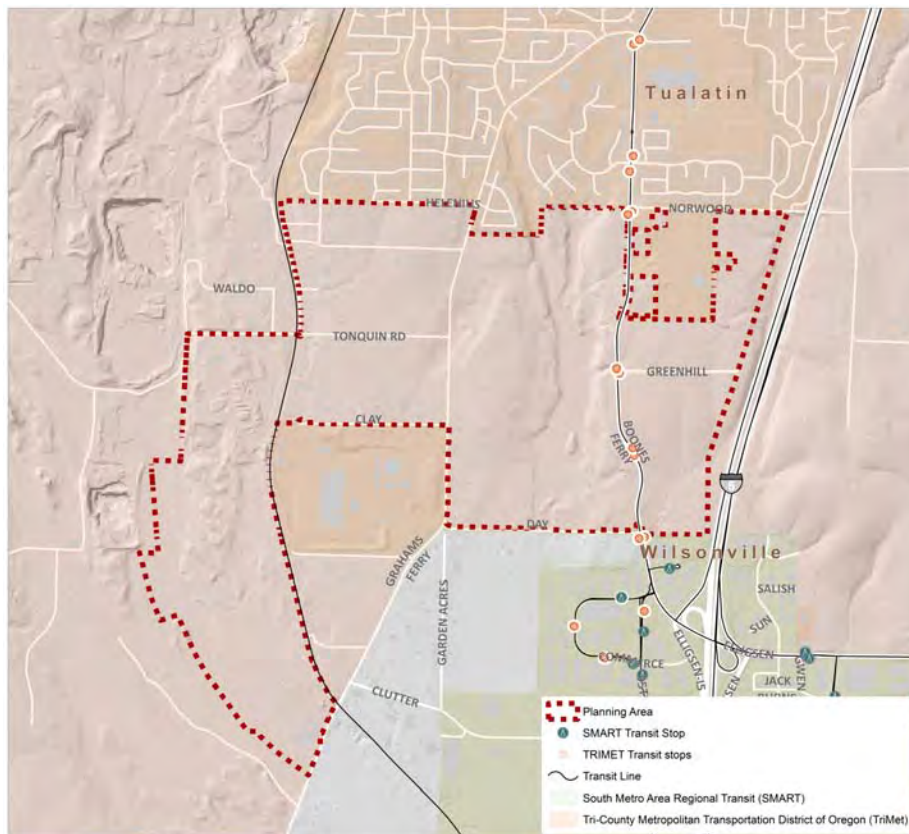


Figure 40 Transit service boundaries for TriMet and SMART in and around Basalt Creek area

Overall, the combined TriMet/SMART transit system meets the needs of the typical commuter—outside of typical commute hours, however, transit service in the Basalt Creek plan area is nonexistent. Two projects have been identified to enhance the transit system adjacent to the Basalt Creek planning area. These projects are from the Tualatin Transportation System Plan, which did not plan for projects in the planning area, and are estimated with a medium-term planning horizon (i.e., five to ten years):

- Look for potential park-and-ride locations south of Bridgeport Village.
- Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible



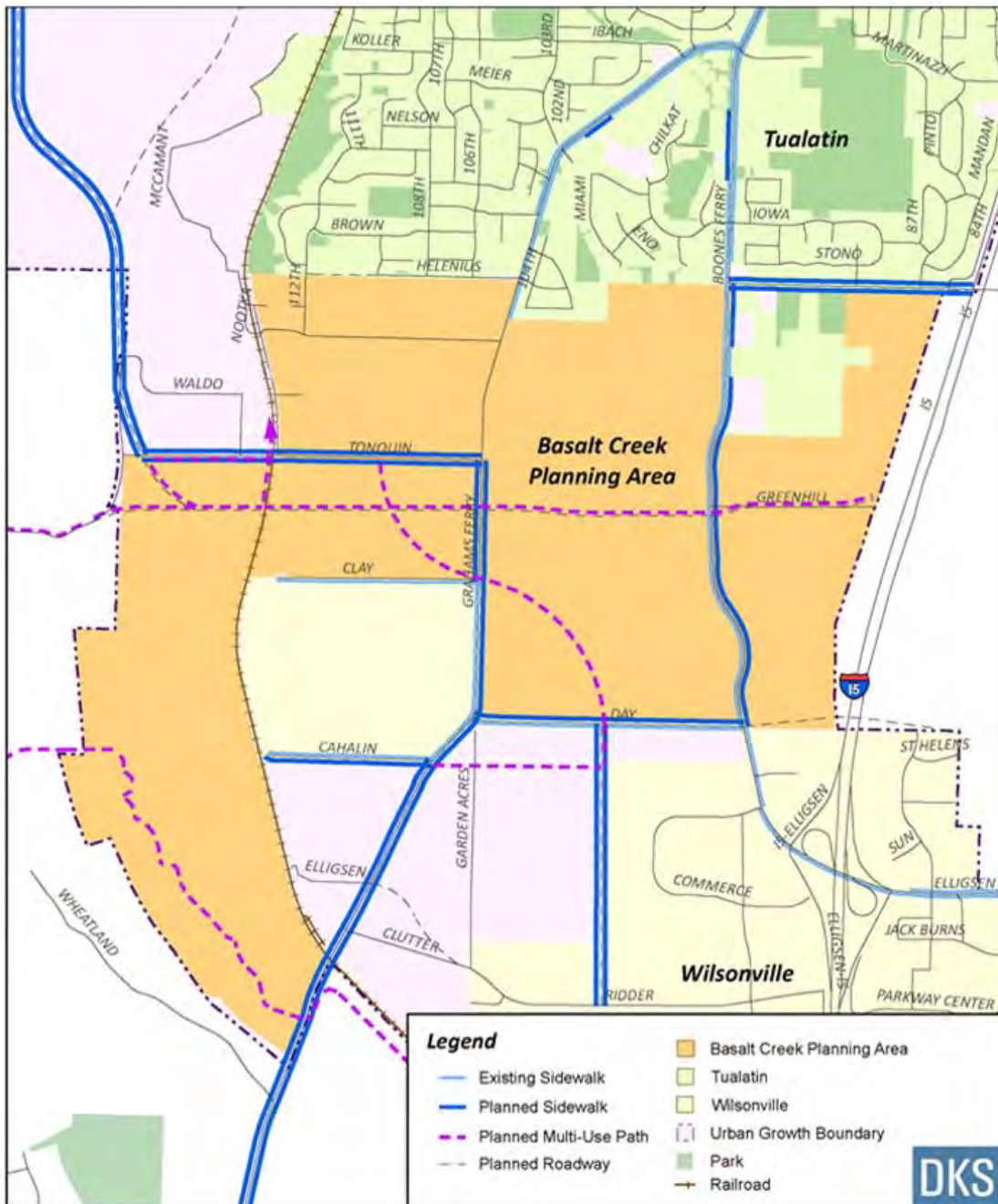


Figure 41 Existing Pedestrian system in Basalt Creek planning area. Source: DKS Associates 2014

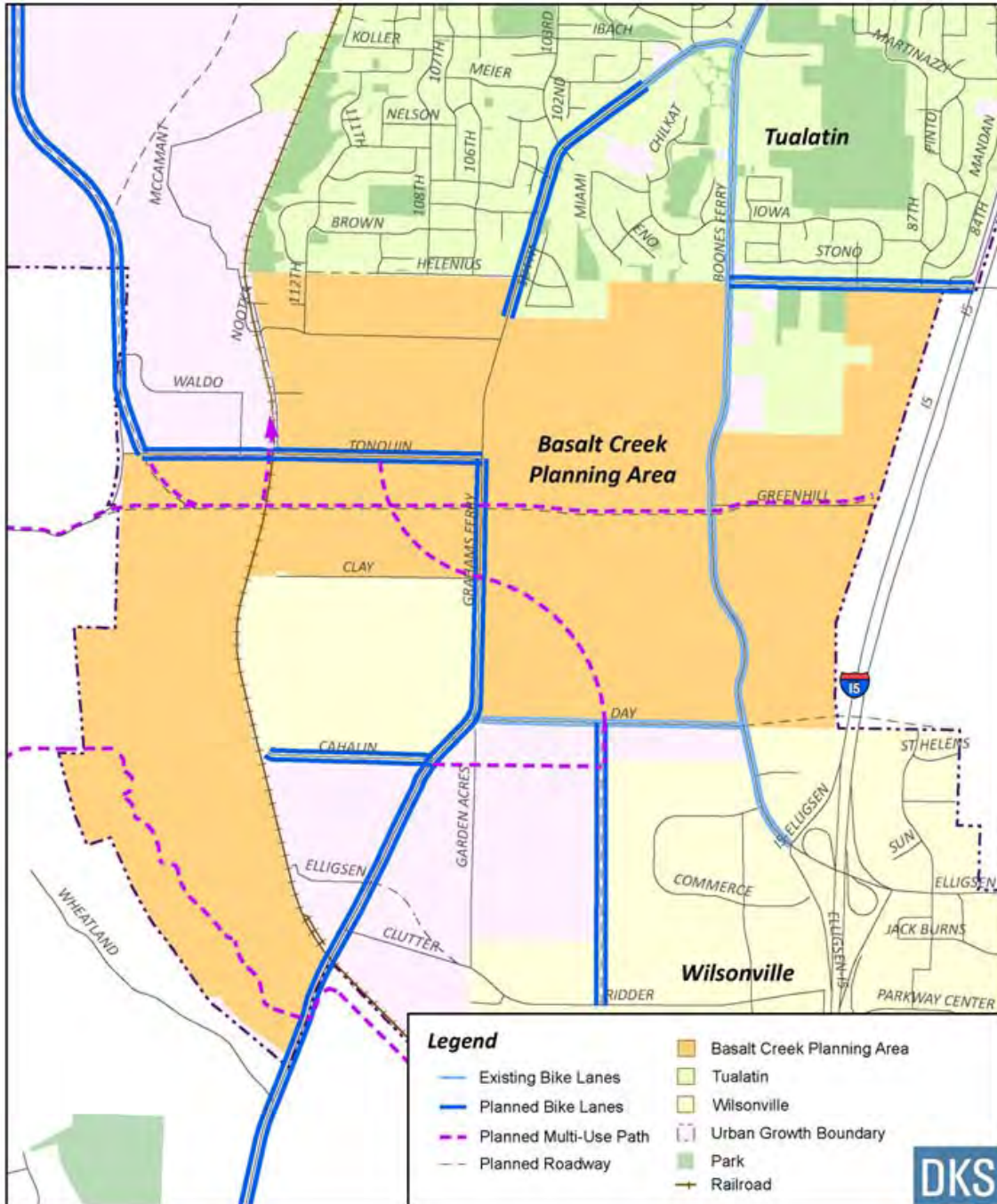


Figure 42 Existing bicycle system in Basalt Creek planning area. Source: DKS Associates 2014

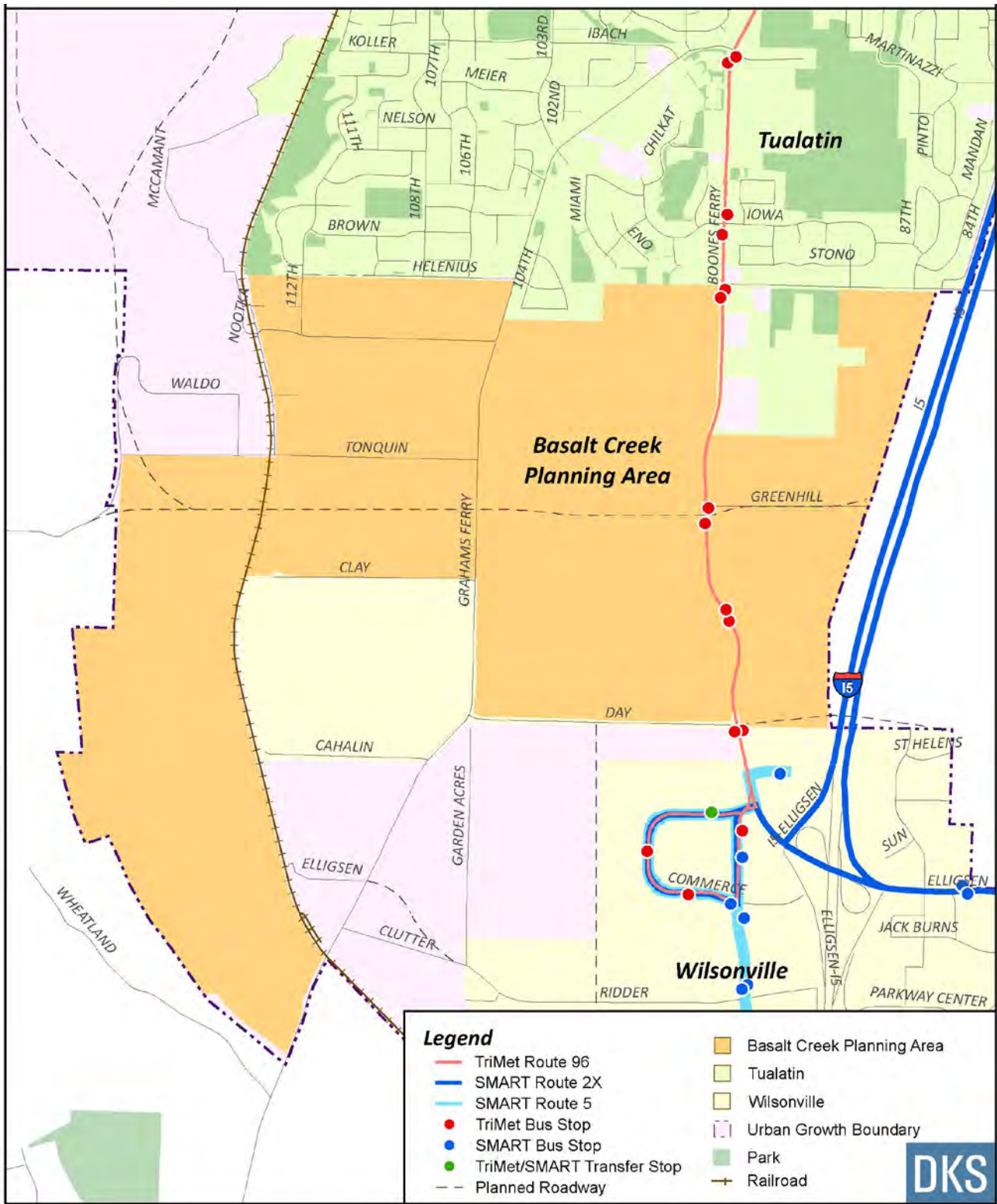


Figure 43 Existing transit system in Basalt Creek planning area. Source: DKS Associates 2014

# VIII. Land Capacity Analysis

The bulk of this section describes the methods and data sources used to perform the land capacity analysis for the Basalt Creek planning area. The results of the analysis are presented toward the end of the section.

## Methodology

The land capacity analysis is an estimate of the development potential within the planning area to provide a realistic estimate of where and how much land can be developed. The analysis is twofold: an assessment of “buildable lands” – areas that are suitable for development given the physical and regulatory constraints on the land, and two, an assessment of the land supply within the planning area. Land supply is an assessment at the parcel level that identifies areas that are not constrained and are either vacant or redevelopable.

## Buildable Lands

The buildable lands assessment focuses primarily on identifying places where there is limited or no development potential. These areas are screened out from the analysis to identify the places where development is most suitable given the environmental and regulatory context. There are a range of factors that influence development potential within the planning area, but they can be generally divided into two categories: hard and soft constraints. Hard constraints are either physical or legal requirements that prohibit new development. These areas will be fully excluded from the analysis with the assumption that no new development will occur in them. Soft constraints are also based on physical or legal requirements but do allow for some development, and provide guidance for assigning appropriate land uses and intensities. The analysis of constraints for the purpose of assessing land capacity focused primarily on environmental and manmade constraints. A conservative approach is taken in this analysis toward development in and around environmental constraints to emphasize preservation of natural resources.

## Hard Constraints

State, regional and local laws provide a range of protections for environmental features and habitat. This analysis provides a framework that meets:

- Oregon Statewide Planning Goal 5
- Metro Regional Functional Plan Requirements (Titles 3 and 13)
- Clean Water Services (CWS) Regulations
- City of Wilsonville Significant Resource Overlay Zone (SROZ) Development Code

Since local regulations are compliant with state and regional land use requirements, and in some cases go above and beyond what is required, this analysis uses the CWS and Wilsonville SROZ requirements as

the foundation for determining constraints. For the purpose of this analysis, where methodologies differ the approach that offers more protection is taken into account. The major differences between CWS and Wilsonville’s SROZ requirements are summarized in Table 20 below. The chief difference between the two is that Wilsonville differentiates for size and location of wetland and includes more drainage area classes.

Table 20 Comparing methodologies<sup>30</sup> for buffering natural resources between Clean Water Services and Metro’s Title 3/City of Wilsonville. Source: Fregonese Associates, Clean Water Services, City of Wilsonville and Metro 2014.

### COMPARING BUFFERING METHODOLOGIES

WATER FEATURE	CWS	SROZ and Title 3
Primary Water Feature	50 ft	50 ft
Primary Water Feature -- With steep slope	Up to 200 ft	Up to 200 ft
Secondary Water Feature	15 ft/25 ft/50 ft	15 ft
Secondary Water Feature -- With steep slope	Up to 200 ft	50 ft
Slope Stability	Top of ravine plus 35 ft	

It should be noted that when actual development takes place, a more detailed and site-specific analysis will be undertaken and will include application of local regulations. The analysis in this report provides a detailed but high-level assessment of buildable lands for the purpose of creating the concept plan.

Hard constraints are split into two major categories: environmental and manmade. Basic environmental constraints are summarized below:

- Open Water
- Streams
- Wetlands
- Floodplains (50% reduction of developable area)
- Title 3 Water Quality and Flood Management protections
- Title 13 Nature in Neighborhoods (20% reduction of developable area in areas designated Riparian Habitat Classes I and II)
- Steep Slopes (25% slopes and greater)

Unless otherwise noted all of the constraints described above are fully excluded from the land being considered for development in this analysis.

<sup>30</sup> For definitions of features, please refer to CWS’s Design and Construction Standards - Chapter3, City of Wilsonville’s Significant Resource Overlay Zone (SROZ) Ordinance, and Metro’s Urban Growth Management Functional Plan

The following describes the environmental hard constraints methods and findings in more detail. Maps showing the environmental constraints (open water, wetlands, streams, floodplains, and Title 3 and 13 areas) can be found in *Section III: Natural and Historic Resources*.

### *Open water*

All areas of open water in the planning area were digitized by Fregonese Associates based on 2013 and 2012 leaf-off aerials.<sup>31</sup> Forty-nine (49) acres of open water (which includes a 50-foot buffer surrounding water features) were excluded from the analysis.

### *Streams*

Three categories of streams were defined for the analysis and include:

- Natural streams (18,845 feet)
- Underground streams (789 feet)
- Intermittent streams (1,402 feet)

Stream categories determined by visual survey of 2013 and 2012 leaf-off aerials and intermittent stream and through field checks conducted by the City of Wilsonville. For the constraints analysis the following buffers were applied:

- Natural streams (50 foot buffer)
- Intermittent streams (15 foot buffer)

Underground streams were not considered in the analysis. A total of 31 acres of streams and associated buffers were excluded from the analysis.

### *Wetlands*

Wetlands were identified using RLIS, the Wetland Delineation Report for Proposed Boones Ferry Widening, and additional wetlands digitized by Fregonese Associates based on 2013 and 2012 (leaf-off) aerials. For the constraints analysis the following wetland buffers were applied:

- Wetlands (50-foot buffer)
- Isolated wetland and smaller than a half acre (25-foot buffer)

A total of 69 acres of wetlands and buffer areas were excluded from the analysis.

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<sup>31</sup> Leaf-off aerials are aerial photos taken during a season (usually winter) when there is a lack of foliage on deciduous tree and shrub species, and ground features (including water bodies) can be seen more distinctly.

## Floodplains

Areas identified by FEMA as being within the 1% annual chance flood event area were constrained by 50% for the analysis, resulting in a total of 53 acres of land within the 100 year floodplain.

## Title 3-Designated Land

Title 3 is a regulatory designation used by Metro to protect riparian resources such as streams, wetlands and floodplains. Title 3 restricts development within these areas to protect natural resources as well as life and property threatened by flooding. There are 116 acres of Title 3 land within the planning area.

## Steep Slopes

Steep slopes were analyzed using RLIS data and digitized slopes by Fregonese Associates using a 3-foot digital elevation model (DEM) provided by Metro (Figure 44). Using RLIS, only 41 acres of steep slopes were identified. The 3-foot DEM provides additional accuracy and added nine additional acres of steep slopes, for a total of 50 acres of slopes. The analysis includes non-isolated slopes, greater than half an acre, natural and or along a riparian area. These areas are excluded from the analysis.



Figure 44 Map showing classification of slopes by steepness in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

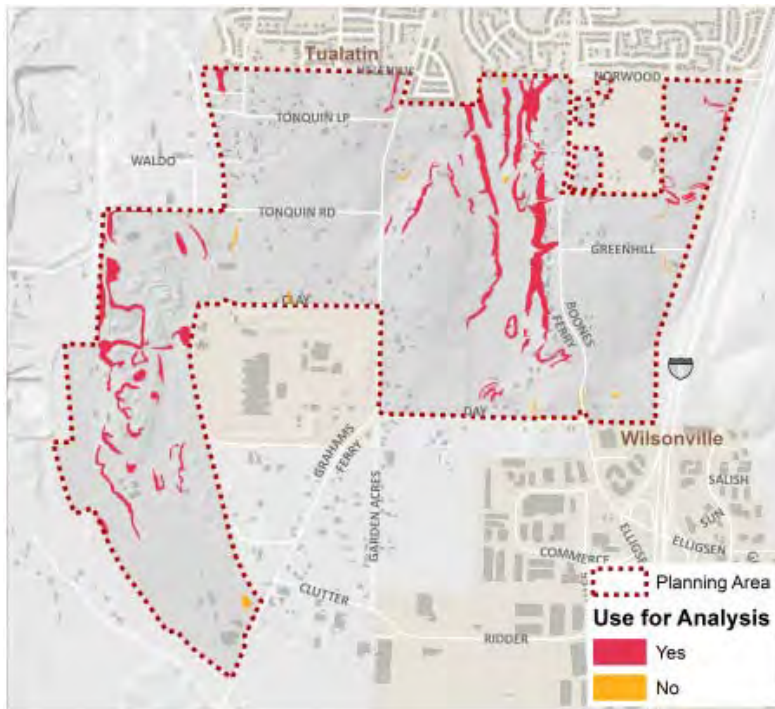


Figure 45 Slopes over 25% in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

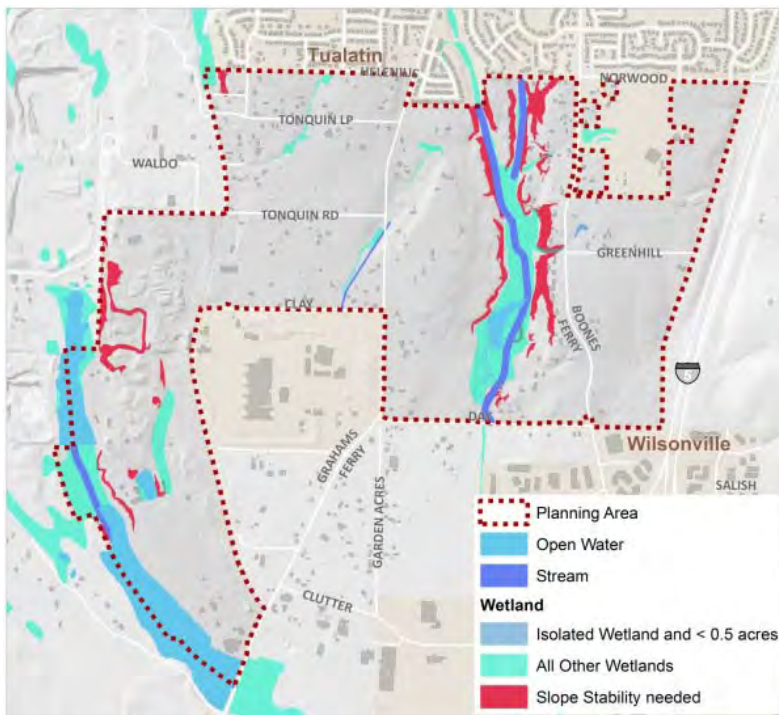


Figure 46 Slope stability in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.



## *Slope Stability*

Clean Water Services has a requirement for slope stability within vegetated corridors. CWS requires an additional 35 feet for steep slopes within a vegetated corridor from top of ravine. This affects streams, open water and wetlands. The slope stability is in effect for a distance of up to 200 feet. This removes an additional area of 11 acres from the analysis (Figure 46).

## *Manmade Constraints*

Basic manmade constraints include:

- Easements
  - BPA easements
  - PGE easements and substation
  - Natural Gas Pipeline
- Roads
  - Existing
  - Future/planned roads and expansions included in the Basalt Creek Transportation Refinement Plan

All of the manmade constraints are fully excluded from the buildable lands. The following describes the methodology and findings for the manmade constraints:

- Almost 16,000 feet of transmission lines crossing the area
- Two Easements:
  - BPA: 42.3 acres
  - PGE: 18.0 acres plus 4.1 acres substation
- Two Natural Gas lines:
  - 25.7 acres
- For constraints analysis:
  - Remove from buildable land

## *Roads*

There are four major road projects:

- East-West Connector (6,460 feet)
- 124<sup>th</sup> Ave. Extension (890 feet)
- Boones Ferry Road (4,860 feet)
- Two 2035 I-5 Overcrossings (approx. 4,000 feet)

Soft constraints:

- Inverse buffering of tax lots along the alignments by 10-foot increments to accommodate for projects

Additional road projects:

- 11,512 feet

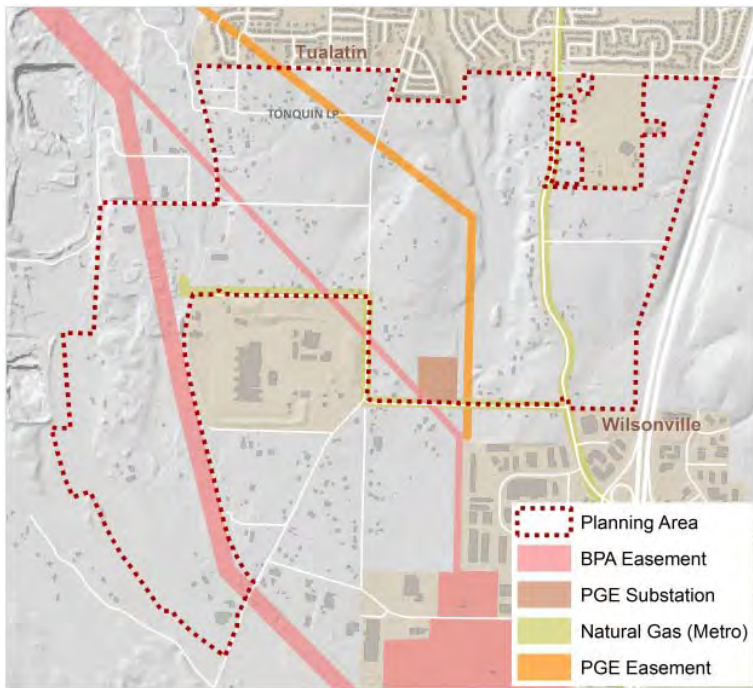


Figure 47 Infrastructure constraints in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

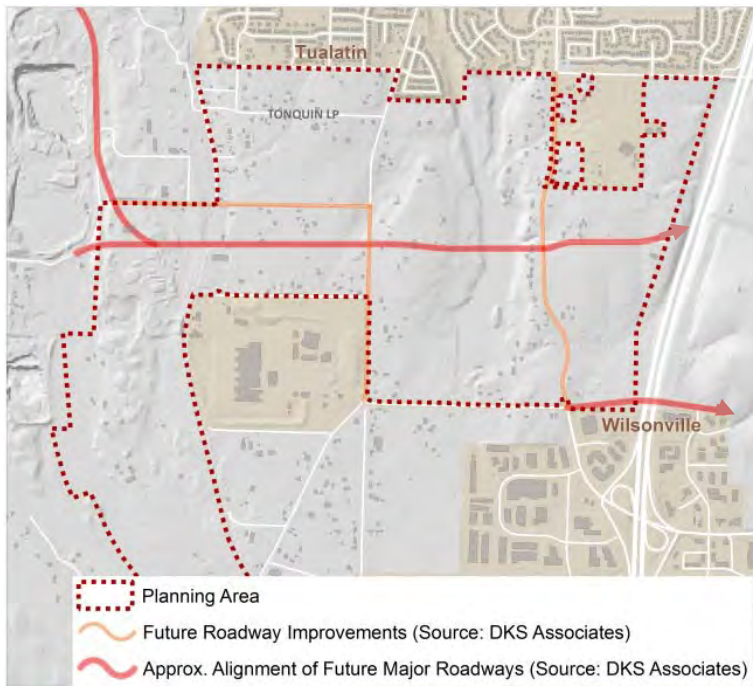


Figure 48 Road constraints in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

## Soft Constraints

Soft constraints provide guidance for determining suitability for different land uses in areas that are environmentally constrained. Two key soft constraints are included in the analysis: Slopes greater than 10% (as a constraint for industrial suitability) and Title 13 protections of upland habitat

### Title 13 – Designated Land

Title 13 refers to Nature in Neighborhoods. It was adopted by Metro in 2007 as an enhancement to Title 3. Title 13 encourages the protection of habitat and conservation efforts. For our analysis we restricted development within the Riparian Class I and II. There are 431 acres of Title 13-designated land in the planning area. For the constraints analysis, the developable acreage was reduced by 20%. Title 13 is considered a soft constraint, as it is a policy guidance designation but not regulatory.

### Constraints Summary

Overall 35% (297 acres) of the total land area within the Basalt Creek planning area is constrained.

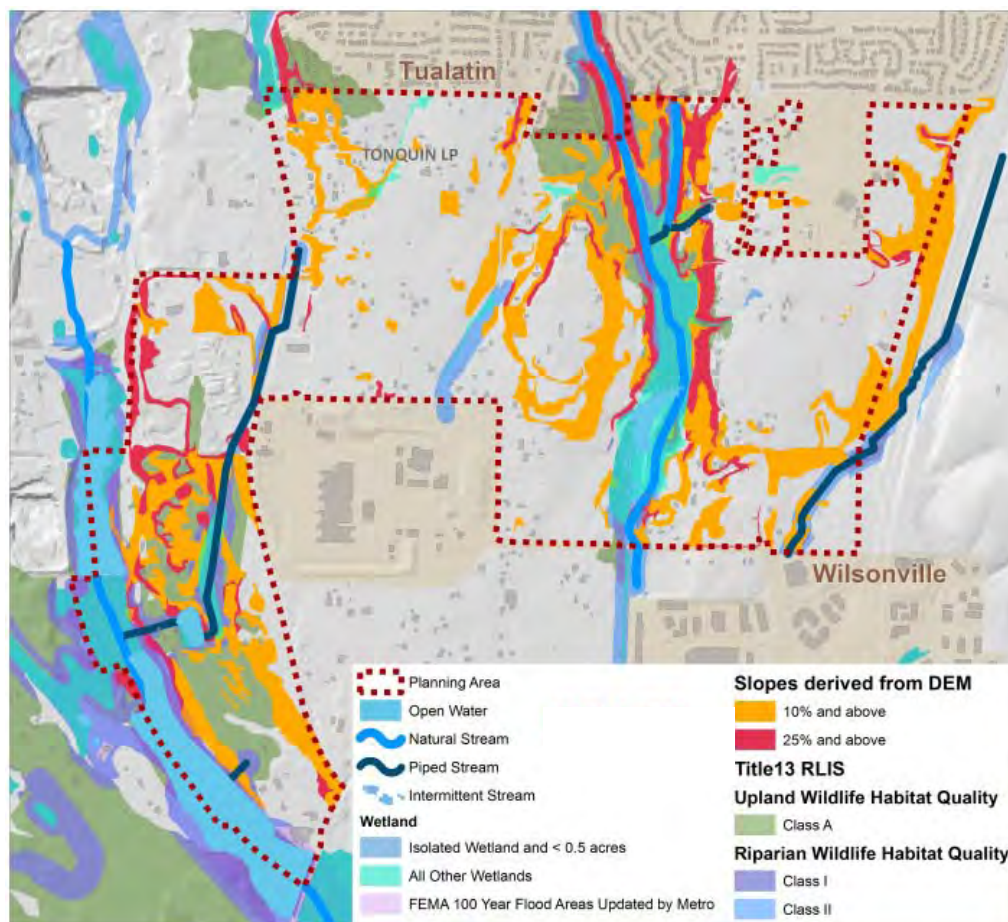


Figure 49 Map of development constraints (excluding roads) in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Figure 50 below illustrates the land area that is either fully or partially constrained based on the methodology described above.

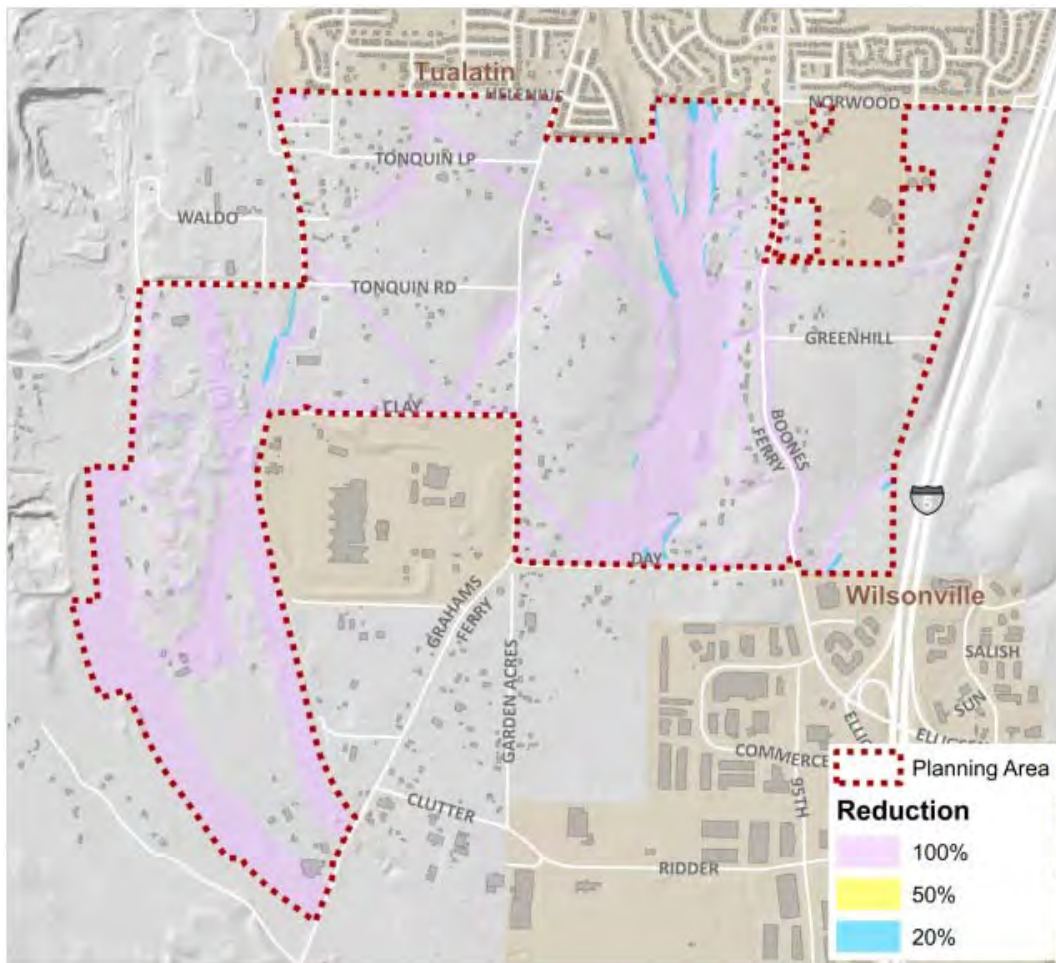


Figure 50 Map of all constrained area (hard constraints) in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

## Land Supply

The second step in the buildable lands analysis examines the potential for new development or redevelopment of existing uses within the planning area. While much of the land within the planning area is vacant, there are existing businesses, homes and other uses within the area that are considered. This part of the analysis brings together the buildable lands analysis with an assessment of developable land within the planning area to provide an estimate of land supply available for development. This analysis is conducted at the tax lot level because land uses are tied to property lines.

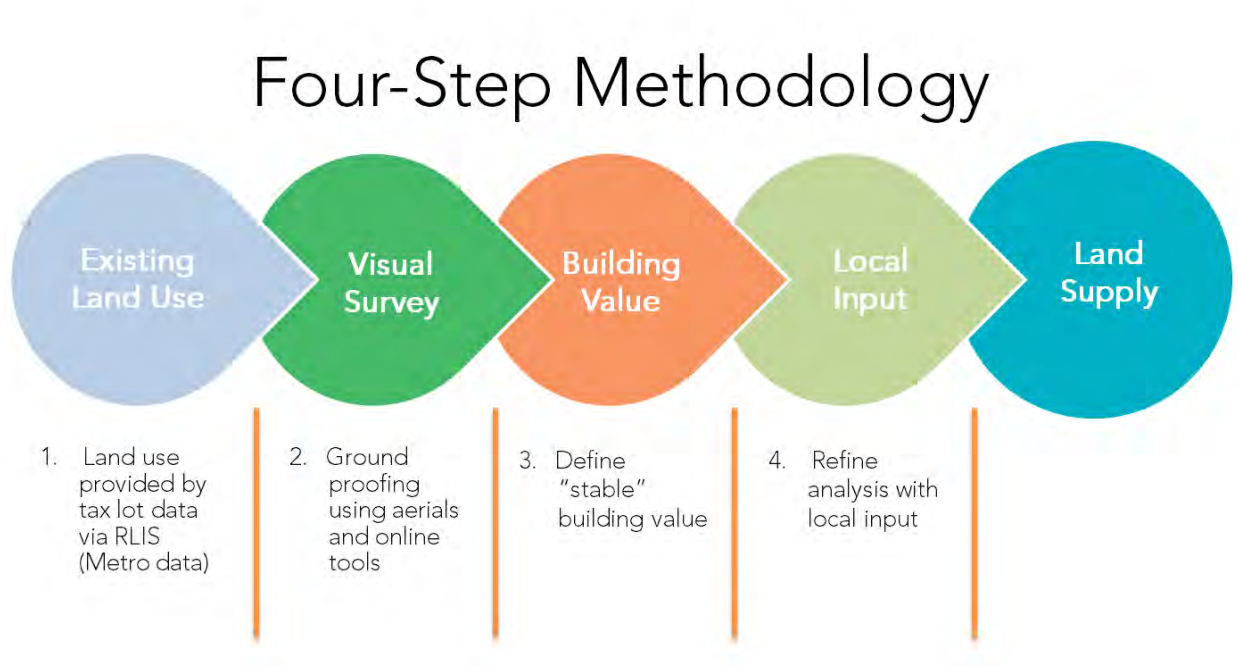
The outcome of this analysis is to classify every parcel within the planning area into one of the three categories described below:

- Vacant Land – Land ready to build, no major structure on site
- Redevelopable Land – Land with existing uses but have redevelopment potential
- Stable Land – Land and structures on it will not change in the future

The land supply analysis is then combined with the buildable lands to create a geographically referenced database of land capacity within the planning area.

The land supply analysis is based on four major steps (Figure 51):

- Existing Land Use – Land use provided by tax lot data via RLIS
- Visual Survey – Ground proofing via aerials and online tools
- Building Value – Define “stable” and redevelopment potential via building value
- Local Input – Refine analysis with local input



**Figure 51** Graphic illustration of four-step methodology for analyzing land supply. Source: Fregonese Associates 2014.

## Existing Land Use

In this step parcels are categorized into either developed or vacant land. Step one is based on existing land use using tax lot data provided by RLIS. Parcels that are considered developed are classified in RLIS as:

- Commercial
- Industrial
- Public
- Residential

Parcels that are considered vacant are classified in RLIS as:

- Rural
- Forest
- Agriculture
- Unknown
- Vacant

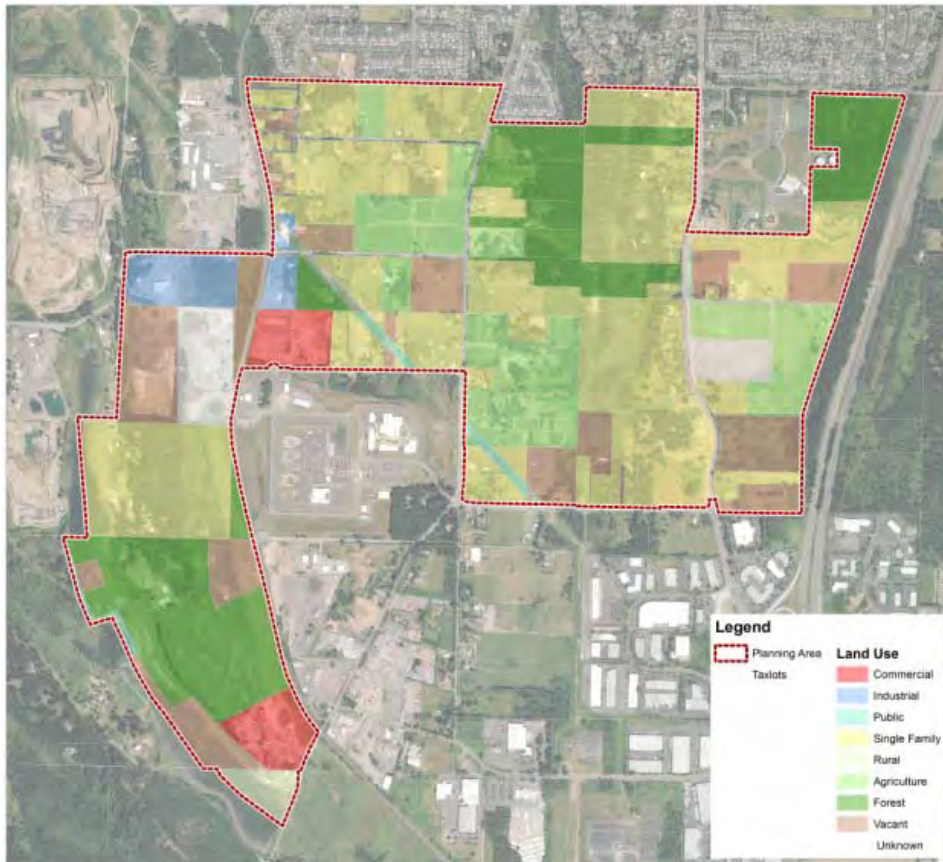


Figure 52 Map of existing land uses inside Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Visual Survey

In step two Fregonese Associates used a visual survey, other data resources and online tools to confirm and refine tax-lot-based classification of developed and vacant land. First, the vacant and developed land inventory (RLIS March 2014) was utilized to further refine the tax-lot-based analysis. The vacant and developable lands inventory is not limited to the tax lot lines and uses a “cookie cutter approach” around buildings to adjust for large amount of “unused” land on a development lot that may have an existing structure. Using this dataset as a guide in parallel with aerial photography, Google Map Street View, and Bing Map Bird’s Eye the parcel dataset was refined.

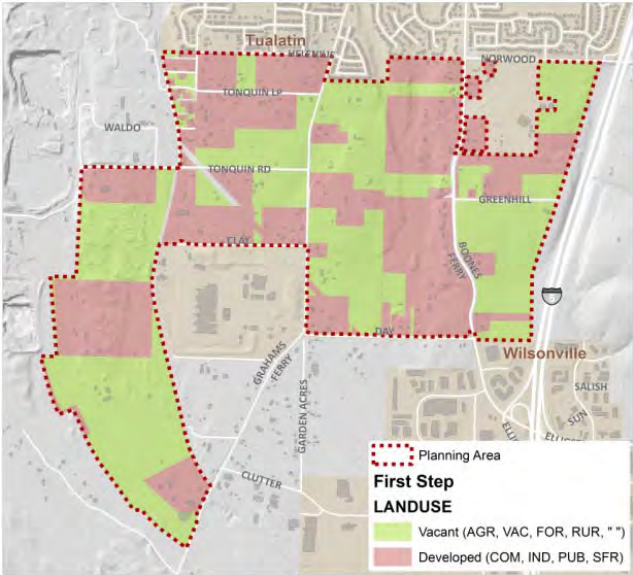


Figure 53 Vacant and Developed land as identified by Metro data. Source: Fregonese Associates, RLIS 2014

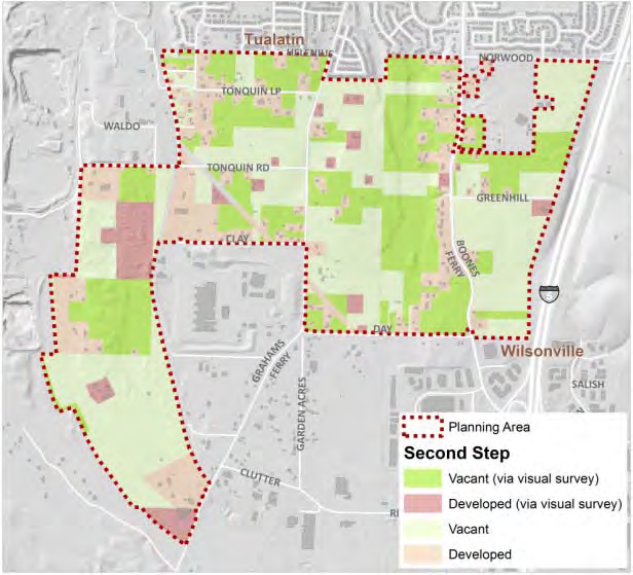


Figure 54 Map of Vacant and Developed land identified via visual survey in Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

## Building Value

Once vacant and developed lands were identified an assessment of redevelopment potential was conducted. This step analyzes developed parcels classified under steps 1 and 2 and subdivides them into two categories: redevelopable or stable. Redevelopable means there is an existing use that will likely redevelop over the planning period and can thus be considered as part of the land capacity. Tax lots defined as stable are where no changes in existing land use are expected, so no additional growth in households and employment are expected. Tax lots classified as stable are fully excluded from the buildable lands.

First, tax lots with non-commercial structures on developed land were classified as stable. This captures residential uses in the planning area. The average building value (\$125,474) was then used to create a break point for building value to estimate redevelopment potential. Tax lots with a building value of \$150,000 or more were included in the analysis as “stable” the remainder are classified as redevelopable. This cutoff point was based on a combination of average building value and input from local property owners about their interest in redeveloping.<sup>32</sup>

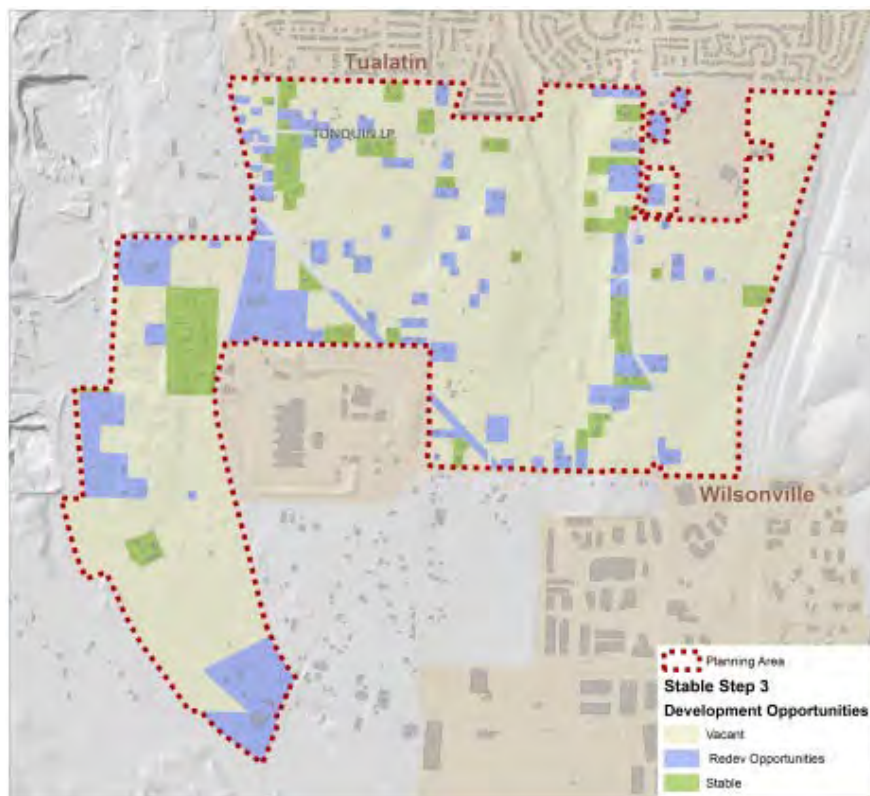


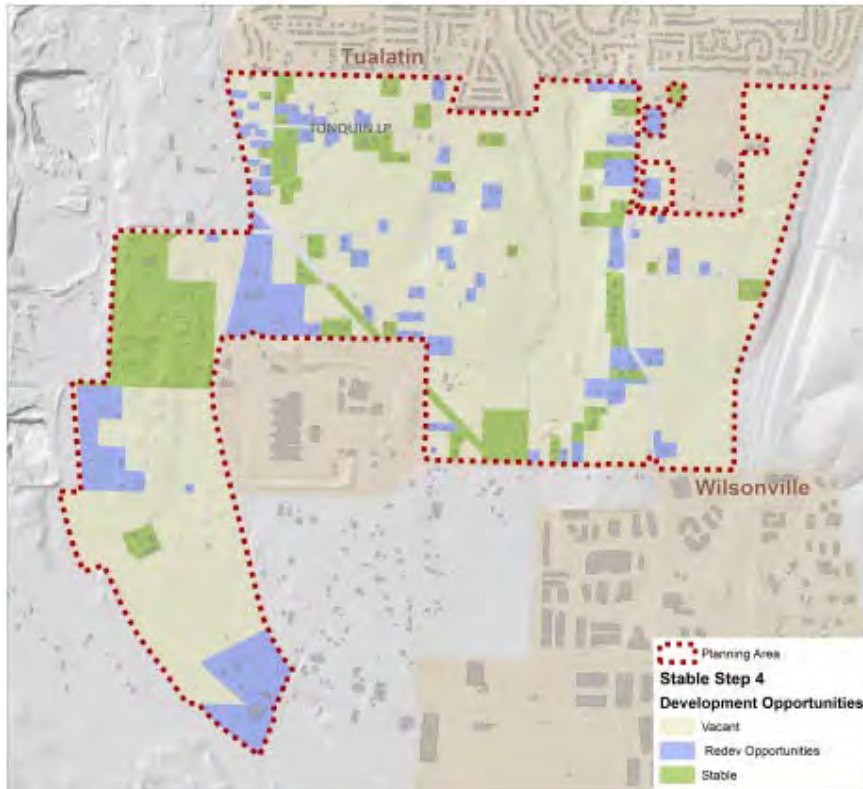
Figure 55 Vacant, Stable and Redevelopable Land in the Basalt Creek planning area, as identified by combining Metro data and visual survey data. Source: Fregonese Associates, RLIS 2014.

<sup>32</sup> Raising the cutoff from \$125,000 to \$150,000 makes an assumption that most properties will redevelop as they have been developed previously under rural circumstances. There are a reasonable number of properties in the third and fourth quantiles of property values that are stable, but not as many as are likely to redevelop.



## Local Input

The final step refines the stable and redevelopable tax lot inventory using information gathered through the planning process. A number of stakeholder interviews and focus groups were held with property owners in the planning area. Input gathered from these meetings was used to refine the assumptions from steps 1-3.



**Figure 56** Final Map of Vacant, Stable and Redevelopable Land in the Basalt Creek planning area, as identified by combining Metro data, visual survey data, and local input from property owners. Source: Fregonese Associates, RLIS, local property owner input 2014.

## Land Supply Findings

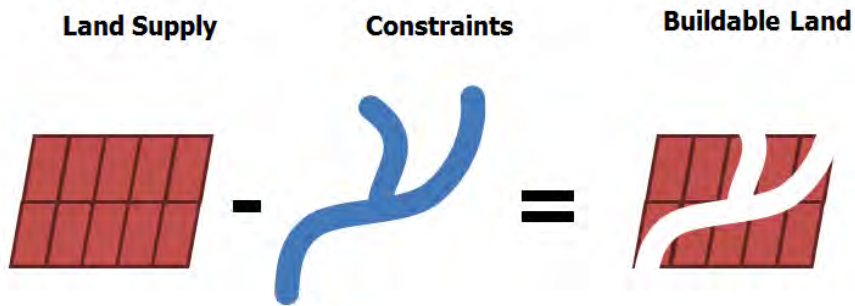
Through the process described above 43 tax lots within the planning area are defined as stable. Absent any constraints the land supply for the planning area includes:

- 596 acres of vacant land
- 117 acres of land with redevelopment potential
- 109 acres of stable land

The remaining acreage is covered by roads.

## Land Capacity

The final step in determining the land capacity for the planning area brings together the buildable lands and the land supply analysis to provide a robust estimate of land development capacity within the planning area.



**The land capacity estimate for the planning area is 391 acres.** This land capacity analysis will form the foundation for determining land use suitability and creating the development alternatives in the next phase of the project.

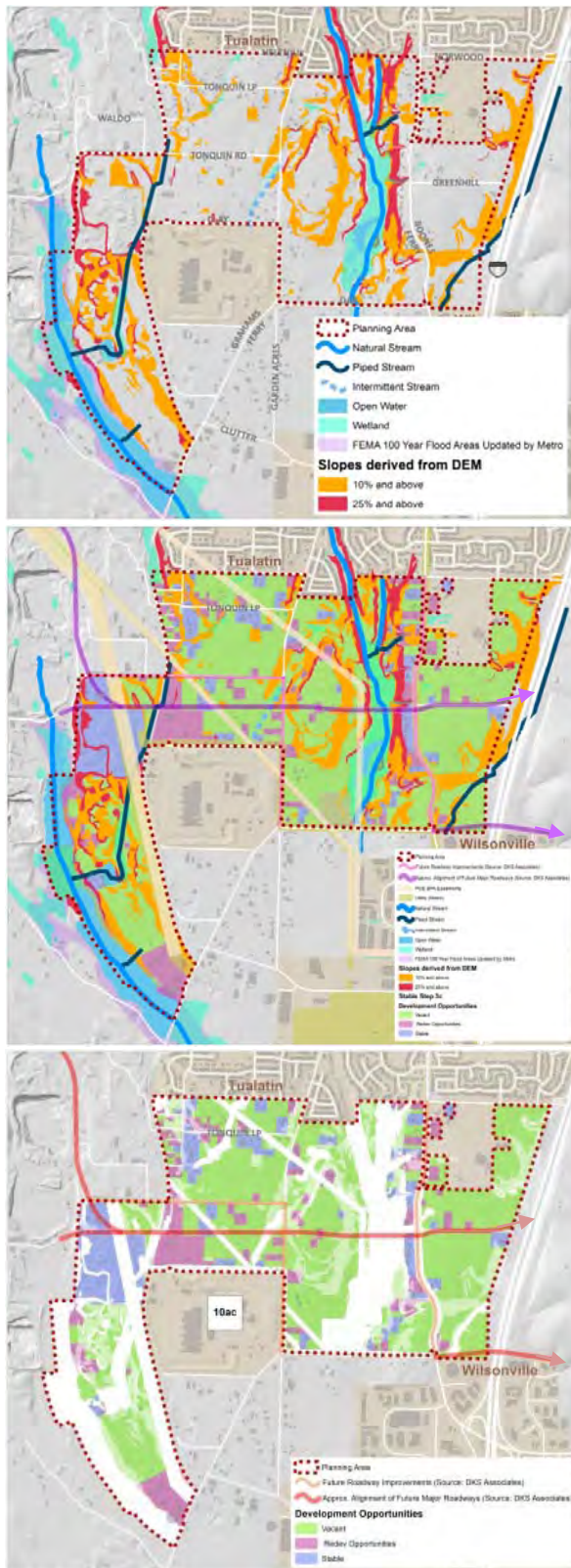


Figure 57 Sequence of maps illustrating the data and steps used to determine the total acreage of developable land in the Basalt Creek planning area. Source: Fregonese Associates 2014.

**Public Involvement Plan**  
**Basalt Creek Concept Plan**  
**April 2014**

## OVERVIEW

This document outlines the Public Involvement Plan for the Basalt Creek Concept Plan and includes in detail the outreach, education and communication services that the project team, comprised of the Fregonese Associates Team (FA Team) and staff from Tualatin and Wilsonville, will use to engage the public and stakeholders in development of the Concept Plan. The FA team will work closely with cities of Tualatin and Wilsonville Project Management Team (PMT) to coordinate and develop a transparent planning process based on the best available data, including meaningful public engagement strategies to prioritize critical issues. The FA Team will communicate clear and realistic growth scenarios and ultimately develop consensus around an achievable preferred land use strategy.

This memo is organized around four **major tasks**:

- I. Engagement Materials
- II. Targeted Stakeholder Outreach
- III. Public Events and Online Surveys
- IV. Informational Updates & Announcements

Within each of the major tasks, **task deliverables** from the detailed scope of work are included and outlined in detail. For each **task deliverable**, the Public Involvement Strategy includes the following information:

- **Description and Purpose**  
Describes the purpose of the deliverable to provide context for the activity and its relationship to the overall project
- **Materials**  
Each task deliverable may contain one or more than one set of materials, which will be identified in this section
- **Roles**  
Anticipated roles are identified for the PMT and FA Team within each task

### Roles and Responsibilities Framework

- The **Fregonese Associates Team** (FA Team) refers to the prime project consultant, Fregonese Associates, and includes the sub-consultants CH2M Hill (CH2M), Leland Consulting Group (LCG),

and DKS Associates (DKS), collectively referred to in this document as the FA Team. As the prime consultant, Fregonese Associates staff will lead the consultant team, working as the point of contact for the PMT, identifying methods and analysis approach, developing the outreach strategy, and managing the project timeline based on the agreed-upon work program.

- **Project Management Team (PMT)** consists of the project managers from the Cities of Tualatin and Wilsonville. The project managers from each city will make decisions as a team and communicate with the FA Team as one decision-making entity. To streamline the revision process throughout the project, the FA Team requests that all feedback is consolidated through the PMT. Once established, the agreed-upon deadlines for review must be met to keep the project on schedule. The PMT will manage the process of keeping staff from their respective individual cities informed during plan development. The PMT will also coordinate information distributed to the community. Any information distributed publicly for the Basalt Creek Concept Plan will be reviewed in advance by the PMT.
- The **Agency Review Team (ART)** is tasked with the primary role of advising staff members of both cities about regulatory and planning compliance. Input gathered from the ART will be included in regular staff updates to the Planning Commissions and City Councils. Involvement in this group will be required for some key agencies that need to approve or agree with the concept plan, while other agencies will be invited to participate in the planning process when their advice is needed on specific issues. The ART will include members from the following organizations:
  - Essential Agencies
    - Metro
    - ODOT
    - Tualatin Valley Fire & Rescue
    - Washington County
    - Bonneville Power Administration
  - Invited Agencies
    - City of Sherwood
    - City of Tualatin (Departments other than Community Development/Planning)
    - City of Wilsonville (Departments other than Community Development/Planning)
    - Clackamas County
    - Clean Water Services
    - Northwest Natural
    - Portland General Electric
    - Sherwood School District
    - SMART
    - Tigard/Tualatin School District
    - Tri-Met
    - Wilsonville/West-Linn School District

Major agreements will be discussed at meetings, but some elements or decisions for moving forward with technical work may be made outside of team meetings. As appropriate, the ART

will be consulted with and informed. As requested, additional staff from each agency will be copied on communications for meetings, review of materials, and general coordination.

- **Joint Council** refers to Council Meetings involving Councils from both the City of Tualatin and the City of Wilsonville. The Tualatin and Wilsonville City Councils will be the ultimate decision-making body for the final Basalt Creek Concept Plan. Both City Councils are tasked with approving the guiding principles, selecting the preferred land use scenario (which will also include the provision of public services), identifying future jurisdictional boundaries, and approving the Final Basalt Creek Concept Plan.
- The **Tualatin City Council** and the **Wilsonville City Council** will convene independently to review and discuss issues that require greater input from their respective City Councils. Specifically, measures, ordinances, and resolutions to amend the individual Cities' Codes will be needed to implement the final plan. The Tualatin City Council and the Wilsonville City Council will receive regular briefings from their respective staff throughout the planning process.
- The role of the **Tualatin Planning Commission** and the role of the **Wilsonville Planning Commission** will be to consider input gathered through community engagement and from the ART and make recommendations to their respective City Councils. In addition, they will serve in their advisory capacity to respectively amend the Tualatin Community Plan Map and the Wilsonville Development Code and Comprehensive Plan to implement the final Basalt Creek Concept Plan.

## Revision Process

For all deliverables there will generally be two rounds of review and document editing, with approximately one week for each round (one week for the PMT to review an initial draft, and another week for the consultant to make revisions and submit to PMT for final comments and edits). This timeframe, however, is general. The exact timeframe for the revision process of each deliverable will be determined on a case-by-case basis according to the level of complexity and lead time necessitated by respective public meeting laws of each City. For example, materials for use at Individual and Joint Council meetings must be submitted to city recorders' offices at least one week in advance of the meeting date. In some cases, the PMT may need more than one week to submit comments to the consultant, as they will be coordinating and consolidating comments between the Cities of Wilsonville and Tualatin.

## Public Involvement Strategy Goals

The Cities of Tualatin and Wilsonville are committed to public involvement that:

- Provides early and ongoing opportunities for stakeholders to raise issues and concerns
- Facilitates equitable and constructive communication between the public and project team
- Empowers residents to become involved with the project
- Encourages participation with other planning efforts in both cities
- Provides the public with balanced and objective information to help them understand the problem, alternatives, opportunities and solutions

- Offers alternative accommodations to encourage participation of all stakeholders regardless of race, ethnicity, age, disability, income, or primary language
- Builds on existing communication networks and resources of both cities

## Types of Involvement

The following categories can be used to group public participation activities by depth of engagement. A table below organizes these activities by stakeholder group, while the “Communication Methods” section presents the same information, organized by milestones. It is important to note that many outreach activities can achieve multiple levels of engagement, depending on the activity objective, design, and contextual factors.

### Informing

This level of participation will focus on educating and informing all interested parties (even those who are just peripherally interested) about the project background, status updates, public events and participation opportunities and major milestones and decision points. The level of technical detail about a given topic will be tailored to be audience-appropriate. For example, the level of detail about environmental constraints analysis methodology will be greater at an ART meeting than at a public open house, because ART members are staff or regulating and enforcing agencies. However, more detailed information will often be made available to the public should a reasonable request for it be made. Informing is the most broadly used level of engagement in many cases because it is a precursor to higher levels of engagement and must reach a large number of stakeholders.

### Consultation

Consultation with stakeholders entails asking them to provide input on the goals, alternatives and plan. This level of engagement is critical for identifying major issues and concerns among particular stakeholder groups as well as the general public. Different opportunities for providing input will be designed to be appropriate for a range of stakeholders. In essence, this level involves “checking in” with stakeholders to say, “did we get it right?” Surveys and open houses can achieve this level of engagement, among others.

### Participation

Participation requires that stakeholders are helping to define and shape project goals, evaluating options and alternatives, and possibly helping to shape recommendations to be included in the plan. Public meetings, workshops, or work sessions can achieve this level of engagement.

### Collaboration

Stakeholders help to craft alternatives in collaborative engagement activities. It involves a high level of project detail and usually long-term commitment to reviewing background documents. Technical experts as well as elected officials and decision-makers are commonly leaned upon to perform these duties, though citizen advisory committees and stakeholder group representatives may also contribute substantial efforts. The audience for this level of engagement includes stakeholders who have a higher

level of interest in the project and those who will be interested and impacted by the outcomes of the project.

### **Partnership**

The most engaged level of participation, partnership entails shared responsibility for developing and implementing solutions, as well as decision-making authority. This level of engagement frequently occurs at the institutional level, with public agencies and elected bodies, as well as private-sector representatives, cooperating to agree upon and apply solutions to realize the best possible outcomes for the public interest. The City Councils of Tualatin and Wilsonville will have the final decision making authority for the project. Informed by the input from the public workshop and staff, the City Councils will review information and make their recommendations.

### **Communication Methods**

The project team will utilize online and print communication methods to inform stakeholders about public events and opportunities to participate in the development of the plan. The following list identifies public activities and the expected communication methods which will be used to advertise these activities and events.

Council meetings for either City:

- Community calendars for individual cities
- Basalt Creek project website

Public workshop and open house announcements, including online surveys:

- Community Calendars for both Cities
- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

Release of draft plan document for review:

- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

Release of final plan document for review:

- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media



STAKEHOLDER GROUP	OUTREACH ACTIVITY	PROJECT TOPICS	PARTICIPATION LEVEL				
			Partner	Collaborate	Involve	Consult	Inform
<b>Property Owners</b>	1. Focus group	Project background, Existing conditions, Guiding principles, Alternative scenarios			X		X
	2. One-on-one interviews	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	X
	3. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	X
<b>Business Owners</b>	1. One-on-one interviews	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	
	2. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	X
<b>Developers</b>	1. Focus group	Project background, Existing Conditions, Development opportunities & barriers				X	X
<b>Residents</b>	1. One-on-one interviews	Existing conditions, Guiding principles, Alternative Scenarios				X	X
	2. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	X
<b>General Public</b>	1. Project website	Project background, Project Calendar, Project FAQ, Public event announcements/reminders, Online survey link, Comment form					X
	2. Posted flyers	Workshop & open house announcements/reminders					X
	3. Email	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					X
	4. Facebook/Twitter	Link to project website, Brief project updates, Link to Online Survey, Link to online comment form, Public event announcements/reminders, Results of open houses & Workshops, Results of elected officials' and public agency decision points, Link to draft Concept Plan, Link to final Concept Plan					X
	5. Newsletters	Project background, Project updates, Public event announcements/reminders, Results of public events, Results of Elected officials and public agency decision points					X
	6. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	
	7. Online Comment form	All				X	
<b>Informed Public</b>	1. Open House	Alternative scenarios, Draft preferred scenario		X			
	2. Workshop	Project background, Existing conditions, Guiding principles, Alternative scenarios		X			
	3. Draft Review	Draft preferred scenario		X			
	4. Public Hearings	Final preferred scenario, Jurisdictional boundary			X		
<b>Hard-to-reach Groups</b>	1. Phone calls	Project background, Public event announcements/reminders					X
	2. Mailers	Project background, Public event announcements/reminders					X
	3. Multi-lingual materials	Project background, Public event announcements/reminders					X
<b>Elected Officials</b>	1. Informational briefings	Project updates, Public feedback, Major milestones (existing conditions, draft and preferred scenarios), Preparation for decision points					X
	2. Work sessions	Concept plan discussion, Jurisdictional boundary discussion		X			
	3. Draft review	Jurisdictional boundary, Final concept plan		X			
	4. Plan acceptance	Jurisdictional boundary, Final concept plan	X				
<b>Non-profits, schools, religious and advocacy groups</b>	1. Email	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					X
	2. One-on-one interview	Existing conditions, Guiding principles, Alternative scenarios				X	
	3. Open House	Alternative scenarios, Draft preferred scenario			X		
	4. Workshop	Project background, Existing conditions, Guiding principles, Alternative scenarios			X		
<b>Media</b>	1. Press releases	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					X

# I. OUTREACH MATERIALS

## Deliverables

1. General Milestone Calendar
2. Project Branding (Logo)
3. Stakeholder Contact List
4. Periodic Email Updates
5. Press Releases
6. Newsletter Articles
7. Materials for Project Website
8. Social Media

## 1. General Milestone Calendar

### Description and Purpose

A milestone calendar will be created to communicate an overview of the project process and timeline to the general public, key stakeholders and decision makers. The General Milestone Calendar will be an attractive, easy-to-understand flow diagram communicating the timing and sequence of major project milestones, public engagement opportunities and decision points. This graphic will be utilized in print, online and in presentations.

The purpose of a general milestone calendar is to:

- a) Facilitate public understanding of the general flow and sequencing of project tasks
- b) Alert the public, key stakeholders and decision makers in advance of critical junctures where their input is needed, including but not limited to:
  - a. Public meetings and events
  - b. Review/comment periods for draft concepts and documents
- c) Communicate updates in the timing or sequencing of key milestones

### Materials

*Key dates to show on the General Milestone Calendar will include but not be limited to the following:*

- ART meetings
- Joint Council Meetings
- Planning Commission Meetings
- Development of Guiding Principles
- Existing Conditions Report
- Public Workshop
- Development of Alternative Scenarios
- Public Open House

- Development of Final Plan
- Plan Acceptance Decision
- Availability of draft jurisdictional boundary memo for public review (review/comment period)

## Roles

### Project Management Team

- Review and provide feedback on General Milestone Calendar
- Distribute the final General Milestone Calendar to agency leads and other decision makers

### FA Team

- Design the Draft General Milestone Calendar
- Integrate comments and feedback
- Deliver final Calendar (electronic format) to the PMT and upload to project webpage

## 2. Project Branding

### Description & Purpose

The FA Team will develop a project logo which will be used on all outreach materials, reports and the website to create and reinforce the project identity. The purpose of branding is to establish a recognizable identity for the project. The FA Team will provide web and print-ready formats of the final logo to the PMT. File formats will include JPEG, Adobe Illustrator and PNG.

### Materials

A project logo and associated graphics will include attractive, easy-to-understand visual elements that reinforce agreed-upon guiding principles and project priorities.

## Roles

### PMT

- Provide feedback on the project logo

### FA Team

- Design project logo
- Distribute a web- and print-ready version of the logo for use by the PMT; upload and incorporate into project website
- Incorporate the project logo in PowerPoint presentations, outreach materials, reports and the project website materials

## 3. Interested Persons Contact List

### Description & Purpose

The FA Team will collaborate with the City of Tualatin and City of Wilsonville to effectively utilize the existing contact list of interested persons. Stakeholders on the contact list will receive periodic email updates corresponding to major project milestones, including notices of public events. The stakeholder contact list will be managed by the City of Tualatin and used to send project update messages via email.

### Materials

The master contact list will include names, email addresses, phone numbers, and addresses of stakeholders. This contact list should also track stakeholder types (i.e. property owner, business owner, resident) and organizational affiliations. The contact list can be used to track additional stakeholder information, such as identifying interview candidates, focus group members, or workshop attendees.

The contact list should include but not be limited to the following:

- Property Owners and Neighbors
- Other residents and tenants
- Tualatin Community Representatives (CIOs)
- Wilsonville Community Representatives
- Tualatin Business Representatives
- Wilsonville Business Representatives
- Westside Economic Alliance Representatives
- Horizon School Representatives
- Agency Review Team
- Stakeholder Interviewees

### Roles

#### PMT

- Collect new contact information from stakeholders by providing and collecting sign-in sheets at the public workshop and open house
- Manage and update master email distribution list
- Reach out to community groups to request permission to add their members to the outreach contact list
- Protect the addresses and privacy of individuals on the contact list
- Provide the FA Team with existing project email distribution lists. May necessitate merging of lists between organizations

#### FA Team

- Protect the addresses and privacy of individuals on the contact list
- Provide PMT with access to contact information collected through online surveys

## 4. Email Updates

### Description & Purpose

The purpose of on-going communications via email (using the Interested Persons contact list described above) is to highlight positive momentum toward achieving community goals. Email updates will be sent to the email distribution list described above to communicate project milestones and to notify stakeholders of the public workshop, open house, online surveys, online public draft documents, etc, as needed.

### Materials

General project updates may include, but not be limited to the following information:

- Status of the project in relation to the General Milestone Calendar
- Upcoming opportunities for public engagement
- Links to results and images from recent outreach activities
- Links to the online surveys
- Links to the project webpage
- Public availability of draft or final documents
- Outcomes of Joint Council meetings or major decision points
- Contact information for project management

### Roles

#### PMT

- Establish a PMT strategy for review of email content
- Review and approve a template for email updates
- Review and approve content for email updates
- Establish a project email address and contact for email blasts

#### FA Team

- Prepare an email template in Mailchimp (or similar service) to manage messaging to email distribution list
- Prepare content for email updates in consultation with the PMT
- Send email blasts prior to public meetings and at key milestones, once content is approved by PMT

## 5. Press Releases

### Description & Purpose

Project press releases will be issued jointly by the City of Tualatin and the City of Wilsonville on project-branded letterhead to reach local and regional media contacts at key milestones. The City of Tualatin, City of Wilsonville and the FA Team will jointly prepare and review press releases prior to issuing them.

Each City will send the releases to their local media contacts and they will also be shared with regional media contacts via the FlashAlert Newswire ([www.flashalert.net](http://www.flashalert.net)). Press releases will also be shared via the project's Twitter account, each City's Facebook page, and each City's website. Each press release will have two contacts—one from the City of Tualatin and the other from the City of Wilsonville. The FA Team will post the press releases on the project website.

## Materials

Press releases will be posted on each City's websites, Facebook pages, project-specific Twitter feed, and on the Basalt Creek project website.

## Roles

### PMT

- Draft press releases at key project milestones
- Review, edit and approve content
- Issue press releases to local and regional media contacts
- Post press releases to project Twitter feed, City Facebook pages, City websites, and the project website.
- The project contacts for each City will respond to media inquiries in a timely manner and report back to the PMT
- Media coverage will be shared on the project-specific Twitter feed

### FA Team

- In coordination with the PMT, draft and edit press releases and post press releases and media coverage to project website

## 6. Newsletter Articles

### Description & Purpose

Both the City of Tualatin and the City of Wilsonville have monthly newsletters that are mailed to their residents. Each City will be independently responsible for drafting and running articles in their newsletter at key milestones throughout the project. These articles may be based on the project press releases, but also may include information about upcoming meetings and other related content.

## Materials

Newsletter articles will be run in each City's newsletter at key milestones throughout the project.

## Roles

### PMT

- Draft articles at key milestones based on press releases or other content
- Review, edit and approve articles
- Run and distribute articles in each City's monthly newsletter and on the project website

## FA Team

- In coordination with the PMT draft and edit articles and post to project website

## 7. Materials for Project Website

### Description & Purpose

The existing project website will be utilized to provide project information such as background, objectives, milestones, and key engagement opportunities, as well as a venue to post draft and final documents for public review.

The overarching goals of the project website are distributing information to the public and key stakeholders and gathering their feedback at decision making points. The website should include the following:

- Project background and timeline
- Updates on milestones and key decision points
- Announcements of public involvement opportunities
- Results of outreach efforts
- Downloadable PDFs of website content and other engagement materials including project background and timeline, event announcements, etc.
- Links to the project's Facebook page and Twitter feed, as well as other relevant projects such as the SW Tualatin Concept Plan, Coffee Creek, 124<sup>th</sup>, Boones Ferry Road, etc.

### Materials

The FA Team will update, manage and provide text and images for website updates to the PMT corresponding to key milestones and decision points, public involvement opportunities, and draft and final documents as identified in this Public Involvement Plan. These updates will be tracked on a detailed (internal) Project Team Timeline and coordinated on an as needed basis.

### Roles

#### PMT

- Review, edit and approve website content
- Provide and host website URL
- Prepare and update a FAQ about the project

#### FA Team

- Provide initial review of the website structure and content and implement any changes or additions with PMT oversight
- Establish an RSS feed on the project website
- Provide draft and finalized content updates including PDFs, text and graphics to the PMT for approval

- Coordinate email blasts and website updates
- Manage and upload new materials for the website that are included as part of the Public Involvement Plan

## 8. Social Media

### Description & Purpose

Facebook page and Twitter feeds will provide another means for stakeholders to stay connected with the project progress. The Cities of Tualatin and Wilsonville will utilize their existing Facebook pages and Twitter feeds to provide Basalt Creek Plan updates and links to the Basalt Creek webpage including notices of public events and when new material is posted to the Basalt Creek project website. Posts will be added throughout the project at major milestones and as there are noteworthy updates to report. The City of Wilsonville will also develop a twitter feed specific to the Basalt Creek project which will help further advance public information and guide interested parties to the Basalt Creek Website.

### Materials

Facebook and Twitter content posted to City sites and a Basalt Creek specific Twitter feed.

### Roles

#### PMT

- Create brief, periodic Facebook and Twitter posts
- Review, edit and approve content
- Post content to Facebook and Twitter
- Content for updates will be generated by the PMT in collaboration with the FA Team.

#### FA Team

- In coordination with the PMT generate content and provide advice for Facebook and Twitter posts

## II. TARGETED STAKEHOLDER OUTREACH

### Task Deliverables

1. Interviews
2. Stakeholder Groups
3. Agency Review Team (ART)
4. Planning Commission Briefings
5. Individual Council Information Sessions
6. Joint Council Decision Information Sessions



# 1. Interviews

## Description & Purpose

The purpose of stakeholder interviews is to gain a better understanding of stakeholder goals and interests. These meetings will serve to highlight key issues of concern within the planning area, and other issues that relate to development and implementation of a project vision for the concept plan. These interviews will likely take place within the first six months of the project.

The FA Team will interview a selection of four community members, property, and business owners and other stakeholders identified by the PMT, selected from the following community groups:

- Property and business owners in Basalt Creek
- Community representatives from both Cities
- Residents of Basalt Creek
- Business owners/ representatives from both cities
- Westside Economic Alliance
- Horizon Church

## Materials

Materials will include an interview guide with general interview questions and topic areas for discussion.

## Roles

### PMT

- Identify interview candidates
- Make initial contact with interview candidates, assess willingness to participate
- Identify priority questions and topic areas to discuss with interviewees
- Help identify and secure locations for interviews

### FA Team

- Identify interview candidates in partnership with the PMT
- Review list of interview candidates with PMT
- Lead and facilitate the stakeholder interview discussions
- Create and print maps to guide interview conversations
- Keep a written record of interview conversations
- Provide notes of interview findings to the PMT

# 2. Focus Group Meetings

## Description & Purpose

Focus group meetings will be conducted with 6-7 participants and will be based on an open discussion format facilitated by the FA Team. These meetings will serve to highlight key issues of concern within the planning area, and other issues that relate to development and implementation of a project vision

for the concept plan. These meetings should take place within the first six months of the project. The FA Team proposes to conduct two focus groups meetings, one with developers and one with key property owners. Focus group member candidates will be identified through collaborative efforts between the FA Team and the PMT.

### Focus Group #1: Developer Roundtable

The Developer Roundtable is a forum which will be used to gather valuable information related to general and specific development opportunities and barriers in Basalt Creek. Involving developers at the local and regional level will help characterize and contextualize development potential and constraints in the area.

### Focus Group #2: Property Owner Meeting

The Property Owner Meeting is a stakeholder meeting for a small group with 6-7 property owners from the area (preferably a mix of both commercial and residential property owners). This meeting will provide a forum to learn about property owner priorities, concerns and suggestions for the future of Basalt Creek.

## Materials

A short presentation will be made to both groups on the overall project. Materials will include a facilitator's guide including questions and topic areas for discussion.

## Roles

### PMT

- Identify stakeholder group candidates
- Work with the FA Team to expand and revise list
- Make initial contact with candidates, assess willingness to participate
- Identify priority questions and topic areas to discuss
- Identify and reserve meeting locations
- Track responses and confirm attendance of invitees

### FA Team

- Identify stakeholder group candidates, advise on developers to include
- Work with the PMT to expand and revise list
- Develop a facilitators guide
- Lead and facilitate the stakeholder group discussions
- Create and print maps to guide conversations
- Keep a written record of group discussions
- Provide meeting notes to PMT

## 3. Agency Review Team (ART)

### Description & Purpose

An Agency Review Team (ART) will be formed to guide the development of the Concept Plan. The primary role of the ART is to advise the project team about regulatory and planning compliance. The ART will consist of representatives from regulatory agencies identified in the “Roles and Responsibilities Framework” section at the beginning of this document. They will meet preceding major project milestones to provide technical input for Concept Plan development.

### Materials

For all ART meetings:

- Meeting agenda
- Materials/documents for review
- PowerPoint presentations
- Presentation technology (projector, screen, etc.)

### Roles

#### ART members

- Provide guidance to project team on specific technical questions and issues
- Act as liaisons to their own agencies
- Review and provide feedback on draft concept plan

#### PMT

- Identify and invite individuals to join the ART
- Distribute meeting agenda and meeting materials to ART members prior to meetings
- Keep the official written record of meetings including attendees, notes, comments, outcomes and next steps
- Write and distribute meeting summaries to ART members
- Provide space and printed materials for meetings
- Provide periodic updates on feedback from the ART to the Planning Commission and City Councils

#### FA Team

- Create meeting agendas
- Facilitate meeting discussions, which may include short presentations
- Create meeting materials to support agenda
- Provide PMT with FA team notes to support the development of the official written record

## 4. Planning Commission Briefings

### Description & Purpose

Planning Commission Briefings are intended to provide project updates to the Cities individual Planning Commissions prior to major decision points to identify any issues and gather feedback from the Commissions. These briefings will include, at a minimum:

- Project Updates
- Concept Plan Discussion
- Jurisdictional Boundary Discussion
- Concept Plan Acceptance

Briefings to the Planning Commissions will take place prior to Individual Council briefings. The Planning Commission engagement is important to set the stage for future comprehensive plan amendments and other planning actions that will happen within each jurisdiction as a result of the concept plan acceptance.

### Materials

Meeting agendas will be developed to focus on gathering feedback and information from the Planning Commissions including:

1. Jurisdictional Boundaries Recommendation
2. Draft Preferred Scenario
3. Draft Concept Plan

### Roles

#### PMT

- Schedule briefings
- Create meeting agendas
- Keep written record of meetings and provide FA Team with meeting notes

#### FA Team

- Provide feedback on meeting agenda

## 5. Individual Council Information Briefings

### Description & Purpose

Individual Council briefings are intended to provide project updates at key points throughout the planning process. Briefings will include:

- Project updates
- Discussions about major milestones (Existing Conditions, draft and preferred scenarios)
- Identification of Council concerns and gathering feedback to inform the concept planning process

- Preparation of Council members for upcoming Joint Council decisions points

The FA Team assumes that PMT staff will brief their Councils as the project progresses. Individual Council update sessions with the FA Team will focus on building the capacity of each Council to make informed decisions when Joint Council action is required. The staff of each City will present materials to the Individual Councils.

## Materials

Meeting agendas will mirror major project elements that require a more detailed level of understanding among the Councils. Detailed briefings will allow Councils to validate project direction and provide guidance to the PMT and FA Team. Following are the suggested meeting topics for the FA Team to present to each Council for their input:

1. Draft Existing Conditions
2. Draft Alternative Scenarios
3. Draft Preferred Scenarios

## Roles

### PMT

- Schedule informational briefings (3 presentations to each Council with FA present; 6 meetings total)
- Keep written record of meetings and provide FA Team with meeting notes

### FA Team

- Attend meetings and present to Councils (or provide materials for PMT staff to present)
- Provide PowerPoint presentation or other written materials in advance, consistent with the individual cities' requirements

## 6. Joint Council Decision Information Sessions

### Description & Purpose

The Joint Council meetings will include informational presentations, facilitated discussions, and action regarding key decision points. There are four key decision points:

- Adoption of Guiding Principles and Review of Existing Conditions
- Decision on a Preferred Scenario
- Decision on Jurisdictional Boundaries
- Approval of Concept Plan

These meetings will be critical for Joint Council decision-making. The FA Team will collaborate with the PMT to determine which content to present. The FA Team will develop presentations to illustrate the evolution of the project process and provide key data and information critical to relevant decision

points. The Individual Council briefings will be coordinated with Joint Council meetings to deliver information in an efficient manner conducive to informed and effective decision-making.

In addition to meetings focused on the four key decision points, the FA Team will participate and lead a discussion with the Joint Council to elicit feedback for the development of the final concept plan and jurisdictional boundaries. These meetings will serve as informative discussion sessions to guide concept plan development, as well as a decision on a jurisdictional boundary. These sessions will cover:

- Alternative scenarios. The FA Team will present findings from the alternative scenarios, organized by relationship to Guiding Principles. The FA Team will facilitate a discussion of alternatives and solicit feedback. This feedback will be used to craft a preferred scenario oriented toward adoption by the Joint Council.
- Draft Preferred Scenario. The FA Team will present the draft preferred scenario. The Joint Council will have the opportunity to provide feedback on the direction of the preferred scenario. This will build on previous efforts to ensure key issues and concerns related to the concept plan are addressed.

The FA Team will collaborate with the PMT to determine the most effective methods for gathering Joint Council feedback. Methods may include instant polling questions and/or facilitated discussions.

## Materials

For each Joint Council meeting:

- Meeting agenda
- PowerPoint presentation
- Background documents
- Key discussion questions and instant polling (if used)

## Roles

### PMT

- Schedule Joint Council meetings (up to 6)
- Keep a written record of the meetings and provide FA Team with meeting notes

### FA Team

- Draft and revise presentations for meetings
- Present key materials and facilitate discussions, as needed
- Integrate Joint Council feedback into preferred scenario and subsequent revisions

## V. PUBLIC EVENTS & ONLINE SURVEYS

### Deliverables

1. Public Workshop
2. Public Open House
3. Online Surveys

### 1. Public Workshop

#### Description & Purpose

The FA Team will work with the PMT to design and run a public workshop that will inform the creation of a range of scenarios. We will understand stakeholder priorities through instant polling and a mapping exercise. The workshop will also inform stakeholders about the project objectives and background (through the brief presentation at the outset). Subsequent activities will be aimed at eliciting feedback about the community's vision for the Basalt Creek area. This feedback will help clarify priorities for the concept plan and inform the development of alternative scenarios.

#### Workshop Format

##### Group Presentation

The meeting will start with a brief PowerPoint Presentation from the PMT and the FA Team. The presentation will cover the planning process from start to finish, and include a description of project goals, activities and guiding principles. A project timeline with key public involvement dates will be shared with participants.

##### Instant Polling

The group presentation will transition into a set of 10 – 20 instant polling questions, which will ask stakeholders to respond to multiple choice questions about their priorities for the project. The polling results will be collected using clickers – remote devices that send instant polling results to the computer of the presenter. The tallied results can be shown immediately on the screen for all the audience to see. The FA Team will work with the PMT to develop the instant polling questions.

Example questions may include:

- Of these listed ideas, which is the most important for the future of Basalt Creek?
- Which is the least important?

To what extent do you agree or disagree with the following statements? (Scale of 1-5)

- Conservation is the top priority
- Economic development is the top priority
- Balance between conservation and development is the top priority

## Mapping Exercise

The FA Team will utilize a custom map-based exercise to gather information on community aspirations for future land uses, multimodal transportation network, employment, parks and open spaces. Following the group presentation and instant polling exercise participants will divide into small groups to perform a collaborative mapping exercise. Each group will be facilitated by a FA Team/PMT member, with assistance from other project team staff. Participants will work together in small groups using maps and icons representing future development and transportation investments. The FA Team will use the Envision Tomorrow (ET) suite of planning tools to digitize and analyze maps and comments from the public workshop to uncover themes and unique solutions to guide the scenario development and the development of a final concept plan and vision for the planning area.

## Materials

- PowerPoint presentation, including project background, objectives and timeline
- Instant Polling questions – responding to suggested guiding principles, prioritizing future policies and actions for Basalt Creek area
- Basemap – Basalt Creek project area chipsets for mapping activity
- Additional materials on boards in the meeting room as defined by FA Team and PMT
- Event flyer
- Event email announcement
- Agenda
- Sign in sheet
- Instant polling clickers and TurningPoint software
- Facilitator instructions
- Scissors, markers, and pens

## Roles

### PMT

- Identify and reserve a venue for the workshop
- Advertise workshop; print and distribute flyers announcing workshop
- Review workshop materials (workshop flyer and email announcement, agenda, presentation, instant polling questions, maps, chips)
- Assist and organize volunteers to serve as facilitators for the event
- Provide light refreshments

### FA Team

- Produce agenda for workshop
- Produce marketing materials to advertise public open house approximately one month in advance of the event. Materials include email announcements, project website announcements, announcement flyer or postcard.
- Prepare workshop agenda



- Develop and revise presentation, including instant polling questions
- Present at workshop
- Facilitate workshop activities, including instant polling and mapping exercise

## 2. Public Open House

### Description & Purpose

The public open house will provide participants with a comprehensive look at how each of the alternative scenarios performs, as measured against the project's evaluative criteria and guiding principles. General performance categories include transportation, housing choice, employment and infrastructure. In the brief Summary Presentation the FA Team will describe the project's public outreach and stakeholder engagement process and how public feedback was used to inform the development of the alternative scenarios.

The presentation will also briefly cover project background and objectives followed by a presentation of the alternative scenarios, accompanied by descriptions of how they each performed in different evaluative areas and indicators. The presentation will be followed by instant polling questions to understand people's preferences for different elements of each scenario, and the degree to which they support or do not support alternatives in the context of performance measures.

The FA Team will process and analyze results of the open house. Results will be communicated at ART meetings and informational Council meetings, as well as through email and website updates. Results will also be integrated into the Summary Presentation to be delivered at ART and Joint Council meetings.

### Materials

- PowerPoint Presentation, including a brief description of the project background, description of each scenario and its outcomes relative to project guiding principles and projected impacts on transportation, housing choice, employment and infrastructure indicators.
- Instant Polling questions – responding questions about support or lack of support for different elements of different scenarios (the results of which will feed into the development of the preferred scenario)
- Event flyer
- Event email announcement
- Agenda
- Sign in sheet
- Instant Polling clickers & TurningPoint software

### Roles

#### PMT

- Discuss open house approach
- Identify and secure location for open house

- Review open house content
- Provide staff to assist at open house
- Provide light refreshments
- Provide open house related updates to the Planning Commission and City Council
- Integrate workshop results into Summary Presentation on public outreach

#### FA Team

- Produce agenda for public open house
- Produce maps and other print materials for one public open house
- Produce marketing materials to advertise public open house approximately one month in advance of the event. Materials include email announcements, project website announcements, announcement flyer or postcard.
- Provide summaries of feedback (instant polling) from the open house event in PowerPoint

### 3. Online Surveys

#### Description & Purpose

The purpose of the online surveys will be to electronically replicate the engagement opportunity of the public workshops and in-person outreach events in order to engage a broader group of stakeholders. To the extent possible, the online survey will follow the presentation and include instant polling questions from the public workshop and open house. The online format will allow participants to click through the presentation at their own pace, and then to answer the same instant polling questions asked at the workshop and open house.

The analysis of the survey results will be integrated with the feedback from the public workshop and other outreach opportunities, and used as a guide both to develop scenarios and then to select or create a preferred scenario.

The online surveys will be designed to be user-friendly and straightforward. Each survey will be open for approximately two weeks following the public events. The FA Team will process and analyze results of the survey. Survey results will be communicated at ART meetings and informational Council meetings, as well as through email and website updates.

#### Materials

The FA Team will develop, conduct, and analyze the results from two online surveys. Links to the online surveys will be distributed to the stakeholder contact list via email as well as posted on the project website. Materials will include an online version of the workshop presentation, a survey posted to the project website, and a summary of survey results in PowerPoint presentation slide format.

## Roles

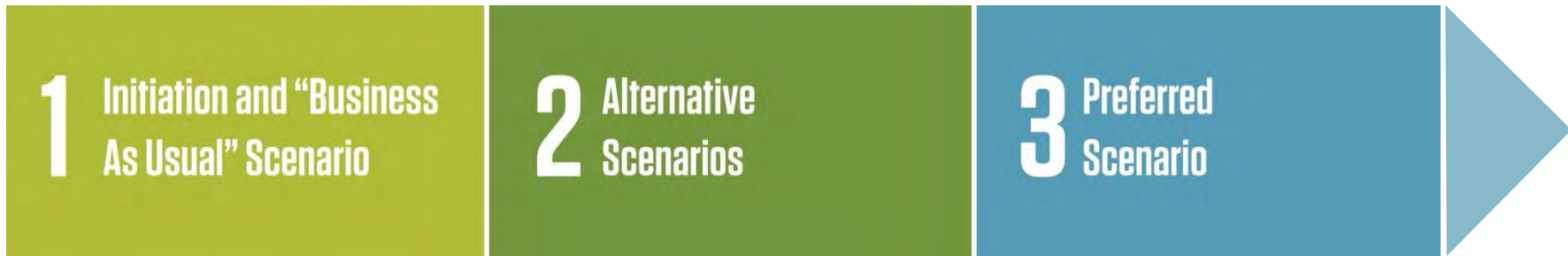
### PMT

- Provide a list of initial ideas for survey content
- Review, edit and approve website content

### FA Team

- Draft survey
- Incorporate edits from PMT
- Convert the survey into an online format and include on the project website
- Email survey link to stakeholder contact list
- Collect survey results
- Organize survey results into a summary
- Provide survey results summary to City Staff and present results to the ART; staff will present at individual Council sessions

# Scenario Planning Overview



*“Where are we headed currently?”*

*“What are the possibilities?”*

*“Where do we want to go?”*

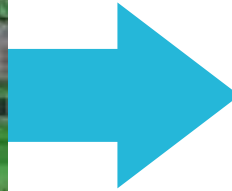
# The Present



Where we are today

## Understand Existing Conditions

# The Present



# The Future



Planning the future

## The Traditional Approach



Imagine where you want to go  
The Scenario Approach

A



B



C



D



# The Scenario Approach



# Scenarios are Crash Test Dummies

- We can test a variety of different ideas to see how each performs



# Scenario Process

- Develop Guiding Principles
- Analysis: Metro Forecast, Constraints, Land Suitability
- Seek Public Input: Design Workshop
- Create Base Case Scenario
- Create Scenario Alternatives (iteratively)
- Evaluate and Communicate
- Select Preferred Alternative

# Testing Scenarios and Choosing a Preferred Scenario

- Create and evaluate several scenarios
- Present scenarios and evaluation results to public and decision makers
- Determine jurisdictional boundary between two cities
- Select preferred scenario to inform final land use concept for the Basalt Creek Concept Plan

# Why create Guiding Principles?

- Represent **collective interests** and goals for planning area
- Provide **framework** for gathering input
- Help to develop **evaluation criteria** (indicators)

# Basalt Creek Guiding Principles

- Maintain and complement the Cities' unique identities
- Capitalize on the area's unique assets and natural location
- Explore creative approaches to integrate jobs and housing
- Create a uniquely attractive business community unmatched in the metropolitan region
- Ensure appropriate transitions between land uses
- Meet regional responsibility for jobs and housing
- Design cohesive and efficient transportation and utility systems
- Maximize assessed property value
- Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

# Scenarios help us explore big questions...

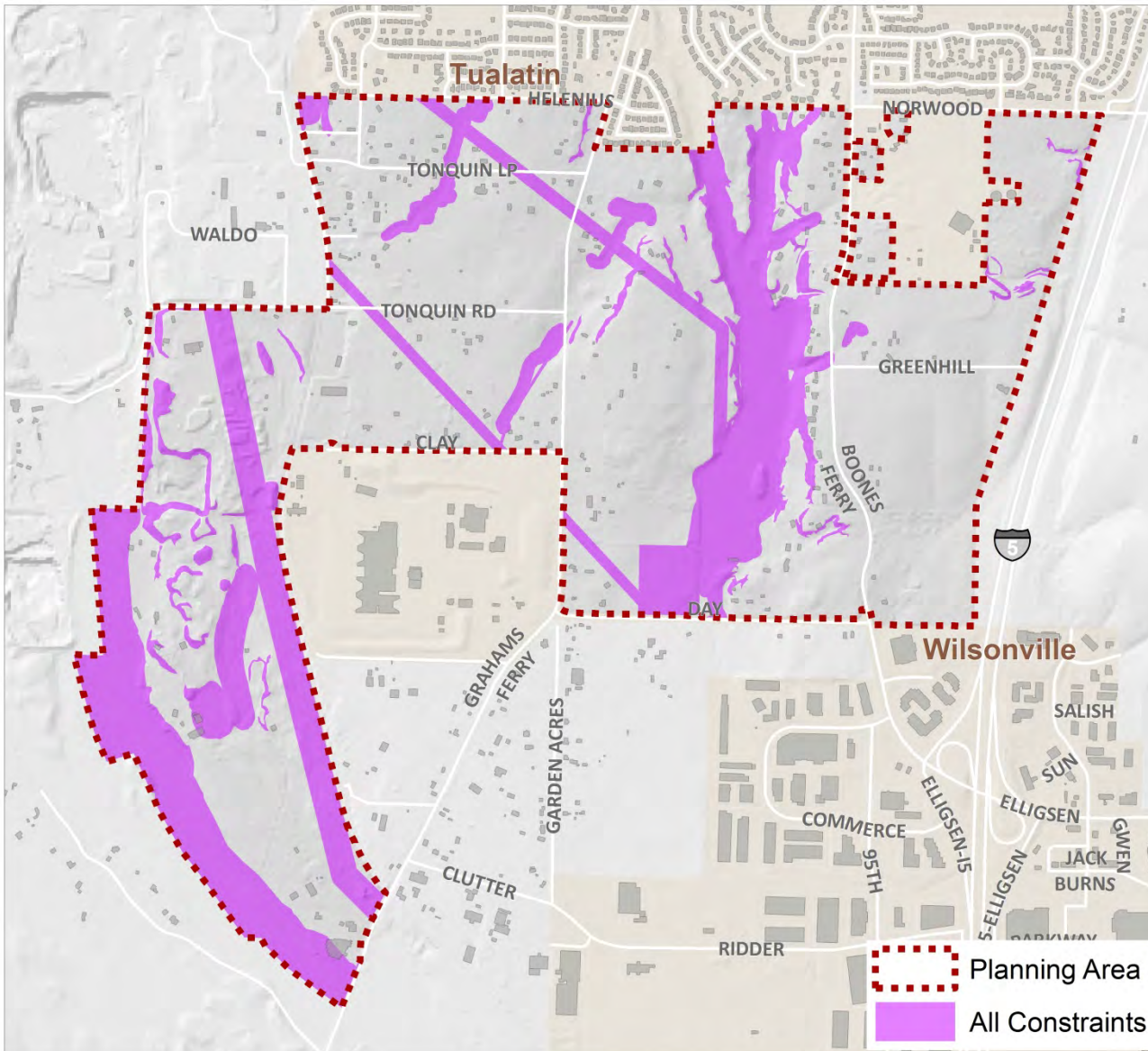
- Where should the boundary between Tualatin and Wilsonville be?
- What combination of land uses is most appropriate for the area?
- What infrastructure is needed to support future development, and what will be the cost of that infrastructure?
- Which agencies will provide public services to different parts of the area?
- How will traffic generated by new development in this area impact traffic flows and congestion levels, both locally and regionally?
- How will the benefits and costs of serving the area be balanced fairly between Tualatin and Wilsonville?

# Constraints

- Hard constraints are areas where development is not feasible because of policy or physical condition.
- Soft constraints are areas where development intensity may be reduced because of policy or physical conditions.

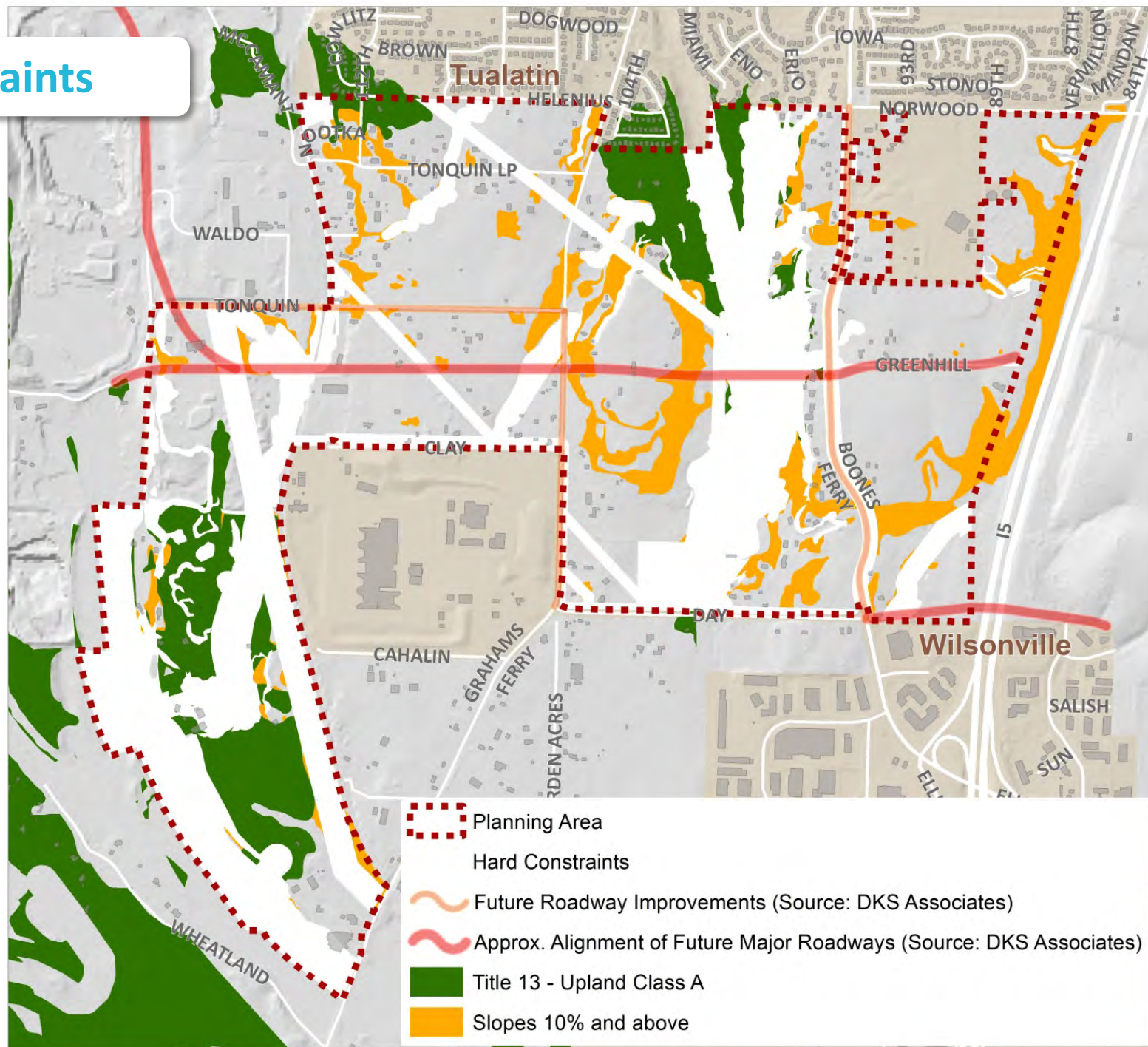
# All Hard Constraints

- **234** acres constrained
- Study area total is **847** acres
- **28%** constrained





# Soft Constraints



# Land Supply

## Vacant Land



Ready to build, no major structure on site

## Redevelopable Land



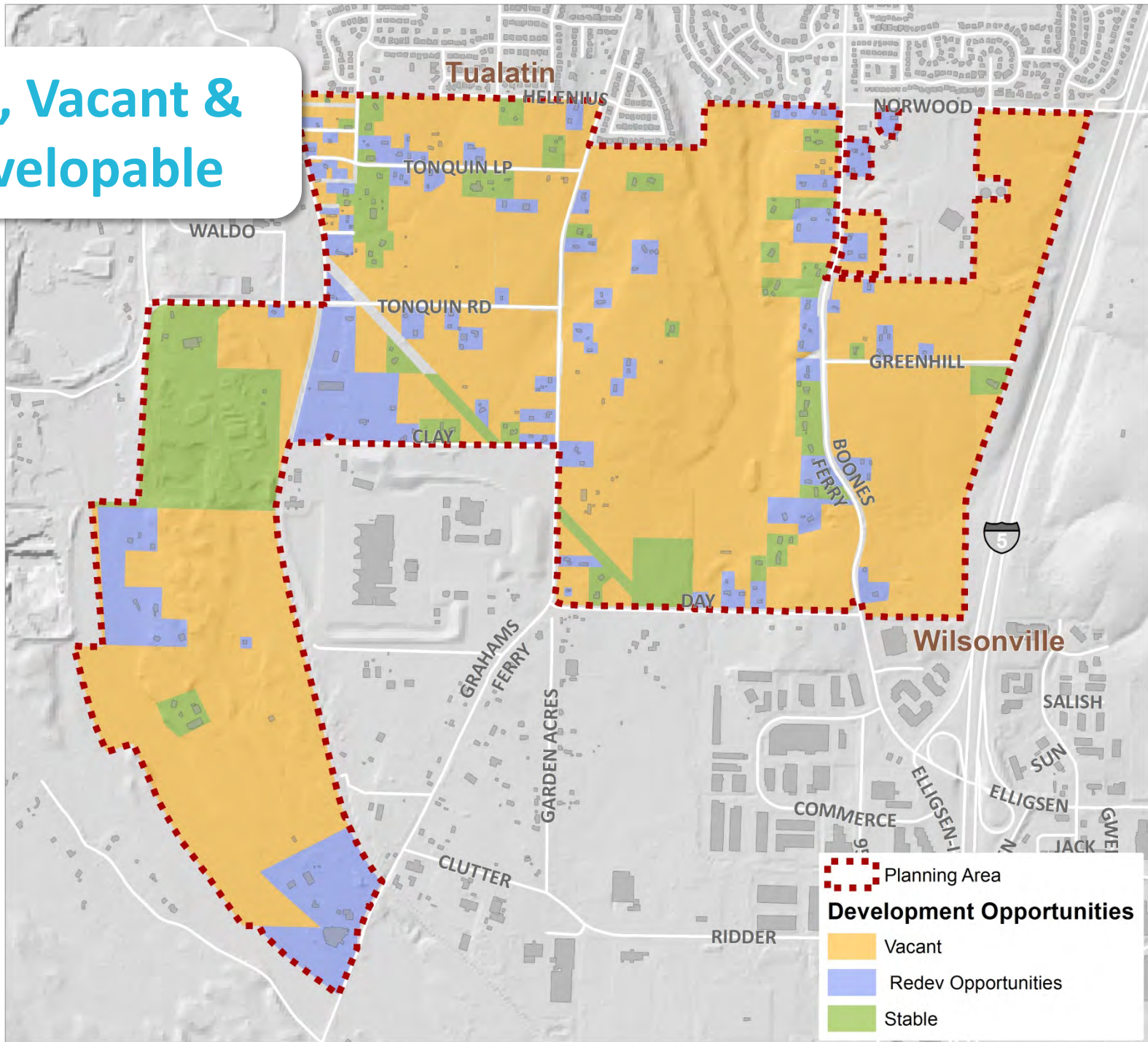
Some redevelopment potential (expansion of current use or change in use)

## Stable Land

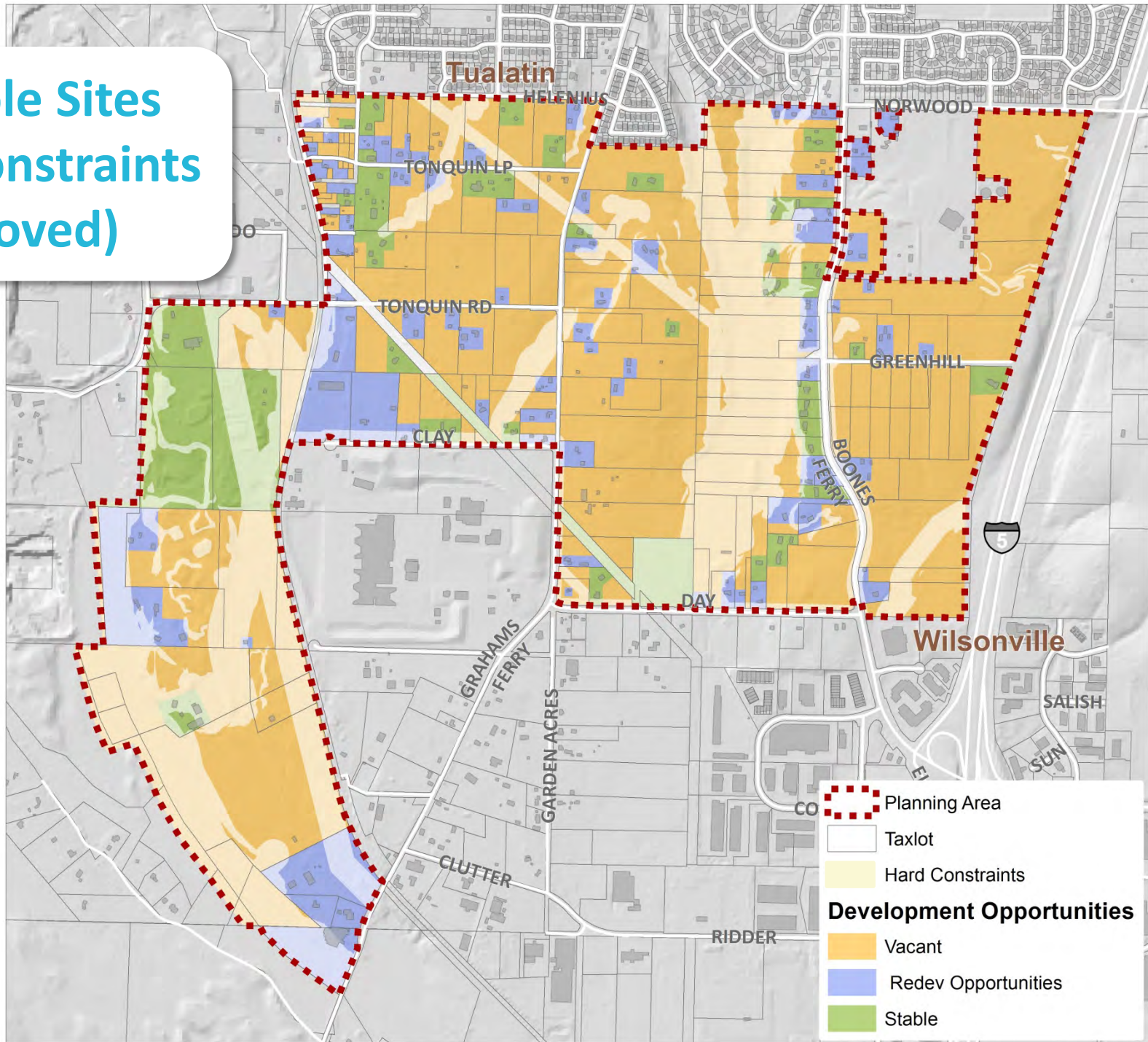


Structures on land, will not change uses in the near future

# Stable, Vacant & Redevelopable

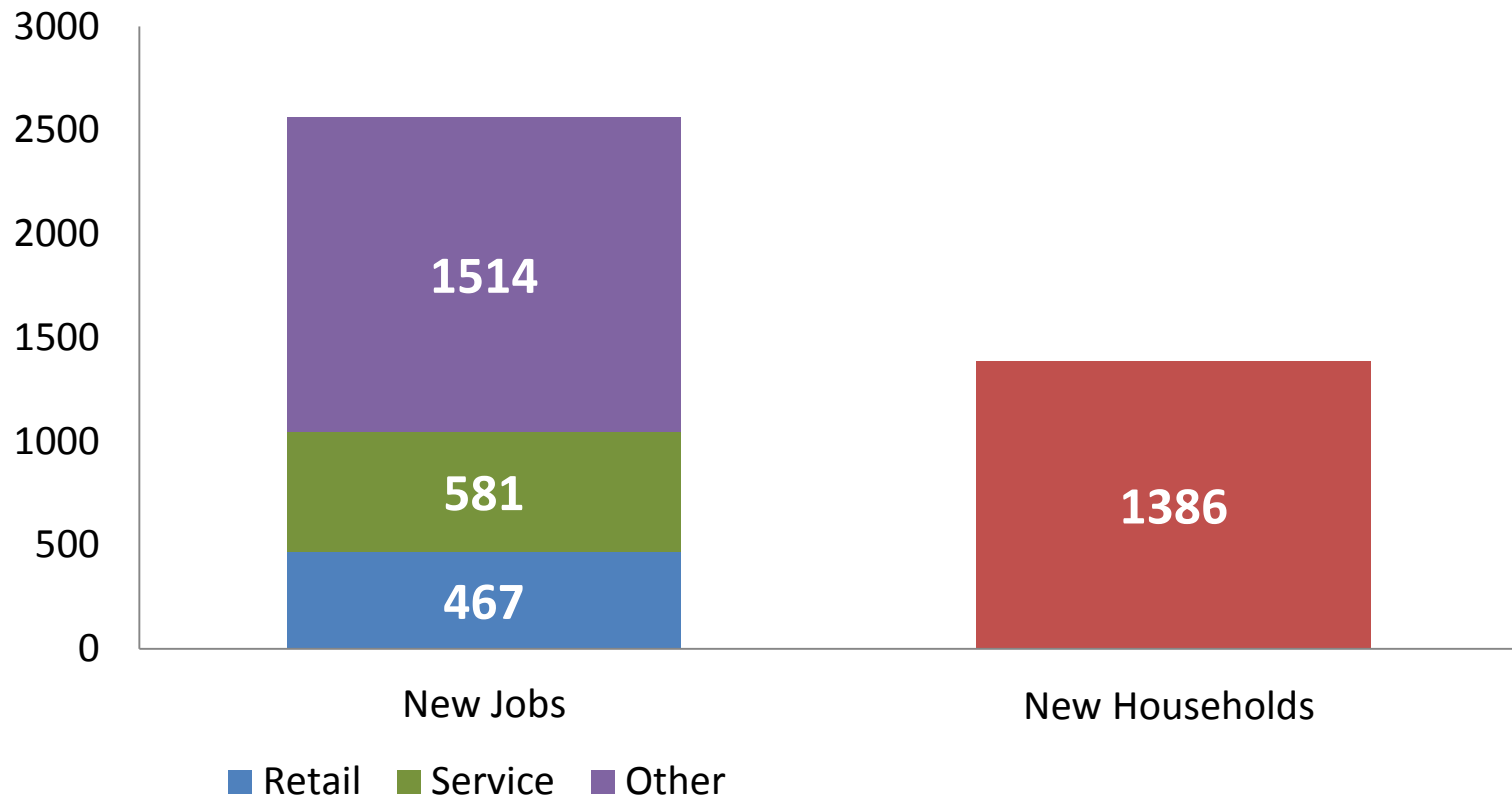


# Suitable Sites (hard constraints removed)



# Metro Forecast for Basalt Creek

## 2035 Forecast (based on 2005)



# Public Input at Design Workshop

- Community input helps guide scenario development and design process
- April 2014



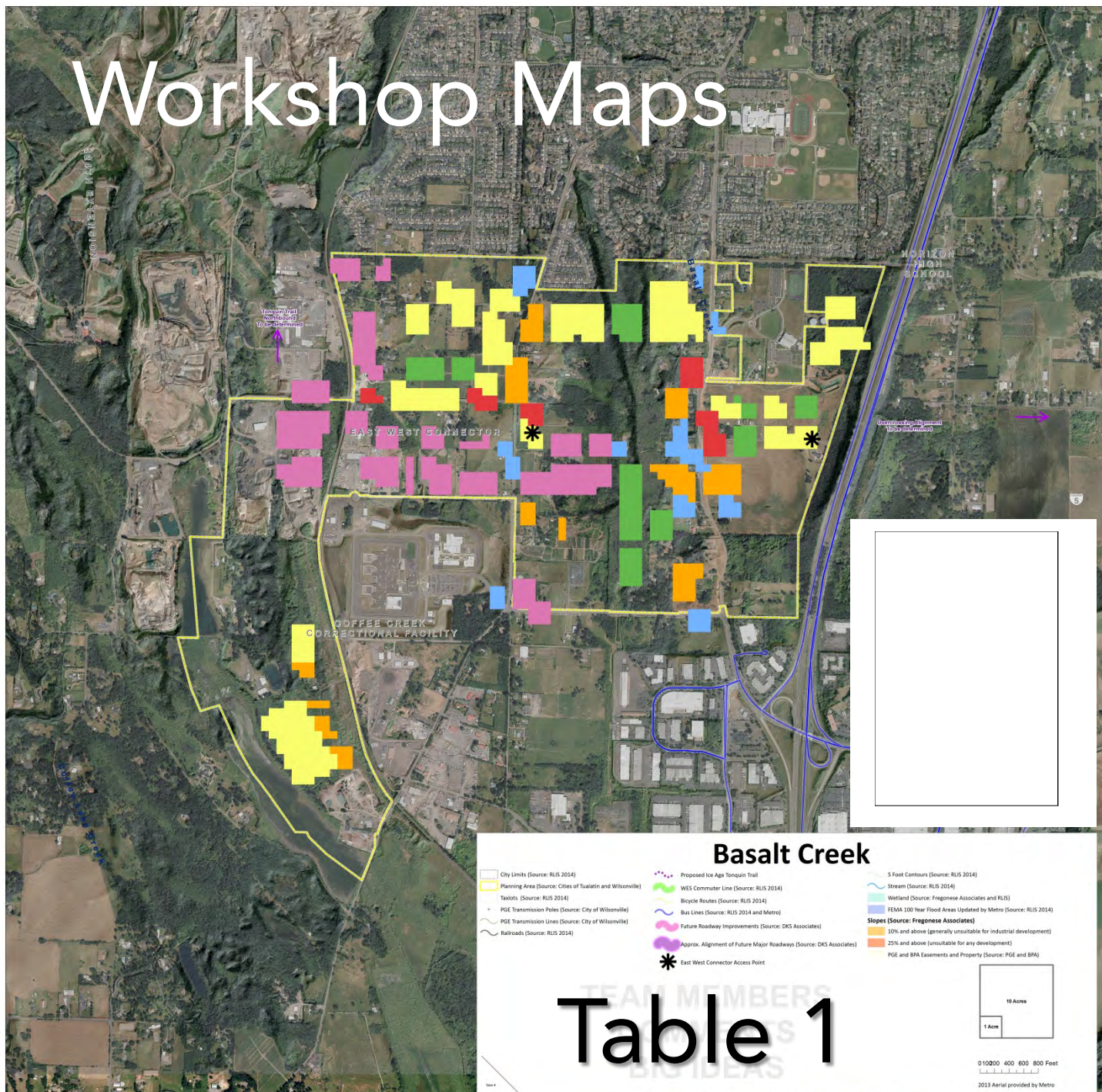
# Workshop Maps

**Goals**

- Housing/schools close together
- Public amenities around wetlands
- Housing where there is transportation and other existing infrastructure
- Transit options that allow people to make trips without their cars
- Make the wetlands a source of pride and natural beauty (visual focal point/vistas)

**Comments**

- Civic entertainment use – public theater?
- Seems like E-W Connector will determine how land uses are arranged
- Couth the nursery along Graham’s Ferry be encouraged to develop as a unique attraction?
- This is an opportunity do something different – provide public amenities that make the community proud.



**Basalt Creek**

- City Limits (Source: RLS 2014)
- Planning Area (Source: Cities of Tualatin and Wilsonville)
- Taxlots (Source: RLS 2014)
- PGE Transmission Poles (Source: City of Wilsonville)
- PGE Transmission Lines (Source: City of Wilsonville)
- Railroads (Source: RLS 2014)
- Proposed Ice Tinquin Trail
- WES Commuter Line (Source: RLS 2014)
- Bicycle Routes (Source: RLS 2014)
- Bus Lines (Source: RLS 2014 and Metro)
- Future Roadway Improvements (Source: DKS Associates)
- Approx. Alignment of Future Major Roadways (Source: DKS Associates)
- \* East West Connector Access Point
- 5 Foot Contours (Source: RLS 2014)
- Stream (Source: RLS 2014)
- Wetland (Source: Fregonese Associates and RLS)
- FEMA 100 Year Flood Areas Updated by Metro (Source: RLS 2014)
- Slopes (Source: Fregonese Associates)
  - 10% and above (generally unsuitable for industrial development)
  - 25% and above (unsuitable for any development)
  - PGE and BPA Easements and Property (Source: PGE and BPA)

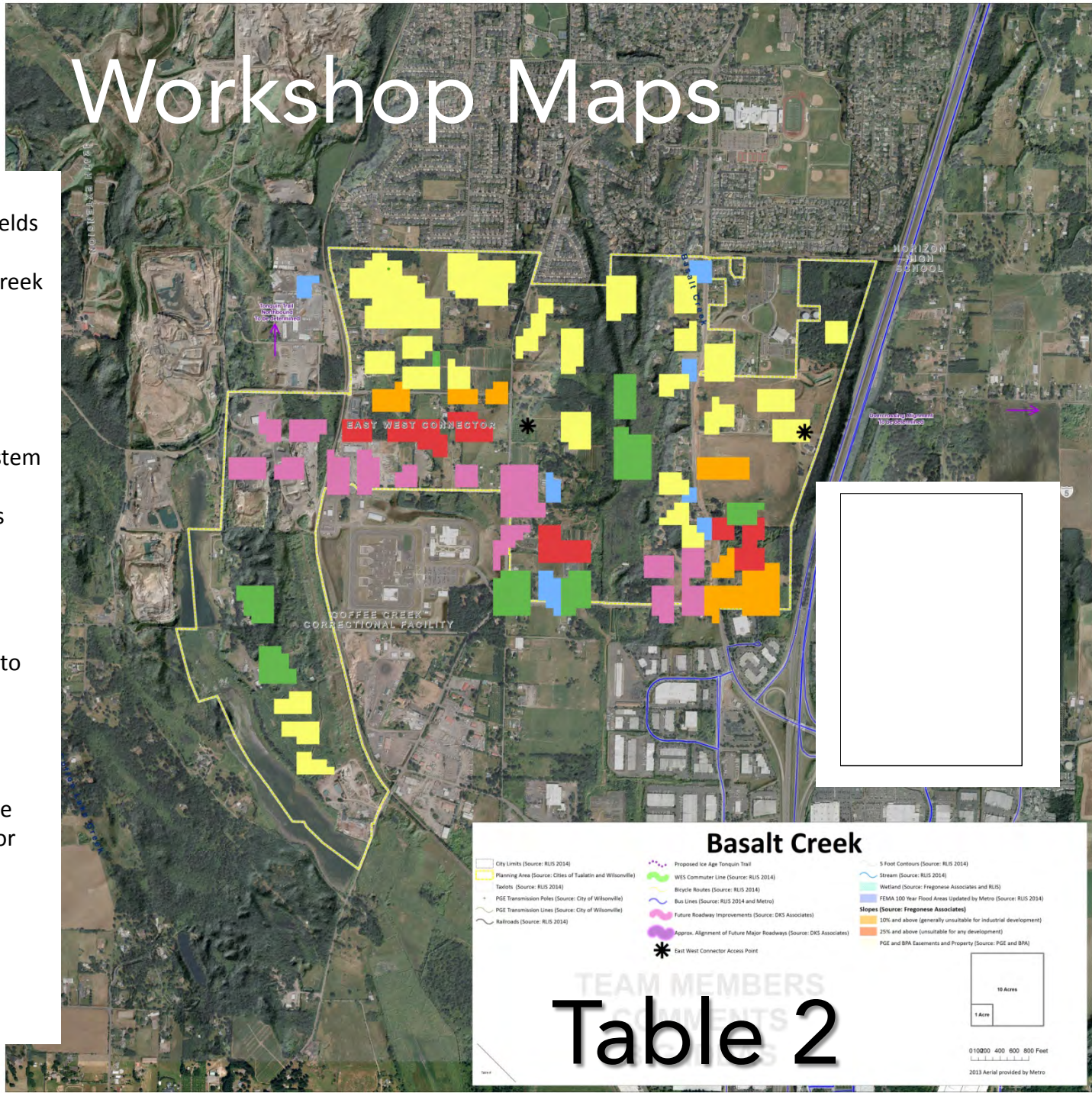
# Table 1

10 Acres  
1 Acre

0 1000 2000 4000 6000 8000 Feet

2013 Aerial provided by Metro

# Workshop Maps



- Goals**
- Increase recreation, more sports fields (plenty of them in Tualatin)
  - Parks/natural area around Basalt Creek - preservation – West Railroad
  - Concern around runoff into Basalt Creek
  - Joint rec center
  - Housing in Tualatin
  - Incorporation into regional trail system along Basalt Creek
  - Concern about widening of Boones Ferry for peds and bikes
  - Location of EW/Boone’s Ferry
  - Water/sewer lines
  - EW Connector at Boone’s Ferry
  - Smoother transition from industrial to housing
  - Stop at WES –Trans
  - Recreation (shared facilities)
  - Natural area protection
  - Housing –not everything need to be industrial south of the EW Connector

- Big Ideas**
- Connect to WES
  - Smooth transition between uses
  - Brew Pubs
  - Crosswalks across Boone’s Ferry

**Basalt Creek**

<ul style="list-style-type: none"> <li>City Limits (Source: RLS 2014)</li> <li>Planning Area (Source: Cities of Tualatin and Wilsonville)</li> <li>Taxlots (Source: RLS 2014)</li> <li>PGE Transmission Poles (Source: City of Wilsonville)</li> <li>PGE Transmission Lines (Source: City of Wilsonville)</li> <li>Railroads (Source: RLS 2014)</li> </ul>	<ul style="list-style-type: none"> <li>Proposed Ice Age Tomquin Trail</li> <li>WES Commuter Line (Source: RLS 2014)</li> <li>Bicycle Routes (Source: RLS 2014)</li> <li>Bus Lines (Source: RLS 2014 and Metro)</li> <li>Future Roadway Improvements (Source: DKS Associates)</li> <li>Approx. Alignment of Future Major Roadways (Source: DKS Associates)</li> <li>East West Connector Access Point</li> </ul>	<ul style="list-style-type: none"> <li>5 Foot Contours (Source: RLS 2014)</li> <li>Stream (Source: RLS 2014)</li> <li>Wetland (Source: Froggese Associates and RLS)</li> <li>FEMA 100 Year Flood Areas Updated by Metro (Source: RLS 2014)</li> <li>Bus Lines (Source: RLS 2014 and Metro)</li> <li>Slopes (Source: Froggese Associates)                             <ul style="list-style-type: none"> <li>10% and above (generally unsuitable for industrial development)</li> <li>25% and above (unsuitable for any development)</li> </ul> </li> <li>PGE and BPA Easements and Property (Source: PGE and BPA)</li> </ul>
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10 Acres  
1 Acre

0 100 200 300 400 500 600 700 800 Feet  
2013 Aerial provided by Metro

TEAM MEMBERS  
COMMENTS  
Table 2



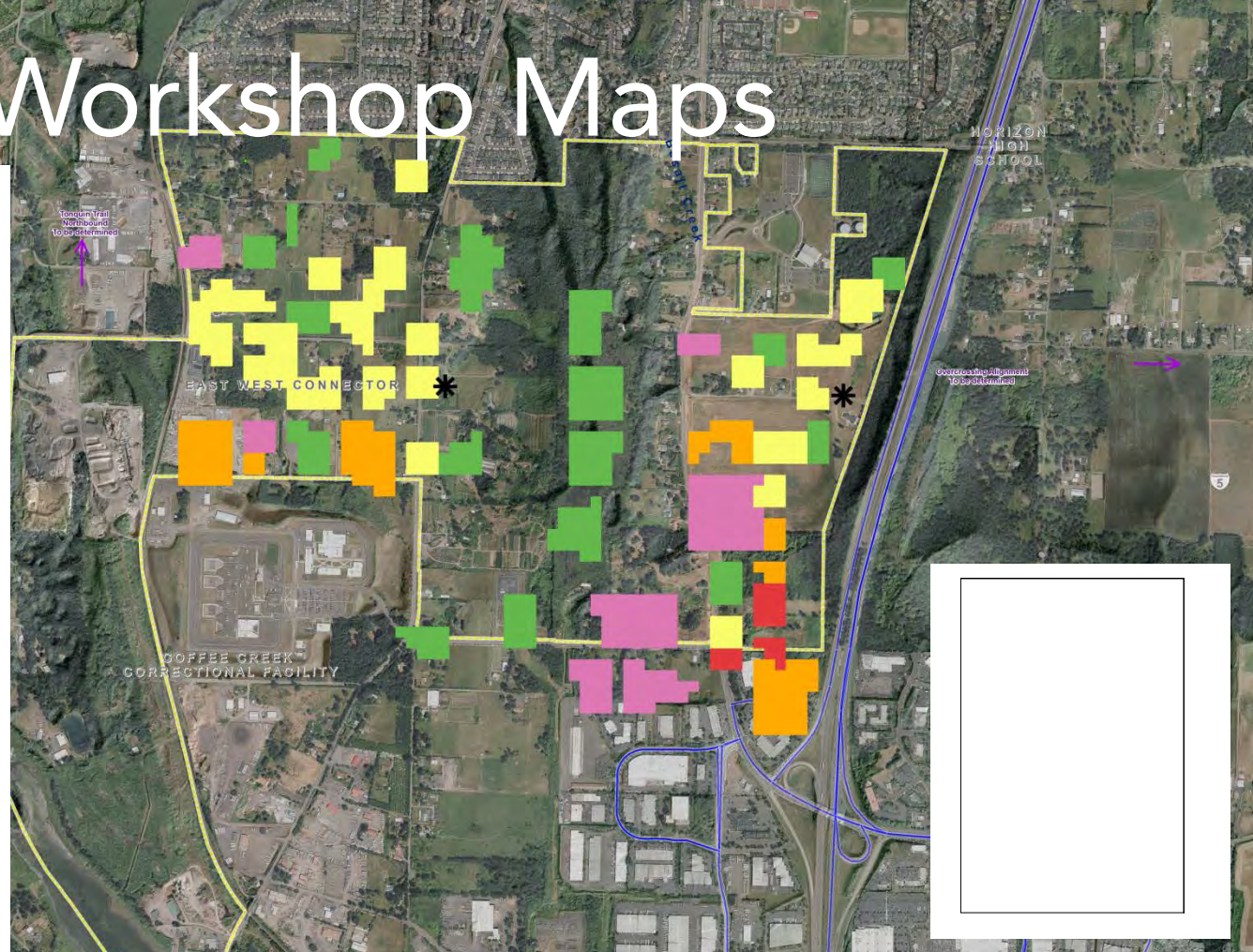
# Workshop Maps

## Goals

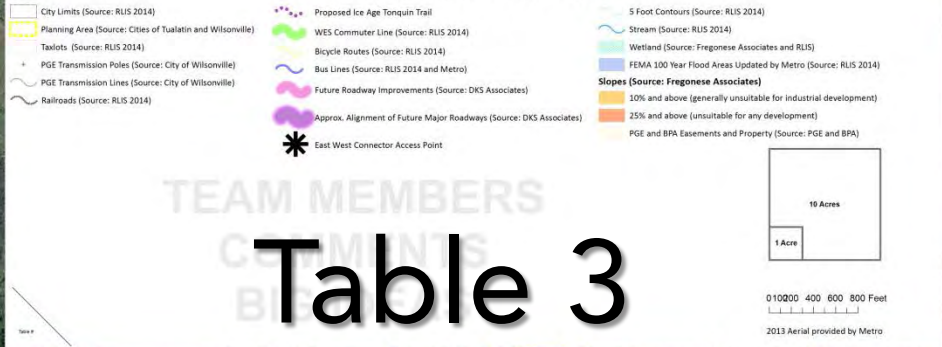
- Residential development
- Diverse housing mix (more than just single family)
- Celebrate natural features
- Interconnected trans network
- Integrate other regional plans
- Well laid out mix of land uses
- Integrated trail and greenways (multimodal connections)

## Comments

- Bike/ped access from Tualatin to Wilsonville- in nature
- Employment center near I-5 (east of I-5)
- Buffering between residential and industrial (transitional)
- Trails on power line easements
- Small lot SF and apartments – what is the market?
- Mixed use housing
- Where to put hi-density housing
- Prevent noise pollution from industry
- Center?
- Sherwood school district
- Housing where kids can walk to school
- Hi-density, assisted living near overpass
- Retail and industrial toward the south (jobs and light industrial)



## Basalt Creek



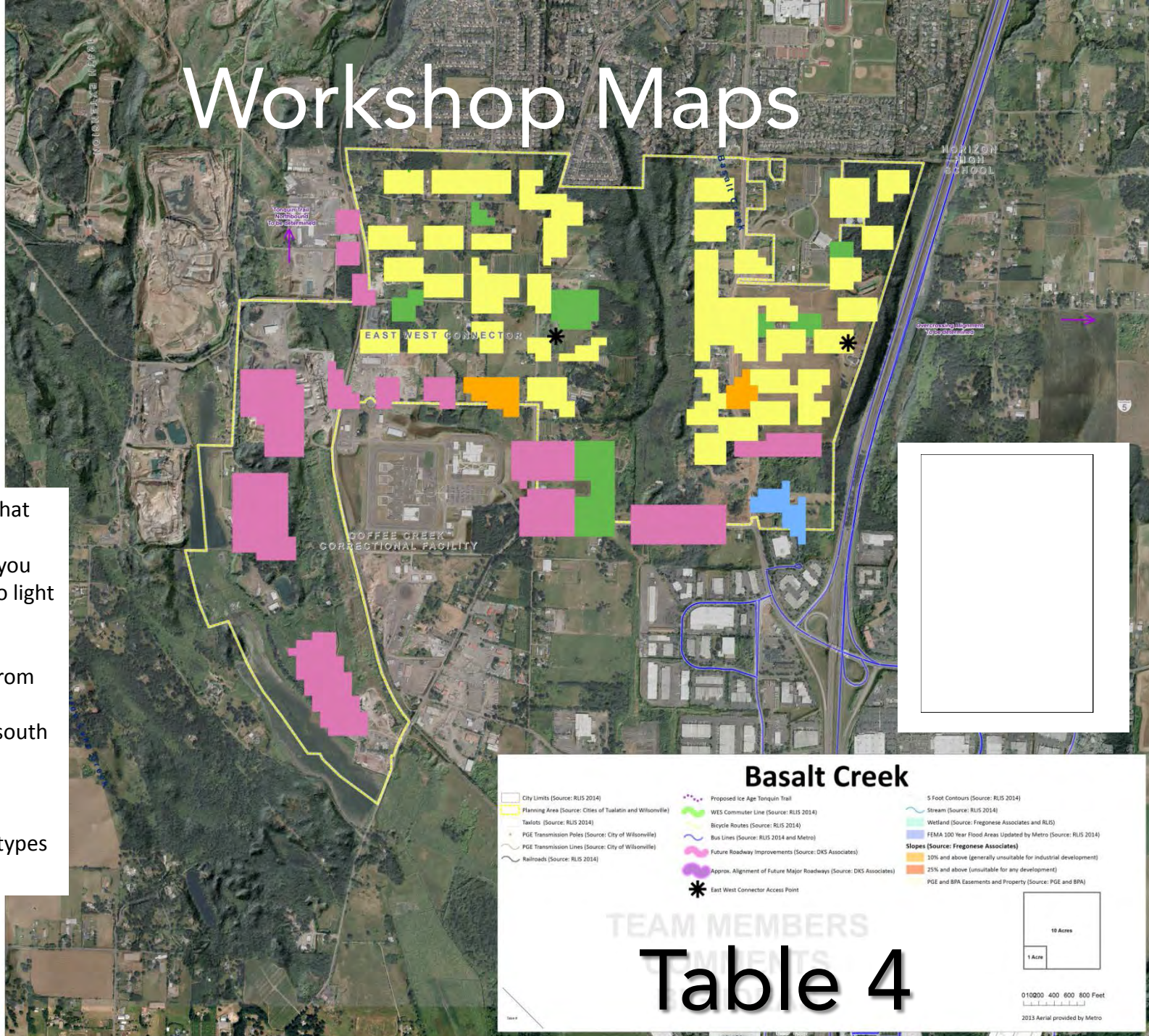
TEAM MEMBERS  
COMMENTS  
BIR

# Table 3



# Workshop Maps

- Residential at north that transitions to higher density/mixed use as you go south, eventually to light manufacturing.
- Access to small commercial services from residential areas.
- Places of worship at south end
- Sports complex and parks/open spaces
- Transitions between types of uses.



TEAM MEMBERS  
COMMENTS  
**Table 4**

# Workshop Maps

## Goals

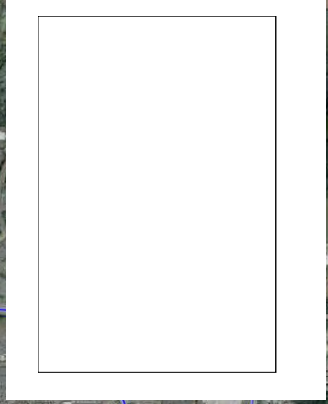
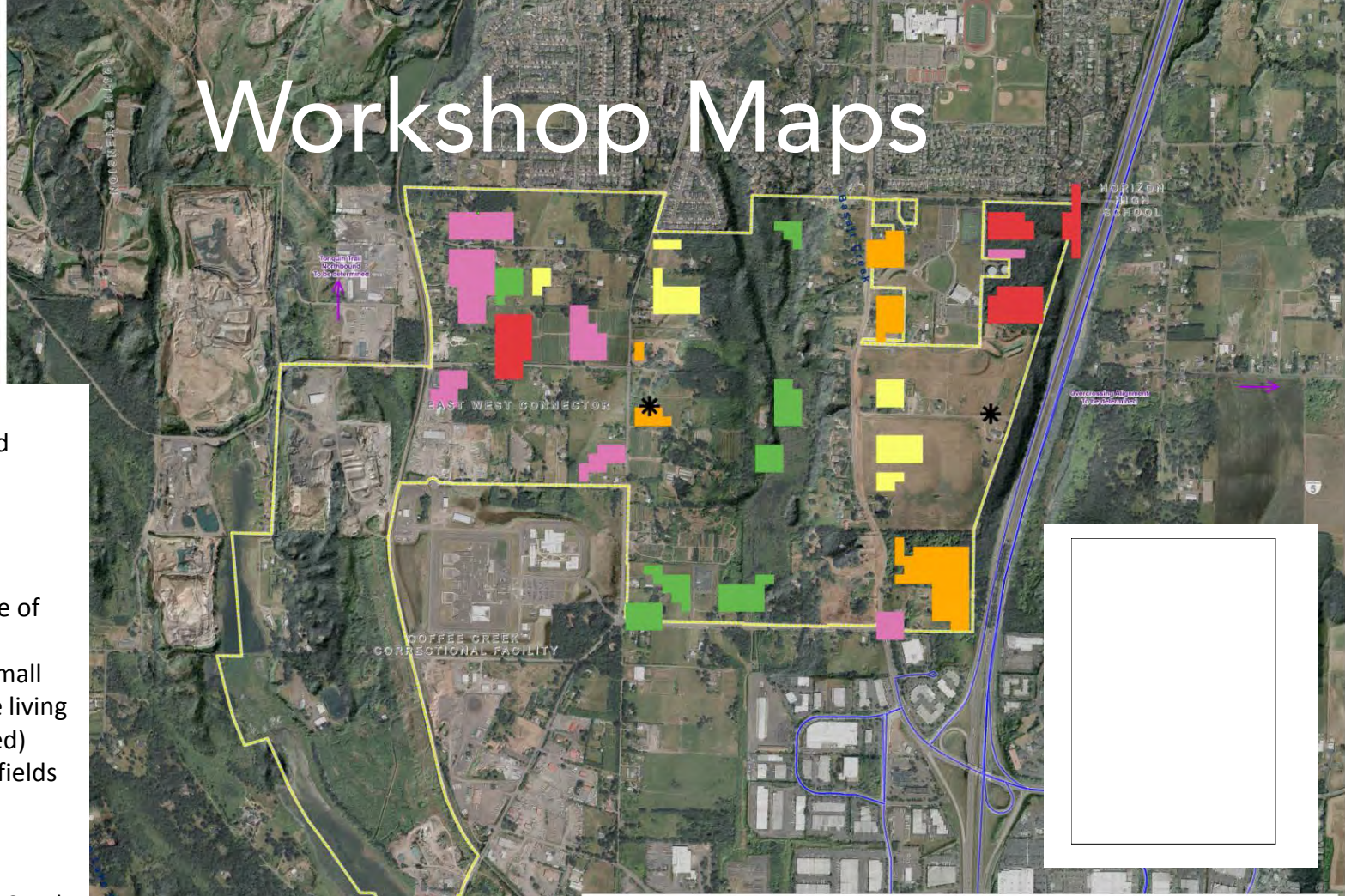
- Maintain neighborhood continuity

## Comments

- Not great for industrial warehouse land because of transportation access
- No big box, but need small scale grocery for people living in the area (Haggen-sized)
- Big demand for sports fields

## Big Ideas

- WES Station
- Natural area on Basalt Creek (like Tryon Creek)
- Sports Complex
- Clean green industrial flex as buffer to residential



TEAM MEMBERS  
COMMENTS  
**Table 5**

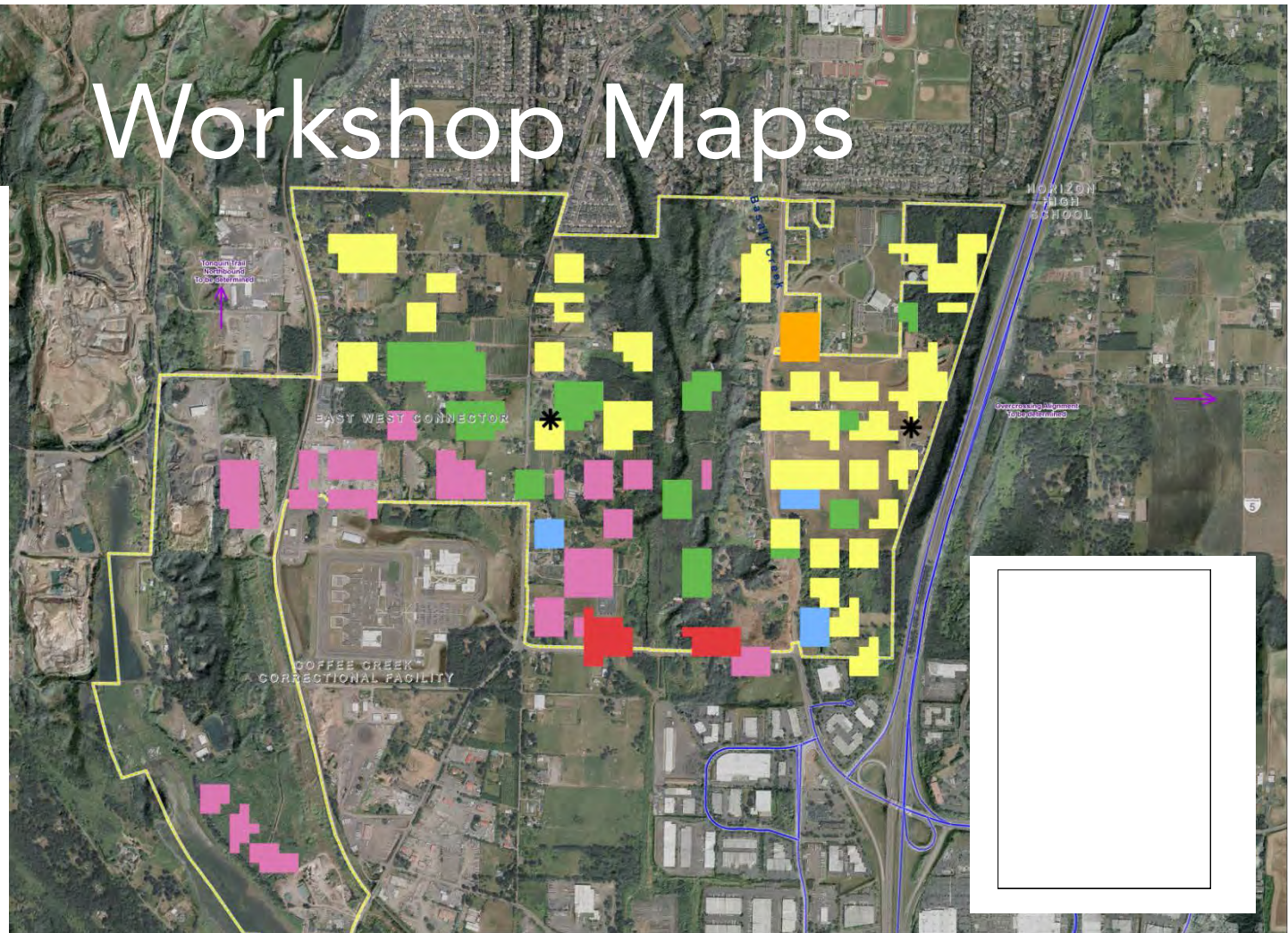
# Workshop Maps

## Goals

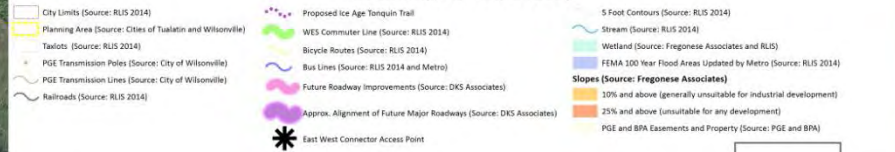
- Get people to live near their work!
- Offer more opportunities/options for sports field
- Connect neighborhood amenities/green spaces (i.e. walking/bike trails)
- Small parks in residential areas
- Maintain rural setting/provide safety/comfort

## Our Ideas:

- Clustering of apartments/retail/parks
- Definitive boundaries – buffer zone (greenbelt)
- Trails, bike paths
- Neighborhood parks with multiple uses
- WES Station
- Easy access to freeway
- Community parks and gardens
- Assisted living centers
- Retail near intersection
- Industrial area down south
- G.F/E-R to ferry all residential
- Retail opportunity in front of school



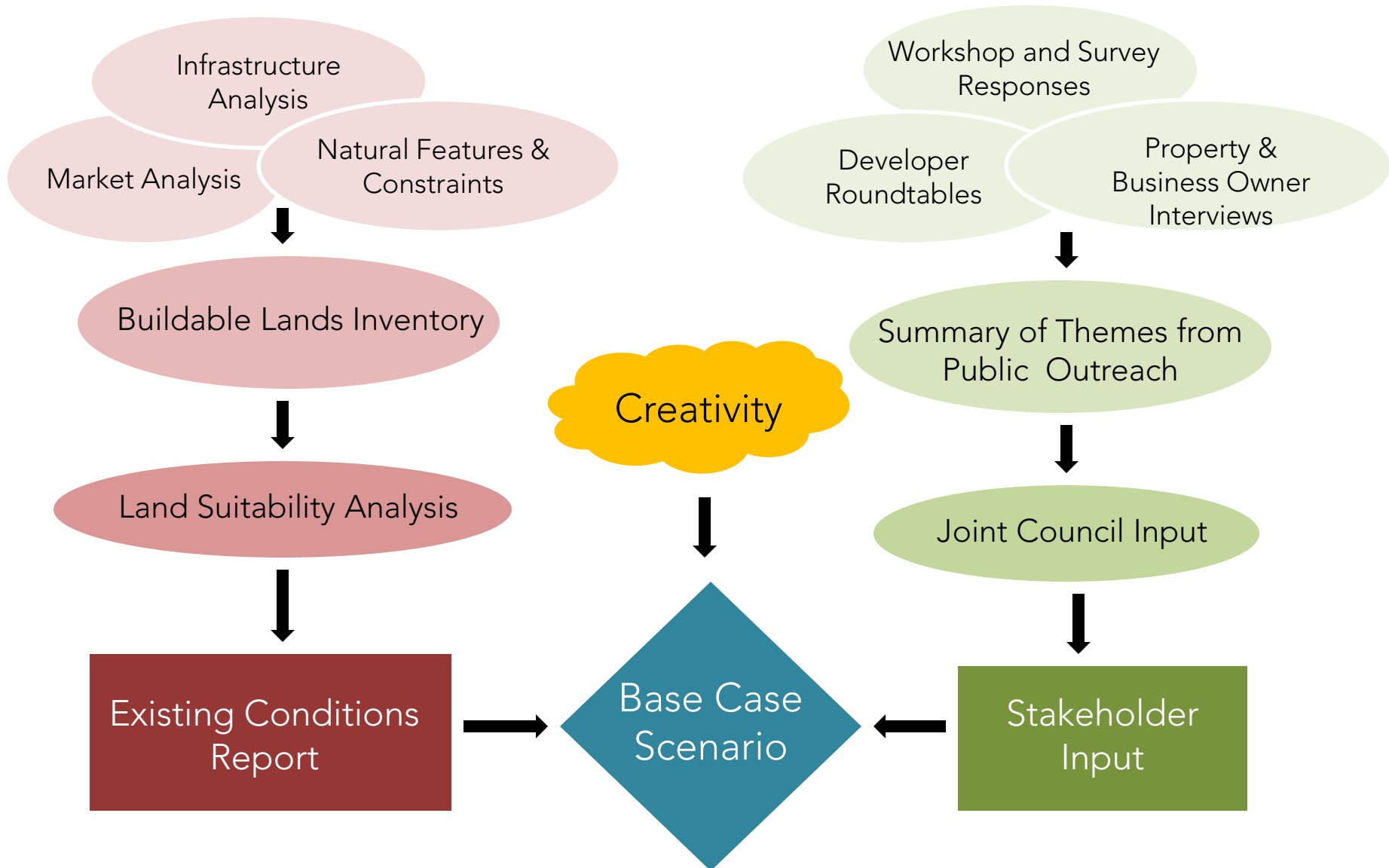
## Basalt Creek



TEAM MEMBERS

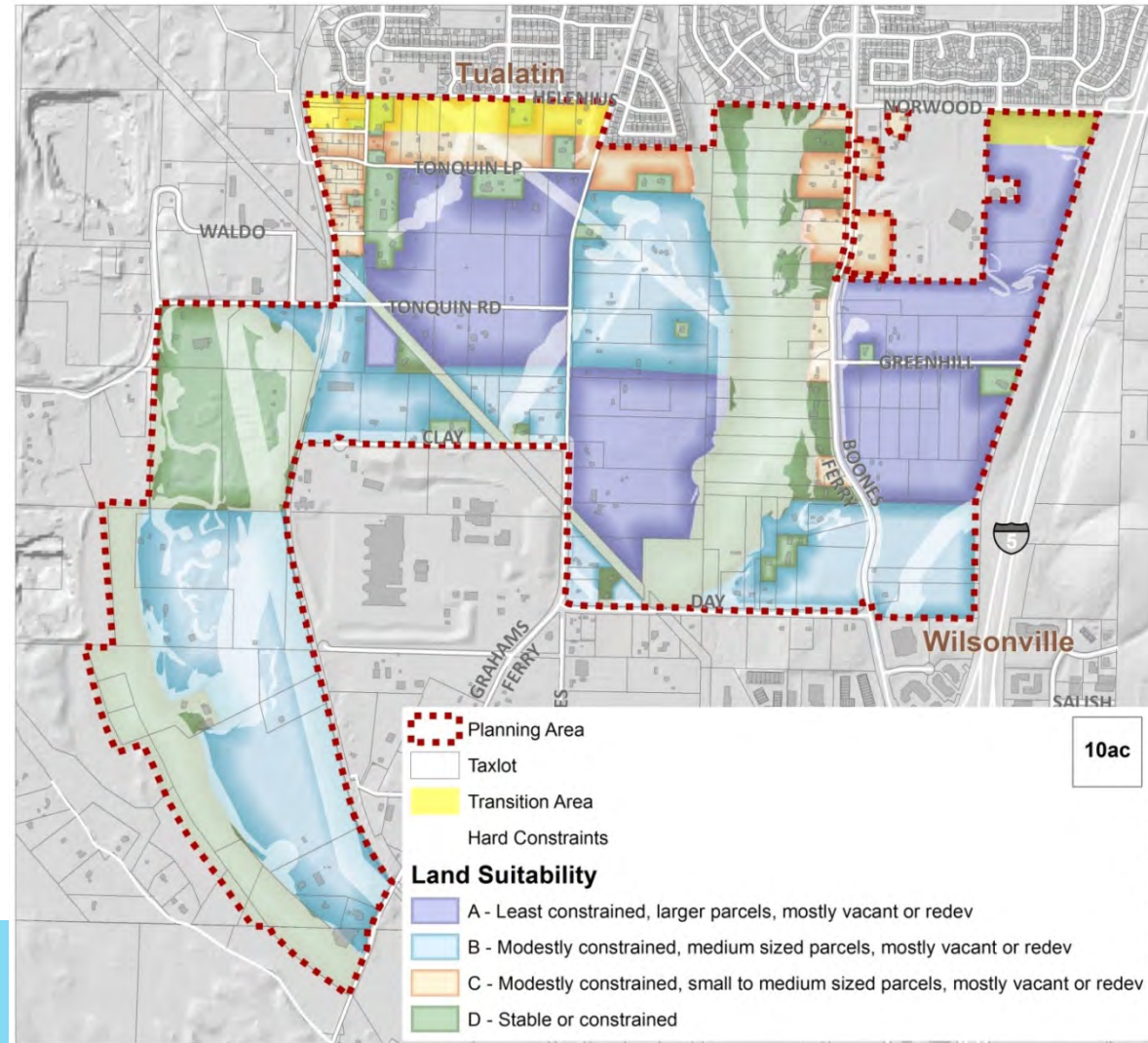
# Table 6

# Building the Base Case Scenario

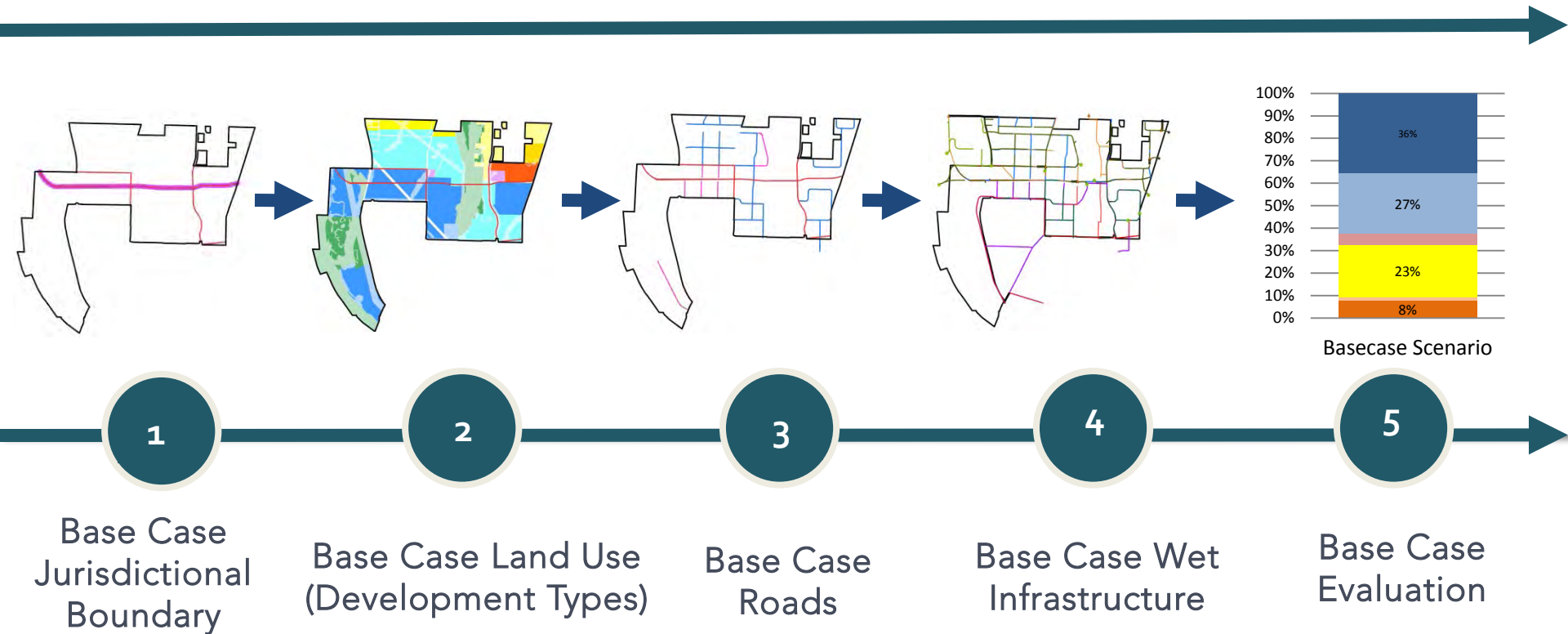


# Building the Base Case Land Suitability Analysis

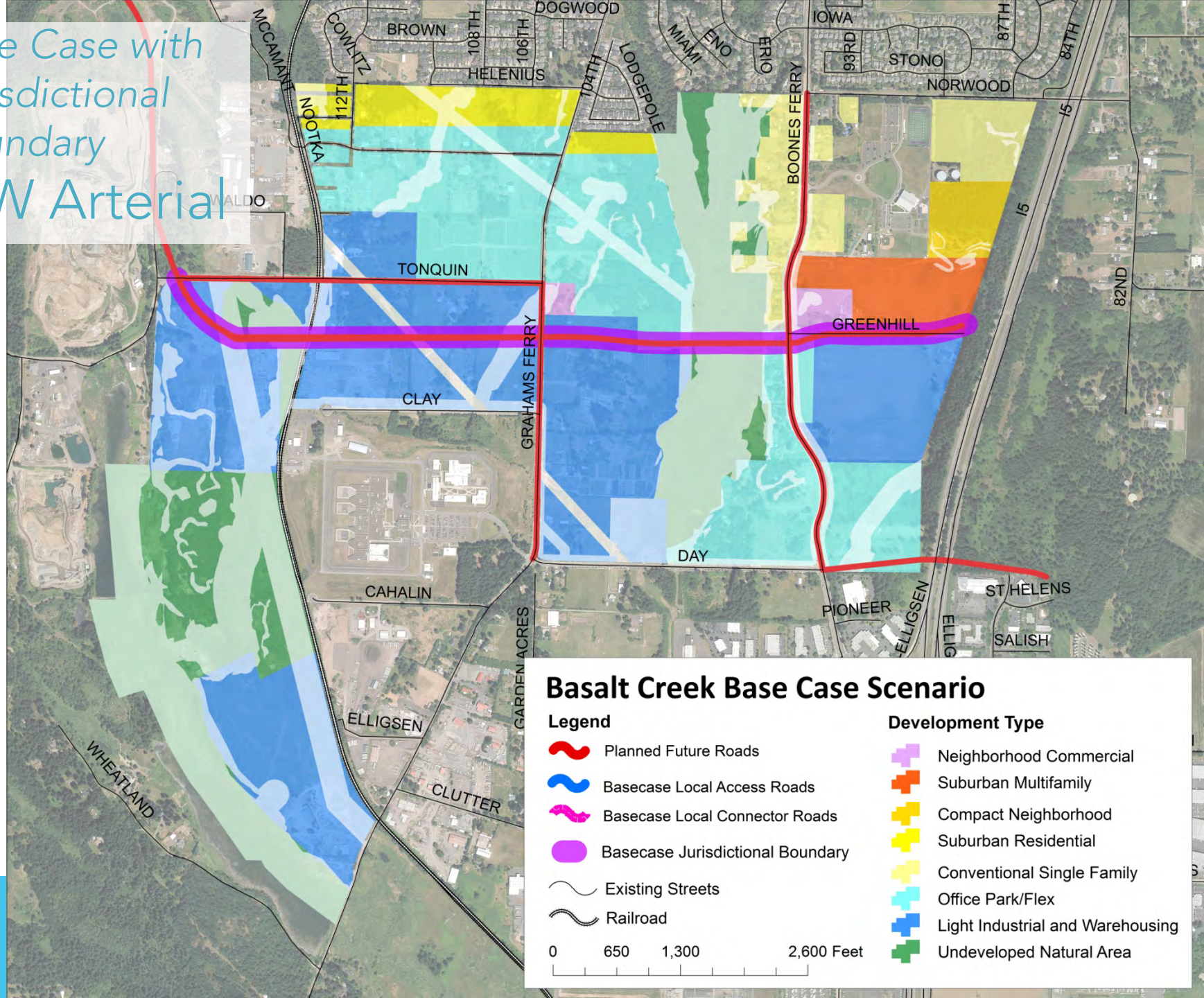
Suitability Category	Vacant Acres
A	197
B	144
C	38
D	12



# Building the Base Case Scenario Development



Base Case with  
Jurisdictional  
Boundary  
E-W Arterial



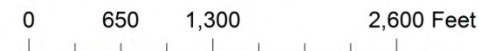
### Basalt Creek Base Case Scenario

**Legend**

- Planned Future Roads
- Basecase Local Access Roads
- Basecase Local Connector Roads
- Basecase Jurisdictional Boundary
- Existing Streets
- Railroad

**Development Type**

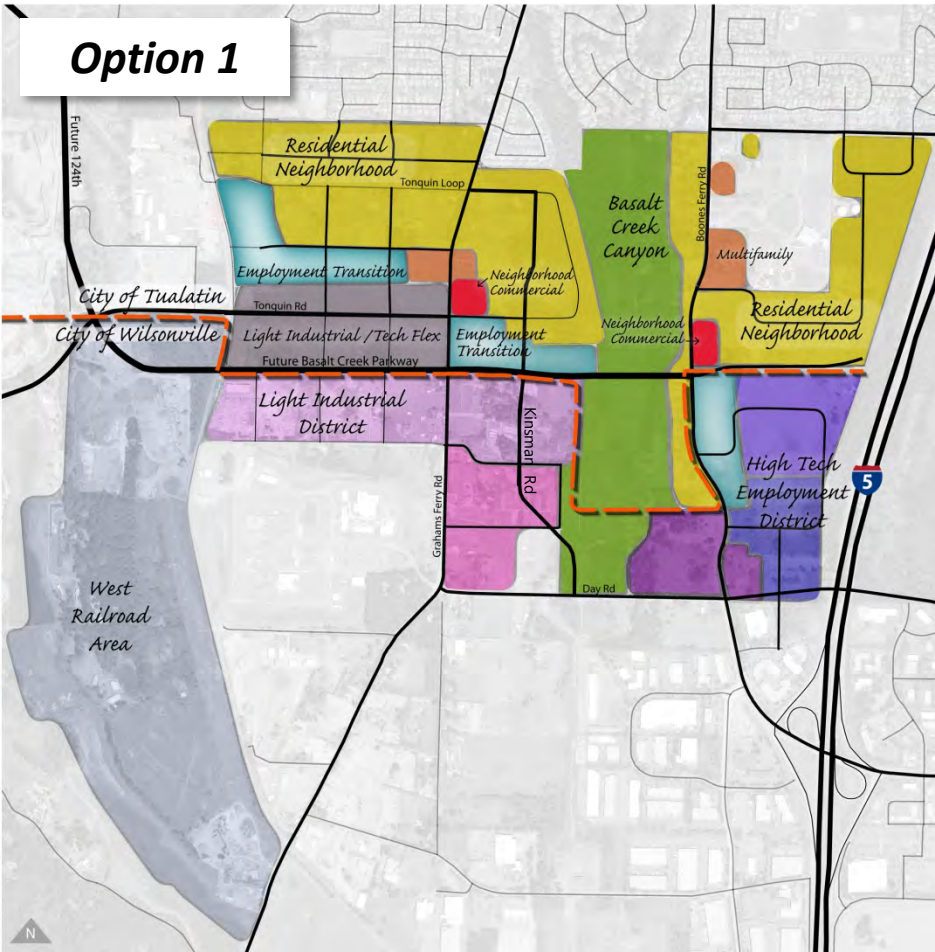
- Neighborhood Commercial
- Suburban Multifamily
- Compact Neighborhood
- Suburban Residential
- Conventional Single Family
- Office Park/Flex
- Light Industrial and Warehousing
- Undeveloped Natural Area



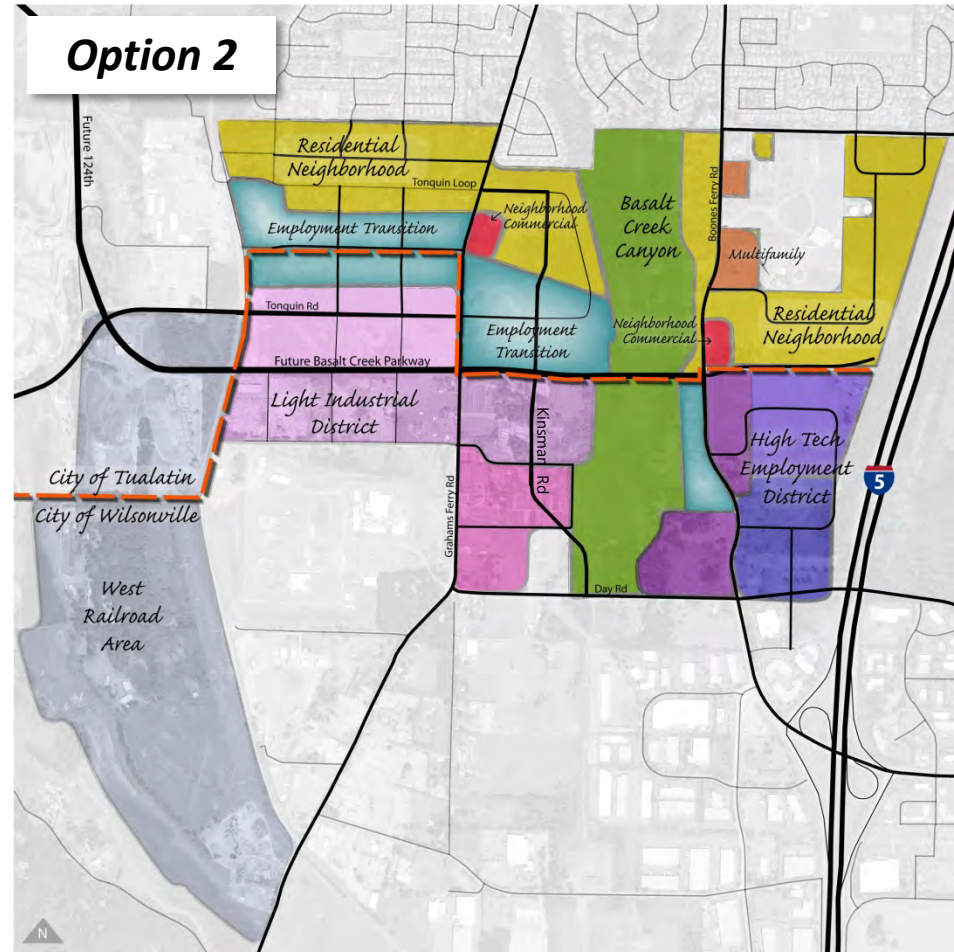


# Initial Scenarios 1 & 2

**Option 1**



**Option 2**

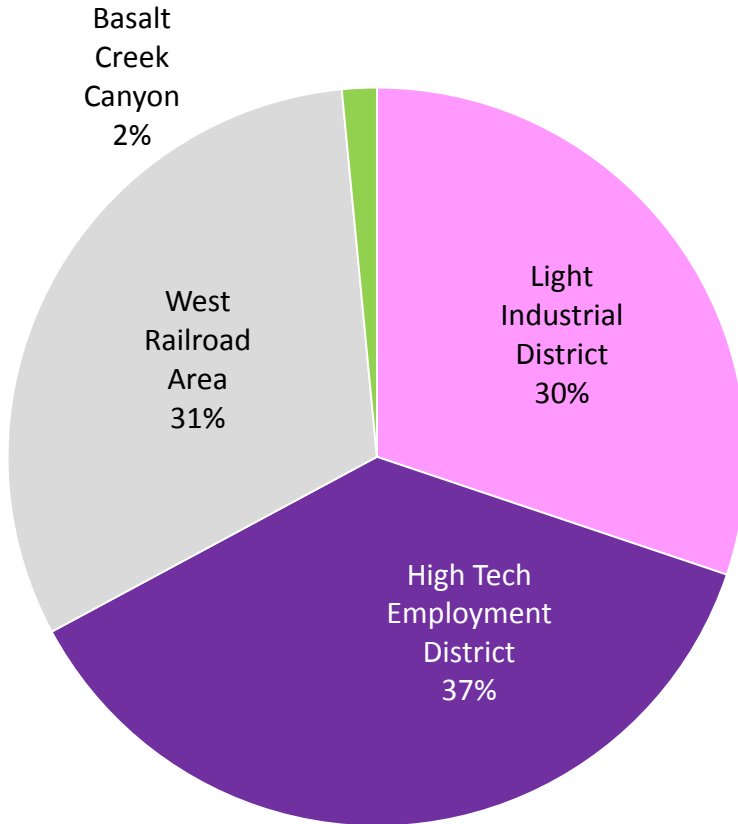


# Indicators | Wilsonville Land Use

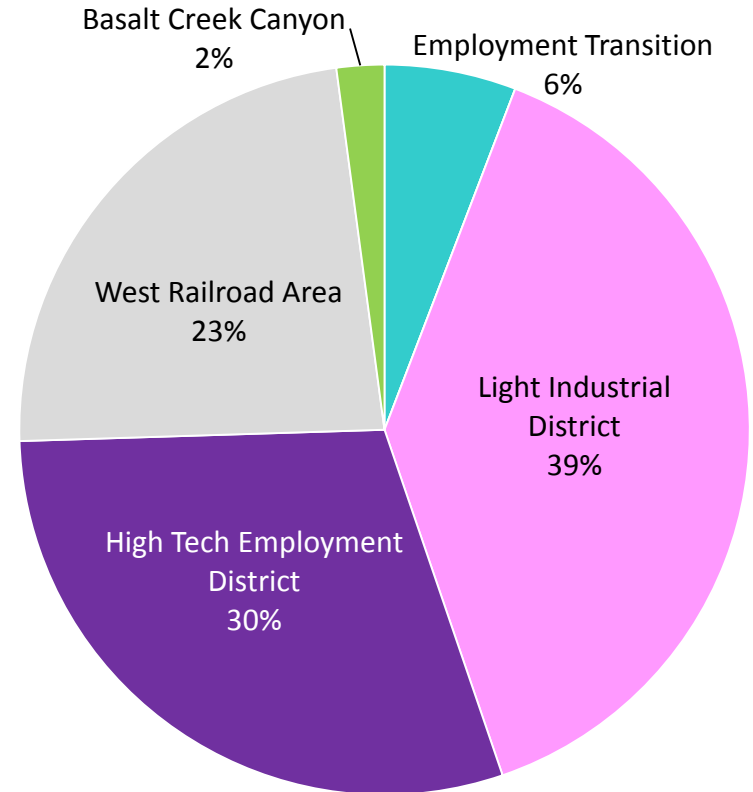
## Mix

\* % of developable acres

### Boundary Option 1



### Boundary Option 2

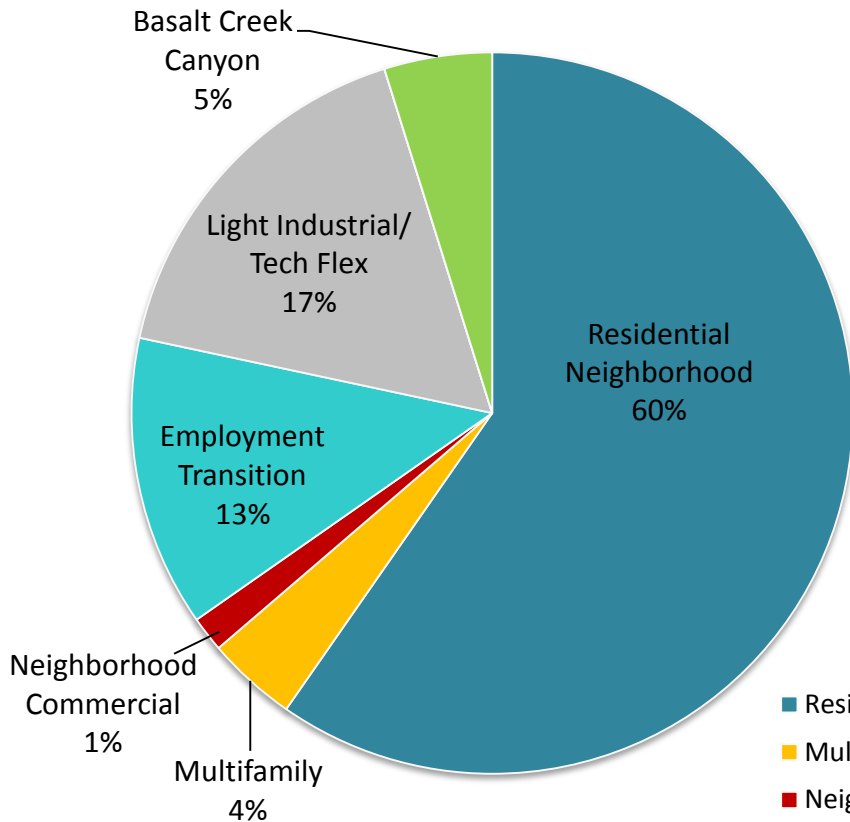


- Employment Transition
- High Tech Employment District
- Basalt Creek Canyon
- Light Industrial District
- West Railroad Area

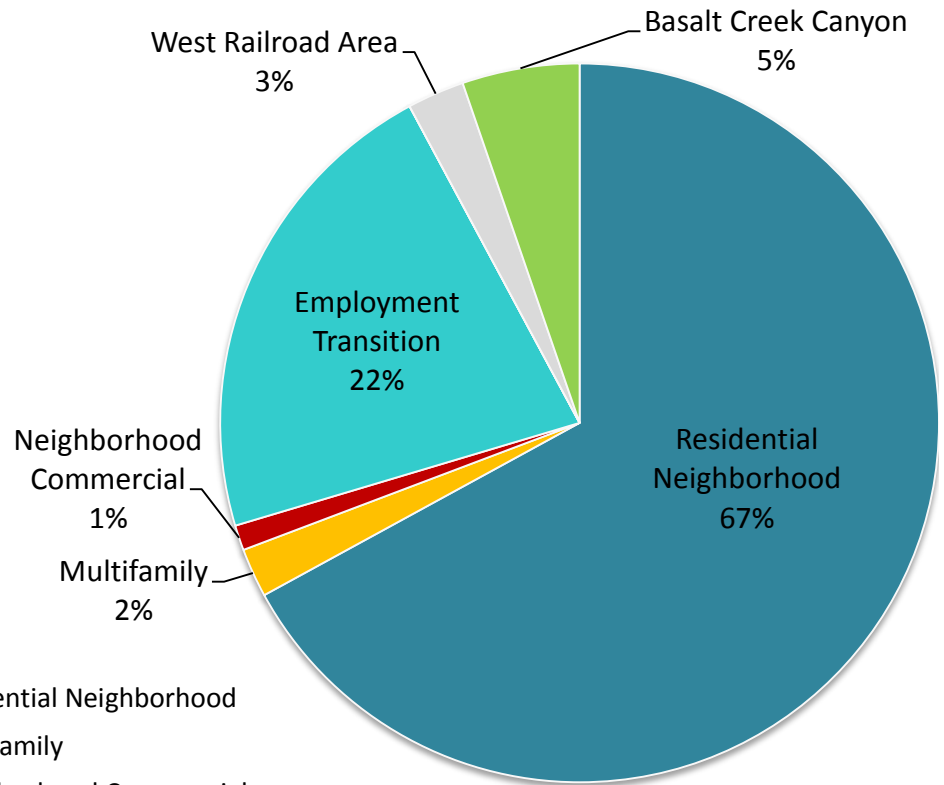
# Indicators | Tualatin Land Use Mix

\* % of developable acres

## Boundary Option 1

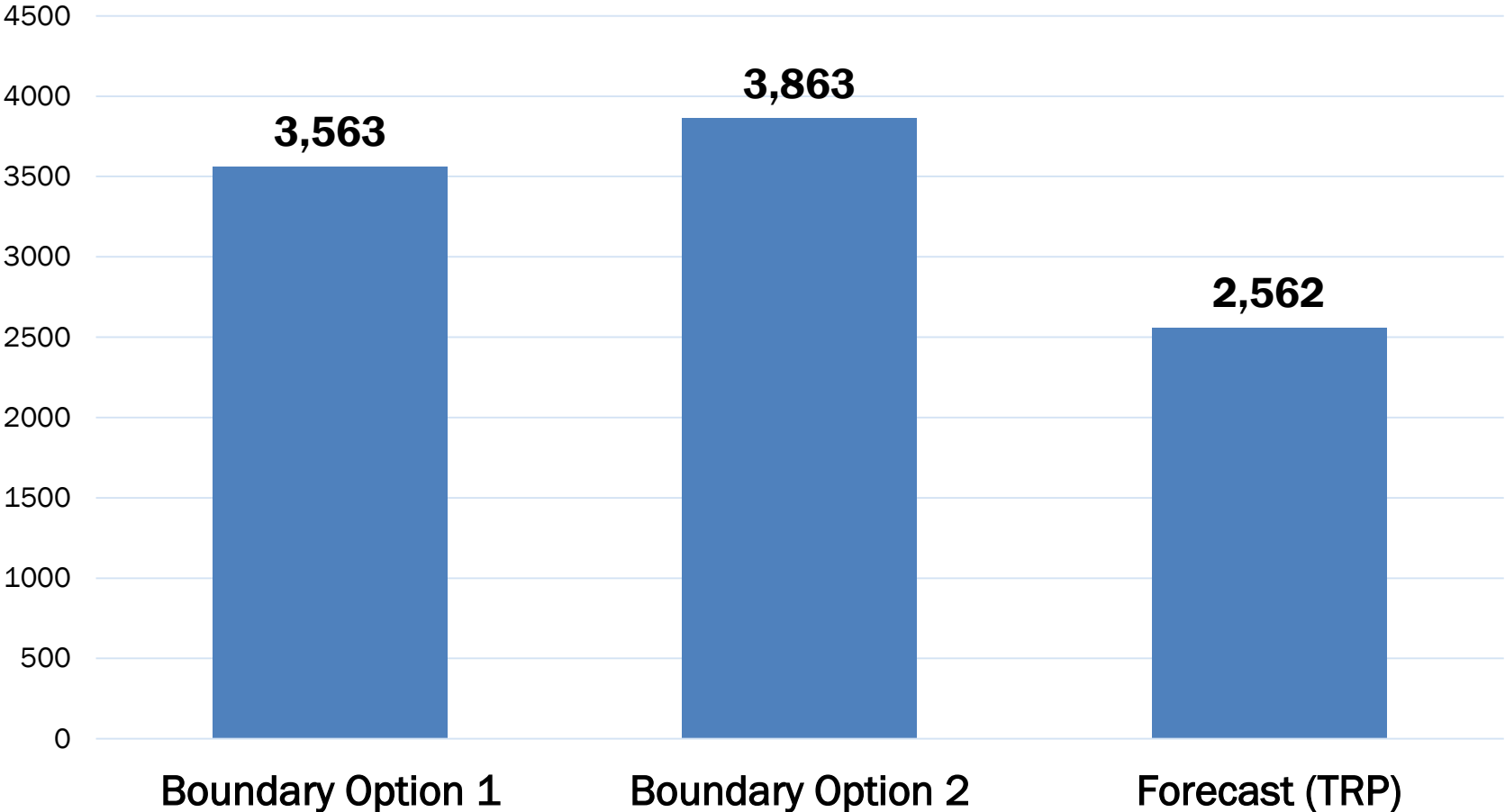


## Boundary Option 2

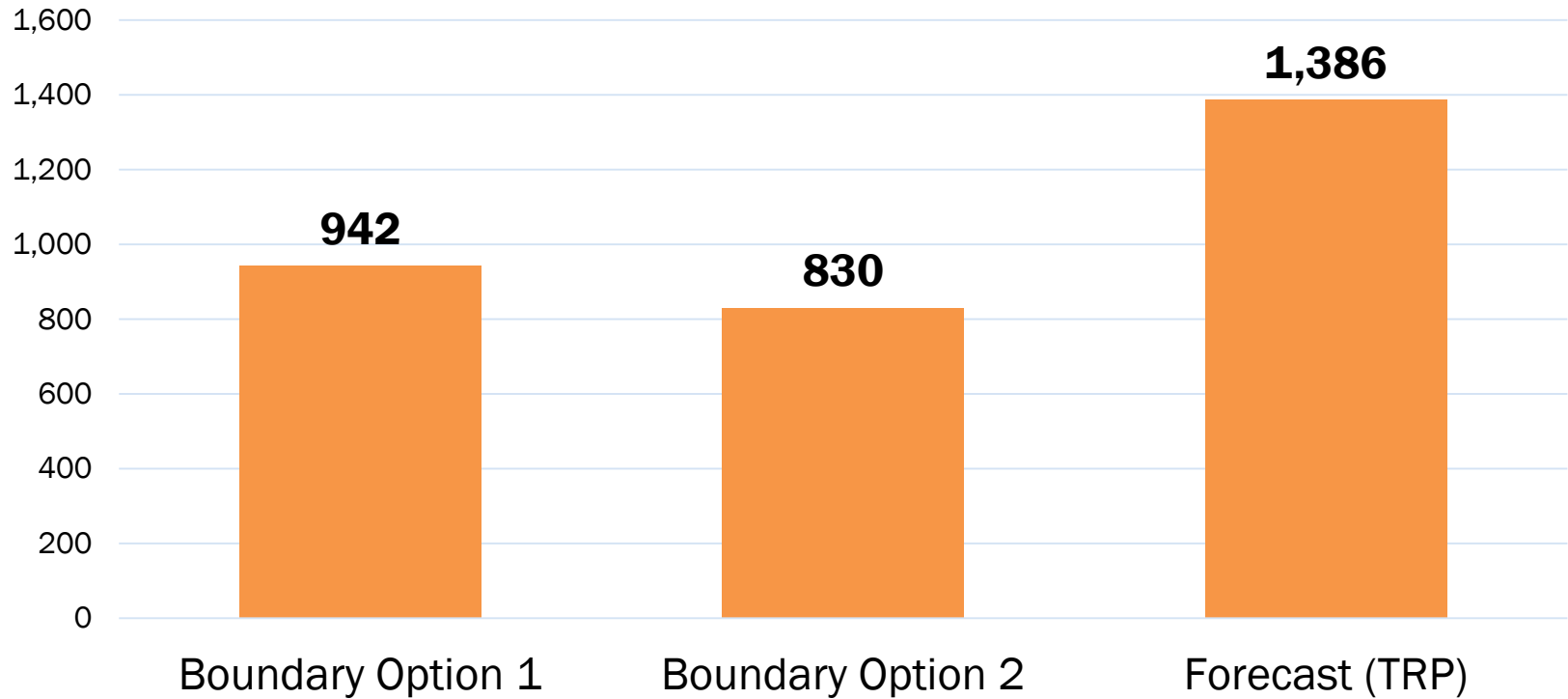


- Residential Neighborhood
- Multifamily
- Neighborhood Commercial
- Employment Transition
- Light Industrial/Tech Flex
- West Railroad Area
- Basalt Creek Canyon

# Indicators | Number of Jobs



# Indicators | Households



# Land Use Scenario Objectives

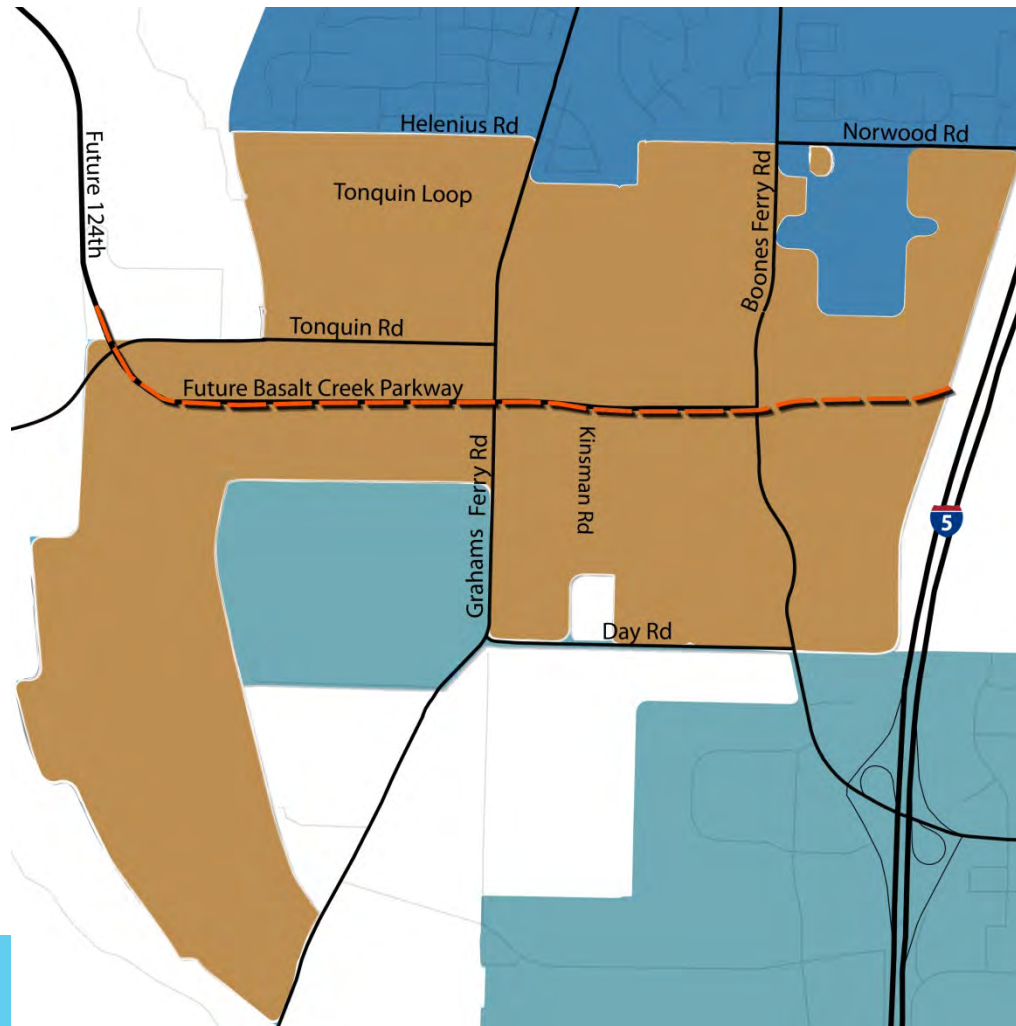
- A scenario designed around an implementable infrastructure plan
- Design principles focused on creating development forms reflective of the two cities
- Examine other boundary options that do not rely on the east west connector. Explore service agreements.
- Jurisdictional equity
- More residential for Tualatin in the north
- Consider creative solutions for transitions from employment to housing

# Initial Scenario Summary

- Scenario 1 and 2 meet all regional goals and constraints
- Both provide:
  - high-quality employment and housing opportunities,
  - innovative and appropriate transition areas between residential and employment uses,
  - responsiveness to the real estate market,
  - robust and efficient infrastructure systems, and
  - development that generally “pays its way.”

# Base Case Boundary Option

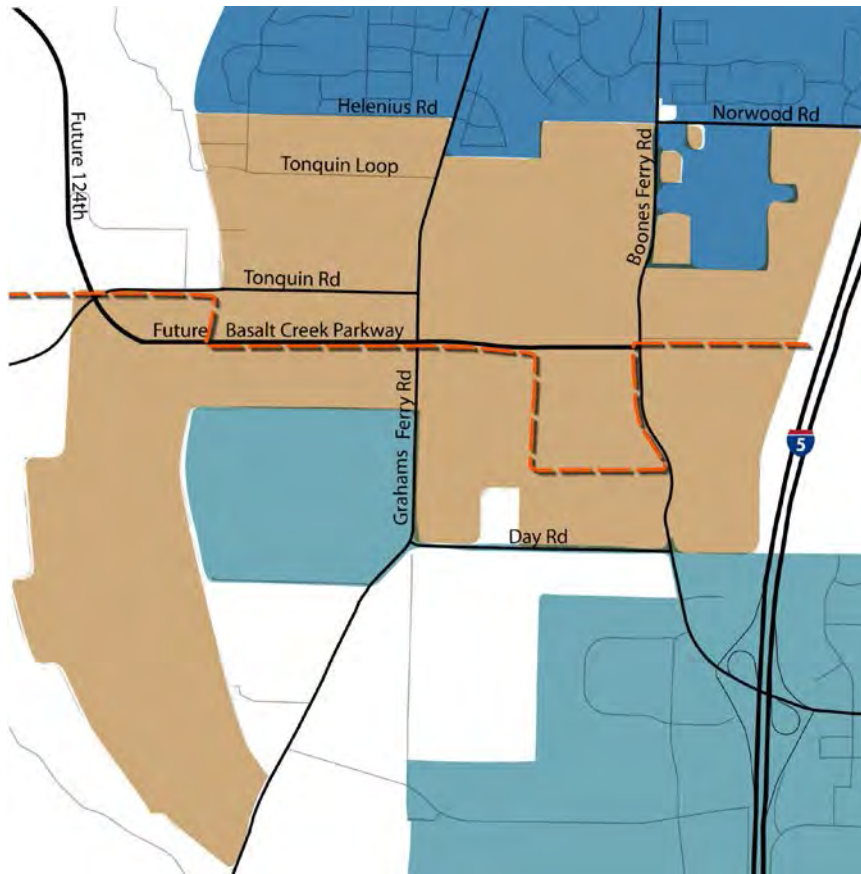
December 2, 2014 Joint Council Meeting



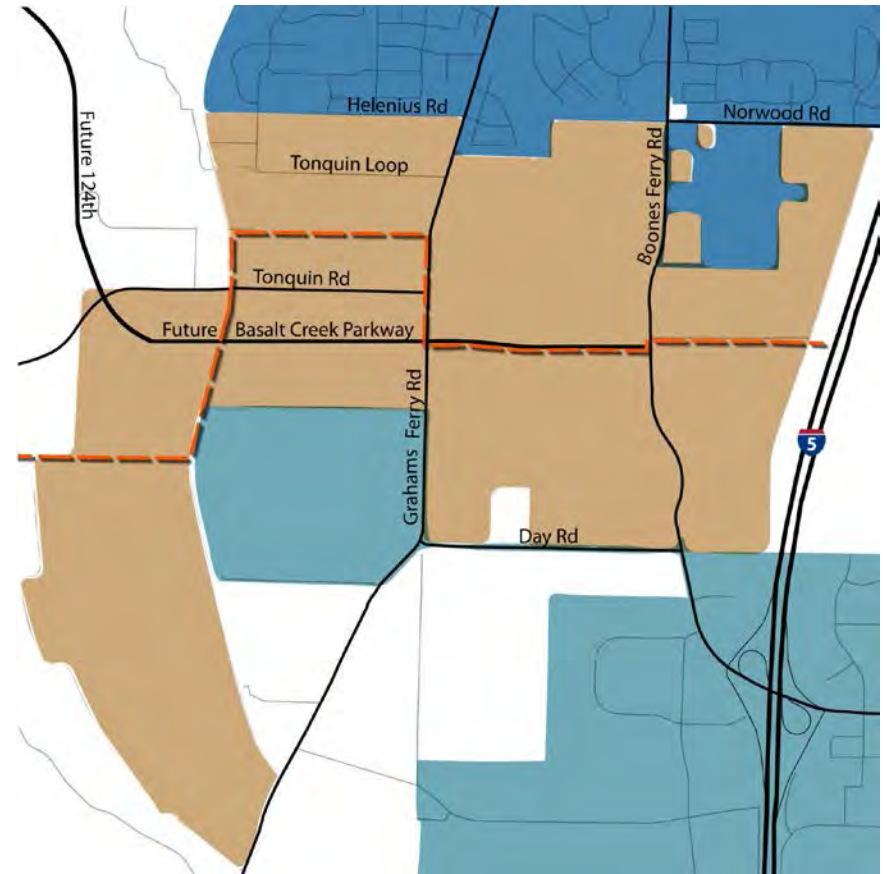


# Boundary Options 1 and 2

June 17, 2015 Joint Council Meeting



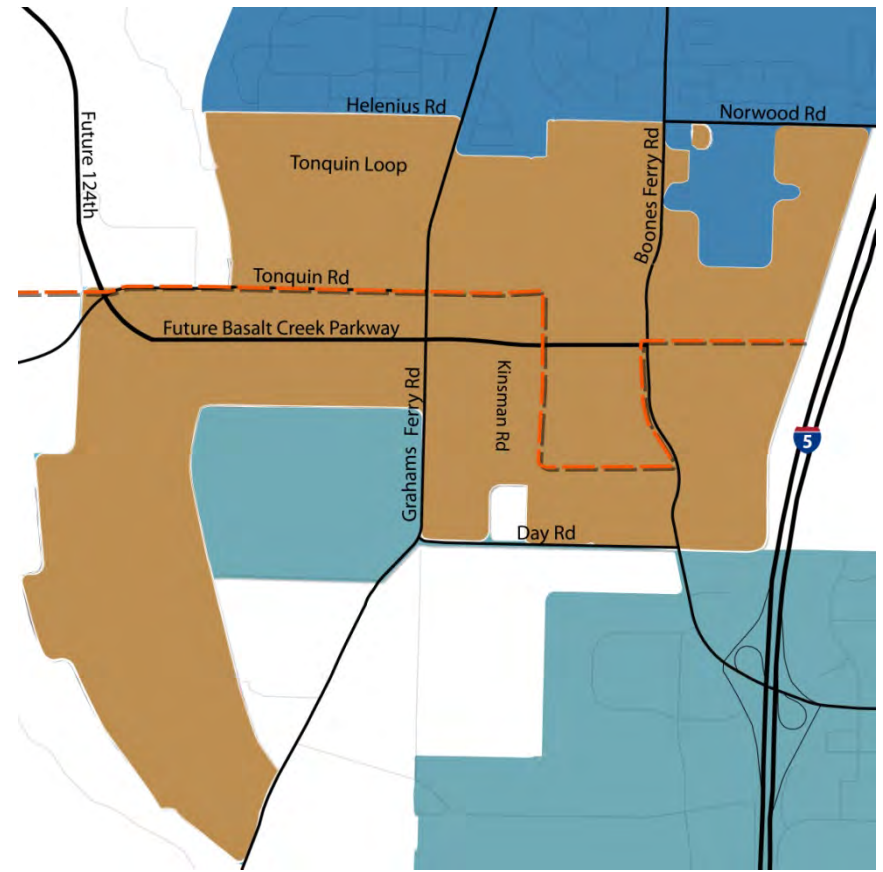
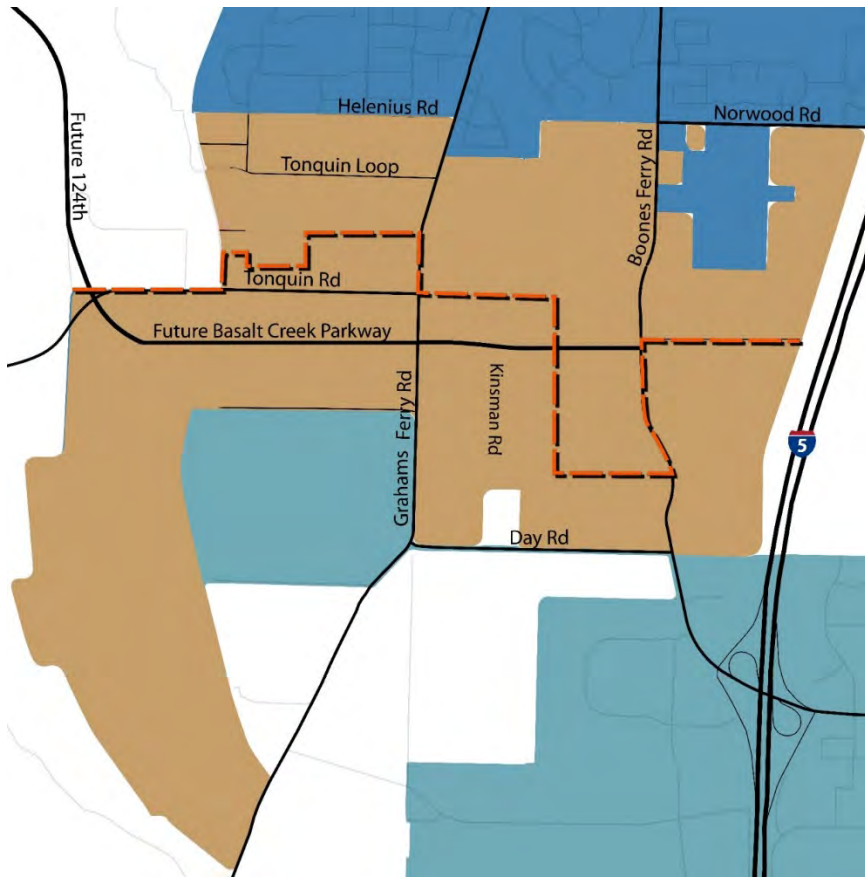
Boundary Option 1



Boundary Option 2

# Boundary Options 3 and 4

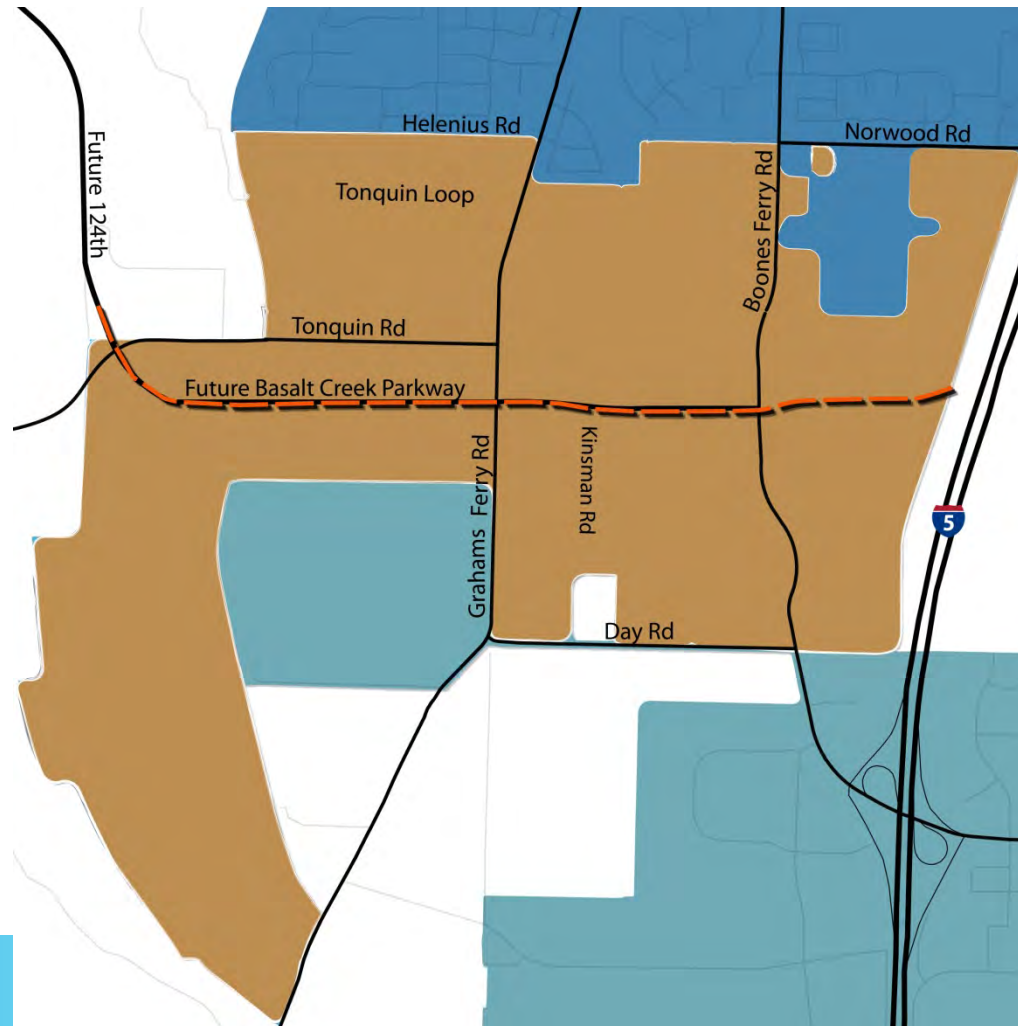
## August 2015 Individual Work Sessions



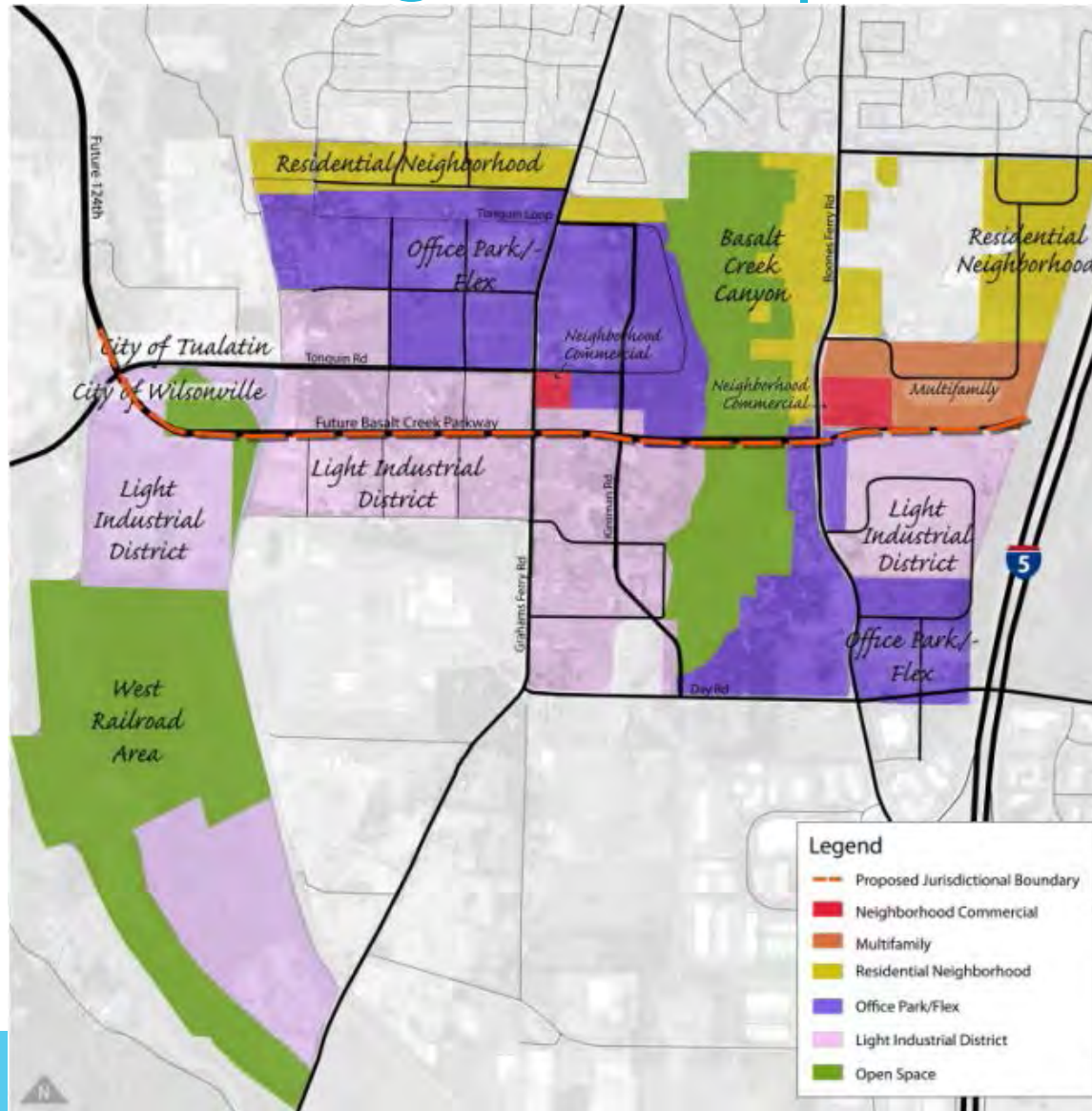
Boundary Option 3

Boundary Option 4

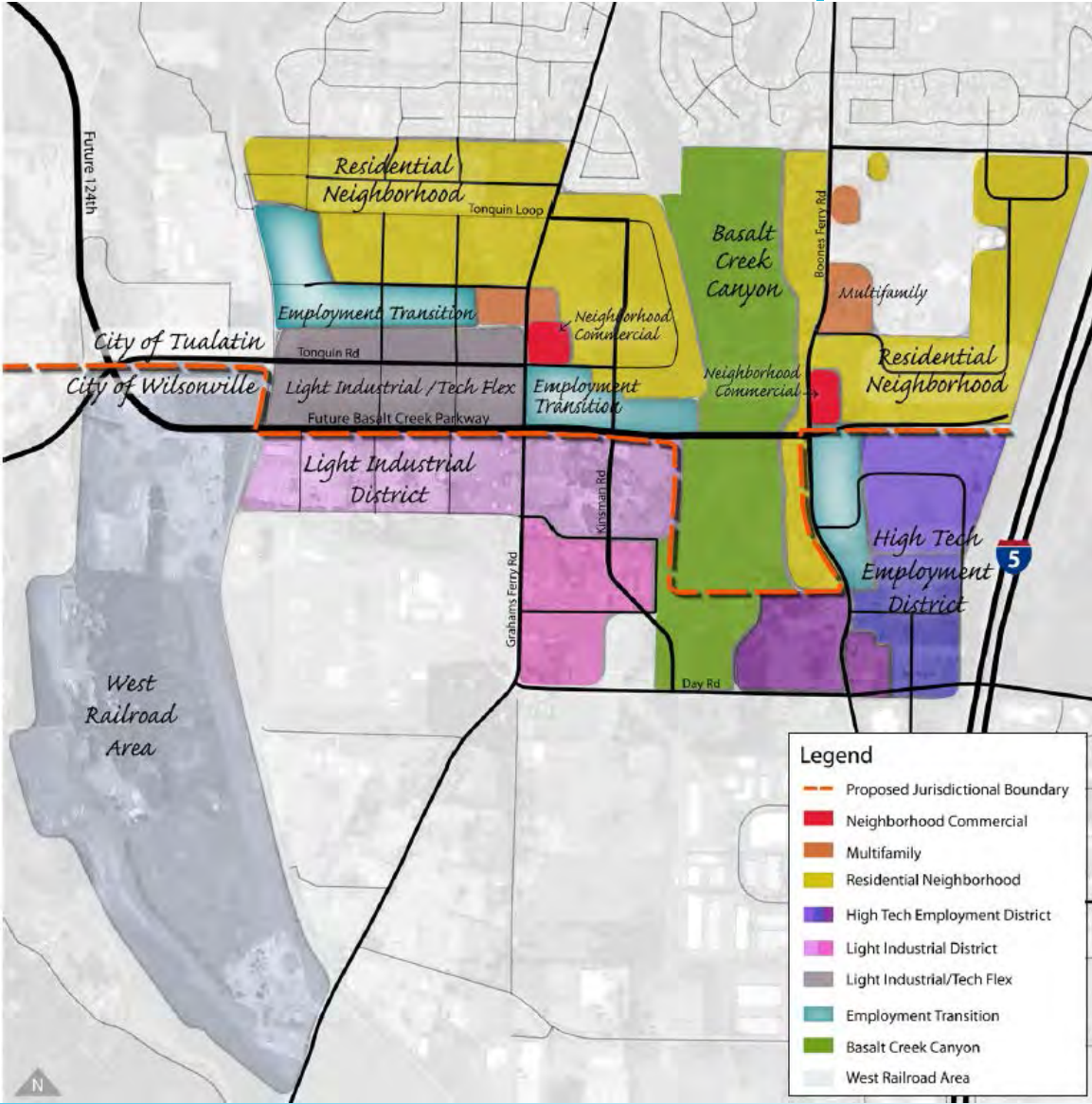
# Final Jurisdictional Boundary follows the Basalt Creek Parkway



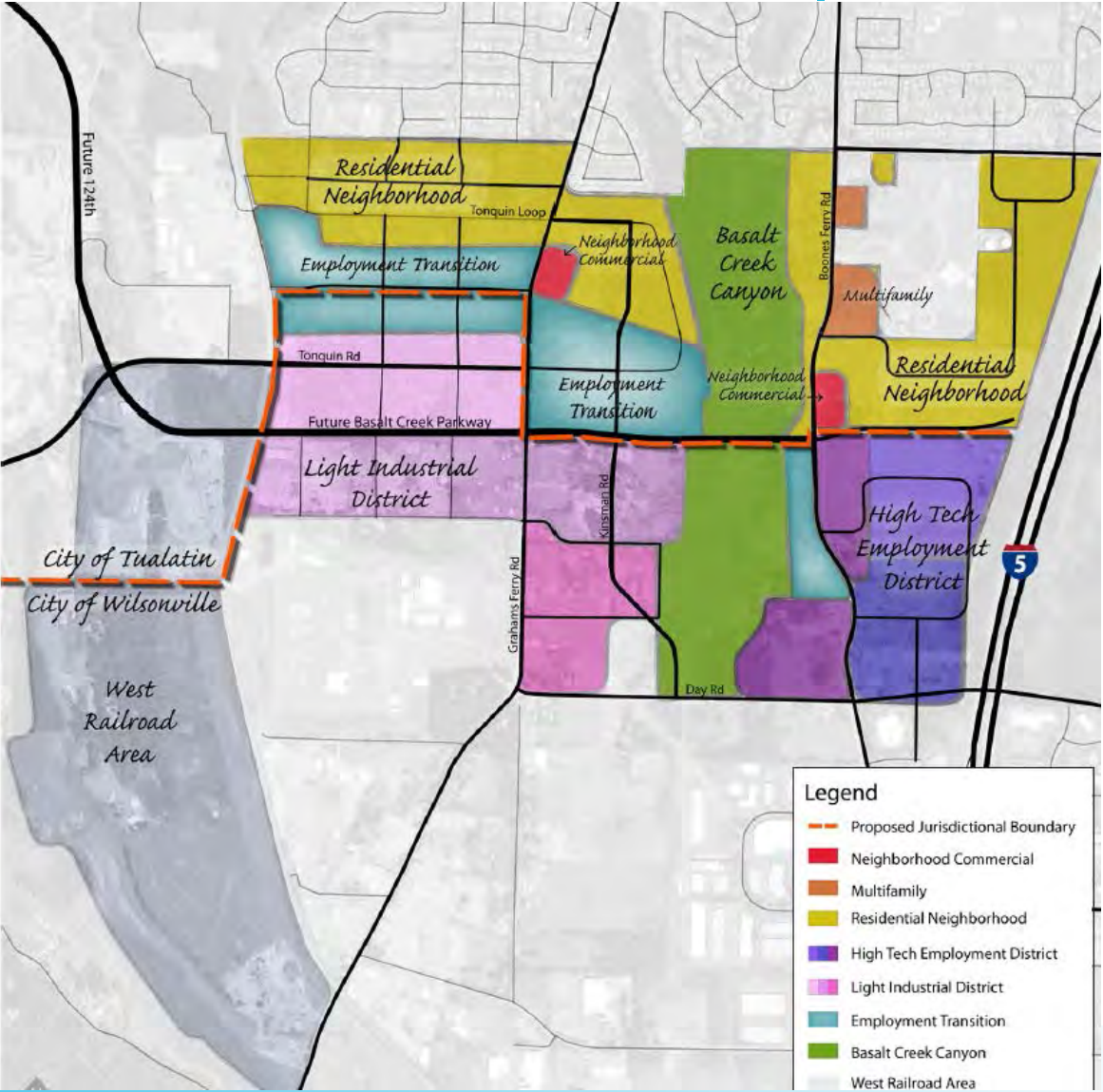
# Scenario Progression | Base Case



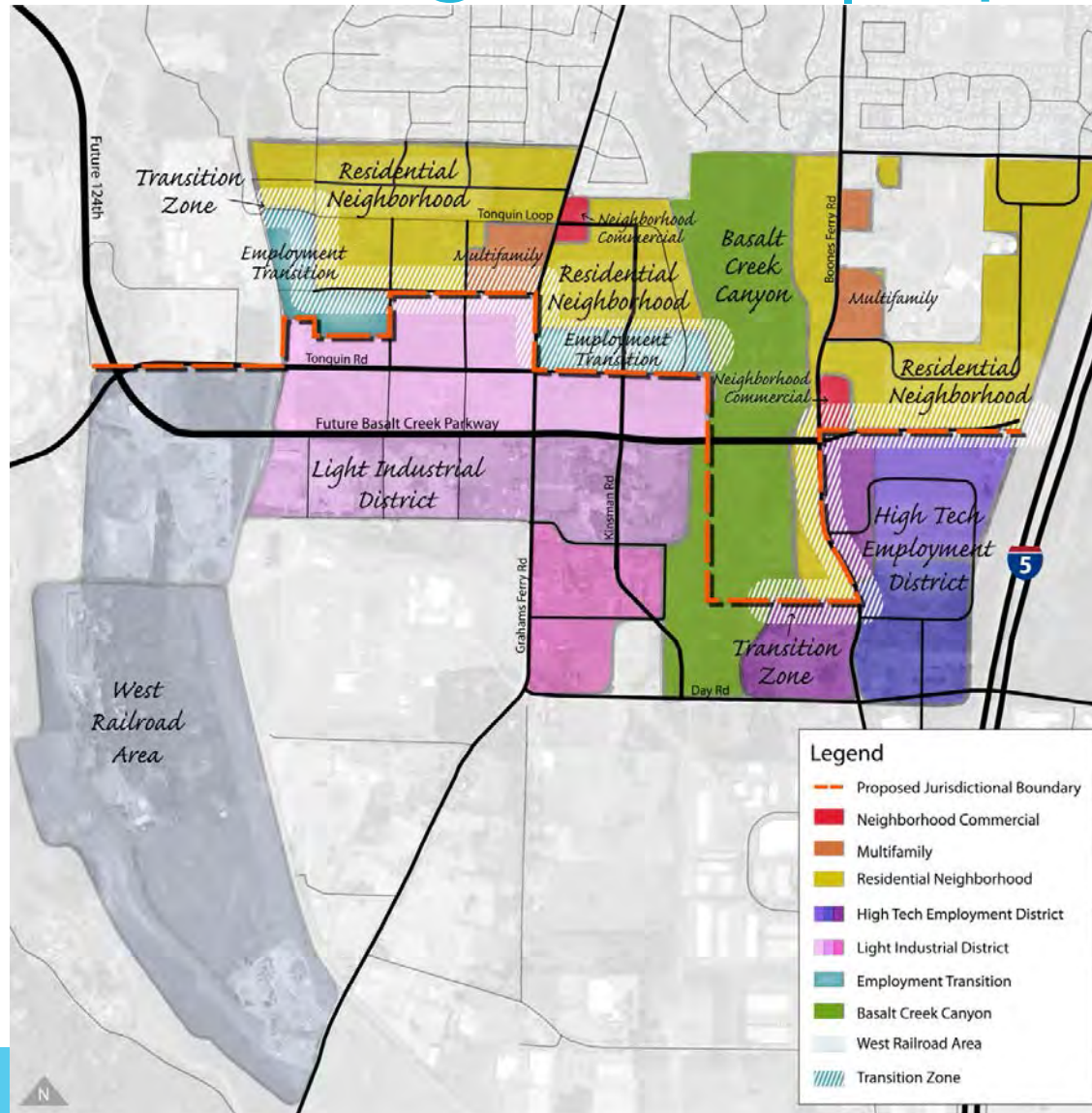
# Scenario Progression | Option 1



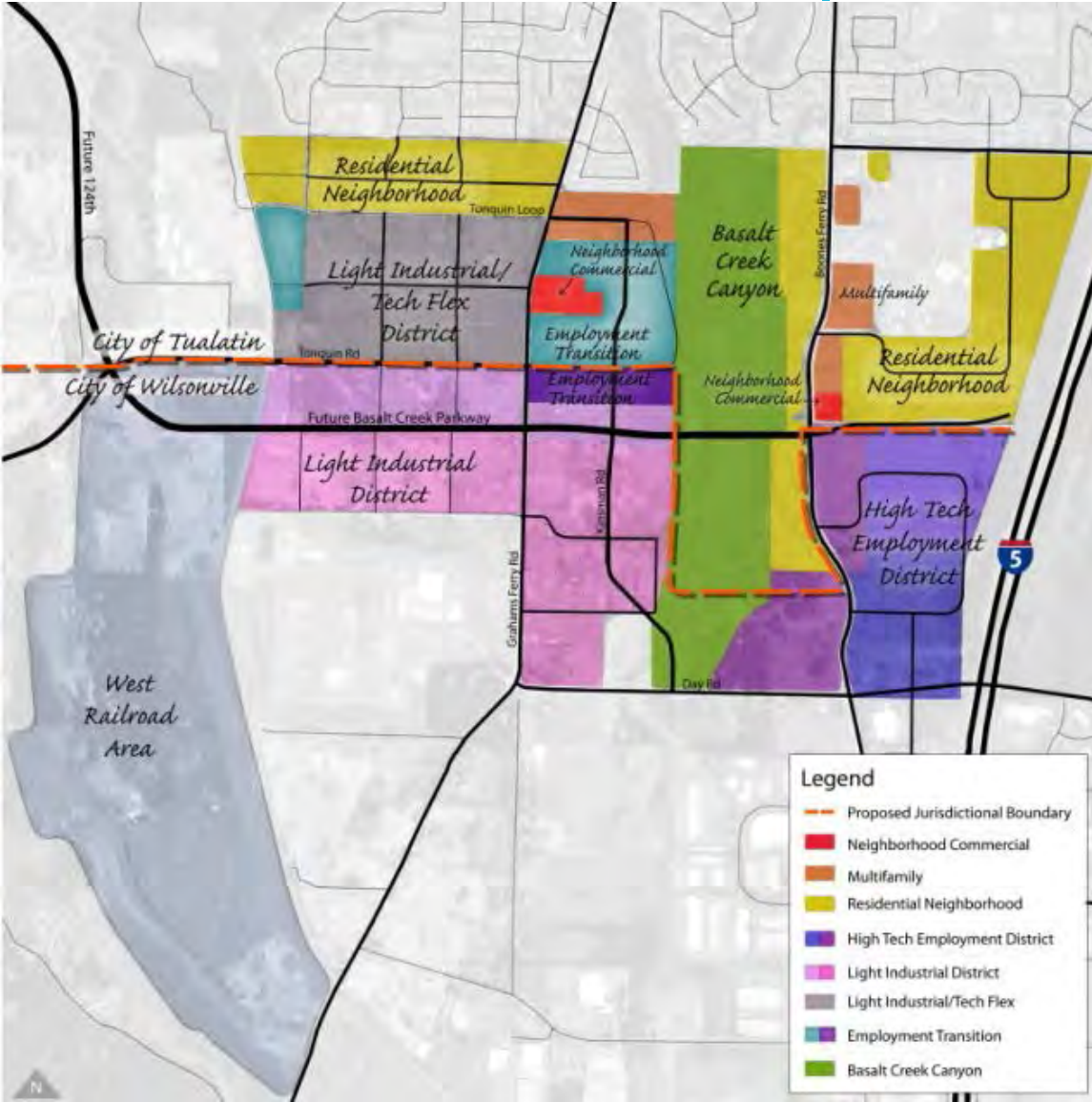
# Scenario Progression | Option 2



# Scenario Progression | Option 3



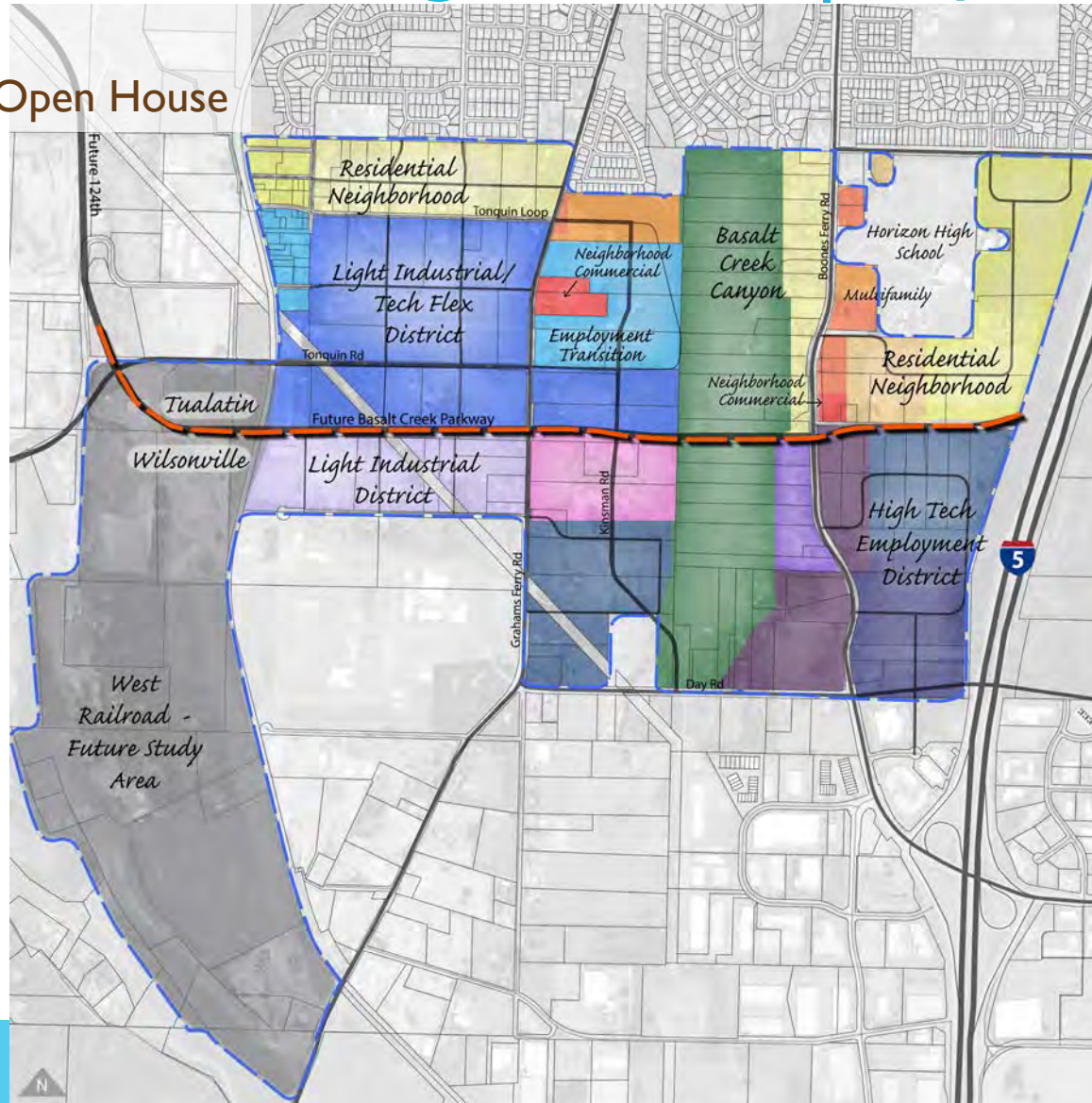
# Scenario Progression | Option 4



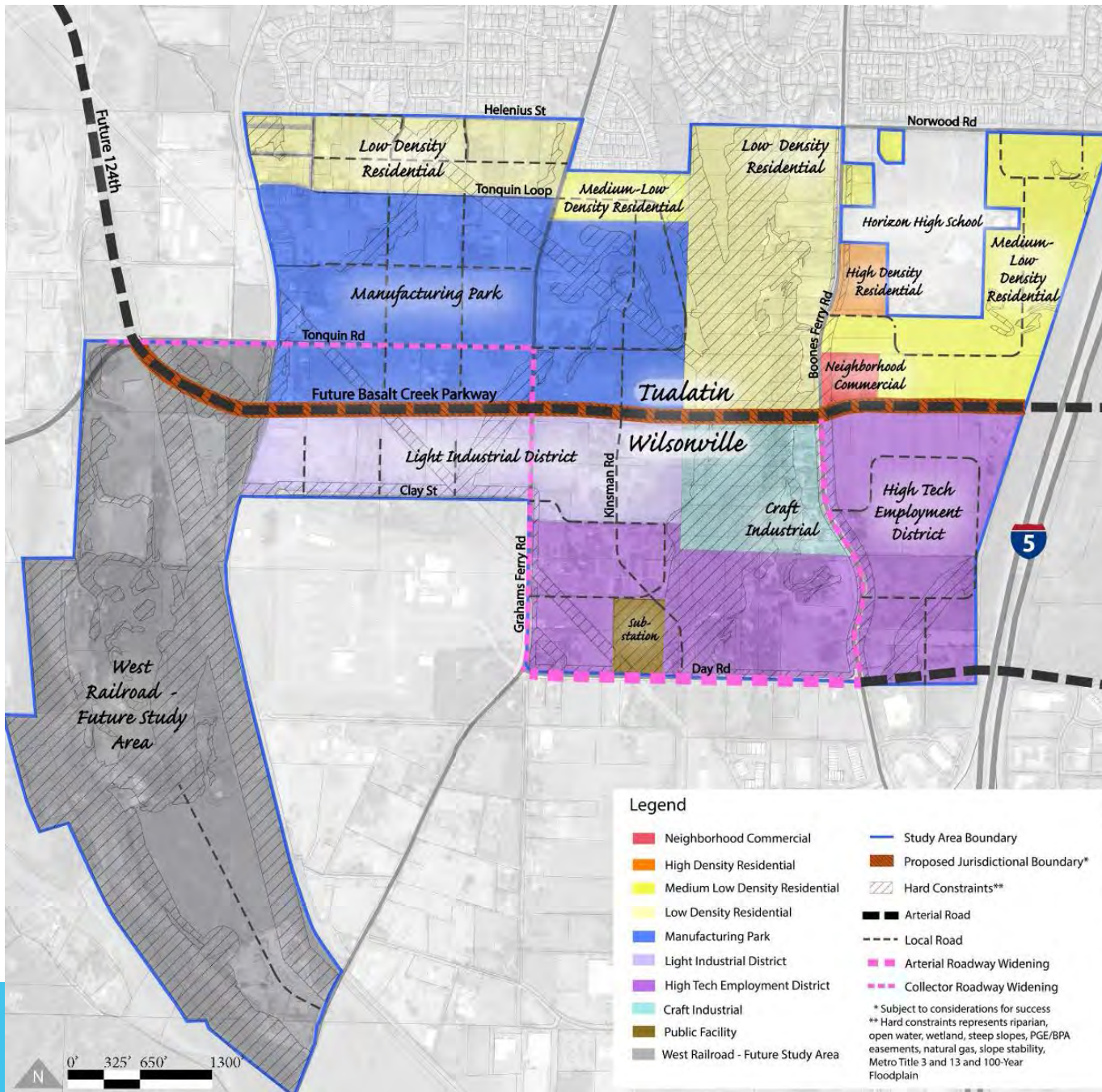


# Scenario Progression | Option 5

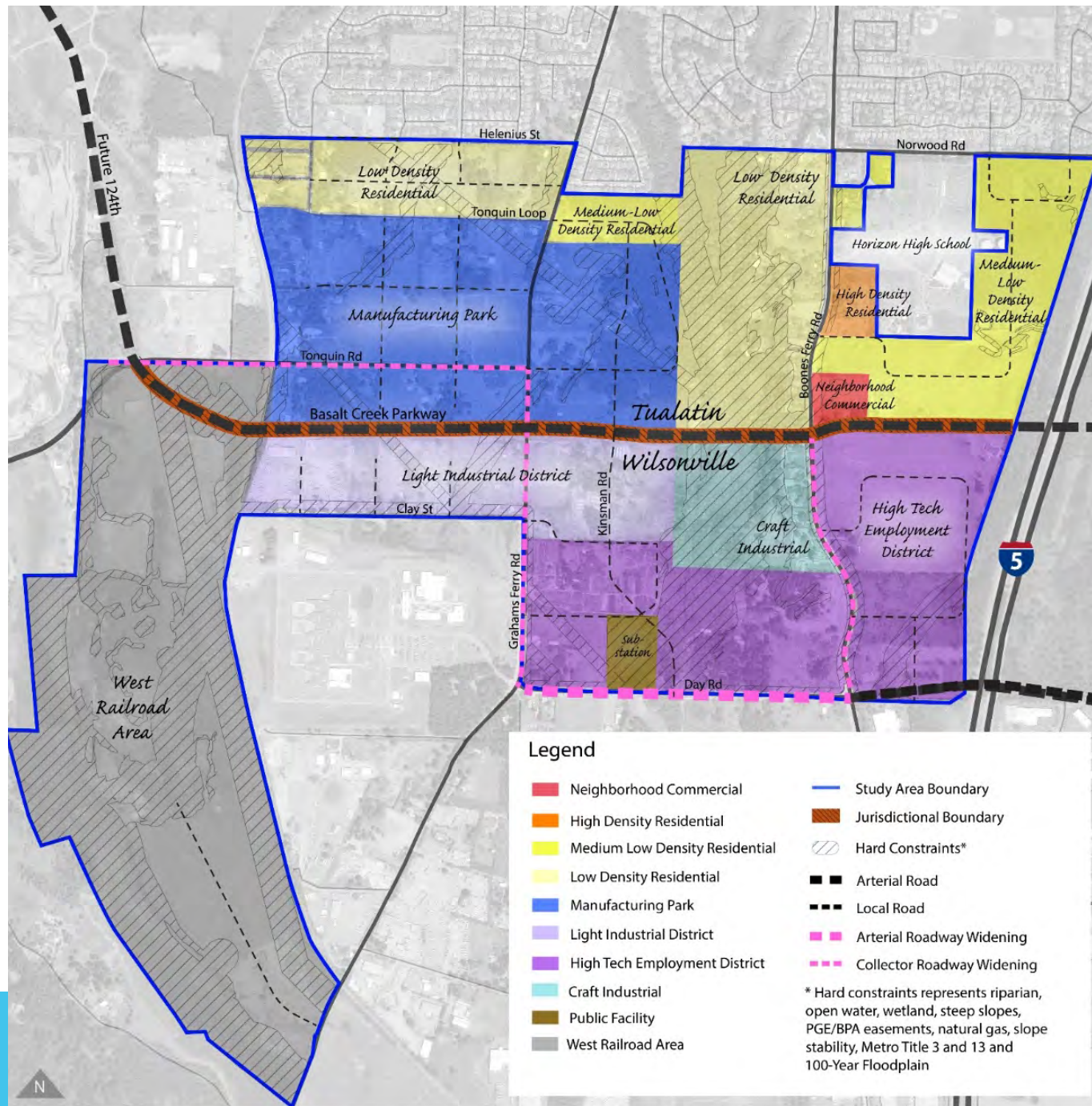
Option 5  
April 2016 Open House



# Preferred Land Use Concept | Sept 2016



# Concept Plan Map April 2018



Boundary Option 1	Acreage	Housing Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
<b>Tualatin</b>														
Garden Apartments 2-story (T)	3	68	64	-	-	-	-	-	40	40	-	-	-	-
Townhomes (T)	6	58	55	-	-	-	-	-	34	34	-	-	-	-
Small Lot Single Family (T)	10	87	80	-	-	-	-	-	50	50	-	-	-	-
Small and Medium Lot Single Family (T)	59	401	369	-	-	-	-	-	232	232	-	-	-	-
Large Lot Single Family (T)	50	292	268	-	-	-	-	-	169	169	-	-	-	-
Small Pad Retail (T)	3	-	-	36	36	-	-	-	26	-	26	-	-	-
Light Industrial / Tech Flex (T)	34	-	-	689	24	132	533	-	263	-	17	49	197	-
Employment Transition (T)	26	-	-	773	-	773	-	-	286	-	-	286	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	10	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>201</b>	<b>906</b>	<b>836</b>	<b>1,498</b>	<b>60</b>	<b>905</b>	<b>533</b>	<b>-</b>	<b>1,102</b>	<b>526</b>	<b>43</b>	<b>335</b>	<b>197</b>	<b>-</b>
<b>Wilsonville</b>														
Live-Work (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	7	36	34	154	37	48	67	2	92	21	27	18	25	1
Single User Manufacturing (W)	21	-	-	253	3	160	63	27	95	-	2	59	23	10
Single User Warehousing (W)	27	-	-	317	8	110	-	199	120	-	5	41	-	74
High Tech Single User (W)	15	-	-	532	5	234	293	-	199	-	4	87	108	-
Multi User Manufacturing Small Tenants (W)	19	-	-	316	4	59	218	36	119	-	3	22	80	13
Multi User Manufacturing Large Tenants (W)	38	-	-	282	9	13	-	260	107	-	7	5	-	96
Employment Low - Area of Special Concern (W)	59	-	-	119	4	6	-	110	46	-	3	2	-	41
Open Space	3	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>188</b>	<b>36</b>	<b>34</b>	<b>1,973</b>	<b>69</b>	<b>630</b>	<b>641</b>	<b>633</b>	<b>776</b>	<b>21</b>	<b>50</b>	<b>233</b>	<b>237</b>	<b>234</b>
<b>Total All</b>	<b>389</b>	<b>942</b>	<b>870</b>	<b>3,471</b>	<b>129</b>	<b>1,535</b>	<b>1,174</b>	<b>633</b>	<b>1,878</b>	<b>548</b>	<b>94</b>	<b>568</b>	<b>434</b>	<b>234</b>

Boundary Option 2	Housing				Commercial				Trips					
	Acreage	Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
<b>Tualatin</b>														
Garden Apartments 2-story (T)	3	68	64	-	-	-	-	-	40	40	-	-	-	-
Townhomes (T)	2	17	16	-	-	-	-	-	10	10	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	43	292	269	-	-	-	-	-	169	169	-	-	-	-
Large Lot Single Family (T)	49	289	266	-	-	-	-	-	167	167	-	-	-	-
Small Pad Retail (T)	2	-	-	20	20	-	-	-	14	-	14	-	-	-
Light Industrial / Tech Flex (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (T)	34	-	-	993	-	993	-	-	368	-	-	368	-	-
Light Industrial / Tech Flex - Low Density (T)	4	1	1	29	1	6	23	-	12	1	1	2	8	-
Open Space	8	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>155</b>	<b>756</b>	<b>697</b>	<b>1,043</b>	<b>21</b>	<b>999</b>	<b>23</b>	<b>-</b>	<b>833</b>	<b>439</b>	<b>15</b>	<b>370</b>	<b>8</b>	<b>-</b>
<b>Wilsonville</b>														
Live-Work (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	13.4	68.66	64.54	291.70	70.80	90.33	127.04	3.53	174.07	40.66	51.68	33.42	47.01	1.30
Single User Manufacturing (W)	22.3	-	-	274.19	3.03	173.42	68.69	29.05	102.54	-	2.21	64.17	25.42	10.75
Single User Warehousing (W)	50.1	-	-	585.09	13.89	203.71	-	367.50	221.48	-	10.14	75.37	-	135.97
High Tech Single User (W)	21.3	-	-	766.61	6.98	337.62	422.02	-	286.16	-	5.09	124.92	156.15	-
Multi User Manufacturing Small Tenants (W)	30.6	-	-	503.04	6.39	93.78	345.83	57.03	188.43	-	4.67	34.70	127.96	21.10
Multi User Manufacturing Large Tenants (W)	37.7	-	-	282.12	8.93	13.09	-	260.10	107.60	-	6.52	4.84	-	96.24
Employment Low - Area of Special Concern (W)	55.1	-	-	111	4	5	-	103	42	-	3	2	-	38
Open Space	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>235</b>	<b>69</b>	<b>65</b>	<b>2,814</b>	<b>114</b>	<b>917</b>	<b>964</b>	<b>820</b>	<b>1,123</b>	<b>41</b>	<b>83</b>	<b>339</b>	<b>357</b>	<b>303</b>
<b>Total All</b>	<b>390</b>	<b>825</b>	<b>762</b>	<b>3,857</b>	<b>134</b>	<b>1,916</b>	<b>986</b>	<b>820</b>	<b>1,955</b>	<b>480</b>	<b>98</b>	<b>709</b>	<b>365</b>	<b>303</b>

Boundary Option 3	Housing				Commercial				Trips					
	Acreage	Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
<b>Tualatin</b>														
Garden Apartments 2-story (T)	6	124	117	-	-	-	-	-	74	74	-	-	-	-
Townhomes (T)	5	46	43	-	-	-	-	-	27	27	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	56	382	352	-	-	-	-	-	222	222	-	-	-	-
Large Lot Single Family (T)	38	223	205	-	-	-	-	-	129	129	-	-	-	-
Small Pad Retail (T)	3	-	-	35	35	-	-	-	25	-	25	-	-	-
Light Industrial / Tech Flex (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (T)	12	-	-	365	-	365	-	-	135	-	-	135	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	13	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>144</b>	<b>865</b>	<b>799</b>	<b>400</b>	<b>35</b>	<b>365</b>	<b>-</b>	<b>-</b>	<b>664</b>	<b>503</b>	<b>25</b>	<b>135</b>	<b>-</b>	<b>-</b>
<b>Wilsonville</b>														
Live-Work (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	16	84	79	357	87	111	156	4	213	50	63	41	58	2
Single User Manufacturing (W)	22	-	-	274	3	173	69	29	103	-	2	64	25	11
Single User Warehousing (W)	50	-	-	585	14	204	-	367	221	-	10	75	-	136
High Tech Single User (W)	22	-	-	792	7	349	436	-	296	-	5	129	161	-
Multi User Manufacturing Small Tenants (W)	40	-	-	663	8	124	456	75	249	-	6	46	169	28
Multi User Manufacturing Large Tenants (W)	33	-	-	250	8	12	-	230	95	-	6	4	-	85
Employment Low - Area of Special Concern (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	3	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>187</b>	<b>84</b>	<b>79</b>	<b>2,922</b>	<b>127</b>	<b>972</b>	<b>1,117</b>	<b>706</b>	<b>1,177</b>	<b>50</b>	<b>93</b>	<b>360</b>	<b>413</b>	<b>261</b>
<b>Total All</b>	<b>331</b>	<b>949</b>	<b>878</b>	<b>3,322</b>	<b>162</b>	<b>1,337</b>	<b>1,117</b>	<b>706</b>	<b>1,841</b>	<b>553</b>	<b>118</b>	<b>495</b>	<b>413</b>	<b>261</b>

Boundary Option 4	Housing				Retail				Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
	Acreage	Units	Households	Jobs	Retail	Office	Industrial	Warehousing						
<b>Tualatin</b>														
Garden Apartments 2-story (T)	4	84	79	-	-	-	-	-	50	50	-	-	-	-
Townhomes (T)	9	79	74	-	-	-	-	-	47	47	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	46	312	287	-	-	-	-	-	181	181	-	-	-	-
Large Lot Single Family (T)	23	135	124	-	-	-	-	-	78	78	-	-	-	-
Small Pad Retail (T)	1	-	-	17	17	-	-	-	12	-	12	-	-	-
Light Industrial / Tech Flex (T)	41	-	-	846	29	162	655	-	323	-	21	60	242	-
Employment Transition (T)	20	-	-	600	-	600	-	-	222	-	-	222	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	13	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>168</b>	<b>699</b>	<b>647</b>	<b>1,463</b>	<b>45</b>	<b>763</b>	<b>655</b>	<b>-</b>	<b>965</b>	<b>407</b>	<b>33</b>	<b>282</b>	<b>242</b>	<b>-</b>
<b>Wilsonville</b>														
Live-Work (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	7.6	39.05	36.70	165.89	40.26	51.37	72.25	2.00	99.00	23.12	29.39	19.01	26.73	0.74
Single User Manufacturing (W)	22.3	-	-	274.19	3.03	173.42	68.69	29.05	102.54	-	2.21	64.17	25.42	10.75
Single User Warehousing (W)	50.0	-	-	584.80	13.88	203.61	-	367.32	221.37	-	10.13	75.33	-	135.91
High Tech Single User (W)	22.1	-	-	792.27	7.21	348.92	436.15	-	295.74	-	5.26	129.10	161.37	-
Multi User Manufacturing Small Tenants (W)	24.8	-	-	407.55	5.18	75.98	280.18	46.21	152.66	-	3.78	28.11	103.67	17.10
Multi User Manufacturing Large Tenants (W)	33.4	-	-	249.98	7.91	11.60	-	230.47	95.34	-	5.77	4.29	-	85.27
Employment Low - Area of Special Concern (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>163</b>	<b>39</b>	<b>37</b>	<b>2,475</b>	<b>77</b>	<b>865</b>	<b>857</b>	<b>675</b>	<b>967</b>	<b>23</b>	<b>57</b>	<b>320</b>	<b>317</b>	<b>250</b>
<b>Total All</b>	<b>331</b>	<b>738</b>	<b>683</b>	<b>3,937</b>	<b>123</b>	<b>1,627</b>	<b>1,512</b>	<b>675</b>	<b>1,932</b>	<b>431</b>	<b>90</b>	<b>602</b>	<b>559</b>	<b>250</b>

Boundary Option 5	Acreage	Housing Units/Gross Acre	Housing Units	Households/Gross Acre	Households	Jobs/Gross Acre	Jobs	Retail Percentage	Retail	Office Percentage	Office	Industrial Percentage	Industrial	Warehousing Percentage	Warehousing	Trips per Acre	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
<b>Tualatin</b>																						
Garden Apartments 2-story (T)	4	21.13	84	19.87	79	-	-	0%	-	0%	-	0%	-	0%	-	50	12.52	50	-	-	-	-
Townhomes (T)	9	9.16	79	8.61	74	-	-	0%	-	0%	-	0%	-	0%	-	47	5.43	47	-	-	-	-
Small Lot Single Family (T)	10	8.92	89	8.21	82	-	-	0%	-	0%	-	0%	-	0%	-	52	5.17	52	-	-	-	-
Small and Medium Lot Single Family (T)	46	6.80	312	6.25	287	-	-	0%	-	0%	-	0%	-	0%	-	181	3.94	181	-	-	-	-
Large Lot Single Family (T)	22	5.88	128	5.41	118	-	-	0%	-	0%	-	0%	-	0%	-	74	3.41	74	-	-	-	-
Small Pad Retail (T)	1	-	-	-	-	11.31	17	100%	17	0%	-	0%	-	0%	-	12	8.26	-	12	-	-	-
Light Industrial / Tech Flex (T)	72	-	-	-	-	20.41	1,468	3%	50	19%	282	77%	1,136	0%	-	561	7.80	-	37	104	420	-
Employment Transition (T)	20	-	-	-	-	29.47	600	0%	-	100%	600	0%	-	0%	-	222	10.90	-	-	222	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	7	-	3%	-	20%	-	77%	-	0%	-	-	-	-	-	-	-	-
Open Space	10	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>194</b>		<b>692</b>		<b>640</b>		<b>2,085</b>		<b>67</b>		<b>882</b>		<b>1,136</b>		<b>-</b>	<b>1,199</b>	<b>6.17</b>	<b>403</b>	<b>49</b>	<b>326</b>	<b>420</b>	<b>-</b>
<b>Wilsonville</b>																						
Live-Work (W)	-	15	-	14	-	15	-	100%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
Employment Transition (W)	1	5	6	5	6	22	27	24%	6.59	31%	8	44%	12	1%	0	16	12.95	4	5	3	4	0
Single User Manufacturing (W)	22	-	-	-	-	12	274	1%	3.03	63%	173	25%	69	11%	29	103	4.59	-	2	64	25	11
Single User Warehousing (W)	50	-	-	-	-	12	585	2%	13.88	35%	204	0%	-	63%	367	221	4.42	-	10	75	-	136
High Tech Single User (W)	22	-	-	-	-	36	792	1%	7.21	44%	349	55%	436	0%	-	296	13.40	-	5	129	161	-
Multi User Manufacturing Small Tenants (W)	14	-	-	-	-	16	222	1%	2.83	19%	41	69%	153	11%	25	83	6.17	-	2	15	57	9
Multi User Manufacturing Large Tenants (W)	22	-	-	-	-	7	163	3%	5.17	5%	8	0%	-	92%	151	62	2.86	-	4	3	-	56
Employment Low - Area of Special Concern (W)	-	-	-	-	-	2	-	3%	-	5%	-	0%	-	92%	-	-	-	-	-	-	-	-
Open Space	6	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>137</b>		<b>6</b>		<b>6</b>		<b>2,064</b>		<b>39</b>		<b>783</b>		<b>669</b>		<b>572</b>	<b>781</b>	<b>5.72</b>	<b>4</b>	<b>28</b>	<b>290</b>	<b>248</b>	<b>212</b>
<b>Total All</b>	<b>331</b>		<b>698</b>		<b>646</b>		<b>4,149</b>		<b>106</b>		<b>1,665</b>		<b>1,805</b>		<b>572</b>	<b>1,980</b>	<b>5.98</b>	<b>407</b>	<b>77</b>	<b>616</b>	<b>668</b>	<b>212</b>



Land Use Concept	Acreage	Housing Units/Gross Acre	Housing Units	Households/Gross Acre	Households	Jobs/Gross Acre	Jobs	Retail Percentage	Retail	Office Percentage	Office	Industrial Percentage	Industrial	Warehousing Percentage	Warehousing	Trips	Trips per Acre	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
<b>Tualatin</b>																						
High Density Residential	3.36	21.13	71	19.87	67	-	-	0%	-	0%	-	0%	-	0%	-	42	12.52	42	-	-	-	-
Medium-Low Density Residential	59.83	6.80	407	6.25	374	-	-	0%	-	0%	-	0%	-	0%	-	236	3.94	236	-	-	-	-
Low Density Residential	24.83	5.88	146	5.41	134	-	-	0%	-	0%	-	0%	-	0%	-	85	3.41	85	-	-	-	-
Neighborhood Commercial	2.89	-	-	-	-	11.31	33	100%	32.66	0%	-	0%	-	0%	-	24	8.26	-	24	-	-	-
Manufacturing Park	92.95	-	-	-	-	20.41	1,897	3%	65	19%	364	77%	1,468	0%	-	725	7.80	-	47	135	543	-
Open Space	10.37	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>194.23</b>		<b>624</b>		<b>575</b>		<b>1,929</b>		<b>98</b>		<b>364</b>		<b>1,468</b>		<b>-</b>	<b>1,111</b>	<b>5.72</b>	<b>362.4</b>	<b>71.2</b>	<b>134.8</b>	<b>543.0</b>	<b>-</b>
<b>Wilsonville</b>																						
Craft Industrial	1.25	5	6	5	6	21.70	27	24%	6.59	31%	8	44%	12	1%	0	16	12.95	4	5	3	4	0
Light Industrial District	35.30	-	-	-	-	16.46	581	1%	7.39	19%	108	69%	400	11%	66	218	6.17	-	5	40	148	24
High Tech Employment District	94.47	-	-	-	-	20.28	1,916	1%	24.01	45%	870	38%	733	15%	289	717	7.59	-	18	322	271	107
Open Space	5.62	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>136.64</b>		<b>6</b>		<b>6</b>		<b>2,524</b>		<b>38</b>		<b>987</b>		<b>1,144</b>		<b>356</b>	<b>951</b>	<b>6.96</b>	<b>3.8</b>	<b>27.7</b>	<b>365.1</b>	<b>423.3</b>	<b>131.5</b>
<b>Total All</b>	<b>331</b>		<b>630</b>		<b>581</b>		<b>4,453</b>		<b>136</b>		<b>1,351</b>		<b>2,611</b>		<b>356</b>	<b>2,062</b>	<b>6.23</b>	<b>366.2</b>	<b>99.0</b>	<b>499.9</b>	<b>966.2</b>	<b>131.5</b>

## Metro Title 11 Compliance Memorandum

In response to a shortfall in industrial land, a 2004 study<sup>1</sup> identified good candidates for industrial development by looking at soil classification, earthquake hazard, slope steepness, and parcel size; distribution to regional transportation, necessary services, accessibility; and proximity to existing like uses.

Two areas of land identified in Metro Ordinance No. 04-1040B as good candidates for industrial development now comprise the Basalt Creek planning area. The main section of the Basalt Creek area (referred to in the 2004 ordinance as the Tualatin study area) was identified as suitable for industrial development due to relatively flat parcels and its proximity to the I-5 corridor and to an existing industrial area in Wilsonville. The ordinance states “...the Tualatin study area is most suitable for warehousing and distribution, among other industrial uses.”

### 3.07.1120 Planning for Areas Added to the UGB

- A. The county or city responsible for comprehensive planning of an area, as specified by the intergovernmental agreement adopted pursuant to section 3.07.1110(c)(7) or the ordinance that added the area to the UGB, shall adopt comprehensive plan provisions and land use regulations for the area to address the requirements of subsection (c) by the date specified by the ordinance or by section 3.07.1455(b)(4) of this chapter.
- B. If the concept plan developed for the area pursuant to section 3.07.1110 assigns planning responsibility to more than one city or county, the responsible local governments shall provide for concurrent consideration 3.07 - 60 (Updated on 01/06/16) and adoption of proposed comprehensive plan provisions unless the ordinance adding the area to the UGB provides otherwise.
- C. Comprehensive plan provisions for the area shall include:
  - 1. Specific plan designation boundaries derived from and generally consistent with the boundaries of design type designations assigned by the Metro Council in the ordinance adding the area to the UGB;

#### Findings:

In 2004, Metro identified the Basalt Creek area as a good candidate for industrial development because it is near I-5, adjacent to Wilsonville’s industrial area to the south, and contains large, flat sites suitable for industrial users. Metro passed Ordinance 4-1040B to annex the area into the existing Urban Growth Boundary (UGB), to ensure sufficient regional supply of land for employment growth over the next twenty years.

In 2011 four jurisdictions entered into an Intergovernmental Agreement for the purposes of jointly planning the Basalt Creek Concept Plan area. The Cities of

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<sup>1</sup> As documented in the Existing Conditions Report Appendix A to the Basalt Creek Concept Plan, the study referenced is an Industrial Land Alternative Analysis Study (a 2004 addendum to Metro’s 2002 Urban Growth Report).

Tualatin and Wilsonville, Washington County and Metro all signed the agreement and reaffirmed this commitment when the IGA was reinstated in September of 2016. The reinstatement and the original IGA are included in this document as Attachment A.

The original IGA in 2011 identified that the partner agencies would consider both Basalt Creek and the West Railroad area as single concept plan called the Basalt Creek Planning Area. The Cities and the County agreed to work together to complete integrated land use and transportation system concept planning to assure carefully planned development in the Basalt Creek Planning Area that will be a benefit to the County, Cities and their residents.

Basalt Creek planning area is located near one of the region's largest clusters of employment land, including existing developed areas in Tualatin, Wilsonville, and Sherwood and planned future employment areas of Southwest Tualatin, Tonquin Employment Area, and Coffee Creek. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region.

In the most recent Metro forecast for the area (Gamma Version provided at TAZ level), Basalt Creek planning area was expected to accommodate about 1,200 new housing units and 2,300 new jobs (mostly industrial, with some service jobs and few retail jobs). Details regarding forecast can be found in Appendix A starting on page 17. The Buildable Lands Analysis (see Appendix E) influenced the most appropriate locations for employment-based land uses within the planning area. See Section *Basalt Creek Concept Plan* beginning on page 7

Basalt Creek Concept Plan land use designations are consistent with Ordinance 4-1040B. The area is mapped and identified as an "Industrial Area" in Metro's Title 4 Code. The majority of the acreage in the Basalt Creek Planning Area is designated for employment use by the Concept Plan. The land use designations provide for a range of industrial development types including manufacturing, warehouse, and office uses. See a Figure 8 *Basalt Creek Land Use Concept Map* in the plan document. Further description of the land uses continues under *Jurisdictional Boundary, Land Use and Development* on page 29.

While the major purpose of the area is to provide land for employment opportunities, the Basalt Creek Concept Plan also includes some residential areas to the north and northeast of the proposed jurisdictional boundary, which will be in the City of Tualatin following adoption. Using the land suitability analysis, and looking at adjacent land uses, the project team identified appropriate land use designations for properties within the planning area. These land use designations were further refined,

and appropriate densities selected to provide for regional employment capacity and housing while limiting traffic congestion.

The mix of housing types proposed was designed to coordinate with existing adjacent residential neighborhoods. The mix includes low, medium-low and high-density housing, which provides the opportunity for a range of different housing types, tenure and prices. See Table 3 *Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction* for a breakdown of buildable acreage and density by land use designation in the plan document.

It is not necessary for this designation to be removed from the residential land already identified in the northern portion of the of the Basalt Creek area upon adoption of the Concept Plan. Ordinance 4-1040B allowed for land north of the “South Alignment” of the connector right of way to be designated Outer Neighborhood.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

2. Provision for annexation to a city and to any necessary service districts prior to, or simultaneously with, application of city land use regulations intended to comply with this subsection;

Findings: Basalt Creek Concept Plan establishes a new jurisdictional boundary between Tualatin and Wilsonville in order to determine which parts of the planning area can be annexed into and served by each city in the future. Both cities comprehensive plans require annexation prior to or simultaneous with a development application. The Basalt Creek Concept Plan includes a provision that this area is added to existing urban services agreements. Ensuring service provision is also a requirement of City of Wilsonville code and a component of the Urban Planning Area Agreements each City has with Washington County. City of Tualatin’s development code (Section 31.067) currently calls out an annexation procedure ‘to be used in conjunction with Metro Code 3.08 and Oregon Revised Statutes for annexing territory to the City Limits.’ See the *Implementation and Phasing Strategy* section starting on page 52 of the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

3. Provisions that ensure zoned capacity for the number and types of housing units, if any, specified by the Metro Council pursuant to section 3.07.1455(b)(2) of this chapter;

Findings: The Basalt Creek Concept Planning Area was brought into the UGB as industrial land, and housing was allowed specifically to address concerns for necessary buffering of adjacent uses. Metro Council has not specified number and

types of housing units or average density per net developable acres. See section *Basalt Creek Concept Plan* beginning on page 7.

The Basalt Creek Concept Plan balances land use types and densities to meet obligations for providing regional employment capacity (Metro Gamma forecast) while limiting negative impacts on congestion and traffic levels (trip caps). In addition, the scenarios vetted by the Project Management Team (PMT) and each City Council sought efficient provision of services, fully analyzing the transportation, infrastructure, park, natural resource, and land use implications of various development patterns to form the basis for the Concept Plan. See *Scenario Testing and Concept Plan Development* starting on page 13 in the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

4. Provision for affordable housing consistent with Title 7 of this chapter if the comprehensive plan authorizes housing in any part of the area.

Findings: The Basalt Creek Concept Planning Area was brought into the UGB as industrial land, which allows housing specifically to address concerns for necessary buffering of adjacent uses.

The final and preferred land use scenario includes a mix of low, medium-low and high-density housing projected to produce 575 households in Tualatin and 6 live/work units in Wilsonville, which provides the opportunity for a range of different housing types, tenure and prices to meet the needs of the city, county and region. See Table 3 *Summary of Development Types identified for Basalt Creek Planning Area by Jurisdiction* for a breakdown of households by land use designation, associated densities, and acreages.

Preliminary strategies to achieve a diverse range of housing types including affordable housing include, but are not limited to: private and non-profit partnerships, waivers, subsidies, grant funding, update and streamline zoning code (i.e. additional flexibility with accessory dwelling units, allow smaller lots, density bonuses, reduce parking requirements) programs to lower the cost of development, additional funding sources to pay for infrastructure, programs that decrease operational costs, programs that provide financial assistance to homeowners and renters. These strategies will be reviewed during Tualatin's comprehensive planning update.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

5. Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;

Findings: Existing schools are expected to accommodate future student population and no new facilities are planned within the area. Capacity determinations will need to be made as development progresses. The facilities for provision of schools will be determined and funded as development occurs in the area and will be based on level of service standards for the subsequent population expansion. Basalt Creek is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow the District to accommodate an additional 2,000 students district-wide (according to information on the District's website <http://www.sherwood.k12.or.us/information/bond-visioning-process>).

The Basalt Creek Concept Plan was coordinated with local school districts. The Sherwood and Tigard-Tualatin school districts participated in the Agency Review Team to provide input to the concept plan. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 581 future households in the Basalt Creek planning area. The planning area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.

Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The planning area is located very close to Tualatin High School. The Tigard-Tualatin School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the planning area and currently serves 160 students but plans significant expansion in the future. The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the planning area. See subsection *Schools* under section *Civic Uses* beginning on page 40 in the plan document for a discussion of school facility considerations. Also, see Attachment B for written confirmation from both school districts.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

6. Provision for the amount of land and improvements needed, if any, for public park facilities sufficient to serve the area added to the UGB in coordination with affected park providers.

Findings:

One of the guiding principles of the Basalt Creek Concept Plan is to protect key natural resources and sensitive areas while making recreational opportunities accessible by integrating the new parkland, open spaces, natural areas and trails in the planning area into existing regional networks.

The planning area provides an interesting opportunity for different types of parks, given the variety of uses and the extensive Basalt Creek Canyon natural area: active and passive neighborhood parks, pocket parks, and even perhaps a large community or regional facility. It also provides opportunities for jogging, hiking, or other outdoor recreation by area employees and nearby residents.

Locating parks near schools, natural areas or other public facilities is preferable, especially when it provides an opportunity for shared use facilities. As in any park development, the acquisition is best done in advance of annexation and extension of services, with development of the parks occurring as the need arises. Cities will determine and adopt funding methods for acquisition, capital and operating costs for parklands in the Basalt Creek Area, including the use of their current SDCs for parks.

Both cities are currently going through a Park and Recreation Master Plan update. This update has considered the Basalt Creek area in the types of services and facilities that will be needed to serve residents and business in this area. See subsection *Parks and Open Space* under section *Civic Uses* beginning on page 41 of the plan document.

The Basalt Creek Concept Plan does not quantify the specific need or locations for civic uses such as libraries, parks and elementary schools within the planning area, but a minimum park space of a 15 to 20-acre Neighborhood Park in Tualatin is needed to serve residents and businesses in the planning area. The facilities for provision of parks will be determined and funded as development occurs in the area and will be based on level of service standards for the subsequent population expansion. However, during scenario planning, assumptions were built into the model for the size and capacity of residential development types to serve as a guide. The development scenarios assumed school districts, Cities, and other service providers would use their site selection and land acquisition processes to acquire the land

needed for these facilities. A discussion of Scenario Planning is located in the section *Scenario Testing and Concept Plan Development* on page 13 of the plan document.

The Basalt Creek Concept Plan also identifies opportunities for bike and pedestrian connections in conjunction with the planned development pattern. Additional bike/pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards, respectively, and opportunities for additional active transportation connects are identified in the Concept Plan (e.g. across the future Basalt Creek Parkway, to the Ice Age Tonquin Trail, and potentially, along the western edge of the Basalt Creek Canyon). Map is included under Bicycle and Pedestrian Framework (Figure 10). A discussion of the *Bicycle and Pedestrian Framework* begins on page 36 of the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

7. A conceptual street plan that identifies internal street connections and connections to adjacent urban areas to improve local access and improve the integrity of the regional street system. For areas that allow residential or mixed-use development, the plan shall meet the standards for street connections in the Regional Transportation Functional Plan; Findings: Major new roads and improvements will be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP) for the area, which is also coordinated with the Metro Regional Transportation Plan and integrated into the Concept Plan's Roadway Framework map. Basalt Creek Parkway, currently under construction, will be a major east-west arterial, with limited access, creating a new connection between I-5 and 99W and the employment areas in the South County Industrial Area. Further roadway improvements—such as adding capacity to north-south collectors, widening Day Road, and two additional I-5 crossings at Day and Greenhill—will be needed to handle future traffic levels as the area is built out. Local roads connecting to this network will be planned and built by property owners as the area develops. See the *Transportation* section beginning on page 32 of the plan document for more discussion.

Each city will amend TSPs to accommodate the future transportation system outlined in the Basalt Creek Transportation Refinement Plan and described in the Basalt Creek Concept Plan, Figure 9 on page 35.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

8. Provision for the financing of local and state public facilities and services; and 3.07 - 61 (Updated on 01/06/16)



Findings: Prior to annexation into a city of any of the land in the planning area, a cooperative funding strategy needs to be agreed upon between the City of Wilsonville, the City of Tualatin, and Washington County in order to build out the transportation network as set forth in the 2013 Basalt Creek TRP. The Concept Plan acknowledges this, and it will be a component of the amended UPAs. See *Key Transportation Solutions* on page 32 of the plan document.

The Cities acknowledge that significant improvements will be needed to the existing and future transportation network in the Basalt Creek Concept Plan area. To achieve the vision established by the Cities and Washington County in the 2013 Basalt Creek (TRP), Tualatin and Wilsonville will coordinate with Washington County to prioritize projects and identify funding strategies. The Cities acknowledge that success of the Basalt Creek Concept Plan area depends on being served by an adequate transportation system as identified in the TRP.

Sewer and water infrastructure systems can be financed in several ways. Typically, the developer is expected to finance the extension of services and each City has a method of reimbursing the developer for installing infrastructure when other development hooks in if they choose to elect this option. Each City may decide to participate in financing, for example, by providing for the formation of a Local Improvement District or another type of funding mechanism. See section *Implementation and Phasing Strategy* beginning on page 52 of the plan document for a discussion of financing options.

Public stormwater systems are typically accommodated for in the public right-of-way and costs are included with a road project or other right-of-way development. Stormwater systems outside of the public right-of-way are assumed to be part of private development costs and are not estimated as a part of this plan. See section *Stormwater Drainage* on page 51 of the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

9. A strategy for protection of the capacity and function of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.

Findings: The Basalt Creek Concept Plan includes considerations to maintain the integrity of the transportation network in this employment area. The Basalt Creek Concept Plan includes land uses designed to result in trips consistent with those modeled and used to establish the Basalt Creek TRP. Thus, local trip generation should not exceed capacity and thus, maintain the integrity of the network outlined in the TRP. The Cities will also work cooperatively to evaluate future regional

transportation projects and decisions, beyond those identified in the TRP, which could direct additional traffic to the Basalt Creek Concept Plan Area. These projects will be evaluated to ensure that system capacity and adequate regional funding is available for needed improvements to mitigate additional regional traffic.

See Basalt Creek Concept Plan Transportation Technical Analysis and Solutions Memo (Appendix G) Table 2: Network Alternative Intersection Operations (2035 PM Peak Hour).

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

- D. The county or city responsible for comprehensive planning of an area shall submit to Metro a determination of the residential capacity of any area zoned to allow dwelling units, using a method consistent with a Goal 14 analysis, within 30 days after adoption of new land use regulations for the area.

Findings: The land use scenarios developed through the Concept Plan provided dwelling unit projections; residential zoning and capacity analysis will occur as part of each city's adoption of comprehensive plan amendments.

Conclusion: Basalt Creek Concept Plan meets this requirement.

*(Ordinance 98-772B, Sec. 2. Ordinance 99-818A, Sec. 3. Ordinance 01-929A, Sec. 8. Ordinance 02-964, Sec. 5. Ordinance 05-1077C, Sec. 6. Ordinance 05-1089A, Sec. 2. Ordinance 07-1137A, Sec. 3. Ordinance 10-1238A, Sec. 5. Ordinance 11-1252A, Sec. 1. Ordinance 15-1357.)*

### **3.07.1130 Interim Protection of Areas Added to the UGB**

Until land use regulations that comply with section 3.07.1120 become applicable to the area, the city or county responsible for planning the area added to the UGB shall not adopt or approve:

- A. A land use regulation or zoning map amendment that allows higher residential density in the area than allowed by regulations in effect at the time of addition of the area to the UGB;
- B. A land use regulation or zoning map amendment that allows commercial or industrial uses not allowed under regulations in effect at the time of addition of the area to UGB;
- C. A land division or partition that would result in creation of a lot or parcel less than 20 acres in size, except for public facilities and services as defined in section 3.07.1010 of this chapter, or for a new public school;

Findings: When the land was added to the UGB, Washington County designated the land as FD-20 (Future Development 20 Acres) which is their “holding” zone. See Appendix A Existing Conditions Report page 10 for a discussion on the current zoning of the area.

- D. In an area designated by the Metro Council in the ordinance adding the area to the UGB as Regionally Significant Industrial Area:
1. A commercial use that is not accessory to industrial uses in the area; and

2. A school, a church, a park or any other institutional or community service use intended to serve people who do not work or reside in the area.

*(Ordinance No. 98—772B, Sec. 2. Amended by Ordinance No. 99—818A, Sec. 3, Ordinance No. 10—1238A, Sec. 5; and Ordinance NO. 11—1252A, Sec. 1).*

#### Attachments

Attachment A – Reinstated IGA between partner agencies

Attachment B – Correspondence from Tigard- Tualatin School and Sherwood School District (not yet received 7/18/18 from Sherwood School District)



*Memorandum*

**Date:** Oct. 4, 2016  
**To:** Metro, City of Wilsonville, & City of Tualatin  
**From:** Kris Brannan, Management Analyst  
**RE:** IGA CA 16-1110 Basalt Creek

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Enclosed you will find a fully executed copy of the Reinstated IGA for the Basalt Creek planning area.

If you have any questions please let me know. My phone number is (503) 846-3694. My email address is: [kris\\_brannan@co.washington.or.us](mailto:kris_brannan@co.washington.or.us)

Thank you.

**Kris Brannan | Management Analyst**  
Washington County Department of Land Use & Transportation  
Planning and Development Services | Long Range Planning  
155 N First Avenue, Suite 350, MS 14 | Hillsboro, OR 97124  
503-846-3694 direct | 503-846-4412 fax  
[kris\\_brannan@co.washington.or.us](mailto:kris_brannan@co.washington.or.us) | [www.co.washington.or.us/lut](http://www.co.washington.or.us/lut)

**REINSTATEMENT OF CONTRACT NO. BCC 11-0470**  
**ADDENDUM NO. 2.0**

The INTERGOVERNMENTAL AGREEMENT BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF TUALATIN AND WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY EXPANSION AREAS KNOWN AS THE "BASALT CREEK" AND "WEST RAILROAD" PLANNING AREAS, identified as Contract No. BCC 11-0470, is hereby reinstated by the parties pursuant to Washington County Purchasing Rule 10-180.

The contract is hereby amended by the parties, this amendment modifies the original contract number being BCC 11-0470.

The IGA is reinstated and amended as follows:

Original language is represented with the strikethrough and new language is underlined.

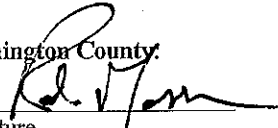
On page 6 of 10, Section D, paragraph 5 (paragraph before Attachments list) which states:

This IGA shall become effective upon full execution by all parties. The effective date of this IGA shall be the last date of signature on the attached signature pages. This IGA shall be in effect until the CITIES and COUNTY amend their respective UPAA's and incorporate the Basalt Creek Concept Plan into each CITIES respective comprehensive plans or until ~~5 years following the execution of this IGA, whichever occurs earlier~~ three years from the effective date of this Addendum 2.0, whichever occurs earlier.

Effective Date of Amendment: 9/1/2016 or upon last date of signature.

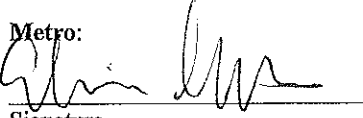
All other terms and conditions of the original IGA shall remain in full force and effect.

Washington County:

  
Signature  
9/28/16  
Date

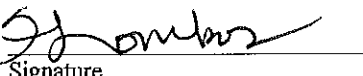
Rob Massar  
Printed Name  
Asst. County Administrator  
Title

Metro:

  
Signature  
9/27/16  
Date

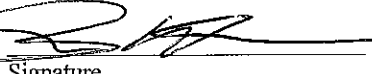
Elissa Gentler  
Printed Name  
Planning Director  
Title  
Scott Robinson  
Deputy Chief Operating Officer

City of Tualatin:

  
Signature  
9/12/16  
Date

Sheryl Lombos  
Printed Name  
City Manager  
Title

City of Wilsonville:

  
Signature  
9/21/16  
Date

Bryan Cosgrove  
Printed Name  
City manager  
Title

**INTERGOVERNMENTAL AGREEMENT  
BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF TUALATIN AND  
WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY  
EXPANSION AREAS KNOWN AS THE "BASALT CREEK" AND "WEST  
RAILROAD" PLANNING AREAS**

This Intergovernmental Agreement (IGA) is entered into by the following parties: METRO, the Portland area metropolitan service district; WASHINGTON COUNTY, a political subdivision in the State of Oregon, hereinafter referred to as "COUNTY"; and the CITY OF TUALATIN and CITY OF WILSONVILLE, incorporated municipalities of the State of Oregon, hereinafter referred to as "CITIES".

Whereas, in 2004 METRO's Council added two areas known as the Basalt Creek and West Railroad Planning Areas, located generally between the CITIES, to the Urban Growth Boundary (UGB) for industrial uses, via Metro Ordinance No. 04-1040B; and

Whereas, METRO conditioned that these UGB expansion areas undergo Title 11 concept planning as defined in Metro Code Chapter 3.07, cited as the Urban Growth Management Functional Plan ("UGMFP"), and that the concept planning be in accordance with Exhibit F of Metro Ordinance 04-1040B; and

Whereas, on June 10, 2010 the METRO Council adopted its 2035 Regional Transportation Plan ("2035 RTP") via Metro Ordinance 10-1241B, with a Project List including an extension of SW 124<sup>th</sup> Avenue (Project #10736) south of SW Tualatin-Sherwood Road and several projects related to the proposed I-5 to Hwy 99W Connector Project Alternative 7 "Southern Arterial", which is planned as a continuous east-west roadway between I-5 and Hwy 99W passing through the subject UGB expansion areas; and

Whereas, in recognition of the immediate needs of the region, the parties of this IGA support the extension of SW 124<sup>th</sup> Avenue from Tualatin-Sherwood Road to the vicinity of Tonquin Road, and ultimately to Boones Ferry Road via an east-west alignment yet to be determined through the planning efforts initiated pursuant to this IGA; and

Whereas, METRO has allocated \$365,000 of Construction Excise Tax funding to CITIES to pay for Concept Planning in the subject area; and

Whereas, COUNTY and CITIES have agreed to consider both areas in a single concept planning effort, and to refer to the two subject UGB expansion areas generally as the "Basalt Creek Planning Area;" and

Whereas, COUNTY currently has primary planning responsibility in the subject area; and

Whereas, COUNTY and CITIES wish to work together to complete integrated land use and transportation system concept planning to assure carefully planned development in the Basalt Creek Planning Area that will be of benefit to COUNTY, CITIES, and their residents; and

Whereas, Oregon Statewide Planning Goal 1 requires public involvement and Goal 2 requires intergovernmental coordination, this IGA is intended to indicate to private property owners in the area, METRO, the State of Oregon, and all other interested parties the cooperative nature of the planning effort being undertaken by the CITIES and COUNTY for the Basalt Creek Planning Area; and

Whereas, COUNTY and the CITIES anticipate amending existing Urban Planning Area Agreements (UPAAs) between the CITIES and the COUNTY to reflect the future limits of each city and to establish requirements for transfer of planning authority to the respective city.

Now, therefore, COUNTY, the CITIES, and METRO agree as follows:

**A. Subject Land Area**

1. The Basalt Creek Planning Area subject to this IGA is depicted on Exhibit 1.

**B. Agency Roles and Responsibilities**

1. COUNTY will:
  - a. Allow CITIES to jointly take the lead in managing concept planning of the Basalt Creek Planning Area, in coordination with COUNTY, METRO, and the Oregon Department of Transportation ("ODOT"), recognizing that the CITIES will complete the concept planning in compliance with Title 11 of the UGMFP and the CITIES will ultimately be responsible for providing urban level services and governance to the area. The foregoing statement does not create or imply any obligation on the part of the CITIES under this agreement to fund right-of-way acquisition or to construct the I-5/99W "Southern Arterial."
  - b. Retain planning authority for the Basalt Creek Planning Area until such authority is transferred to the CITIES, pursuant to the terms of UPAAs with each city, as amended pursuant to Section D of this IGA.
  - c. In coordination with the parties to this IGA and ODOT, provide funding, establish a scope of work, retain a consultant, and provide project management services for planning of the major roadway system in the Basalt Creek Planning Area, including preliminary project development for the SW 124<sup>th</sup> Avenue extension project from Tualatin-Sherwood Road to SW Boones Ferry Road, whether following existing right-of-way alignments

or new right-of-way alignments, which may include portions of an east-west arterial that is consistent with the future "Southern Arterial" elements outlined in the 2035 RTP.

It is acknowledged that the RTP requires compliance with specific conditions before the construction of the "Southern Arterial." Consistency with the "Southern Arterial" elements of the RTP can be assured only when the conditions related to the "Southern Arterial" have been fully addressed. However, due to the immediate needs of the region in the interim period, the RTP allows the extension of SW 124<sup>th</sup> Avenue, as described in the paragraph above, to be completed with minimal extra conditions.

In an effort to provide timely answers to the property owners in the Basalt Creek Planning Area, a sufficient amount of this study must be complete within six (6) months following the effective date of this IGA in order to allow the Cities to begin concept planning. Accordingly, this task is budgeted to last for up to six (6) months. As part of the transportation planning effort, COUNTY will address the following in coordination with the CITIES, METRO and ODOT:

- i. The conditions related to the 'Southern Arterial' in the METRO 2035 RTP (as described in Exhibits 2, 3, and 4), as applicable;
  - ii. Strategies for maintaining freight access to and freight mobility within the planning area;
  - iii. Potential I-5/Elligsen Road interchange improvements, including a split-diamond interchange option;
  - iv. Potential I-5 overcrossing north of Elligsen Road interchange; without a direct connection to I-5, which does not preclude arterial options on the east side of I-5; and
  - v. Potential roadway connections directly to I-5, subject to satisfaction of applicable 2035 RTP conditions.
- d. Consider acquisition of right-of-way and/or construction of portions of the SW 124<sup>th</sup> Avenue extension project improvements as described in Paragraph B.1.c. above, subject to availability of funding.
  - e. In order to preserve the ability for a future potential roadway connection, consider acquisition of right-of-way for a potential future east-west arterial roadway connection between SW Boones Ferry Road and I-5, subject to availability of funding. It is acknowledged that no new east-west roadway may be constructed between SW Boones Ferry Road and I-5 until applicable RTP "Southern Arterial" conditions have been satisfied.
  - f. In coordination with CITIES, consider potential funding and/or construction of permanent or interim improvements to the existing roadway network in



and adjacent to the planning area prior to funding and/or construction of the “Southern Arterial.”

2. CITIES will:

- a. Assume primary project management responsibly for concept planning of the Basalt Creek Planning Area, in coordination with COUNTY and METRO, effective as of the date of execution of this IGA. Concept planning shall conform to Metro UGMFP Title 11 requirements in effect when the subject planning areas were added to the Urban Growth Boundary.
- b. Mutually agree upon a future city limit boundary through the concept planning process.
- c. Incorporate into the final Basalt Creek Concept Plan and any city comprehensive plans, transportation plans and/or implementing regulation amendments those major transportation facilities identified by COUNTY, in collaboration with METRO, CITIES, and ODOT, pursuant to B.1. above. CITIES shall incorporate into their amended plans and regulations reasonable measures to identify and assist in the protection of the approved major transportation facility corridors from development encroachment in order to implement the final Basalt Creek Concept Plan as agreed upon by the parties to this IGA. The parties to this IGA acknowledge that such reasonable protection measures are subject to constitutional limitations on property takings, and are not intended to require the CITIES to in any way violate constitutional property protections or to incur a financial obligation to purchase right-of-way to preserve the identified transportation corridors. It is acknowledged by the parties to this IGA that construction of some new roadway facilities may be subject to the conditions set forth in the RTP relative to the proposed I-5 to 99W Connector Project Alternative 7 Southern Arterial (refer to Exhibits 2, 3, and 4).

3. METRO will:

- a. Provide CET funding to CITIES for concept planning activities in the subject planning area.
- b. Participate in ongoing concept and transportation planning efforts with COUNTY and CITIES as warranted.

**C. Coordination of Concept Planning Activities**

1. COUNTY and CITIES shall:

- a. Engage in a facilitated concept plan partnering and scoping session following the execution of this IGA.

- b. Provide all parties to this IGA and ODOT with appropriate opportunities for participation, review and comment on the proposed concept planning efforts. The following procedures shall be followed by the CITIES and the COUNTY to notify and involve the other parties in the process to prepare the concept plan:
  - i. COUNTY and the CITIES shall transmit notice of meetings related to the concept plan to all parties to this IGA at least one week prior to the scheduled meeting. This includes any technical advisory committee meetings, open houses, Planning Commission or Planning Advisory Committee meetings, City Council or Board of Commissioner meetings and similar meetings, etc.
  - ii. The CITIES or COUNTY shall notify the other parties no less than forty-five (45) days prior to the initial public hearing for proposed comprehensive plan, transportation plan or implementing regulation amendments.
  - iii. The CITIES shall transmit draft documents to COUNTY for its review and comment before finalizing. COUNTY shall have ten (10) business days after receipt to submit comments in writing. Lack of response shall be considered "no objection" to the drafts.
  - iv. The CITIES shall respond to the comments made by COUNTY either by a) revising the draft document, or b) by letter to COUNTY explaining why the comments are not addressed in the documents.
  - v. Comments from the COUNTY shall be given consideration as part of the public record on the concept plan.
2. COUNTY shall provide the CITIES with notice of development actions requiring notice within the Concept Plan area, according to the following procedures:
  - a. The COUNTY shall send by first class mail or as an attachment to electronic mail a copy of the public hearing notice which identifies the proposed development action to the other agency, at the earliest opportunity, but no less than ten (10) business days prior to the date of the scheduled public hearing. The failure of the CITIES to receive a notice shall not invalidate an action if a good faith attempt was made by the COUNTY to notify the CITIES.
  - b. The CITIES receiving the notice may respond at their discretion.
3. In addition to the above, COUNTY shall make reasonable efforts to provide the CITIES with copies of pre-application conference notes regarding potential

development applications within the subject planning area, as well as encouraging all potential development applicants to contact the CITIES for additional information on the concept planning efforts.

**D. Urban Planning Area Agreements (UPAAs)**

1. Both the CITIES have UPAAs with COUNTY that will have to be amended upon adoption of the final Basalt Creek Concept Plan, as agreed upon by the parties to this IGA.
2. The CITIES and COUNTY agree that the amended UPAAs will reflect which areas within the Basalt Creek Planning Area will be governed by which city, as determined through the concept planning process, and that the respective areas will be under the CITIES respective jurisdictions, and not the COUNTY, as the areas urbanize.
3. The amended UPAAs will specify conditions to be met prior to COUNTY transfer of planning authority to each of the CITIES, such as adoption of comprehensive plans, transportation plans and/or implementing regulation amendments by each of the CITIES necessary to implement the final Basalt Creek Concept Plan, as agreed upon by the parties to this IGA.
4. It is recognized that COUNTY adopts annual land use and transportation work programs, and this concept planning effort will require coordination to fit within the work program of COUNTY.

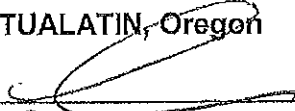
This IGA shall become effective upon full execution by all parties. The effective date of this IGA shall be the last date of signature on the attached signature pages. This IGA shall be in effect until the CITIES and COUNTY amend their respective UPAAs and incorporate the Basalt Creek Concept Plan into each CITIES respective comprehensive plans or until 5 years following the execution of this IGA, whichever occurs earlier.

**Attachments:**


- Exhibit 1 – Plan Areas Map
- Exhibit 2 – Excerpt from Regional Transportation Plan
- Exhibit 3 – Regional Transportation Plan Appendix 3.3 (1-5/99W Conditions)
- Exhibit 4 – Excerpt from Regional Transportation Plan Project List

*(Four separate signature pages follow)*

CITY OF TUALATIN, Oregon

By:   
Lou Ogden  
Mayor

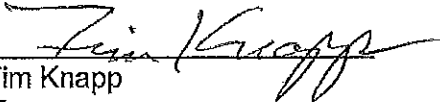
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ATTEST:  
By: 

APPROVED AS TO LEGAL FORM

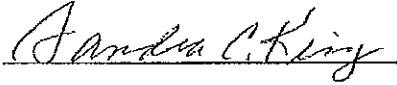
  
Brenda K. Braden  
CITY ATTORNEY

**CITY OF WILSONVILLE, Oregon**

By:   
Tim Knapp  
Mayor

Date: June 8, 2011

ATTEST:

By: 

**WASHINGTON COUNTY**

By: *Roy R. Rogers*  
Andy Duyck  
Chair, Board of County Commissioners

Date: 6-21-11

ATTEST:

By: \_\_\_\_\_

APPROVED WASHINGTON COUNTY  
BOARD OF COMMISSIONERS

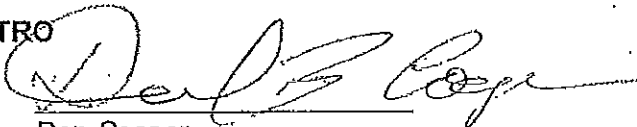
MINUTE ORDER # 11-131

DATE 6/17/11

BY *Barbara Hejmanek*  
CLERK OF THE BOARD

METRO

By:

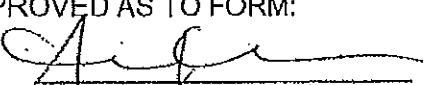
  
\_\_\_\_\_  
Dan Cooper  
Acting Chief Operating Officer

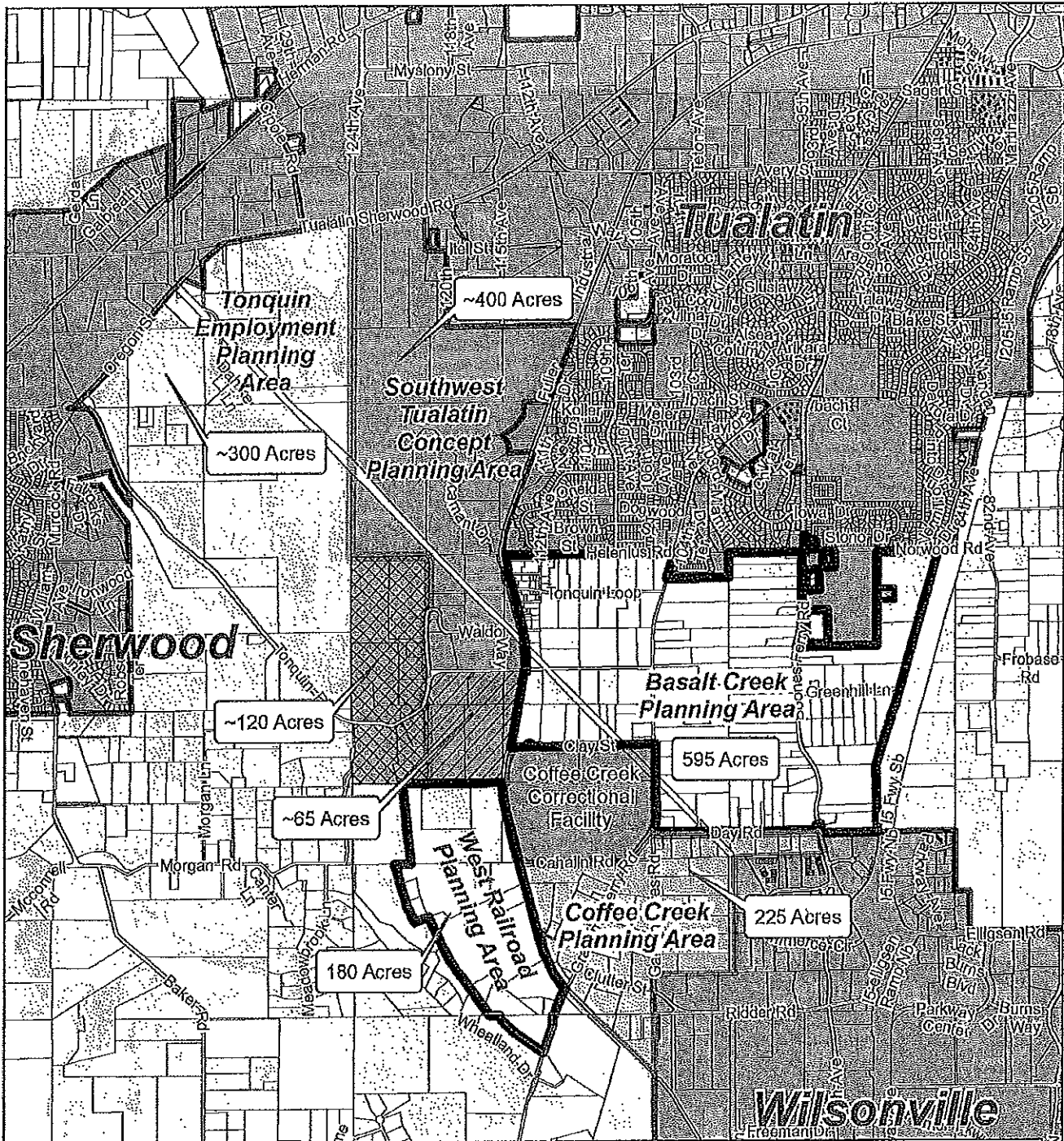
Date:

7/7/11







APPROVED AS TO FORM:


By:

  
\_\_\_\_\_  
Alison Keane Campbell  
Acting Metro Attorney




**The Cities of Wilsonville and Tualatin**  
**Areas Currently In UGB**

	Proposed Tualatin/Wilsonville Joint Planning Area		Tualatin UGB Expansion Request
	Wilsonville Planning Area		City Limit
	Tualatin Planning Area		UGB
	Added to Southwest Tualatin Concept Planning Area		



May 2010

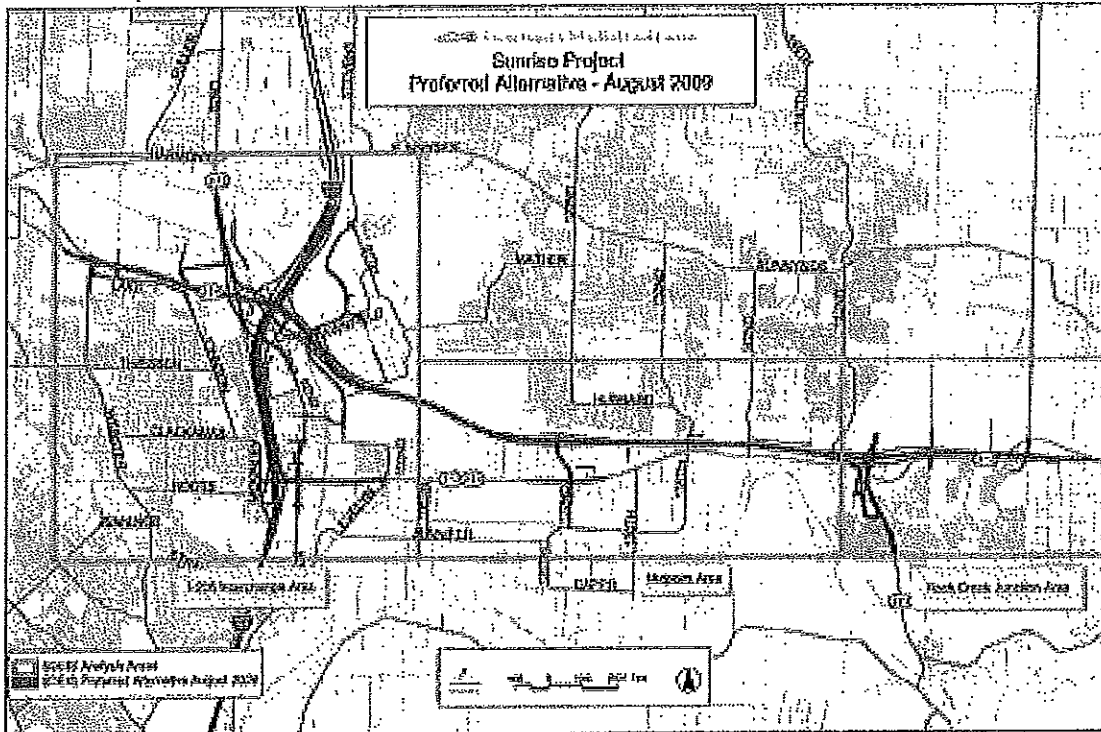


0 0.5 Mile



and OR 212 corridor study will provide further direction for solutions in this corridor. Further map refinements and project recommendations may be identified through this work.

**Figure 6.2**  
**Sunrise Project Preferred Alternative (as Recommended by the project's Policy Review Committee)**



**6.3.2.3 I-5/99W Connector Study Recommendations and Implementation (Tigard to Sherwood - Mobility Corridor #20)**

Between 2006 and 2009, the I-5/99W Corridor Study identified a number of improvements in this corridor to support access to 2040 land uses, address existing deficiencies and serve increased travel demand. One primary function of this route is to connect the Washington Regional Center to the cities of Tigard, Tualatin and Sherwood, and provide access to the Tualatin/Sherwood Industrial Area and Tualatin National Wildlife Refuge. This corridor provides shortline heavy rail access to the region from the Willamette Valley and connects agricultural areas to the interstate highway system in this region. This mobility corridor also serves as a secondary gateway to the region, connecting communities in Yamhill County and the Central Oregon Coast to the Portland metropolitan region.

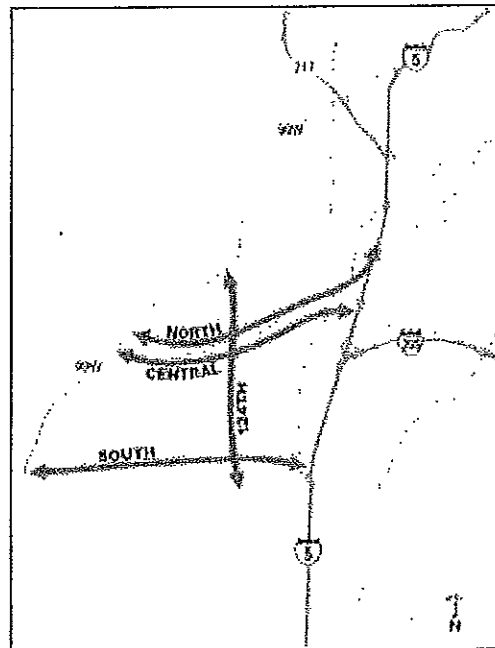
In February 2009, the I-5/99W Connector Project Steering Committee (PSC) was unable at the end of its process to reach a unanimous recommendation for the I-5/99W Corridor Study as required by the PSC Partnership Agreement in order to forward a Recommended Corridor Alternative to the

RTP. However, there was unanimous agreement on some aspects of the Connector that could be reflected in the RTP:

- Identify projects for inclusion in the RTP with minimal extra conditions, particularly the extension of SW 124th from SW Tualatin Sherwood Road to the I-5/North Wilsonville Interchange,
- Identify conditions to be met before a new Southern Arterial is implemented to ensure integration with surrounding land use and transportation plans, particularly an I-5 South Corridor Study,
- Determine an incremental phasing plan to ensure the projects with the most benefit that can reasonably be built within the 20-year horizon be included in the RTP Financially Constrained list.

The recommendations for the I-5/99W Corridor Study proposed for inclusion in the RTP are based upon the conclusions reached by the Project Steering Committee (PSC) as follows:

- The 3 options consisting of a new limited access expressway from I-5 to OR 99W (2 alignments north of Sherwood and 1 alignment south of Sherwood) were unacceptable due to high impact on the natural and built environment, the need for extensive improvements to I-5, high cost and concern about the potential for induced growth to Yamhill County, and
- The option focused on expanding Tualatin-Sherwood Road was unacceptable due to the very large size it would need to be and the resulting impacts on the Tualatin and Sherwood Town Centers.
- The alternative recommended is based upon the principle that it is preferable to spread the traffic across three smaller arterials rather than one large expressway. The analysis concluded this approach could effectively serve the traffic demand, would provide better service to urban land uses in the Tualatin/Sherwood area, especially industrial lands, and could be built incrementally based upon need to serve growth and revenue



*The I-5/99W Corridor Study recommended a variety of transportation investments to improve the area's road, transit, bicycle, pedestrian and trail networks and to distribute traffic across a network of three arterials so that no single route would function as a de facto through "connector." The RTP places additional conditions on the "Three Arterial" recommendation and implementation.*

availability. The overall concept is structured around a Northern, Central and Southern arterial providing east-west access between OR 99W and I-5 with an extension of SW 124th providing north-south connectivity (see diagram).

The City of Wilsonville was and continues to raise objections to the Southern Arterial component throughout this process. The City is very concerned about growing I-5 congestion and the City's dependence on effective access to the two I-5 interchanges. The City is concerned that the Southern Arterial connecting into the I-5/North Wilsonville interchange will significantly increase traffic and impair that access.

When the PSC considered the recommendation, the Clackamas County Commission representative introduced a series of amendments to the conditions to ensure that the Southern Arterial would be examined in greater detail to:

- evaluate alignment options and their environmental impact;
- integrate the proposal with the concept plan and transportation system plan for the newly expanded UGB area and any new Urban Reserves that are designated in the area;
- address any requirements that may result from adoption of an exception to Goal 14 (if needed) for an urban facility outside the UGB;
- integrate the proposal with a Tigard to Wilsonville Corridor Study (Corridor #3) to ensure these east-west arterials and I-5 itself could effectively function together; and
- determine the most appropriate approach to connecting the Southern Arterial to I-5, including options for an interchange at the I-5/North Wilsonville interchange or consideration of extending the Southern Arterial across I-5 to Stafford Road east of I-5, thereby providing better access to I-205.

The Project Steering Committee acknowledged many significant issues to be addressed before the Southern Arterial can proceed to construction, and approved the proposed conditions unanimously. The detailed conditions can be found in Appendix 3.3.

Typically, there is a need to transition from a "planning" level of detail to a "project" level of detail which involves better definition of alignments and designs and consideration of impacts on the natural and built environment and how to mitigate those impacts. These conditions proposed by the Project Steering Committee add in the need to integrate the recommendation with land use planning for recent UGB expansion areas and potential Urban Reserves (still to be defined) and the importance of integrating the overall system for the area with an I-5 corridor strategy.

The RTP places additional conditions on the "Three Arterial" recommendation and implementation, as reflected below:

### Short-term phasing strategy (2008-2017)

- Identify replacement solutions for the Tualatin Road project recommended by the I-5/Connector study as part of the next Tualatin TSP update. This project was removed from the RTP based on community concerns and lack of support by the Tualatin City Council. The two-lane connection from the Tualatin Road/Herman road intersection to I-5 at Lower Boones Ferry Road was not intended to serve through traffic, but rather to provide access to the surrounding industrial area and neighborhoods. The planning work will consider alternative alignments and designs across the Tualatin River and I-5 near the I-5/Lower Boones Ferry Road interchange to mitigate impacts. If Tualatin (through their TSP update) does not identify project(s) to adequately address the capacity/connectivity issues identified in this area, then the RTP will be amended to direct the Corridor Refinement Plan effort for corridors #2, 3 and 20 to address this need in that planning effort. The need would go unaddressed until completion of that corridor refinement plan, or the next RTP update.
- Begin construction of the Tonquin Trail (RTP Projects #10092 and #10854).
- Upgrade existing streets to two lanes with turn lanes, traffic signal timing, bike lanes and sidewalks, including Herman Road, Tualatin-Sherwood Road, 95th Avenue (RTP Projects #10715, #10718, #10852).
- Add southbound auxiliary lane from I-205 to I-5/Elligsen Road and northbound auxiliary lane from I-5/Elligsen Road to I-205 interchange. (RTP Projects #10872 and #11177)
- Conduct more detailed project planning and begin construction of a two-lane extension of SW 124th Avenue (RTP Project #10736: 124th Avenue) from Tualatin-Sherwood Road to I-5/North Wilsonville interchange to support its operation as an industrial access route. The planning work will further consider potential impacts on the existing development and the natural environment. It will also include more detailed definition of the design and alignment to mitigate impacts and to integrate with land use and transportation plans for the area.
- Conduct more detailed planning to meet all of the conditions placed on new Southern Arterial project, including:
  1. Conduct the I-5 South Corridor Refinement Plan (includes I-5 from Portland to Tigard, I-5 from Tigard to Wilsonville, and OR 99W from I-5 through Tigard and Sherwood) and land use planning for areas recently added to the urban growth boundary and any land designated as urban reserves. These planning efforts will include opportunities for further public participation and input.
  2. Conduct more detailed project planning on potential Southern Arterial impacts on existing development and the natural environment to develop more detailed definition of the design and alignment to mitigate impacts and coordinate with land use and transportation plans for the area, including integration with land use plans for UGB expansion areas and Urban Reserves, conducting the I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3 and 20, and resolution of access between I-5 and southern arterial with no negative

impacts to I-5 and I-205 beyond the forecast No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for the southern arterial. This planning effort will include opportunities for further public participation and input.

Tualatin-Sherwood Road is sized in the recommended alternative based upon the expectation there will be a Southern Arterial and will fail due to insufficient capacity without a Southern Arterial and further expansion is incompatible with the plans for the Tualatin and Sherwood Town Centers. If the Southern Arterial is dropped through future studies, there is a major unresolved issue addressing east-west travel through this area. The RTP will need to be amended to direct the Corridor Refinement Plan effort for corridors #2, 3 and 20 to address this need. The need would go unaddressed until completion of that corridor refinement plan, or the next RTP update.

#### **Medhum-term phasing strategy (2018-2025)**

- Widen existing streets to four lanes with turn lanes, traffic signal timing, bike lanes and sidewalks, including Tualatin-Sherwood Road, Roy Rogers Road, Boones Ferry Road and Herman Road (RTP Projects #10568, #10700, #10708, #10732 and #10735)
- Program right-of-way acquisition for the Southern Arterial project in the 2018 - 2025 time period to allow time to conduct the I-5 South refinement plan and land use plans for designated urban reserves in the area.

#### **Longer-term phasing strategy (2026-2035)**

- Construct the Southern Arterial connection to I-5 or other surface arterials in the vicinity of the I-5/North Wilsonville Interchange when all the project conditions are met.

### **6.4 CONGESTION MANAGEMENT PROCESS**

A key change from SAFETEA-LU was an updated requirement for a CMP for metropolitan planning organizations (MPOs) in Transportation Management Areas (TMAs - urban areas with over 200,000 in population). This change is intended to build on the previous requirement of a congestion management system (CMS), placing a greater emphasis on management and operations and enhancing the linkage between the CMP and the long-range regional transportation plan (RTP) through an objectives driven, performance-based approach.

A CMP is a systematic approach for managing congestion that provides information on transportation system performance. It recommends a range of strategies to minimize congestion and enhance the mobility of people and goods. These multimodal strategies include, but are not limited to, operational improvements, travel demand management, policy approaches, and additions to capacity. The region's CMP will advance the goals of the 2035 RTP and strengthen the connection between the RTP and the Metropolitan Transportation Improvement Program (MTIP). A "Roadmap" of the region's CMP can be found in Appendix 4.4.

At their meeting on February 25, 2009, the PSC agreed on the following conditions as amended from those presented to them in the Alternative 7 Recommendation Memorandum dated February 17, 2009 to accompany the RTP recommendation of Alternative 7:

1. **Future phasing plans for implementing Alternative 7 projects must take into consideration the transportation, environmental, and economic impacts of advancing some improvements sooner than others.** The sequencing of affordable improvements should be done in a manner that does not create new transportation problems or liabilities for the vitality of affected jurisdictions.
2. **The timing and priority of an I-5 corridor study must be considered in the RTP adoption process for Alternative 7.** The connector project development process emphasized the need for a corridor study along I-5 from Portland to the Willamette River. The results of this study may affect the timing and designs of some improvements within Alternative 7.
3. **Access between I-5 and the southern arterial must be resolved.** Additional study is required to fully understand the impacts and trade offs between transportation solutions and land use, economic and environmental consequences of a new southern arterial. The impacts on rural lands are of particular importance and must be further evaluated before pursuing an exceptions process. The study area may need to be expanded to include connections to Stafford Road and additional areas along the OR 99W corridor that were not included in the alternatives analysis. The alternatives analysis process determined the general corridor location for the new southern arterial. However, additional preliminary engineering and planning work is needed to determine the optimal access option and configuration for connecting the southern arterial to I-5, OR 99W, and other arterials in the expanded study area. Construction of the southern arterial should be conditioned on defining the I-5 improvements needed to accommodate it and ensuring no negative impacts to I-5 and I-205 occur beyond the forecast No-Build condition as a result of Alternative 7. Options to be explored include modifying the I-5/North Wilsonville Interchange into a tight split-diamond interchange, or extending a new arterial connection crossing over I-5 and connecting to Stafford Road and/or Elligsen Road on the east side of I-5 for regional traffic benefits.
4. **Completion and construction of major project elements is subject to compliance with the National Environmental Policy Act (NEPA) and design refinement.** The Alternative 7 concept provides only the general locations and functional characteristics of new transportation facilities. A fully collaborative public/agency involvement and environmental analysis process must be conducted in developing the design details of any major construction element of Alternative 7. Subsequent project development work will need to define the actual alignments and designs of each of these facilities within the framework of these general parameters. On-going coordination with the Tualatin River National Wildlife Refuge must also occur to ensure optimum compatibility of Alternative 7 elements with refuge objectives.
5. **Land Use Concept Planning for UGB expansion areas should be coordinated with the refinement of these transportation recommendations.**
6. **The design of the southern arterial; must incorporate any conditions that may come out of land use goal exceptions processes (if required) by Metro, Washington County, and Clackamas County.** Portions of Alternative 7 may require exceptions under state land use goals that have not yet been studied or approved in order to be adopted in the RTP and to achieve needed federal and jurisdictional approvals. The extent of this issue may be affected by Metro's coming decisions on rural/urban land use reserves. Portions of proposed new transportation facilities are outside Metro's jurisdictional boundaries and will require coordination of actions between Metro and other affected jurisdictions. Possible design requirements may include forms of access management and land use control measures.
7. **State highway system routing and ODOT mobility standards must be key considerations in the design and future ownership of improvements within Alternative 7.** Current RTP assumptions are that a new limited-access connector would be built between I-5 and 99W, and that this roadway would become the new state route, possibly replacing OR 99W through Tigard. Alternative 7 does not result in

Page 2

a limited-access connector, which may result in OR 99W remaining the designated state highway route through Sherwood, King City and Tigard.

8. **Strategic protection of right-of-way should be considered by agencies for the Alternative 7 elements within the UGB and along potential alignments where land development could conflict with the future implementation of corridor improvements.** Protective measures could include property setbacks, dedication of right-of-way, specific acquisition(s), and/or right-of-way purchases within the UGB consistent with NEPA process.

Following agreement on the above conditions, PSC representatives of Washington County, ODOT, Metro, and the cities of Tualatin and Sherwood voted in favor of recommending Alternative 7 with the conditions as amended above. PSC representatives of the City of Wilsonville and Clackamas County voted against this recommendation.

2035 RTP Project List  
 Basalt Creek Planting Area  
 City-County-Metro IGA  
 Exhibit 4  
 Page 1 of 1

Micro Project ID	Nominating Agency	Facility Owner/Operator	Project/Program Name	Project Start Location (Identify starting points of project)	Project/End Location (Identify terminus of project)	Local Functional Classification	Project Purpose	Description	Estimated Cost (\$2007)	Estimated Cost (Y055)	Time Period	Federal FC Project	2040 Land Use	Mobility Corridor or Community Building?	HCT Priority as Assigned by Metro Council	Priority Mode	Specialty Mode(s)	Project located in City Council V?7	Project located in Goal 5 Programs?	
1058	Washington Co.		I-559W Southern Arterial ROW	Hwy. 59W	I-5	Arterial	Provide congestion relief.	Increases right-of-way width, all project conditions are being integrated with land use plans for UGB expansion to I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and southern arterial with no negative impacts to I-5 and I-205 beyond the forecasted No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	\$ 90,000,000	\$ 133,221,986	2008-2017		Industrial area	CB		Roundabout	Freight	Yes		
1075	Tuolumne	Tuolumne	124th Ave	Tuolumne	Tuolumne	Minor Arterial	Economic development and freight movement.	Construct new street from Tuolumne-Shorewood to Tuolumne Rd - 5 lanes.	\$ 82,500,000	\$ 122,120,154	2008-2017	x	Industrial Area	CB		Roundabout	Freight		Yes	
1133	Washington Co.		I-559W Southern Arterial Improvements	Hwy. 59W	124th Ave. Extension	Arterial	Provide congestion relief.	Construct the initial 2-3 lane arterial phases of the Southern Arterial from OR55W to the SW 124th Ave. Extension when all project conditions are met including integration with land use plans for UGB expansion areas and Urban Reserves, Conducting the US South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and I-205 beyond the forecasted No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	\$ 130,000,000	\$ 263,356,147	2018-2025		Industrial area	MC		Roundabout	Freight			
1134	Washington Co.		I-559W Southern Arterial Improvements	Hwy. 59W	I-5	Arterial	Provide congestion relief.	Expand to 4-5 lanes to serve growth in the area after improvements to Tuolumne-Shorewood Rd. and an improved connection from SW Tuolumne Rd. to the I-5/Lower Boones Ferry Rd. interchange and when all project conditions are met including integration with land use plans for UGB expansion areas and Urban Reserves, Conducting the US South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and I-205 beyond the forecasted No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	\$ 80,000,000	\$ 239,895,266	2026-2035		Industrial area	MC		Roundabout	Freight			
1134Z	Washington Co.		I-559W Connector Southern Arterial-I-5 Interchange	Hwy. 59W @ I-5		Arterial	Improve access to and from the I-5 Southern Arterial and I-5	Connect the Southern Arterial to I-5 or other surface arterials in the vicinity of the N. Wilsonville Interchange when all project conditions are met including integration with land use plans for UGB expansion areas and Urban Reserves, Conducting the US South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and I-205 beyond the forecasted No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	\$ 90,000,000	\$ 149,895,168	2028-2035		2040 Corridor	MC		Roundabout	Throughway	Yes		





## STAFF REPORT CITY OF TUALATIN

APPROVED BY TUALATIN CITY COUNCIL  
Date 6-13-11  
Recording Secretary [Signature]

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Ben Bryant, Management Intern  
Alice Rouyer, Community Development Director

**DATE:** 06/13/2011

**SUBJECT:** Resolution Authorizing an Intergovernmental Agreement for Concept Planning the Basalt Creek Area

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### ISSUE BEFORE THE COUNCIL:

At the City Council Meeting on April 25, 2011, staff presented a draft Intergovernmental Agreement (IGA) between Metro, Washington County, the City of Tualatin, and the City of Wilsonville regarding the Basalt Creek Concept Plan. Since that meeting, City staff has collaborated with the other parties to fine-tune the IGA attached to this report. The resolution, also attached, would authorize the Mayor to sign this agreement.

### RECOMMENDATION:

Staff recommends that the City Council approve the attached resolution, authorizing the Mayor to sign the proposed Intergovernmental Agreement with Metro, Washington County, and the City of Wilsonville.

### EXECUTIVE SUMMARY:

#### Purpose of Agreement

- Gain Washington County's support for having the two cities complete a concept plan for the Basalt Creek area, which is outside of the land covered by Tualatin's current Urban Planning Area Agreement;
- Outline Washington County's commitment to complete a plan for the major roadway system through the Basalt Creek area;
- Outline a commitment from Washington County to inform and coordinate with Tualatin and Wilsonville on any development applications in the Basalt Creek planning area prior to annexation; and
- Delineate responsibilities of the respective parties of this agreement.

#### Importance of the Agreement

In an effort to refine the projects listed in the Regional Transportation Plan (RTP), Washington County has agreed to conduct a transportation analysis in the Basalt Creek planning area. Work will not commence on this study until all parties have signed the attached agreement.

#### Collaboration

The IGA that is before the Council for consideration is the product of in-depth discussion and collaboration between staff members at the cities of Tualatin and Wilsonville, Washington County, and Metro. This collaboration was necessary to ensure that the planning process meets regional desires and



RESOLUTION NO. 5041-11

A RESOLUTION AUTHORIZING AN INTERGOVERNMENTAL AGREEMENT WITH METRO, WASHINGTON COUNTY AND THE CITIES OF TUALATIN AND WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY EXPANSION AREA (BASALT CREEK / WEST RAILROAD PLANNING AREA)

WHEREAS in 2004 the Metro Council added an area located generally between the CITIES to the Urban Growth Boundary (UGB) for residential and industrial uses in Metro Ordinance No. 04-1040B; and

WHEREAS the CITIES have agreed to refer to the area generally as the "Basalt Creek Planning Area"; and

WHEREAS concept planning has never been completed for these properties; and

WHEREAS the CITIES and the COUNTY wish to work together to complete transportation and concept planning for this area to assure carefully planned development in the Basalt Creek/West Railroad Planning Area Planning Area that will be of benefit to both CITIES, The COUNTY and their residents.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

Section 1. The City Council authorizes the Mayor to sign an Intergovernmental Agreement substantially similar to the attached agreement entitled "INTERGOVERNMENTAL AGREEMENT BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF TUALATIN AND WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY EXPANSION AREAS KNOWN AS THE 'BASALT CREEK' AND 'WEST RAILROAD' PLANNING AREAS"

Section 2. This Resolution is effective upon adoption.

INTRODUCED AND ADOPTED this 13<sup>th</sup> day of June, 2011.

CITY OF TUALATIN, Oregon

By \_\_\_\_\_

Mayor

ATTEST:

By \_\_\_\_\_

City Recorder

**From:** [David Moore](#)  
**To:** [Aquilla Hurd-Ravich](#)  
**Subject:** Re: Basalt Creek Concept Plan  
**Date:** Tuesday, July 03, 2018 3:32:56 PM

---

Hi Aquilla,

As discussed, TTSD has no plans for new facilities in or near the Basalt Creek area.

David

David Moore, CFO  
Tigard-Tualatin School District  
503-431-4016

On Mon, Jul 2, 2018 at 1:33 PM, Aquilla Hurd-Ravich <[AHURD-RAVICH@tualatin.gov](mailto:AHURD-RAVICH@tualatin.gov)> wrote:

Hello David,

It has been quite some time since we last connected on the Basalt Creek Concept Plan, a joint effort between City of Wilsonville and City of Tualatin. We are very near the end of the planning process and getting ready for adoption by both City Councils. Based on the land uses assigned in the concept plan the area will produce approximately 581 households. We have drafted the findings below to address Metro's code requirements for concept plans. One of which requires us to address school facilities. The last time we talked about school facilities for these new households was at a 2016 meeting with multiple agencies, and at that time we understood that the Sherwood School District did not have any plans to locate a new facility in the Basalt Creek area.

While we understand the Basalt Creek Concept Planning Area is in the Sherwood School District we included Tigard-Tualatin School District due to the proximity of the area to Tualatin High School. In order to address Metro's code requirements we need a written response confirming the Tigard-Tualatin School District has no plans to locate a new facility in the planning area or if there are plans to locate a school there we should discuss.

### 3.07.1120 Planning for Areas Added to the UGB

(C) (5). Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;

**Findings:** Existing schools are expected to accommodate future student population and no new facilities are planned within the area. Capacity determinations will need to be made as development progresses. Basalt Creek is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow

the District to accommodate an additional 2,000 students district-wide (according to information on the District's website <http://www.sherwood.k12.or.us/information/bond-visioning-process>).

The Basalt Creek Concept Plan was coordinated with local school districts. The Sherwood and Tigard-Tualatin school districts participated in the Agency Review Team to provide support and concurrence with the concept plan. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 581 future households in the Basalt Creek planning area. The planning area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.

Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The planning area is located very close to Tualatin High School. The Tigard-Tualatin School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the planning area and currently serves 160 students but plans significant expansion in the future. **The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the planning area.**

This is such a long email that I will give you a call to follow up with any questions you may have.

Thank you,

**Aquilla Hurd-Ravich**

Community Development Director

City of Tualatin | Community Development Department

503.691.3018 | [www.tualatinoregon.gov](http://www.tualatinoregon.gov)

*Please note my new office phone number*



**From:** [Phil Johanson](#)  
**To:** [Aquila Hurd-Ravich](#)  
**Cc:** [rfaigliano@sherwood.k12.or.us](mailto:rfaigliano@sherwood.k12.or.us); [Karen Perl Fox](#); [Jim Rose](#)  
**Subject:** Re: Basalt Creek Concept Plan  
**Date:** Friday, July 20, 2018 9:37:32 AM

---

Dear Acquilla,

The Sherwood School District has followed the development of the Basalt Creek Concept plan. We understand that the draft plan provides for approximately 581 households.

We have been asked whether the Sherwood School District has plans to site new facilities in the planning area to address expected student growth. We are monitoring projected student growth. However, the Sherwood School District presently does not have plans to locate school facilities within the planning area.

Sincerely,

Phil Johanson



On Mon, Jul 2, 2018 at 1:29 PM, Aquilla Hurd-Ravich <[AHURD-RAVICH@tualatin.gov](mailto:AHURD-RAVICH@tualatin.gov)> wrote:

Hello Phil and Rob,

It has been quite some time since we last connected on the Basalt Creek Concept Plan, a joint effort between City of Wilsonville and City of Tualatin. We are very near the end of the planning process and getting ready for adoption by both City Councils. Based on the land uses assigned in the concept plan the area will produce approximately 581 households. We have drafted the findings below to address Metro's code requirements for concept plans. One of which requires us to address school facilities. The last time we talked about school facilities for these new households was at a 2016 meeting with multiple agencies, and at that time we understood that the Sherwood School District did not have any plans to locate a new facility in the Basalt Creek area.

We need a written response confirming the Sherwood School District has no plans to locate a new facility in the planning area or if there are plans to locate a school there we should discuss. Also, if you are able to comment about how new students may be served that would be helpful. We included language from your website which describes the purpose of the bond measure passed in 2016. Given that Basalt Creek Concept Plan is in the Sherwood School District it seems that the bond measure could be one measure to accommodate new students.

### 3.07.1120 Planning for Areas Added to the UGB

(C) (5). Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;

Findings: Existing schools are expected to accommodate future student population and no new facilities are planned within the area. Capacity determinations will need to be made as development progresses. Basalt Creek is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow the District to accommodate an additional 2,000 students district-wide (according to information on the District's website <http://www.sherwood.k12.or.us/information/bond-visioning-process>).

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This is such a long email that I will give both of you a call to follow up with any questions you may have.

Thank you,

**Aquilla Hurd-Ravich**

Community Development Director

City of Tualatin | Community Development Department

503.691.3018 | [www.tualatinoregon.gov](http://www.tualatinoregon.gov)



*Please note my new office phone number*

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MEMORANDUM

## **Basalt Creek: Guiding Principles and Evaluation Criteria**

TO: Basalt Creek Project Management Team (Cities of Tualatin and Wilsonville)

FROM: Leila Aman, Project Lead, Fregonese Associates

DATE: December 29, 2014

RE: Guiding Principles and Evaluation Criteria for the Basalt Creek Concept Plan

### **Purpose of Guiding Principles**

Guiding Principles are intended to represent the collective interests and goals for the Basalt Creek planning area. The guiding principles provide a framework for gathering input and developing transparent and meaningful measures that can help inform the decision making process.

### **Purpose of Scenario Indicators**

Indicators are the outputs of evaluation criteria which are created near the beginning of the scenario planning process. They generally reflect the guiding principles as well as previously adopted community goals. Indicators may also be related to new or emerging community goals or issues: such as transit access, housing costs, or air quality.

The indicators will be used during the development and evaluation of the scenarios within Envision Tomorrow to communicate the benefits, impacts and tradeoffs of different policy choices and investments. Using Envision Tomorrow, alternative scenarios are tested and refined, and then compared and evaluated based on their indicator performance. Indicators enable Envision Tomorrow users to tie the scenario results to the community values and guiding principles.

In practice, this approach not only allows the public to visualize their region's future, final plans created using our scenario planning process will come with a dashboard of indicators so policymakers can monitor their progress and make adjustments along the way, in concert with established guiding principles and long-term vision.

### **Guiding Principles**

#### **Qualitative Guiding Principles**

##### **1. Maintain and complement the Cities' unique identities**

The cities of Wilsonville and Tualatin each have unique qualities that draw people to live and work there. Those qualities should be maintained and enhanced by development in the Basalt Creek planning area.

## **2. Capitalize on the area's unique assets and natural location**

Development in the planning area should preserve and leverage the natural beauty of Basalt Creek by protecting key natural resources and sensitive areas while minimizing the negative impacts of new development. Recreation opportunities should be made accessible in the area through the creation of new open spaces and trails and integrating them with existing regional networks.

## **3. Explore creative approaches to integrate jobs and housing**

Long distances between centers of employment and residential neighborhoods can cause long travel times, congestion and pollution. Planning for the Basalt Creek area should consider a range of methods (and the feasibility of those methods) for integrating residential and employment land uses to create more high quality living and working environments.

## **4. Create a uniquely attractive business community unmatched in the metropolitan region**

Planning for the Basalt Creek area should capitalize on its unique assets - the location of the planning area near the center of one of the region's largest clusters of employment land, projections for rapid employment growth in the local market, and superior access to major transportation routes (I-5, I-205 and Highway 217) – to facilitate development of high quality employment facilities and opportunities that will benefit both the local and regional economies.

## **5. Ensure appropriate transitions between land uses**

While integration of housing and employment can enrich a community, there remains a need for physical separation between uses that might negatively impact one another. Land uses should be arranged within the study area to minimize these impacts, such as excessive noise, traffic, nighttime light, or air pollution. Use of buffers to mitigate auditory, aesthetic, and safety impacts may include swaths of vegetated land, sound walls, or commercial development (among others).

### **Quantitative Guiding Principles**

*Associated measures from Envision Tomorrow and other quantitative analysis that will be conducted as part of the concept planning process are described.*

## **6. Meet regional responsibility for jobs and housing**

### **Population and employment forecast performance**

Using output from the Envision Tomorrow scenario modeling tool added jobs and housing units will be compared back to the regional forecast estimate (from Metro's Gamma model) for jobs and households within the planning area.

## **7. Design cohesive and efficient transportation and utility systems**

### **Evaluation of Wet Infrastructure**

Aggregate water and sewer requirements will be developed for each of the three (3) alternatives. A comparison will be provided indicating required capacity and potential infrastructure elements based on each alternative land use plan and the existing systems inventory.

### **Performance of transportation systems**

Motor vehicle transportation system for each of three alternatives will be evaluated including the development of future year 2035 PM peak hour volumes using a focus-area travel demand model. Intersection operation analysis (level of service and v/c ratios) based on the forecasted 2035 PM volumes will be conducted using Synchro.

### **Internal water consumption and Landscaping water consumption**

Water consumption has a major impact both financially and environmentally. Water bills can make up a large proportion of household or business utility costs, and excessive water consumption can put a strain on water supplies and infrastructure, especially in regions with water scarcity. Anticipated domestic and irrigation water consumption by residential households and commercial or industrial businesses will be estimated based on existing usage patterns within Tualatin and Wilsonville.

## **8. Maximize assessed property value**

### **Building value and local revenue**

Adding new housing and employment space to a community brings additional tax revenue that can be used for new infrastructure and services to support new and existing residents and businesses. Different scenarios can produce different amounts of tax revenue (property tax, sales tax and transportation impact fee (TIF)) due to the differing values of particular building types and locations. .

## 9. Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

### *Percent of Natural Area Protected within the planning area*

*Types of natural areas to be considered for protection from development include:*

- *Wetlands and Floodplains*
- *Metro Title 3 Lands*
- *Metro Title 13 Lands*

*Some development may occur in these areas. However, the proportion of total development planned for non-environmentally sensitive areas should be maximized in order to preserve habitat, ecosystem services, open space, and recreation opportunities in the planning area.*

*Environmentally sensitive lands are identified and described in the Basalt Creek Existing Conditions Report.*

### *Total jobs allocated to prime flat industrial lands within the planning area*

*The largest proportion possible of new jobs forecasted for the planning area should be allocated to lands identified as suitable for industrial and/or office development, one factor of which is the absence of sensitive environmental features and constraints.*

*Land suitable for industrial and/or office development is identified and described in the Basalt Creek Existing Conditions Report.*

### *Acres of impervious surface*

*Impervious surface can have a negative impact on the health of a region's waterways. Instead of soaking in and filtering through the soil, rainwater runs off impervious surfaces, washing many polluting substances such as pesticides and oils into streams and other aqueous habitats. Increasing impervious surface runoff also increases the volume of runoff, and the speed which the water is delivered to streams, resulting in higher peak flows.*

## 10 Considerations for Success

In addition to the Guiding Principles, the Joint Council also identified ten key elements for successful implementation of the Basalt Creek Concept Plan:

1. **Sewer.** Each City will serve its own jurisdiction area independently, to the extent reasonably possible, with the understanding that future agreements may be needed to address potential cooperative areas.
2. **Stormwater.** Each City will serve its own jurisdiction area independently, to the extent reasonably possible, consistent with the respective National Pollutant Discharge Elimination System (NPDES) stormwater permits, with the understanding that future agreements may be needed to address potential cooperative areas.
3. **Metro Title 4 Land.** The Basalt Creek Concept Planning Area is currently mapped and identified as an “Industrial Area” in Metro’s Title 4 Code, which allows both housing and employment designations. The Cities agree to implement the land uses identified in the Basalt Creek Concept Plan.
4. **Transportation Funding.** The Cities acknowledge significant improvements will be needed to the existing and future transportation network as identified in the 2013 Basalt Creek Transportation Refinement Plan (TRP). In order to implement the TRP, Tualatin and Wilsonville will coordinate with Washington County to prioritize projects and funding strategies.
5. **Future Regional Transportation Projects in the Basalt Creek Area.** The Cities will coordinate with Washington County and Metro to evaluate future regional transportation projects and decisions, beyond those identified in the TRP that affect its planned system capacity.
6. **Trips.** Proposed development will be reviewed by each City for impacts to the transportation system and consistency with the Concept Plan trip targets to achieve transportation system goals for the area.
7. **Basalt Creek Parkway and I-5 Crossings.** The Cities acknowledge the Basalt Creek Parkway and I-5 crossings identified in the TRP are critical to successful implementation of the Basalt Creek Planning Area. The Cities will seek to coordinate timely regional investments in these crossings to implement the Basalt Creek Concept Plan.
8. **North-South Local Street (Kinsman Road).** Kinsman Road is planned as a local route both north and south of the jurisdictional boundary that will not connect to the Basalt Creek Parkway.
9. **Basalt Creek Canyon.** The Cities recognize the natural resource value of the Basalt Creek Canyon. Each city will comply with Metro Titles 3 and 13. The Cities also recognize the benefits of locating north/south trails near the Basalt Creek Canyon and bicycle connections that would connect the cities and other trail systems and be an asset for both residents and employees in the area.
10. **Public Transportation.** Robust transit services are critical to supporting the land uses envisioned in the Basalt Creek Planning Area. The Cities agree to coordinate efforts on how SMART and TriMet can best provide service throughout the area.

# Buildable Lands Summary

Presented August 2014

# Buildable Land

Buildable Lands =

Land Supply – Constraints (Environmental & Policy)

Land Supply

Constraints

Buildable Land





# Analysis/Methodology

- Separate hard and soft constraints
  - Hard constraints will be excluded from the buildable land analysis
  - Soft constraints limit and guide development and were partially excluded from the buildable land analysis
- Parcels categorized into:
  - Vacant
  - Stable (residential use with higher building value)
  - Redev (site has redevelopment potential and/or is non-residential)

# Basalt Creek

## Environmental Hard Constraints:

- Mix of Clean Water Services, Title 3 and basic constraints
- Basic environmental constraints are:
  - Open Water
  - Streams
  - Wetlands
  - Steep Slopes (25% and greater)
  - Slope Stability
  - Title 3
  - Floodplains (50% land reduction)
  - Title 13 (20% land reduction)

# Basalt Creek

## Manmade Hard Constraints:

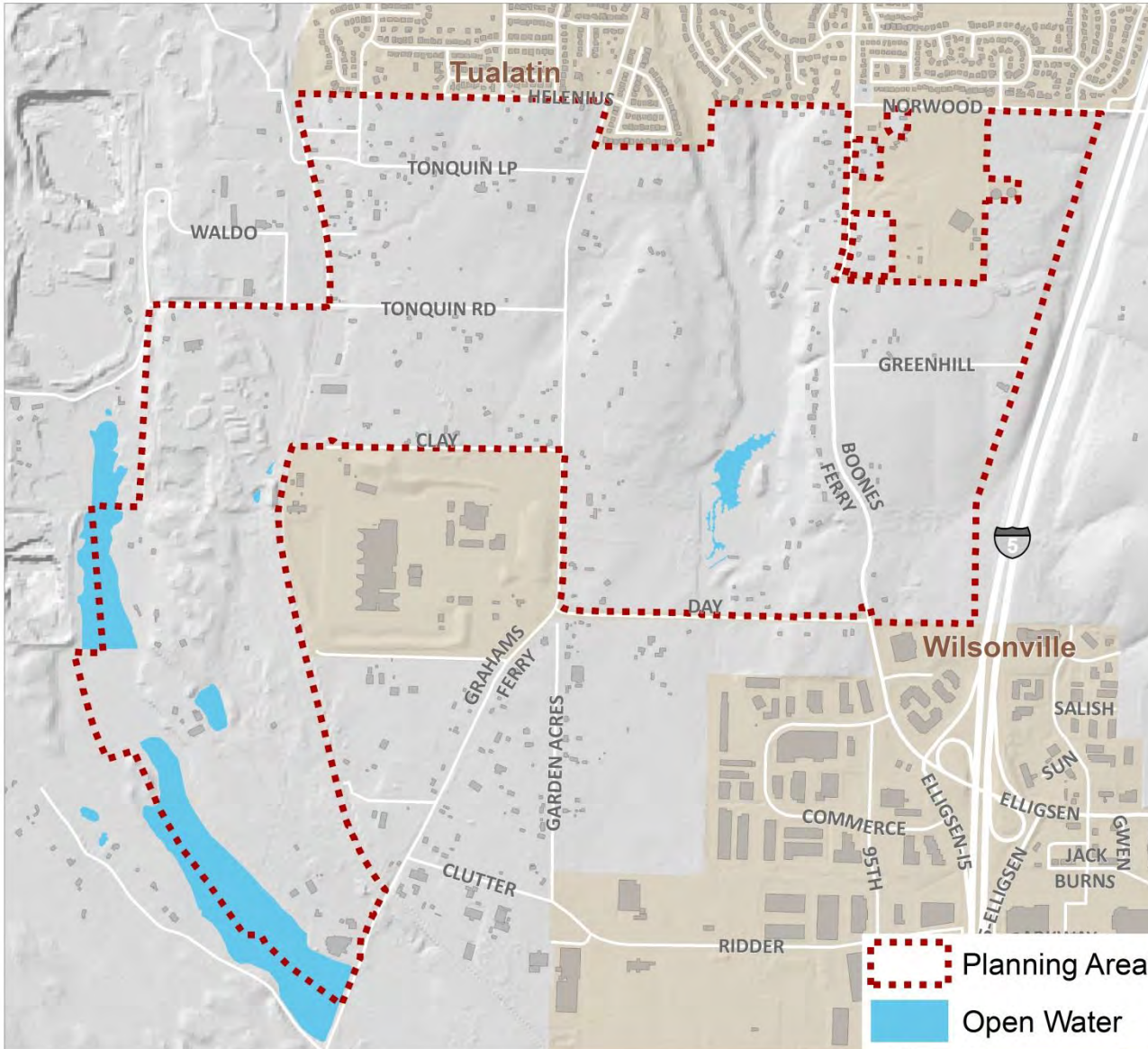
- Easements
  - BPA easements
  - PGE easements and substation
  - Natural Gas Pipeline

# Basalt Creek

## Soft constraints:

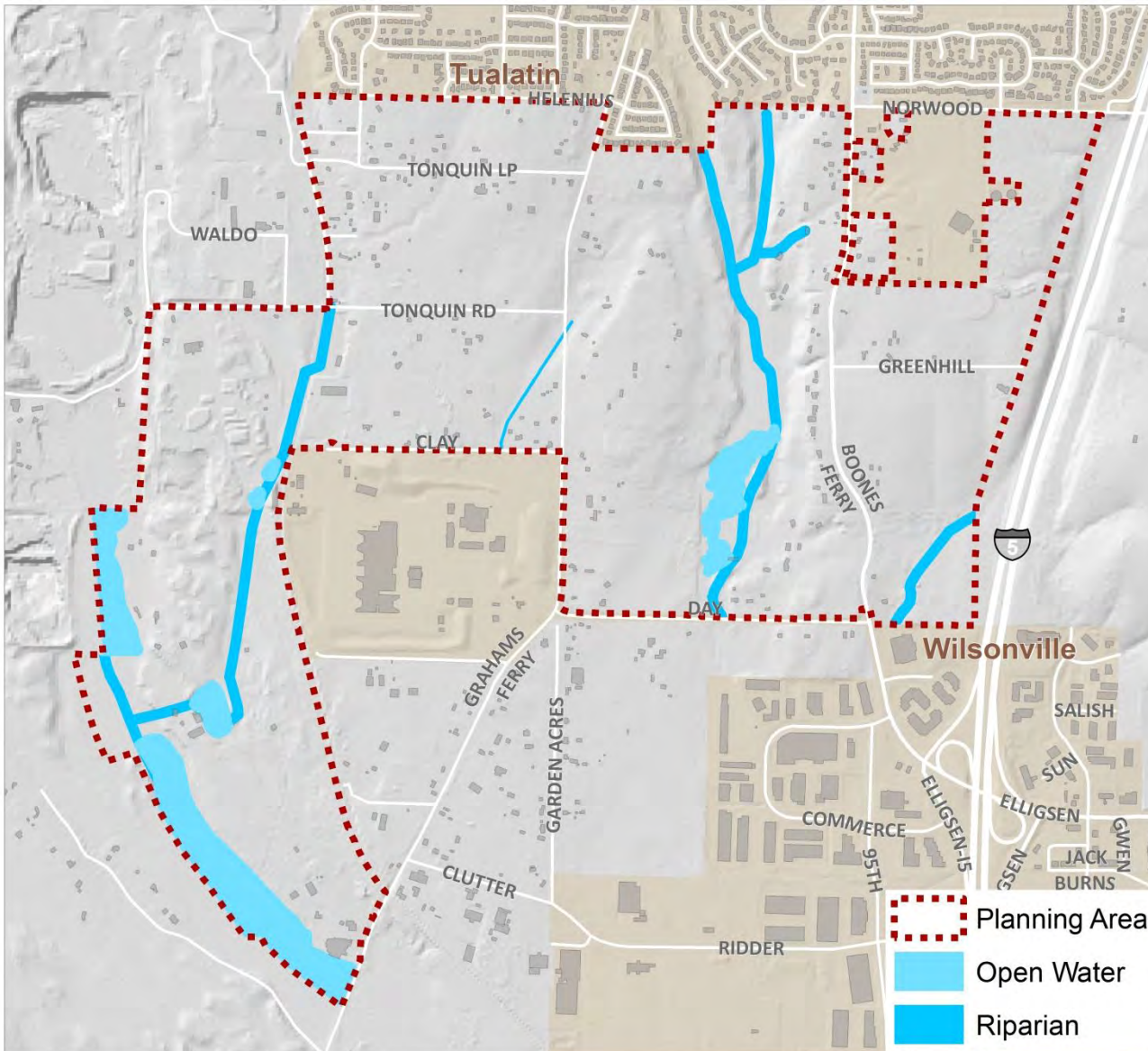
- **Title 13**
  - In addition to hard constraints, development in Title 13 land should be avoided where possible
- **Road projects**
  - East West Connection
  - Boones Ferry Road Widening
  - 2035 Overcrossing
- **Others**
  - 10%+ slopes regarding industrial development

# Open Water



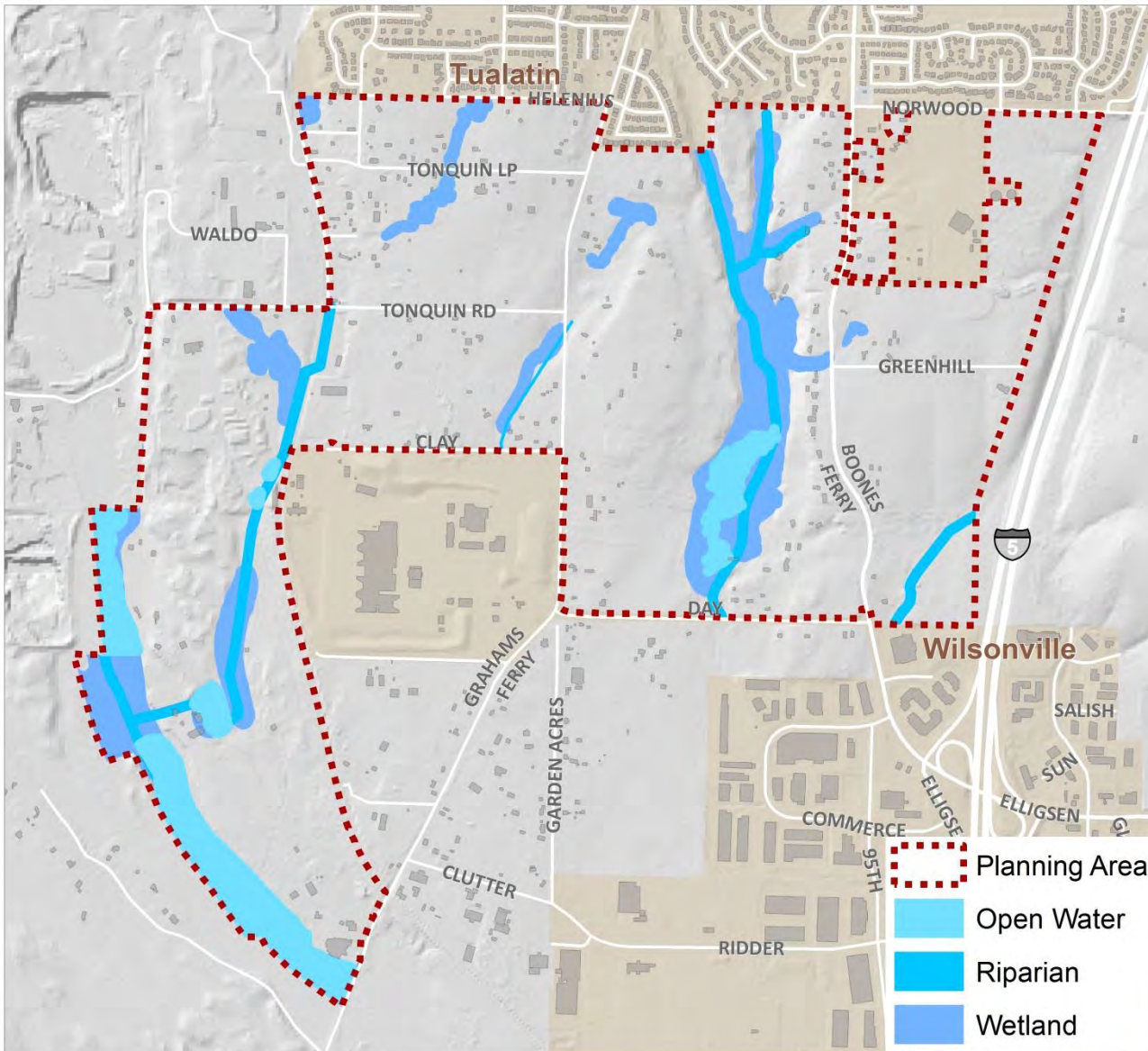
- **49** acres constrained
- Two sources:
  - Digitized by Fregonese Associates based on 2013 and 2012 (leaf free) aerials.
  - David Evans and Associates – 75% engineering files 124<sup>th</sup> Extension
- For constraints analysis:
  - Open water - **50ft** buffer

# Streams - Riparian



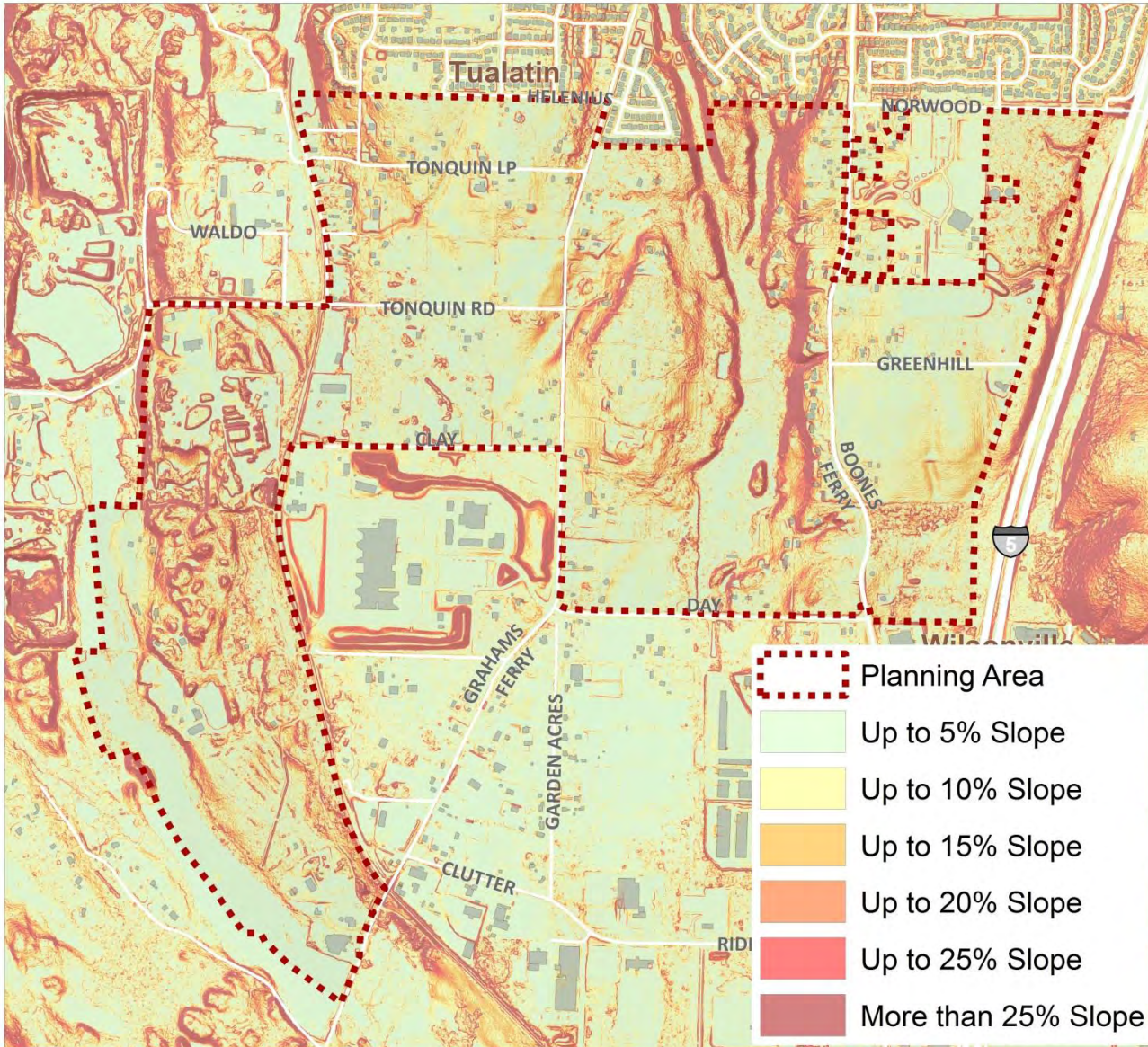
- **31** acres constrained
- Three categories of streams:
  - Natural stream – 18,845 feet
  - Underground stream – 789 feet
  - Intermittent stream – 1,402 feet
- Stream categories determined:
  - by visual survey of 2013 and 2012 (leaf free) aerials and intermittent stream through comment by Kerry Rappold, City of Wilsonville
  - Fieldstudy performed by City of Wilsonville
- For constraints analysis:
  - Natural stream - 50ft buffer
  - Intermittent stream - 15ft buffer

# Wetlands



- **70 acres**
- Sources are:
  - RLIS
  - Wetland Delineation Report for Proposed Boones Ferry Widening
  - David Evans and Associates – 75% engineering files 124<sup>th</sup> Extension
  - additional wetlands digitized by Fregonese Associates based on 2013 and 2012 (leaf free) aerials.
- For constraints analysis:
  - Wetlands - **50ft** buffer
  - Isolated wetland and smaller than a half acre – **25ft** buffer

# Steep Slopes

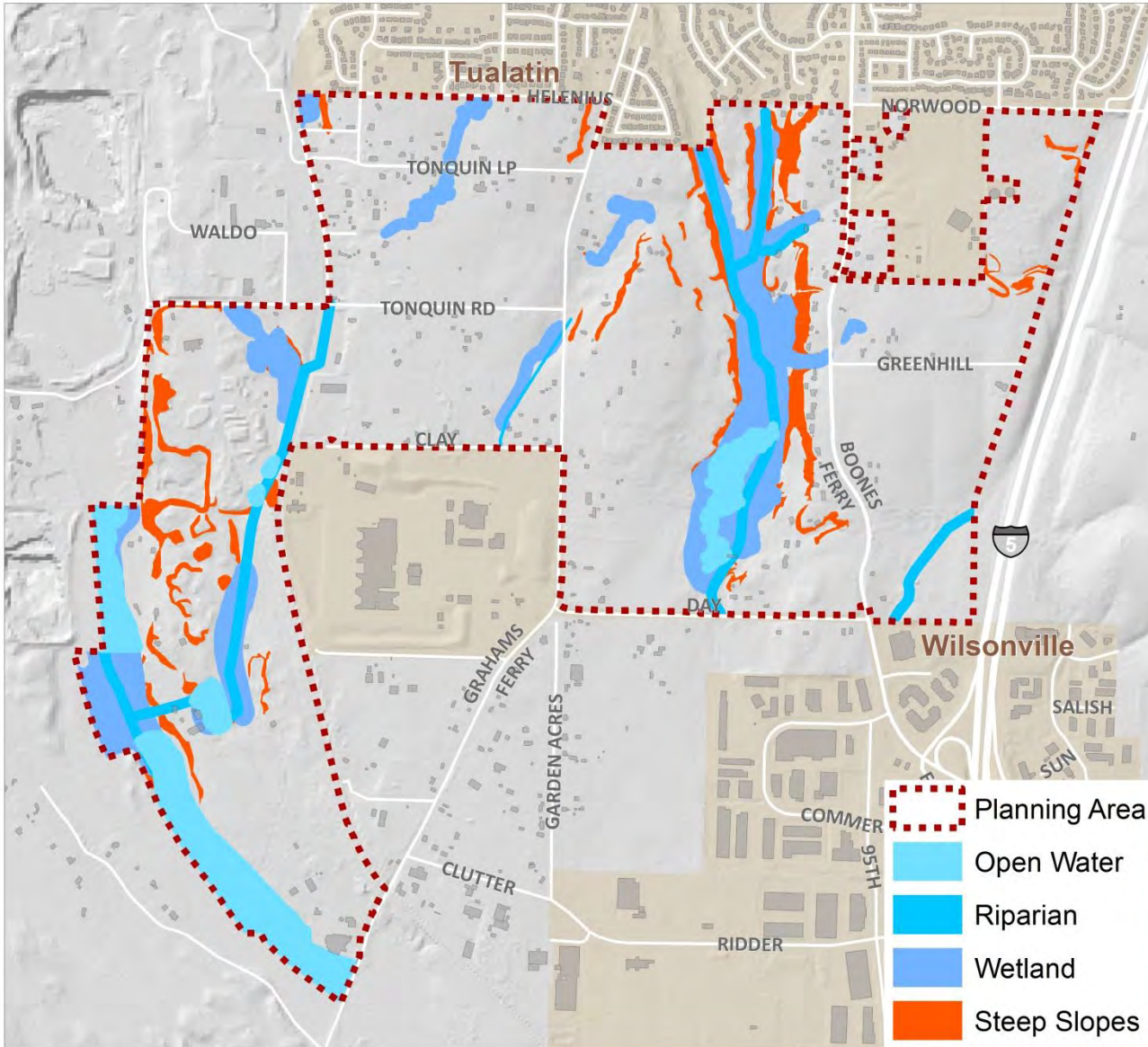


- For constraints analysis:
  - Using slopes from 3ft DEM
  - Non-isolated slopes, greater than half an acre, natural and or along a riparian area

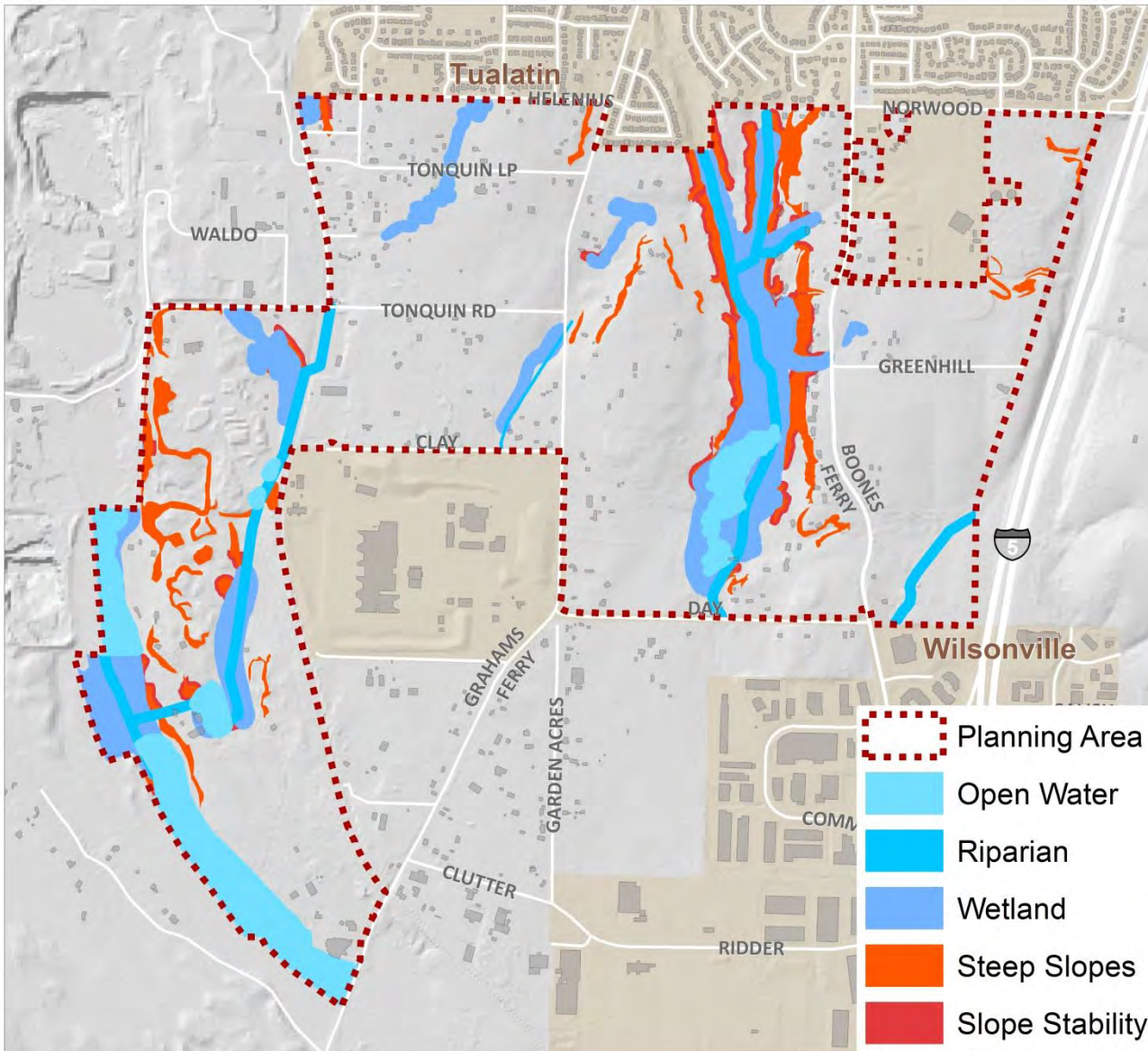


# Steep Slopes

- **40** additional acres constrained for steep slopes (25% and above)

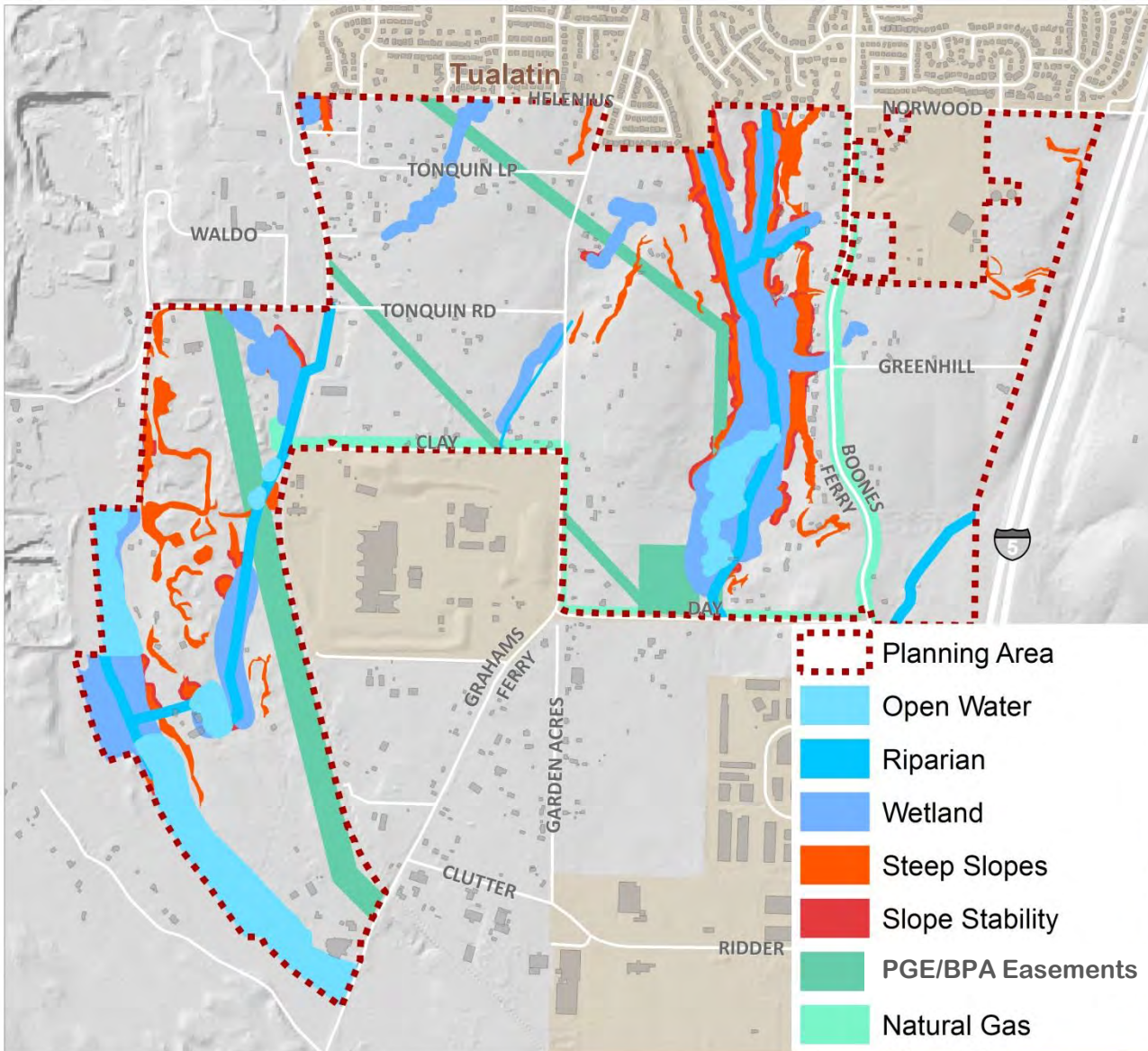


# Slope Stability



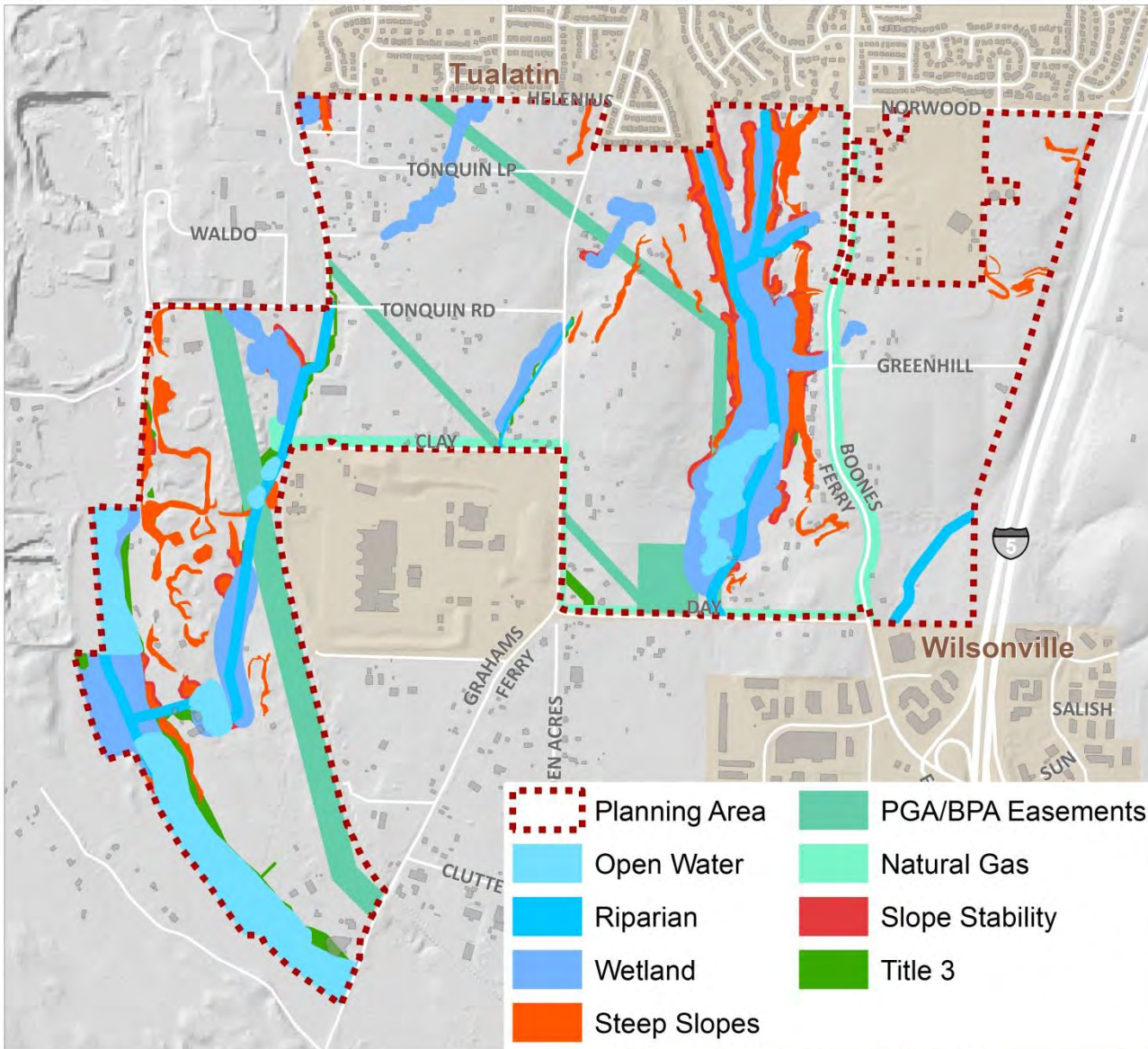
- **11** additional acres constrained as buffer to steep slopes
- Buffer needed for up to 200 feet from vegetated corridor
- CWS request an additional 35ft for steep slopes within vegetated corridor
- Measured from top of bank/break in 25% slope

# Utilities



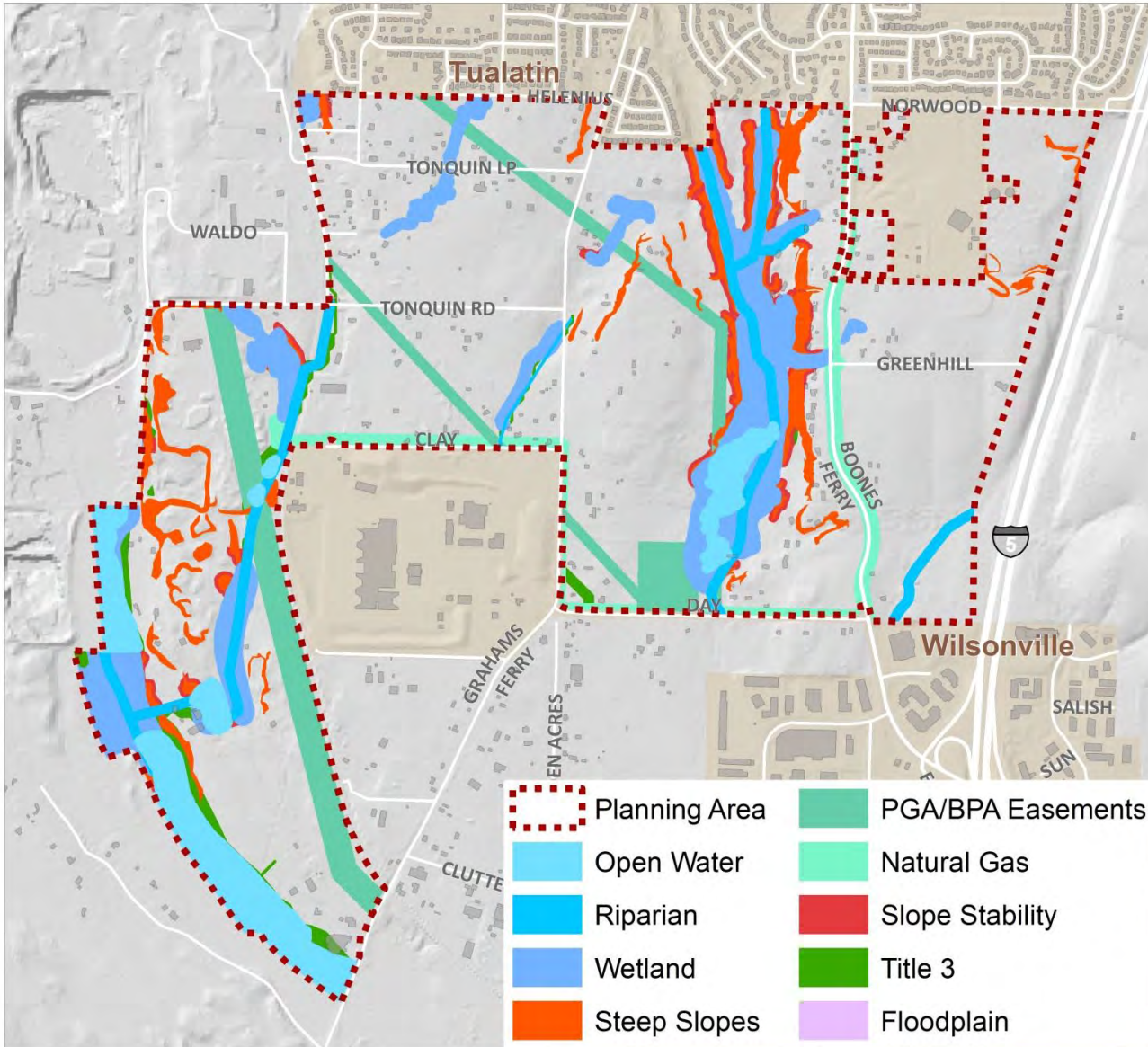
- **84** additional acres constrained
- Almost 16,000 feet of transmission lines crossing the area
- 2 easements:
  - BPA 42.3 acres
  - PGE 18.0 acres plus 4.1 acres substation
- 2 natural gas lines:
  - 25.7 acres
- For constraints analysis:
  - Remove from buildable land

# Title 3 (Metro)



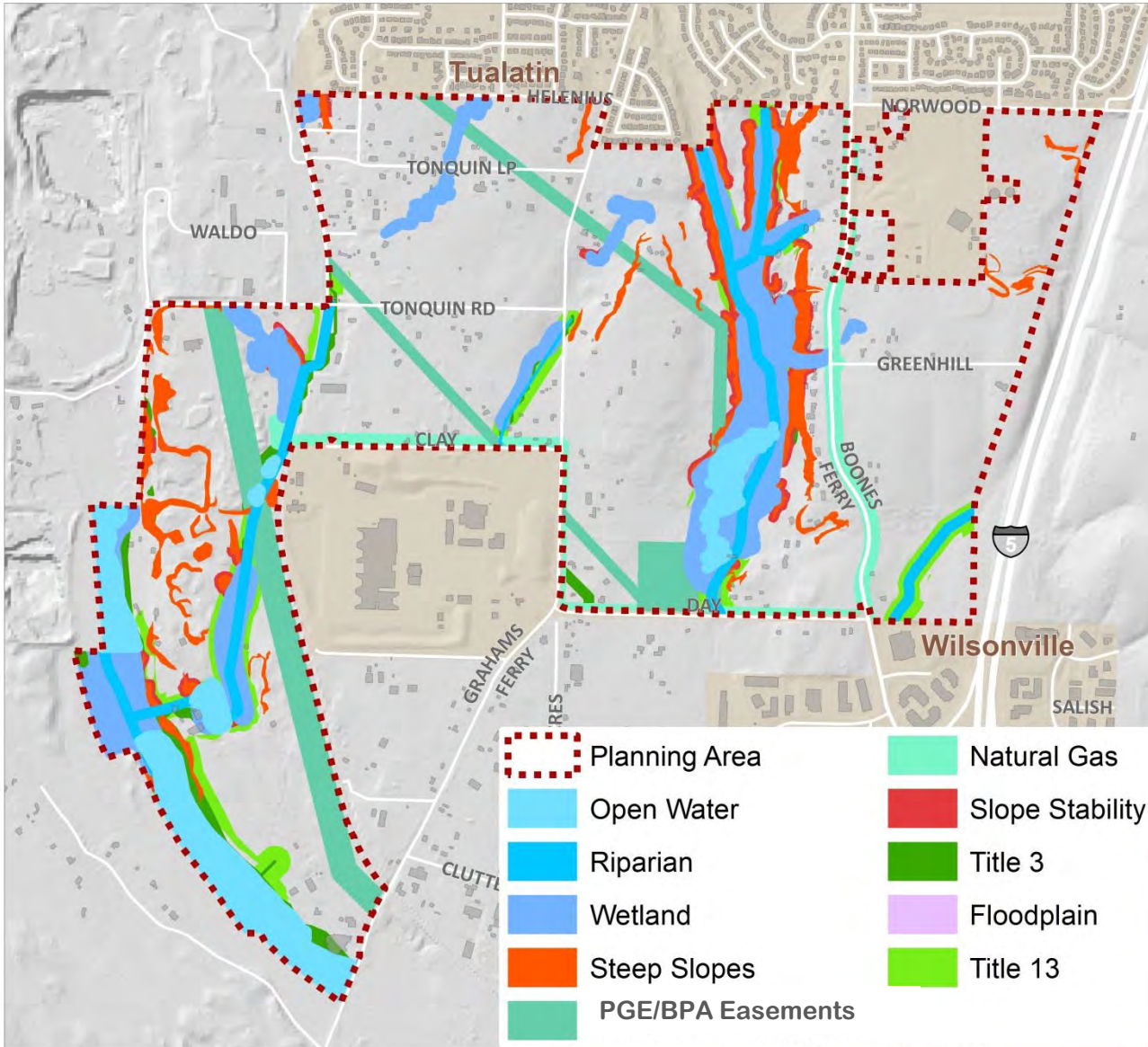
- In addition to the above analysis, Title 3 adds **8** acres of land that was not previously constrained

# Floodplains



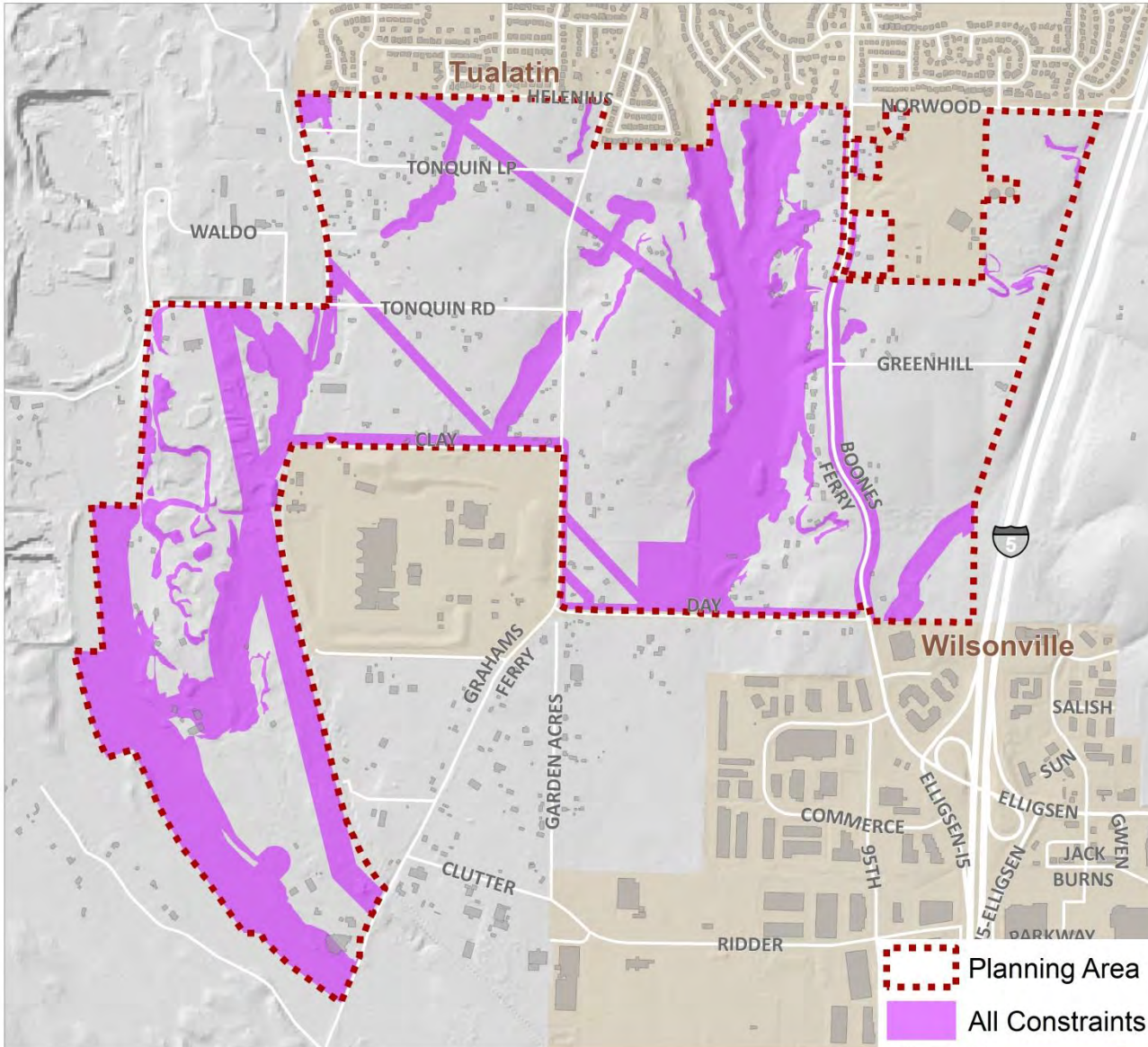
- For constraints analysis:
  - 50% of land in floodplains is removed
- Results in only **0.01** additional acres of previously unconstrained land

# Title 13



- Based on METRO requirement to set aside 20% of land for protection in Riparian Class I and II, 4 additional acres are constrained

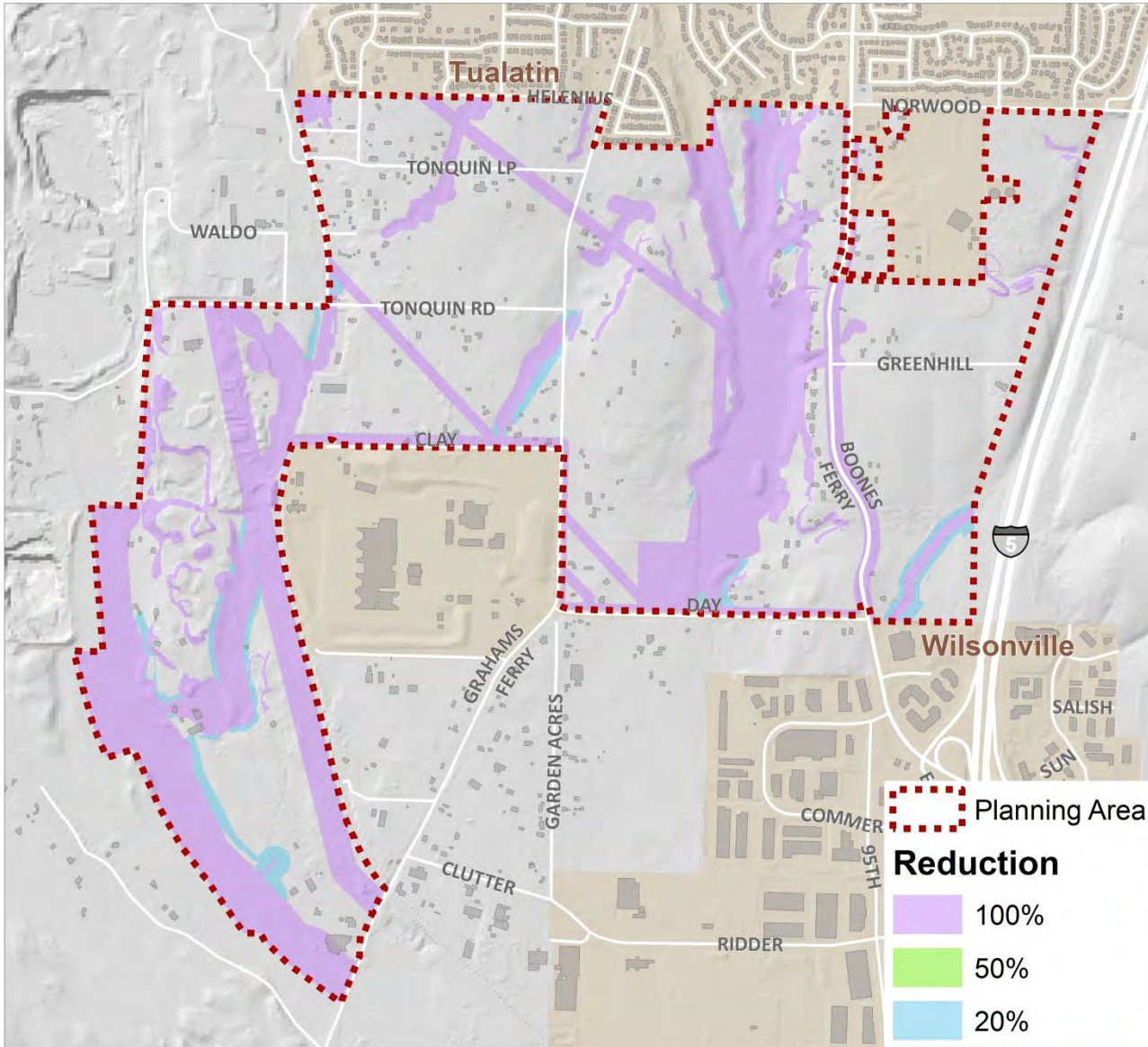
# All Constraints



- A total of **296** acres are constrained
- Study area total is **847** acres
- **35%** of the Basalt Creek area is constrained

# All Constraints

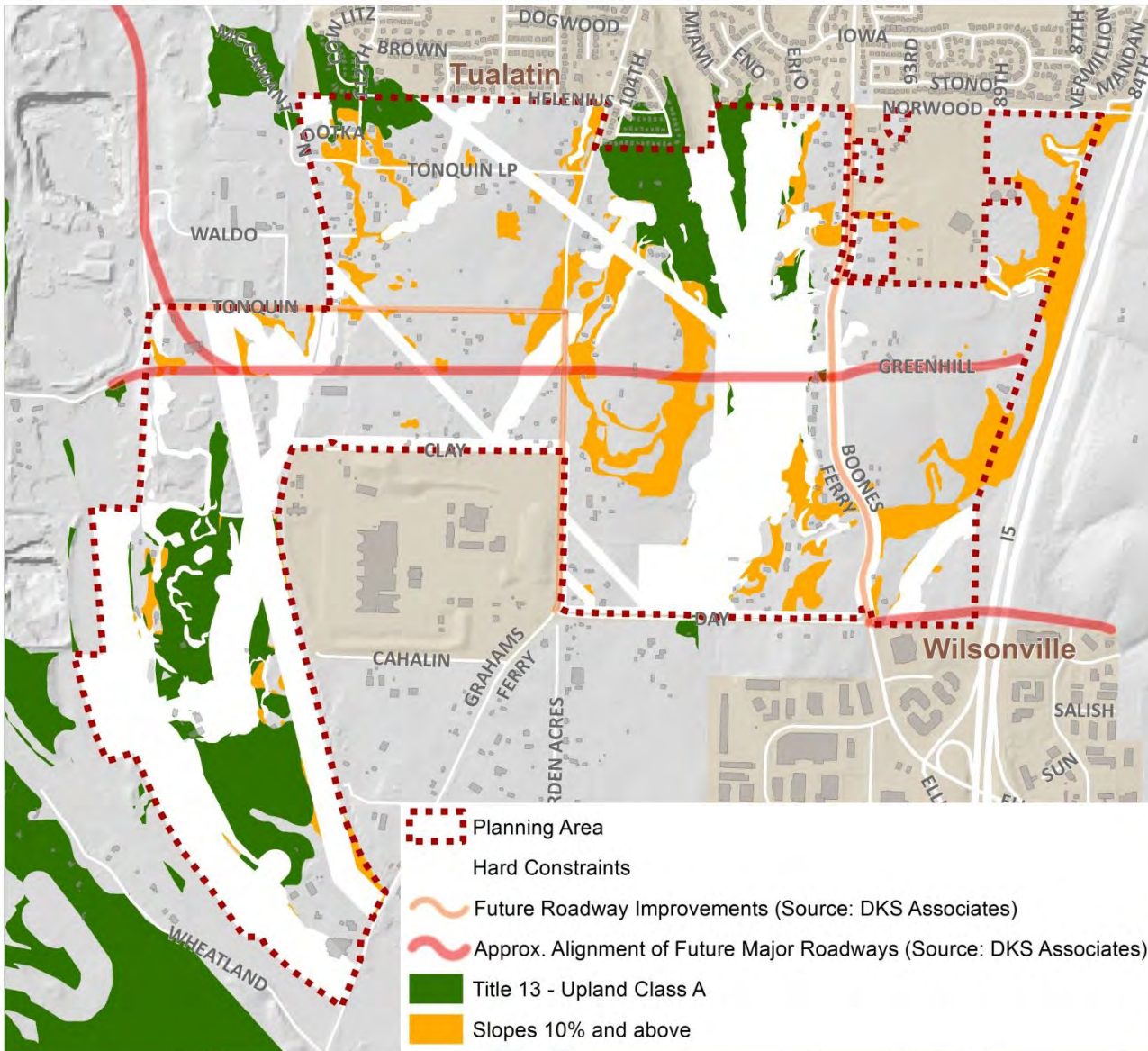
- **35%** of the Basalt Creek area is constrained





# Soft Constraints

- 10% slopes and greater
- Title 13 Upland Class A
- Various road projects
- These soft constraints are a consideration when planning development but no land was removed from buildable lands based on these categories



# Land Supply

- Three elements:
  - Vacant Land – Land ready to build, no major structure on site
  - Redev Land – Land with some redevelopment potential
  - Stable Land – Land and structures on it will not change in the future

**Vacant Land**



**Redev Land**



**Stable Land**



# Four-Step Methodology

Existing  
Land Use

Visual  
Survey

Building  
Value

Local  
Input

Land  
Supply

1. Land use provided by tax lot data via RLIS (Metro data)

2. Ground proofing using aerials and online tools

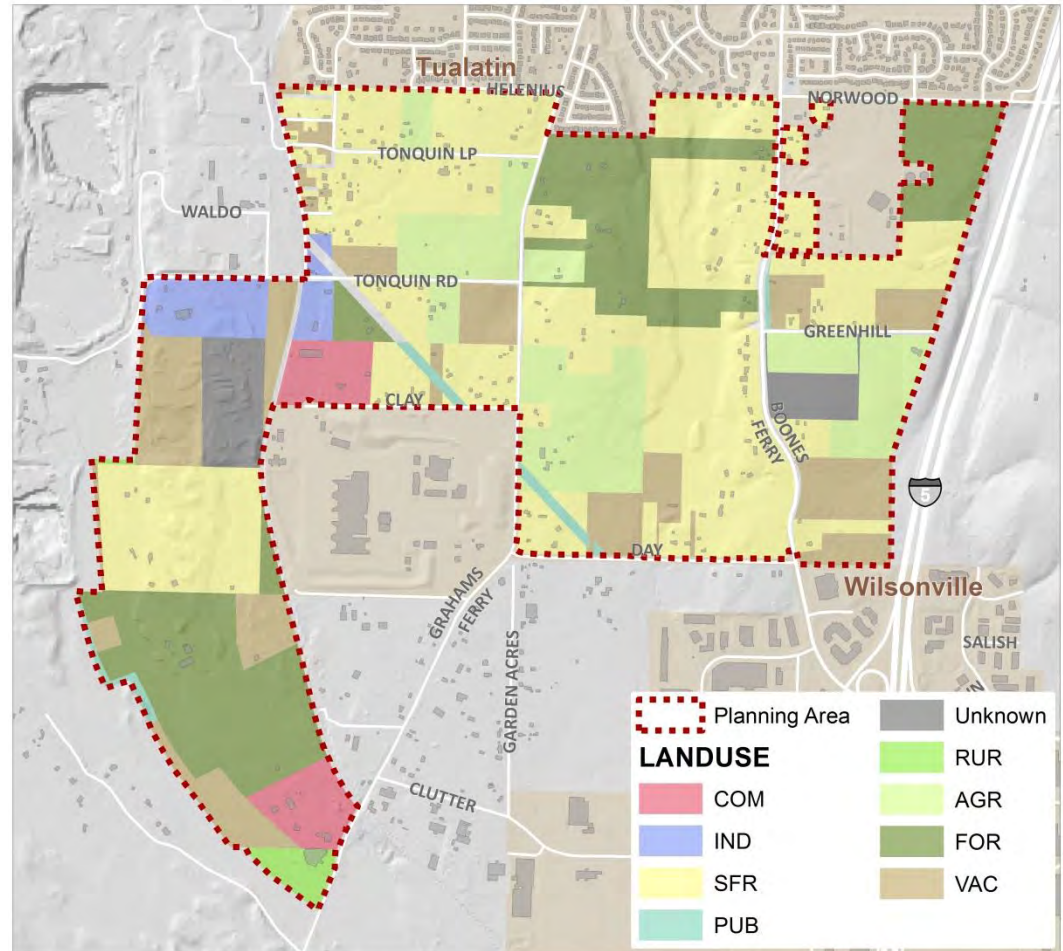
3. Define "stable" building value

4. Refine analysis with local input

# Land Use

## 1. Step

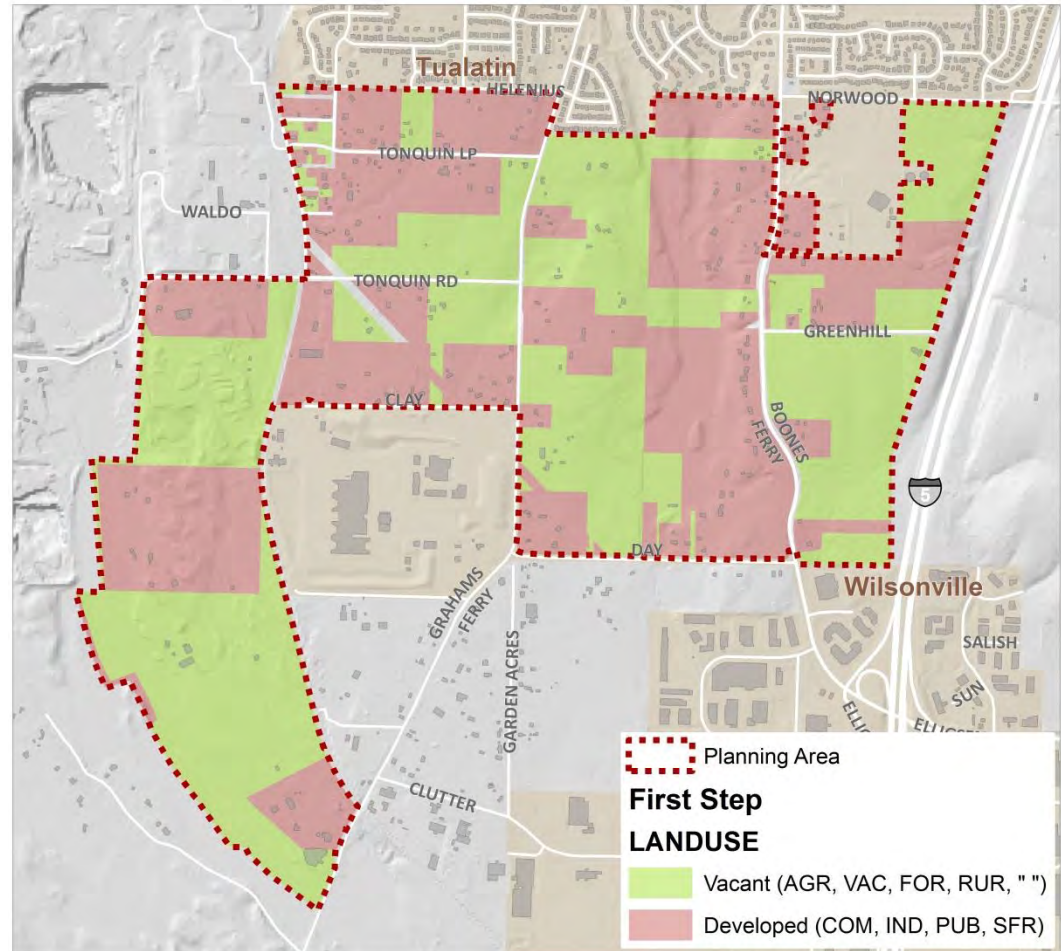
- Assumptions on development via existing land use in taxlot file (RLIS March 2014)
  - Developed is:
    - Commercial
    - Industrial
    - Public
    - Residential
  - Vacant is:
    - Rural
    - Forest
    - Agriculture
    - Unknown
    - Vacant



# Land Use

## 1. Step

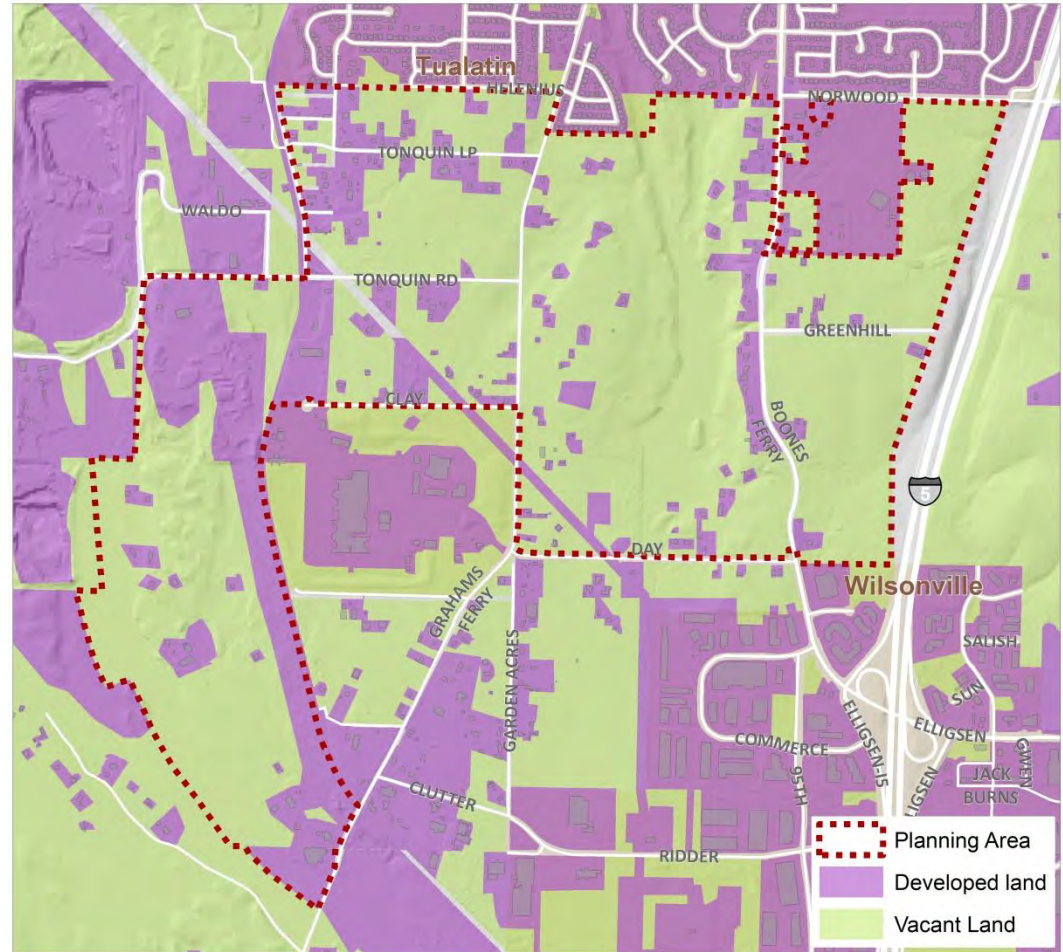
- Assumptions on development via existing land use in taxlot file (RLIS March 2014)
  - Developed is:
    - Commercial
    - Industrial
    - Public
    - Residential
  - Vacant is:
    - Rural
    - Forest
    - Agriculture
    - Unknown
    - Vacant



# Visual Survey

## 2. Step

- Vacant and developed land (RLIS March 2014)
  - Does not limit itself to taxlots
  - Uses “Cookie Cutter” around buildings



# Visual Survey

## 2. Step

- Adjust for large amount of partially vacant or “unused” land
  - Uses “Cookie Cutter” around buildings
    - Split to allow for backyard
    - Split, where lot becomes “natural”
  - Via visual survey of aerial, Google Map Street View, and Bing Map Bird’s Eye
  - Use RLIS coverage as guide



Split lot



Split lot

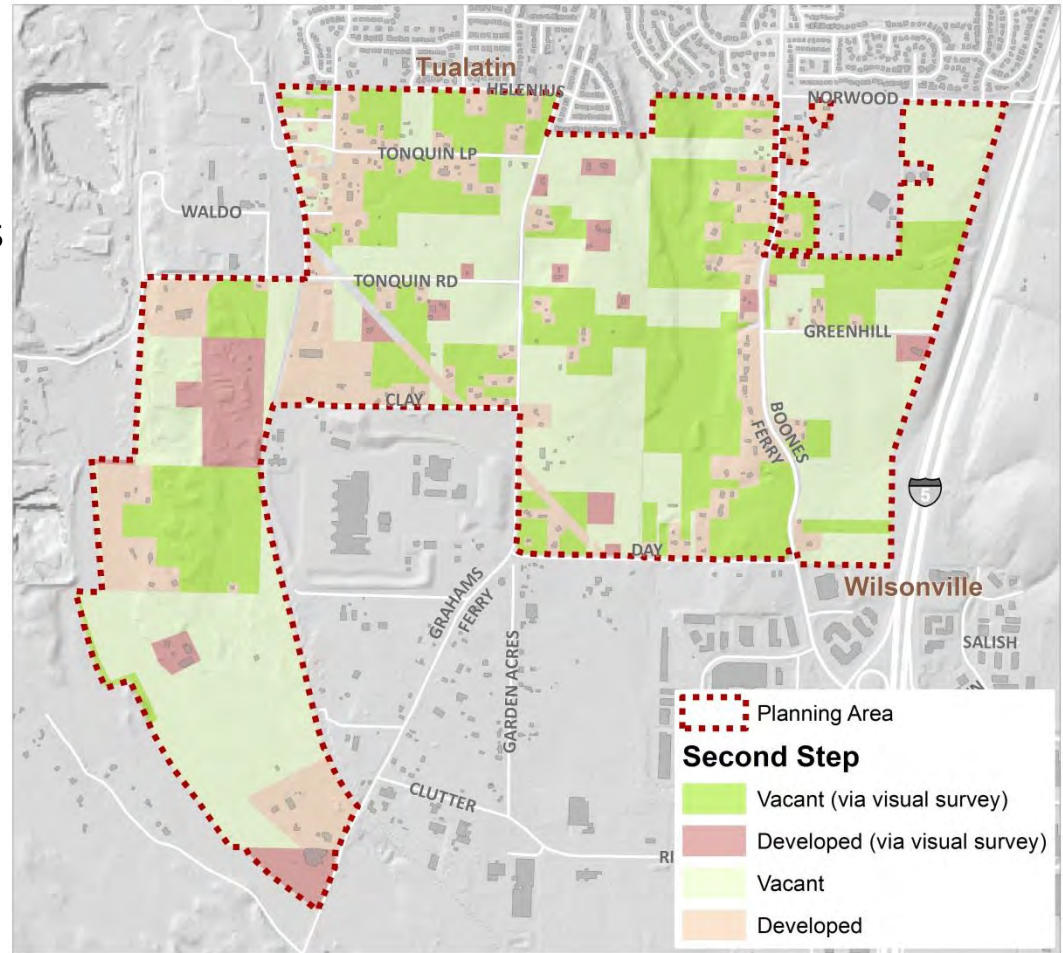


From vacant to developed

# Visual Survey

## 2. Step

- This map shows additional developed land based on visual survey that was first identified as vacant based on the land use





# Building Value

## 3. Step

- What is “Stable”:
  - No changes to the taxlot are expected
    - No growth
    - No additional employment
    - No additional housing unit
    - Minor improvements to property but not much more



Newer Single Family Home

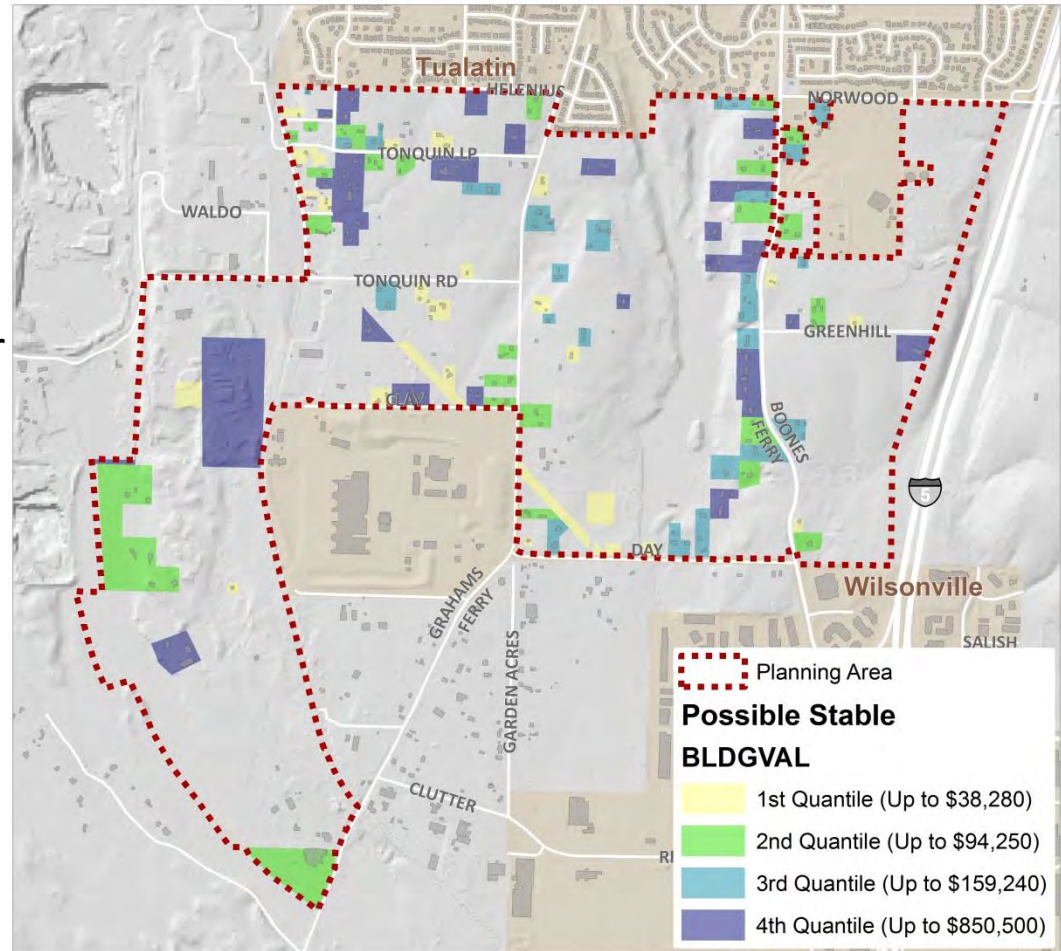


Older Single Family Home

# Building Value

## 3. Step

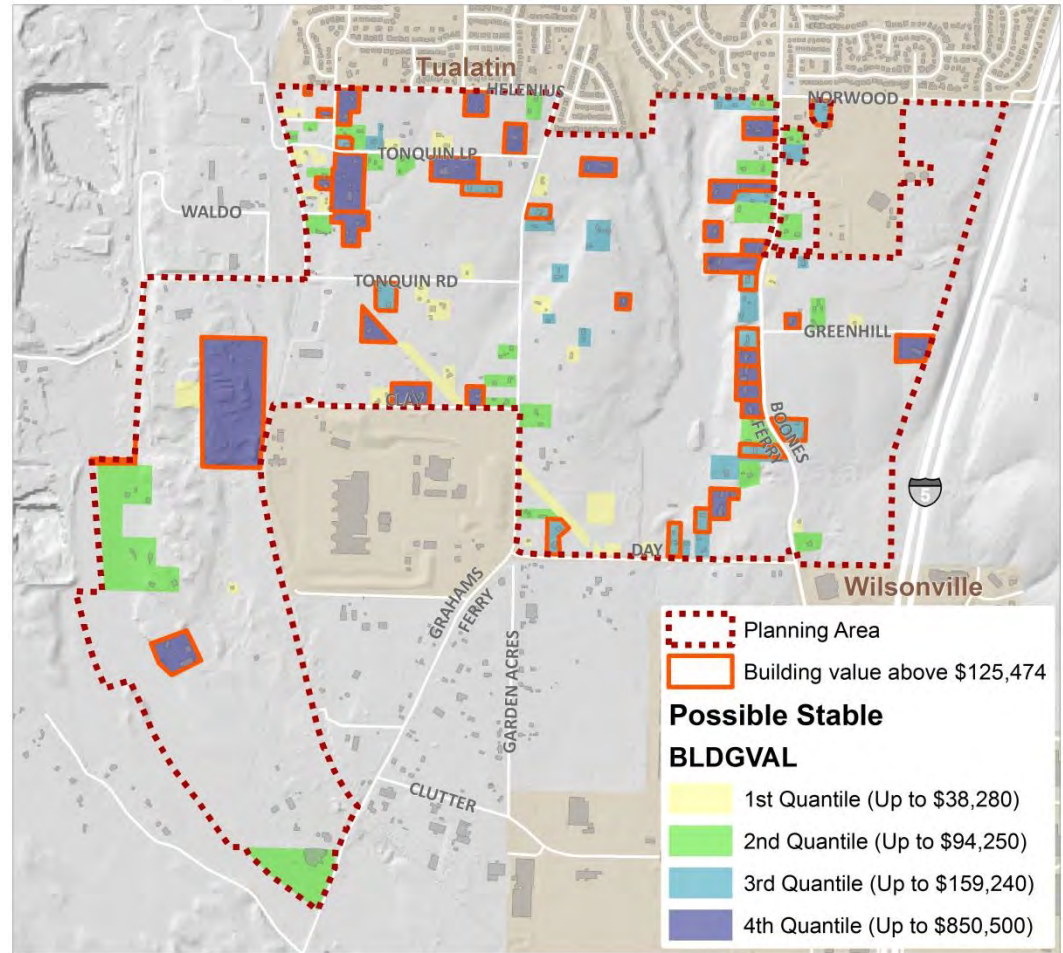
- Select only residential
  - Exclude COM and IND land uses which are considered more likely to redevelop no matter the building value
- Quantiles:
  - In which range falls a specific building?
  - 50% of building values are below \$95,000



# Building Value

## 3. Step

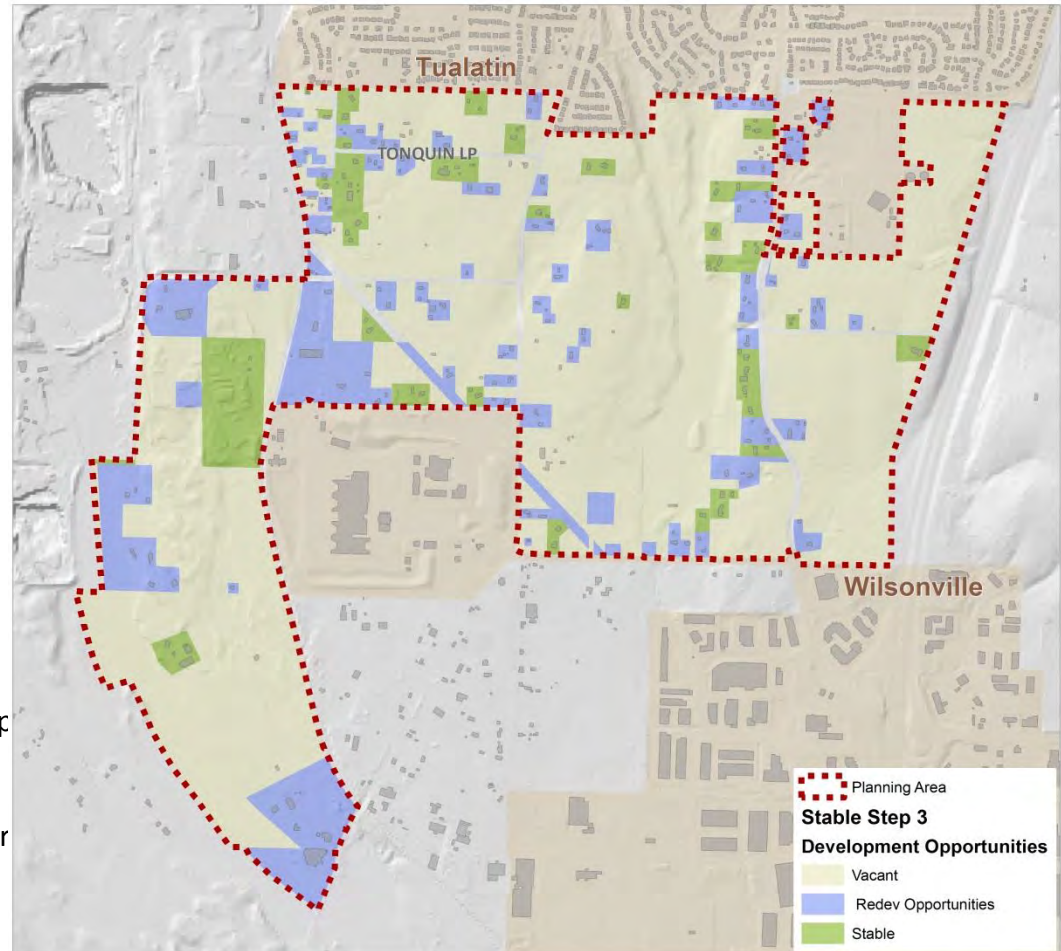
- Assuming higher building values will be stable
  - Average building value is **\$125,474**



# Building Value

## 3. Step

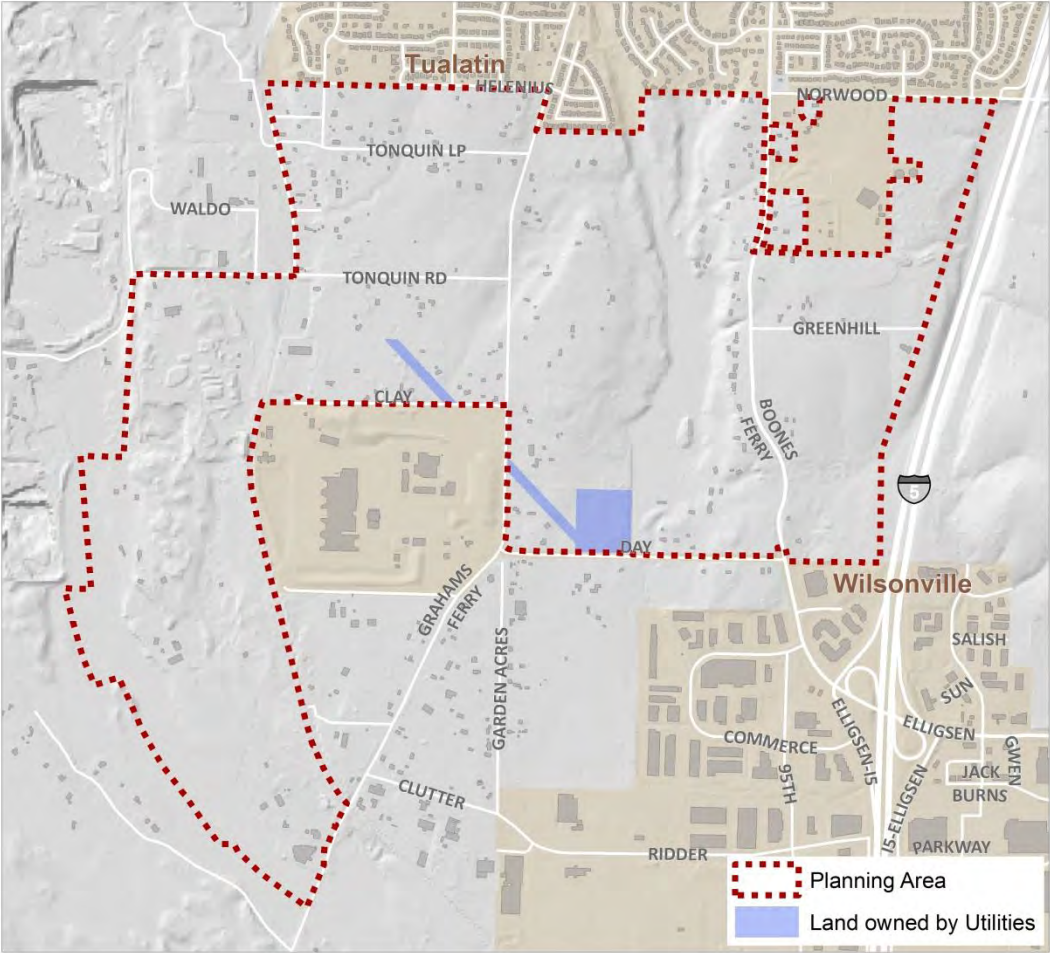
- Introduced “stable”
  - Non commercial buildings only
  - On developed land
- Assuming higher building values will be stable
  - Average building value is \$125,474
  - Set limit to **\$150,000**, based on owner input
    - Existing rural development are more likely to redevelop under/with an urban footprint
    - Know of site that the owner would like to redevelop (current building value is about \$145,000)
- **34** sites identified as stable



# Local Input

## 4. Step

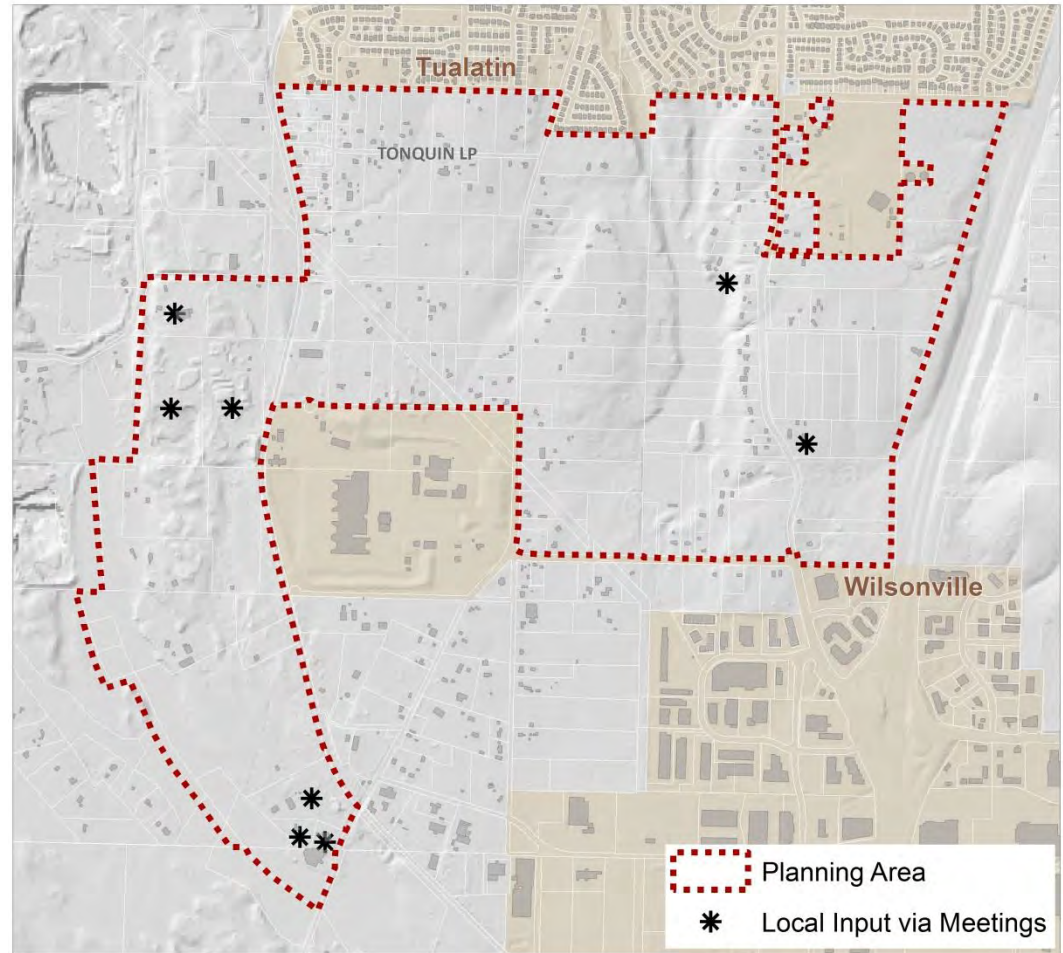
- Utilities
  - PGE sub station
  - BPA Properties



# Local Input

## 4. Step

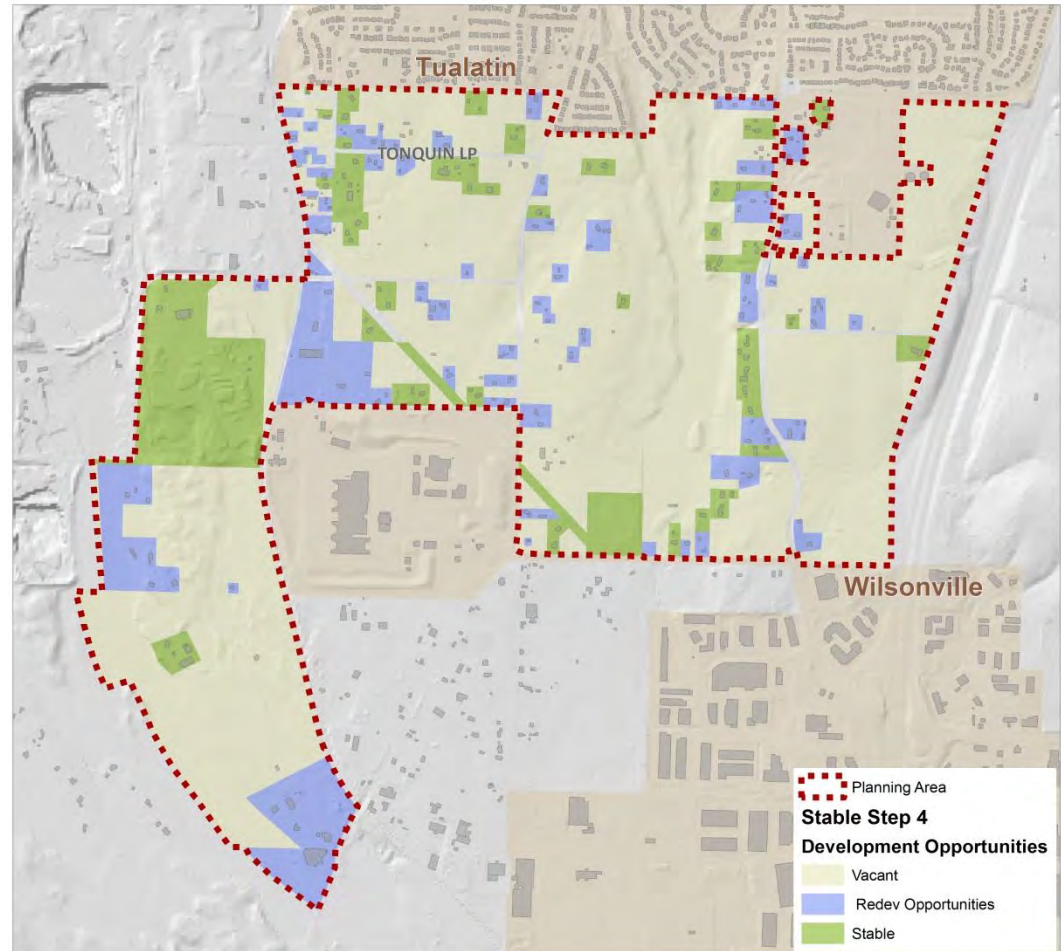
- Local Input
  - Stakeholder meetings
  - Focus group meetings



# Local Input

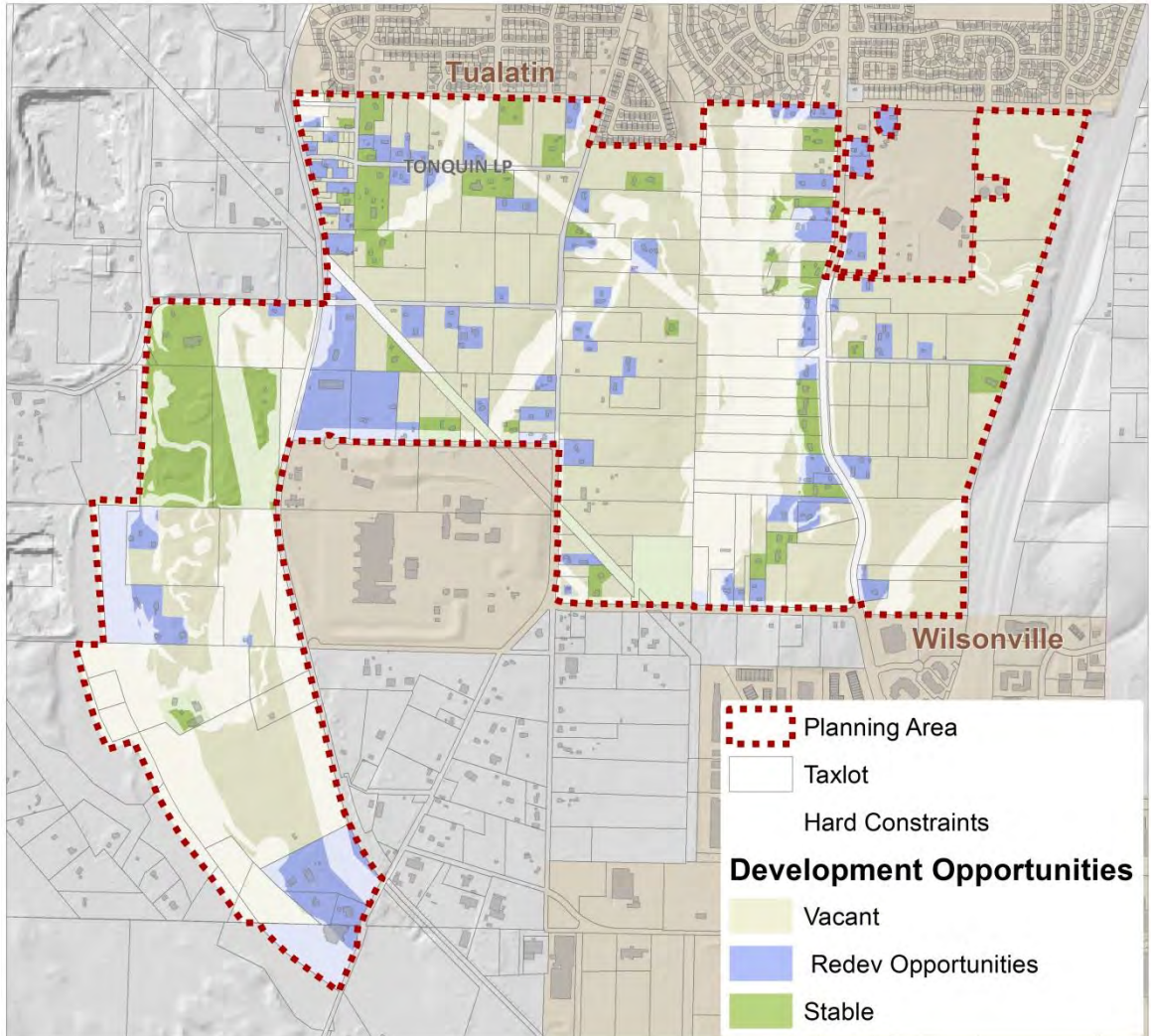
## 4. Step

- **43** sites identified as stable, based on:
  - Building value
  - Local Input
- **596** acres are vacant
- **117** acres are available for redevelopment



# Suitable Sites

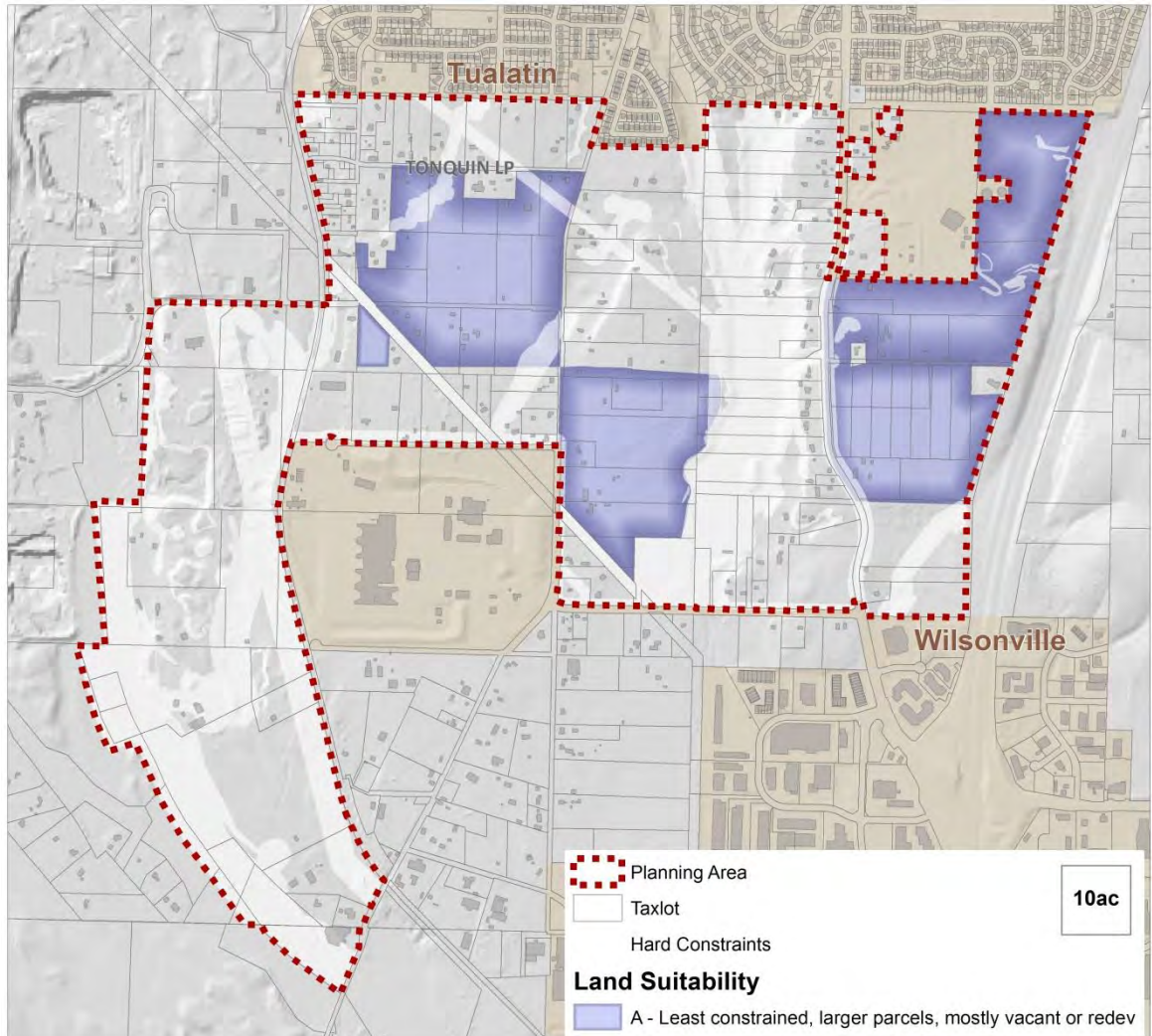
- Multiple Sites vary by:
  - Taxlot size
  - Amount of constraints
  - Vacancy and redevelopment opportunities





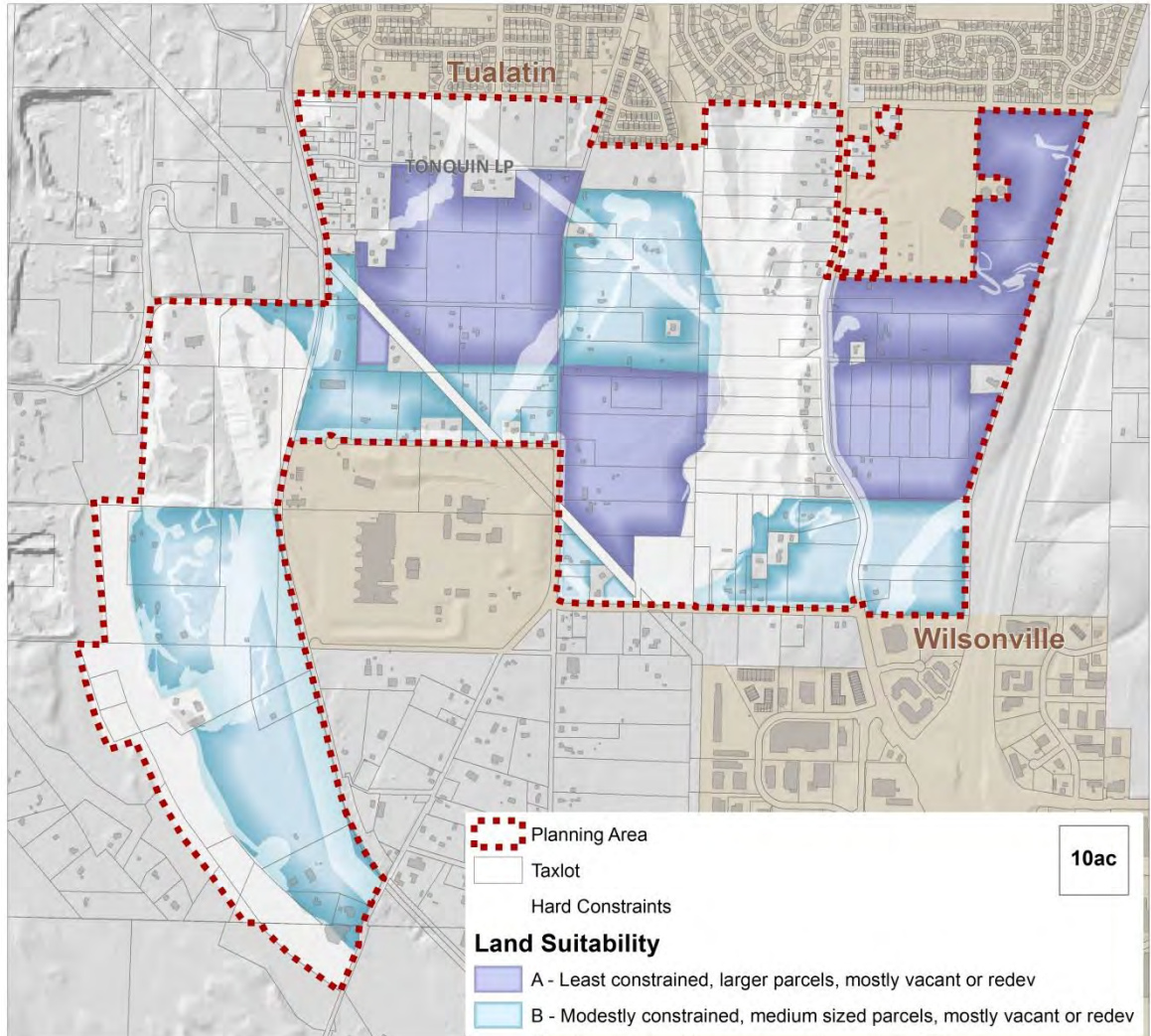
# Suitable Sites

- Suitability A:
  - Larger parcels
  - Least constrained
  - Mostly vacant, might have redevelopment opportunities
  - 214 buildable acres (does not exclude built road network, etc.)



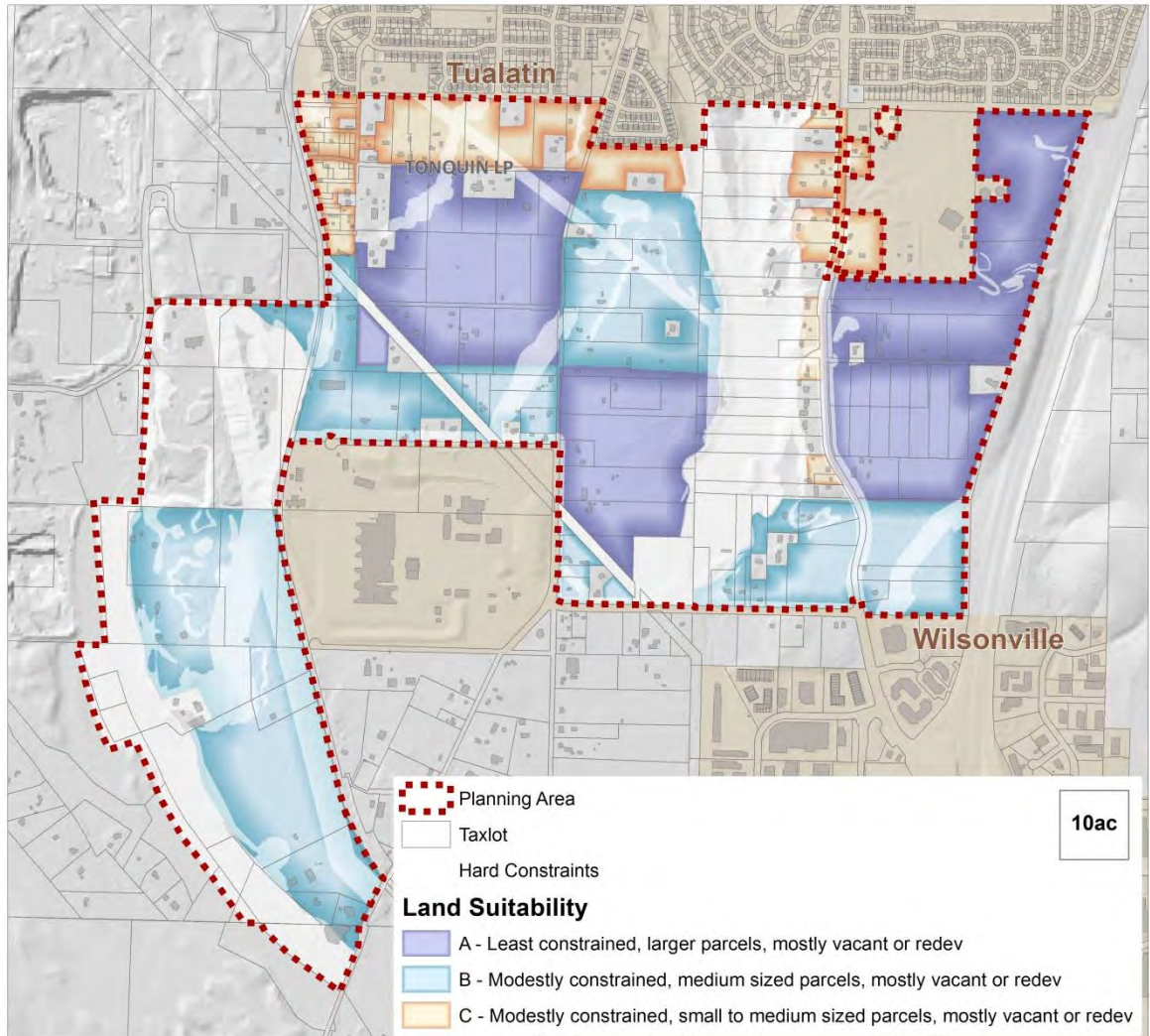
# Suitable Sites

- Suitability B:
  - Medium sized parcels
  - Modestly constrained
  - Mostly vacant, might have redevelopment opportunities
  - 193 buildable acres (does not exclude built road network, etc.)



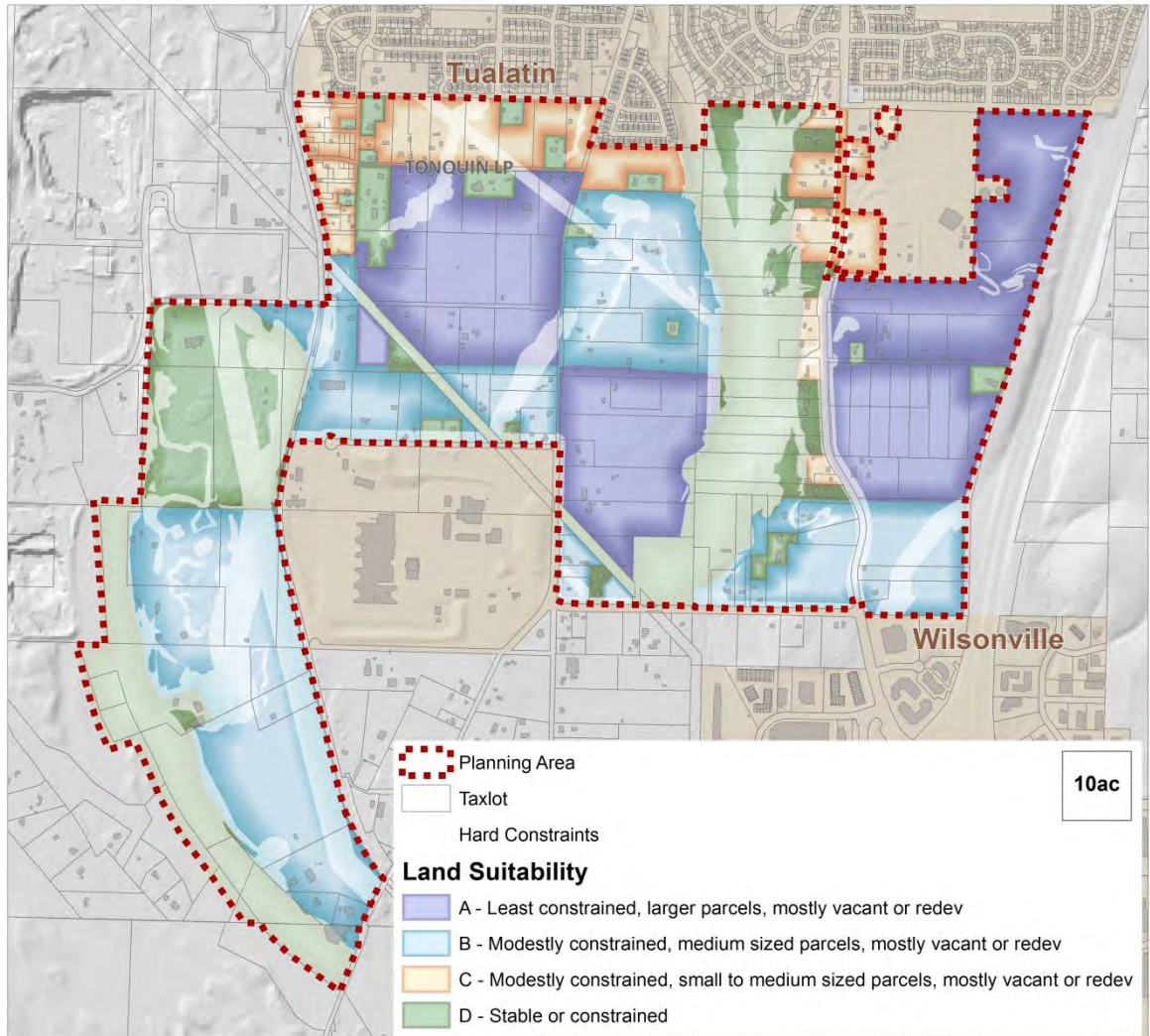
# Suitable Sites

- Suitability C:
  - Small to medium sized parcels
  - Modestly constrained
  - Mostly vacant, might have redevelopment opportunities
  - 64 buildable acres (does not exclude built road network, etc.)



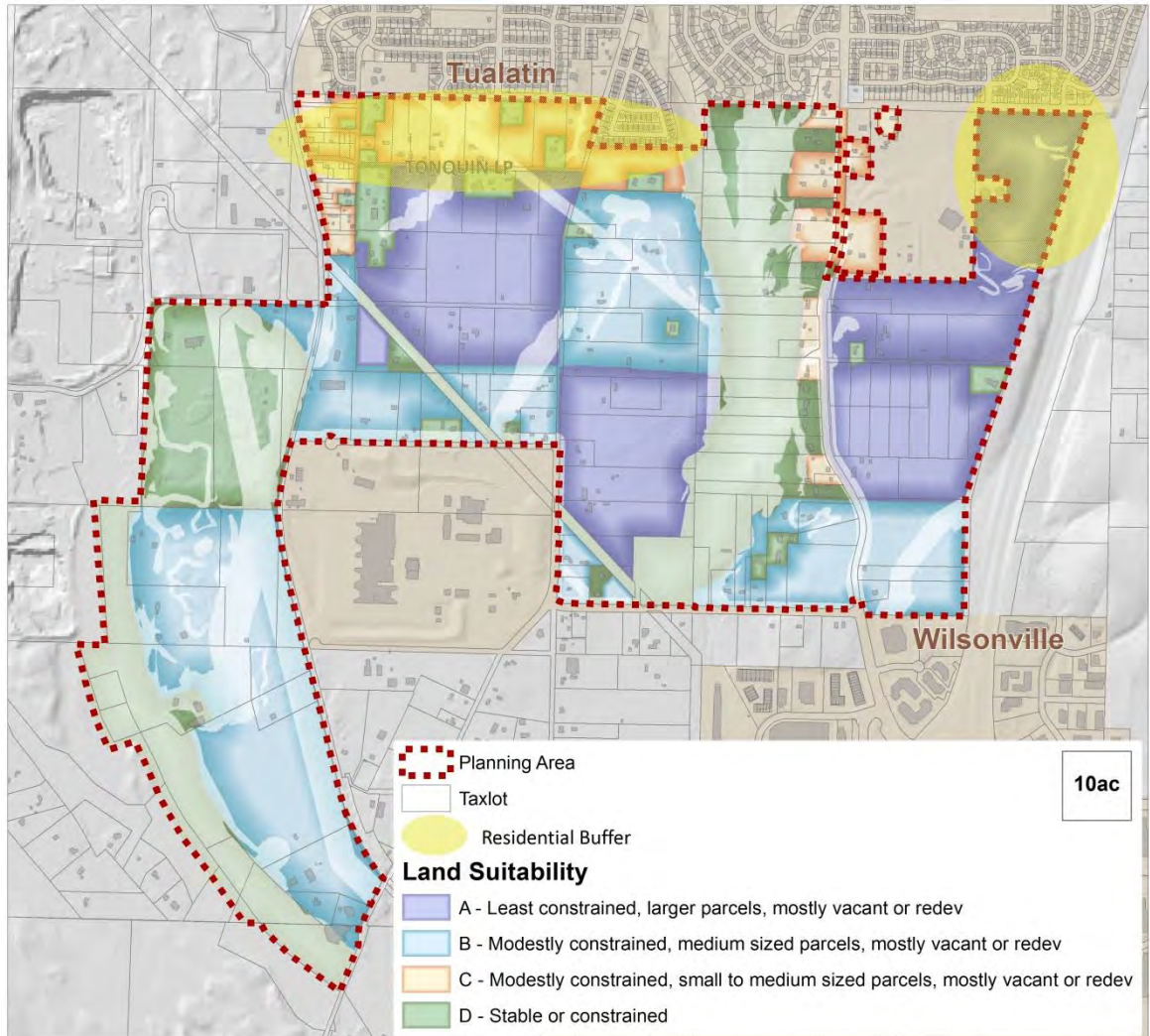
# Suitable Sites

- Suitability D:
  - Stable or mostly constrained
  - 82 “buildable” acres (does not exclude built road network, etc.)



# Suitable Sites – Residential Buffer

- Residential Buffer:
  - 63 buildable acres (does not exclude built road network, etc.)



# Buildable Land à la Envision\*

Site	Constrained Acres	Vacant Acres	Redev Acres
Suitability A	15	197	12
Suitability B	79	144	47
Suitability C	12	38	20
Suitability D	136	12	1

\*based on parcel file (excludes roadways and stable parcels)



## BASALT CREEK CONCEPT PLAN



# MARKET ANALYSIS DRAFT

PREPARED FOR



PREPARED BY



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## Executive Summary

Located between Tualatin’s residential neighborhoods to the north and Wilsonville’s employment center to the south, Basalt Creek is currently a relatively rural area that is positioned for significant change and urbanization due to its prime location within the growing Portland metropolitan region. Leland Consulting Group (LCG) has prepared this market analysis as one component of the Basalt Creek Concept Plan. Its purpose is to provide Basalt Creek stakeholders with information regarding the outlook for industrial, office, residential, and retail development in Basalt Creek and adjacent areas, and to inform the Concept Plan as this process moves forward. This executive summary condenses the key points of the analysis; details are explained in the body of the report. The key findings and recommendations of this market analysis are:

**Industrial and Office Market.** Basalt Creek is located near the center of one of the region’s largest clusters of employment land, which includes existing developed areas in the cities of Tualatin, Wilsonville, and Sherwood, as well as the planned future employment areas of Southwest Tualatin, Tonquin, and Coffee Creek. A market area—including the cities of Tualatin, Wilsonville, and Sherwood and some surrounding areas—was defined for this market analysis in order to provide a baseline to estimate future subregional employment and population growth.

The Metro regional government projects rapid employment growth of 2.3 percent annually for the market area through 2035, about 40 percent faster than the employment growth in the region (1.7 percent), indicating that ongoing business expansion and job creation is expected for these three cities in the southwestern metropolitan area.



Tualatin and Wilsonville have independently identified a series of industry clusters in which the two cities are already highly competitive, and in which they expect future significant business and job growth. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. Leading organizations within these clusters include Lam Research, Legacy Meridian Park Medical Center, the Oregon Institute of Technology, Mentor Graphics, and Xerox Corporation. Businesses in these categories are well suited to locate at Basalt Creek.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Development peaked during the 1990s and has slowed following the recession; however, industrial development in particular is expected to resume and accelerate in coming years due to a desire to “onshore,” shorten supply chains, and take advantage of lower domestic costs in some industries. Between 1980 and 2014, the cities of Tualatin and Wilsonville saw on average over 400,000 square feet of industrial and office building development annually, and 56.6 acres of industrial and office land development annually. The amount of industrial development in both cities is significantly larger (more than seven times) than the amount of office development, and this general dynamic is expected to persist for the foreseeable future.

Building types vary significantly within the market area: some industrial facilities contain more than 200,000 square feet of building area, while many other small office and industrial flex spaces are less than 20,000 square feet in size. The floor area ratio (FAR) of most buildings, however, generally falls within the range of 0.2 to 0.4, which generally indicates one to three-story buildings with large areas for parking and/or freight movement. A small number of office buildings have higher FARs to about 1.0, which indicates more dense buildings and some structured parking.

Going forward, employment development in Basalt Creek will benefit from a number of competitive advantages. These include its direct access to I-5, superior to other employment areas in the region; access to I-205, Highway 217, arterial roads, and transit; a growing and educated workforce; and established and expanding industry clusters.

Based on past industrial and office development, and future growth projections, LCG absorption projects employment land at Basalt Creek to develop at a rate of eight to 10 net acres per year. However, the pace of build out will depend on economic conditions, the availability of employment land in other nearby areas, infrastructure such as roads and sewer, and other factors. Building and site sizes should vary widely, and FARs will remain consistent with those seen in the past.

**Housing Market.** Significant population growth is anticipated for Tualatin, Wilsonville, and the Portland metropolitan region over the next two decades. Metro's gamma population model shows that Tualatin and Wilsonville will add 1,170 and 3,649 households respectively between 2010 and 2035. Metro projects that the market area will add about 10,900 households during this time period, an increase of 39 percent. These population increases will result in demand for housing at Basalt Creek through 2035, assuming that the area can compete effectively with other potential residential locations.

Basalt Creek's location is also a positive: the study area is immediately south of several South Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. It should be noted, however, that Basalt Creek is located in the Sherwood School District rather than the Tigard-Tualatin School District, and therefore school-age children will head west rather than north for school. The market area's current demographics are encouraging for new housing development. When compared to the Portland metropolitan area, the market area has a higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs.

However, housing demand is expected to shift somewhat in the future because of decreasing housing sizes, an aging population, the popularity of walkable communities, and other factors. By combining current and future housing demand indicators, this market analysis provides three different housing development scenarios, all of which assume a mix of single-family detached, single-family attached, and multifamily housing. Housing diversity and flexibility (the opportunity to adjust the housing mix) is important to developers in any large area, since they need to be able to build for many different household types, and respond to changing market conditions. This report does not propose a specific number of households in the study area, since residents and decision makers have yet to define precisely which areas will be set aside for residential development.

**Retail/Commercial Market.** The likely amount and location of retail in Basalt Creek will need to be revisited later in the concept planning process, after more specific programs for employment and residential development are established. It is often said that “retail follows rooftops” and jobs, and without more confidence about the number of homes and jobs that will be in the area, it is difficult to project retail demand.

With that said, some generalizations can be made. Because there are several major regional and subregional retail nodes located to the north and south of the study area—at Bridgeport Village, central Tualatin, and in Wilsonville—any commercial space built in Basalt Creek is most likely to primarily serve local residents and employees. These larger centers are located at I-5 interchanges, whereas retail at Basalt Creek would be further from interchanges. Whereas regional retail is anchored by fashion, consumer electronics, entertainment, and furniture/household goods, neighborhood retail is typically anchored by grocery stores, pharmacies, and restaurants, supplemented by other local goods and services.

Retail is likely to be located at key intersections on either Boones Ferry or Grahams Ferry Roads, the major north-south arterials in Basalt Creek, and potentially along the planned East-West connector, which will also carry considerable traffic and afford high visibility to retailers.

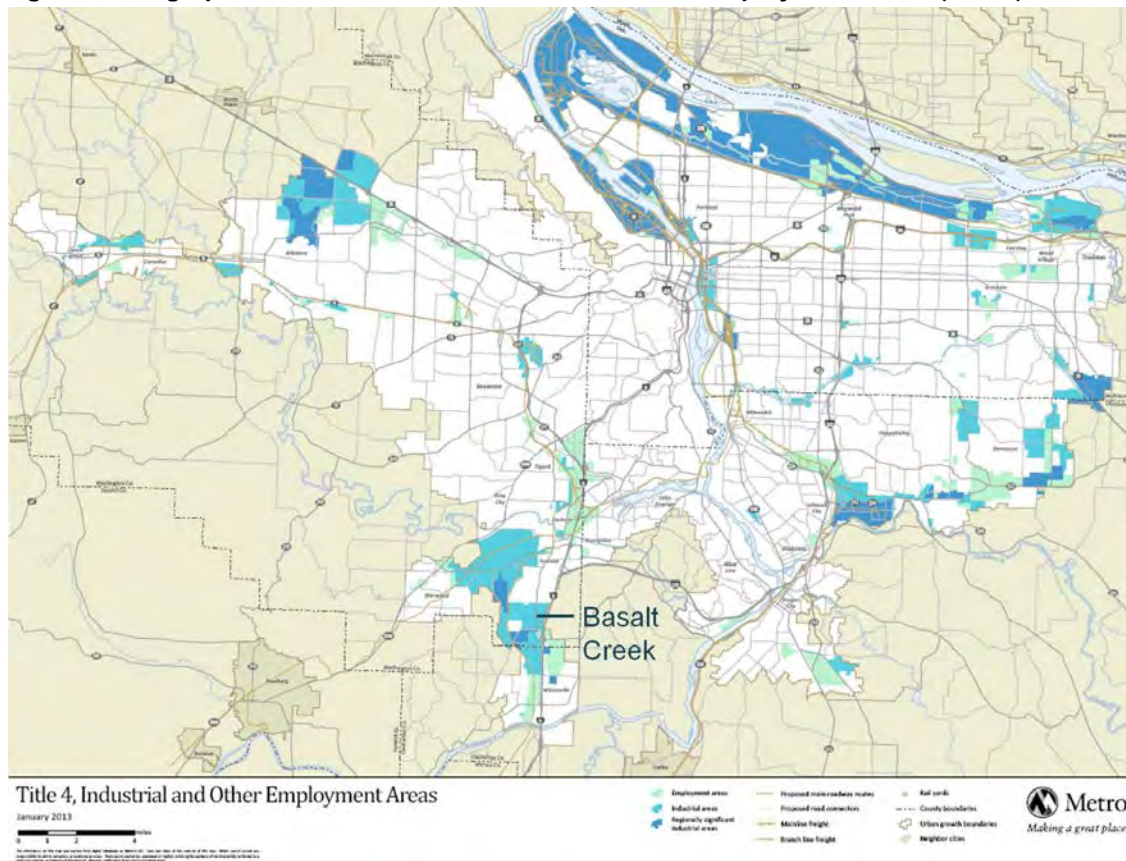
# Industrial and Office Market Analysis

## Regional Employment Context

As shown in Figure 1, Basalt Creek is contiguous with a number of other employment and industrial areas in the southwestern part of the Portland metropolitan region, including areas in the cities of Tualatin, Wilsonville, and Sherwood. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region, comparable in size to the agglomeration in northern Hillsboro, though smaller than the employment lands near PDX Airport.

A major feature and competitive advantage of this “Southwestern Metro” employment cluster in general, and Basalt Creek in particular, is its immediate access to I-5, the West Coast’s most important transportation route. Via I-5, Basalt Creek is closely connected to downtown Portland, numerous Willamette Valley communities, and major metropolitan areas in Washington and California. I-205 and Highway 217 are also close by and easily accessible. These freeway connections are a major benefit for industrial—for whom distribution is an important site selection factor—and office-based businesses—which require access for their clients, suppliers, workforce, and collaborators.

**Figure 1. Geographic Context: Title 4 Industrial and Other Employment Areas (Metro)**



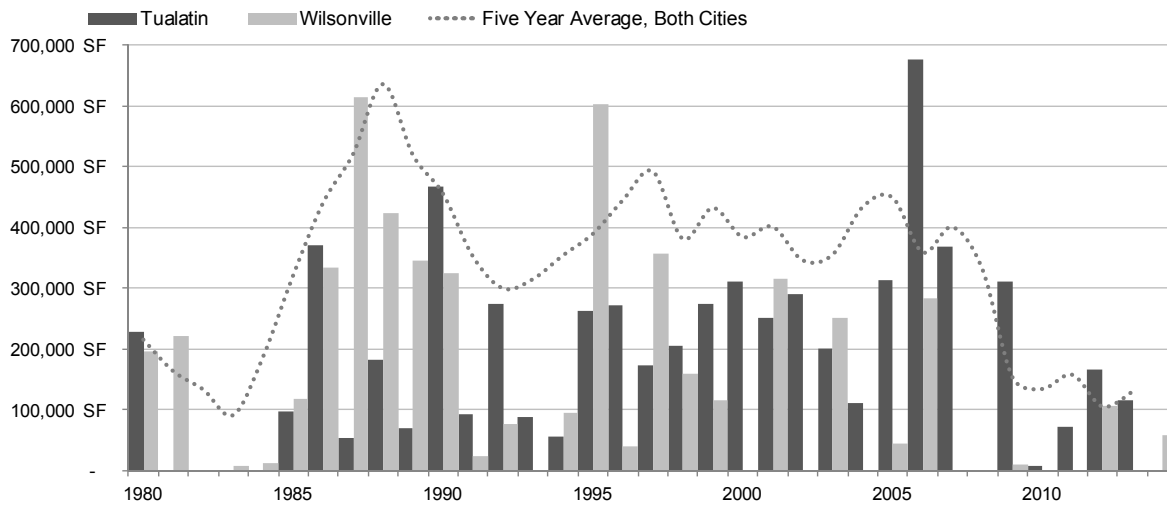
Source: Metro.

## Industrial and Office Development, 1980 to 2014

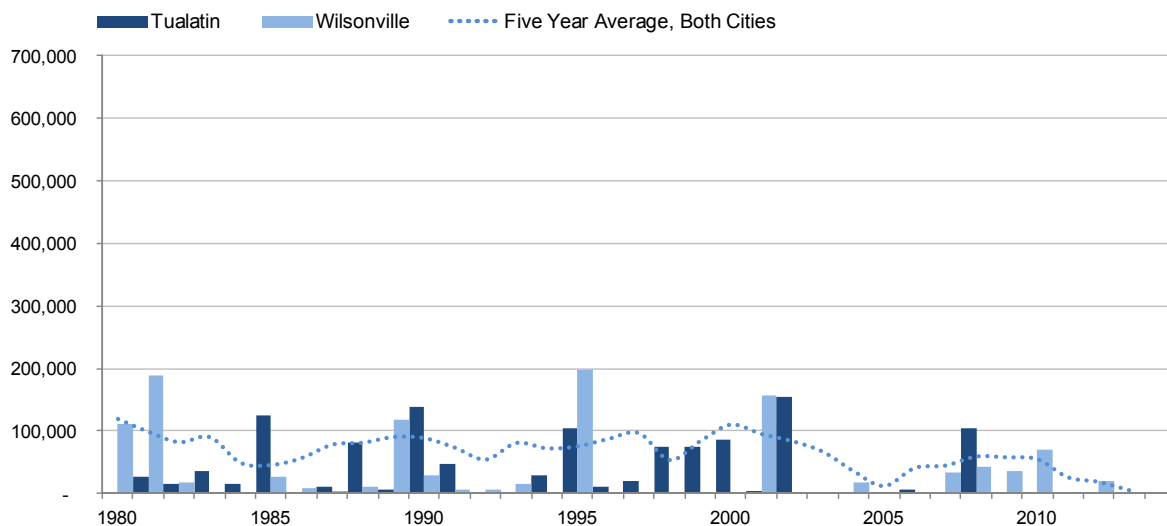
The figures below show the pace of industrial and office development in the cities of Tualatin and Wilsonville, beginning in 1980. The bars represent the building area (square feet) of development within each of the two cities in a given year, while the dashed line is a longer-term trend line, showing a five-year rolling average of built area for both cities combined. These historical development trends are one data set that shapes expectations for future employment development in both cities and Basalt Creek.

Since 1980, both cities have seen considerably more industrial development than office development. Over this 34-year period, an average of 340,000 square feet of industrial space and 67,000 square feet of office space has been built in the two cities combined. Thus, the amount of industrial development has been about five times as great as office development.

**Figure 2. Industrial Development, Tualatin and Wilsonville, 1980 to 2014**



**Figure 3. Office Development, Tualatin and Wilsonville, 1980 to 2014**



Source, both figures: CoStar, Leland Consulting Group.

The past decade has been a slow period for both industrial and office development. The recession slowed industrial development beginning in 2008, particularly in Wilsonville. The pace of recent industrial development has been about half of development during the 1990s and early 2000s—considered to be a time of robust activity for industrial developers. Office development has also slowed, although this trend began in 2003, before the recession. Office development in the past decade has also taken place at about half the pace of office development in the 1990s.

Clearly, both industrial and office development go through significant peaks and troughs. By focusing on the five-year rolling-average trend line, however, a somewhat more consistent pattern of development can be seen.

### Employment Building and Site Attributes

Table 1 below shows some key attributes of industrial and office development in Tualatin and Wilsonville.

- On average, 43.1 acres of industrial land and 13.6 acres of office land per year have been developed in both cities combined. Wilsonville has seen about 25 acres of employment land development per year, 16.3 acres of industrial land, and 8.3 acres of office land, which provides a good benchmark for total demand in Wilsonville, including Basalt Creek, going forward.
- Average industrial building sites (9.1 and 6.5 acres in Tualatin and Wilsonville respectively) tend to be larger than office building sites. Industrial buildings also tend to be larger than office buildings.
- Floor area ratios (FAR) are helpful to understanding the physical form of buildings on their sites. Most industrial buildings have a FAR of 0.2 to 0.4. Most office buildings have FARs between 0.3 and 0.5; however, there are some newer office buildings in Tualatin that feature structured parking and FARs up to 1.0. These FARs are consistent with Metro’s analysis and future projections.

**Table 1. Attributes of Industrial and Office Development in Tualatin and Wilsonville**

	Industrial			Office		
	Tualatin	Wilsonville	Total	Tualatin	Wilsonville	Total
Total Area (SF)	10,470,000	8,390,000	18,860,000	1,260,000	1,250,000	2,510,000
Av. Annual Development, 1980 - 2014						
Annual Building Development (SF)	186,960	150,980	337,940	34,632	32,985	67,617
Annual Land Development (Acres)	26.8	16.3	43.1	5.3	8.3	13.6
Building Averages, 2000 - 2014						
Average Building Size (SF)	60,224	80,000	-	31,807	35,000	-
Average Site Size (Acres)	9.1	6.5	-	4.2	2.0	-
Typical Floor Area Ratios (FAR)	0.2 to 0.4	0.2 to 0.4	-	0.4 to 1.0	0.3 to 0.5	-

Source: CoStar, Leland Consulting Group. SF: Square feet; FAR: Floor area ratio, the ratio of a building’s size in square feet (or gross building area) to the size of the piece of land upon which it is built.

Note that, while the averages shown here are useful for high-level planning purposes, both industrial and office buildings vary considerably in size, scale, and purpose. For example, the industrial building category includes flex buildings, which can often be divided into 5,000 square foot tenant spaces and feature significant amounts of office and showroom space. The industrial category also includes

distribution and warehouse buildings, which can be hundreds of thousands of square feet in size. Sample industrial and office buildings are pictured below in Figure 4 and Figure 5.

**Figure 4. Typical Industrial Buildings: Office/Distribution and Flex**

The first building pictured below is located in the Wilsonville Business Center west of I-5 and contains a mix of office space (left foreground) and warehouse/distribution space, where freight trucks are parked. The second building pictured below is a typical flex industrial building located in the Tualatin Industrial Center, which features high ceiling heights, freight loading, and small, flexible spaces that can serve as a combination of office, showroom, and/or industrial.



**Figure 5. Headquarters Office Building (Mentor Graphics)**

The Mentor Graphics building is located east of I-5 between the Elligsen Road and Wilsonville Road interchanges. Despite its size and height, the FAR of the building is similar to other buildings in the area because of its extensive campus, landscaped areas, and surface parking.



## Employment Outlook

Table 2 below shows Metro’s gamma employment forecast for the 2010 to 2035 time period. Key aspects of this forecast that are relevant to Basalt Creek are:

- Employment in the Basalt Creek market area is expected to grow at 2.3 percent annually between 2010 and 2035, about 40 percent faster than the three-county metro area rate (1.7 percent). Employment in all three cities within the market area is expected to grow relatively rapidly—at a higher annual rate than their populations, and a higher rate than regional population growth (see Table 6 for population growth projections).
- Tualatin and Wilsonville are expected add 12,267 and 10,346 jobs respectively over the 25-year Metro forecast period. In total, the market area is expected to add 36,786 jobs, an increase of 78 percent over the 47,005 jobs currently in the market area.
- This significant growth can be expected to drive consistent demand for employment land and buildings, including industrial, office, and commercial space, both in Basalt Creek and in other employment areas in the market area over the 2010 to 2035 time period.

**Table 2. Metro Employment Forecast, 2010 to 2035**

Jurisdiction	Employment			
	2010	2035	Change	CAGR
City of Tualatin	22,972	35,239	12,267	1.7%
City of Wilsonville	17,073	27,419	10,346	1.9%
City of Sherwood	4,216	9,252	5,036	3.2%
<b>Basalt Creek Market Area</b>	<b>47,005</b>	<b>83,791</b>	<b>36,786</b>	<b>2.3%</b>
Clackamas County	137,946	210,444	72,498	1.7%
Multnomah County	419,164	597,331	178,167	1.4%
Washington County	232,019	382,812	150,793	2.0%
<b>Three County Total</b>	<b>789,129</b>	<b>1,190,587</b>	<b>401,458</b>	<b>1.7%</b>

Source: MetroScope Gamma Forecasts, Published Feb 07, 2013, <http://www.oregonmetro.gov/regional-2035-forecast-distribution>.



**Figure 6. Projected Employment Growth (2010-2035)**

Source: Metro Gamma Forecast; Leland Consulting Group.

Table 3 shows Metro’s analysis of past and future employment growth in the Metropolitan Statistical Area (MSA), completed for the Draft 2014 Urban Growth Report. This data shows employment changes for a larger area—the seven-county MSA—than the three-county data above.

**Table 3. Employment: Past Growth and Future Projections, Seven-County MSA**

Time Period	Annual Growth Rate
1960 - 1980	3.74%
1980 - 2000	2.60%
2000 - 2020	1.17%
2020 - 2040	1.24%

Source: Metro, *Mid Range projection, Draft 2014 Urban Growth Report, Appendix 1a.*

A key take away from this data is that while employment in the region will continue to grow, it will grow more slowly during the build out period for Basalt Creek (likely largely during the 2020 to 2040 time period) than during the most rapid periods of employment growth (1960 to 2000). Based on this projection and conversations with area brokers, LCG projects that employment land absorption during Basalt Creek’s build out period should be faster than 2000 to 2014 (which includes the recession and its aftermath), but slower than during the rapid growth period of 1980 to 2000, and the 1990s in particular.

## Industrial Development Outlook

Private sector analysis of the demand for industrial space is consistent with Metro’s projections in that most observers expect a resurgence of demand as the economy recovers from the recession. Nationwide, industrial development is anticipated to accelerate due to increased long-term demand for industrial properties from firms whose businesses involve research and development, advanced manufacturing, general manufacturing, and warehousing. While private sector development forecasts are often focused on a short to medium-term (e.g., one to five years) time frame, rather than the long-term (20-year) time frame for this plan, the dynamics described below are significant and are supportive of industrial development at Basalt Creek. According to the Urban Land Institute’s 2014 *Emerging Trends in Real Estate*:

**Industrial.** Industrial real estate will get a boost in 2014 as the U.S. economy continues to improve and as retailers and manufacturers have made the shortening of the supply chain their top priority for the foreseeable future. Warehousing stands out as the strongest prospect in both investment and development in 2014—not only among industrial subsectors and niche markets, but across all types of subsectors and niche markets... Warehousing is a clear favorite when survey respondents recommended action... The strength of warehousing reflects the expanding influence of e-commerce distribution networks...

**The Return of Manufacturing.** “Manufacturing is coming back to the U.S., and it’s coming back faster than we thought. Back in 2011, no one thought we would see anything until 2015. Now, we are seeing dozens of companies moving back to the U.S. because the economics are shifting,” says a labor economist. “A key driver of this trend is that labor costs in China are rising, with wages increasing by about 15 to 20 percent a year and the steady appreciation of the Chinese yuan against the dollar. Manufacturers are seeing very long supply chains, and there are increasing concerns about intellectual property.”

Portland's industrial market is heating up in response to these trends. In late 2013 and early 2014, a number of new industrial projects have been announced totaling about 1.5 million square feet; one is the 800,000-square-foot PDX Logistics Center (18.3-acre building) to be built near PDX Airport. A speculative investment of this magnitude shows significant confidence in the Portland market. Eight additional major projects are reportedly in the planning pipeline. Industrial brokers at Kidder Matthews report an "industrial land shortage" and that the "greatest demand is seen in the I-5 corridor," a submarket that includes Wilsonville and Tualatin.

## Office Development Outlook

Office development nationally and regionally is not expected to bounce back with the same resiliency as industrial space. Office development in the short and long term faces several challenges. In the short term, the Portland region's employment levels have only just recovered this year to their 2008 pre-recession levels. While office vacancies are far lower than they were several years ago, there is not yet pressure for new development. As Table 4 shows, the region is expected to add just 288,000 square feet of office in 2014, or 0.6 percent of the total regional inventory of nearly 47 million square feet. Tualatin's current vacancy rate of 20.5 percent suggests a soft market, though that space will be occupied in the long term.

**Table 4. Current Office Market Summary, Portland Metro Region**

Market	Existing Inventory		Vacancy %	YTD Net Absorption	Under Const. & Complete YTD	Class A Rates
	# Blds	Total RBA				
Portland CBD	374	26,309,983	10.0%	(36,157)	288,000	\$25.58
Lake Oswego/West Linn	142	1,144,080	8.5%	13,170	0	\$25.50
North Beaverton	151	3,246,113	6.7%	37,420	0	\$26.33
Sunset Corridor/Hillsboro	359	10,374,721	6.2%	111,442	0	\$21.53
Tigard	226	3,313,116	10.4%	35,859	0	\$24.27
Tualatin	68	1,263,266	20.5%	10,099	0	\$22.28
Wilsonville	59	1,252,446	7.1%	9,476	0	\$20.50
<b>Totals</b>	<b>1,379</b>	<b>46,903,725</b>		<b>181,309</b>	<b>288,000</b>	

Source: CoStar, Leland Consulting Group.

Of more concern for new office development at Basalt Creek are several long-term trends. Companies are becoming much more efficient than ever before with their office space, and thus, requiring less of it. Greater efficiencies are being achieved through smaller dedicated desk spaces; employees who work out of the office on the road, from home, or other locations; and less storage for fewer paper files. In addition, companies have gotten more reluctant to take on long-term obligations such as expanded leases. These trends are expected to continue, and in some cases accelerate in the future, and therefore, demand for office space as a function of total employment is likely to be less in the future.

In conclusion, in the near and potentially long term, office development is likely to be slower than industrial development throughout the Portland region. As shown in Figure 2 and 4, much more industrial development than office development has taken place in Tualatin and Wilsonville in recent decades, and LCG expects this trend to continue at Basalt Creek.

## Tualatin and Wilsonville’s Economic Positioning and Goals

The Cities of Tualatin and Wilsonville are proactively pursuing economic development in order to provide high paying jobs for their residents, strengthen their tax bases, offer quality public services, and enable general prosperity in the communities. The two Cities’ main economic development plans relevant to Basalt Creek are shown below.

**Table 5. Relevant Economic Development Plans**

Tualatin	Wilsonville
<ul style="list-style-type: none"> <li>Economic Development Strategic Plan (2014)</li> <li>Industry Cluster Analysis (2014)</li> <li>Southwest Tualatin Concept Plan (2010)</li> </ul>	<ul style="list-style-type: none"> <li>Economic Opportunities Analysis (EOA) Update (Final Draft, 2012)</li> <li>Coffee Creek Master Plan (2007)</li> </ul>

### Target Industry Clusters

Tualatin and Wilsonville have both identified a series of targeted industry clusters. According to Tualatin’s Industry Cluster Analysis, a cluster is an agglomeration of similar and related businesses and industries that are mutually supportive, regionally competitive, attract capital investment, encourage entrepreneurship, and create jobs. For example, 57 percent of Tualatin’s jobs fall within its five key industry clusters, which also provide wages that are on average 70 percent (\$35,000) higher than those in all other industries.

Clusters reflect the community’s strengths and competitive advantages, suggest which sectors of the economy are most likely to generate jobs in the future, and provide policy makers with guidance about the types of land, buildings, infrastructure improvements, and other actions needed to grow jobs in the future. (Wilsonville’s EOA uses the term industry “sectors.” The terms cluster and sector are used interchangeably here.)

Both Tualatin and Wilsonville have determined that they excel in the following three industry clusters. The economic figures included below are drawn from the Cities’ economic development plans.

- Advanced Manufacturing and Related.** This cluster is a significant driver of both cities’ economies. It is Tualatin’s largest cluster, accounting for 22 percent of jobs in the city. It accounts for a significant portion of Wilsonville’s economy; computer and electronic product manufacturing was Wilsonville’s largest industry sector as of 2012, and includes several of the city’s largest employers such as Xerox, TE Connectivity, and Rockwell Collins.

The Oregon Institute of Technology (OIT), now educating students in the engineering, technology, management, and health sciences fields from its Wilsonville campus, is an important anchor institution for the southwest metro economy. The Cities are looking for ways to capitalize on OIT’s presence and to strengthen partnerships between the school and private business.

Growth in this cluster will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to this cluster’s ongoing success.

- **Corporate and Professional Services.** This cluster accounts for 12 percent of Tualatin's jobs, and was the second largest industry sector in Wilsonville as of 2012. Major employers include Portland General Electric and Express Employment Professionals in Tualatin, and Mentor Graphics in Wilsonville. Growth in this cluster will result in ongoing demand for office land and buildings in Basalt Creek and other areas. A variety of locational factors tend to be important to corporate and professional service firms, including skilled workforce, available land or office space, transportation connections, and nearby restaurants and commercial services.
- **Health Care and Medical Related.** This cluster is important in both cities: it is the third largest in Tualatin and fourth largest in Wilsonville. Tualatin's health care cluster is anchored by Legacy Meridian Park Medical Center, among Tualatin's largest employers, and also includes associated industries such as clinics, laboratories, physician offices, and assisted living centers. Wilsonville's largest health care employers as of completion of the EOA were Infinity Rehab and Avamere, both ambulatory (outpatient) service providers. Wages in this cluster are well above average.

Because of the diversity of health care businesses, firms in this cluster can operate in health care-specific zones (such as Tualatin's Medical Commercial zone), or general employment zones (such as Wilsonville's Planned Development Industrial zone). In some cases, health care firms that serve smaller, more localized populations can locate in retail/commercial zones.

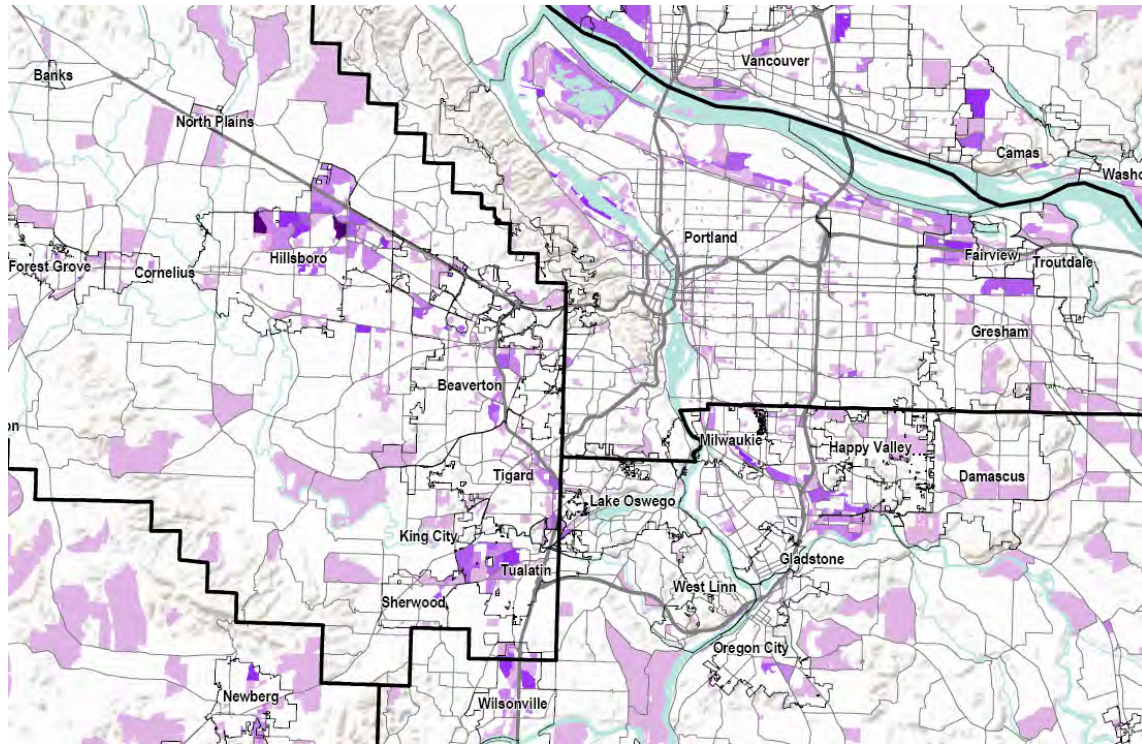
In addition to the three clusters described above that have been identified as targets for both cities, Tualatin and Wilsonville have also identified these industry clusters:

- **Other Industrial Clusters.** Both Cities have identified additional industrial target clusters that could locate in Basalt Creek. Tualatin has identified two other industry clusters likely to generate demand for industrial land and buildings: Food Processing and Distribution, and Wood, Paper, Printing, and Related. Wilsonville identified a number of other industrial business types: Light Manufacturing and Warehouse/Showroom Operations; Specialty Contractors and Construction Firms; Sustainable Product Manufacturing and Distribution; Miscellaneous Manufacturing, and Wholesale Trade.

Growth in these clusters will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to these clusters' ongoing success.

- **Other Professional and Commercial Services.** Wilsonville's EOA also identifies Creative Services (such as transportation logistics, legal services, management consulting, and accounting) as a target cluster. Similar to Corporate and Professional Services, growth in this cluster should result in demand for office land and buildings in Basalt Creek and other areas.
- **Other Clusters.** Some clusters may or may not be a good fit for inclusion at Basalt Creek, depending on the Concept Plan. An example is Tourism and Recreation, which was identified by Wilsonville.

**Figure 7. Number of Manufacturing Employees**



Source: Institute for Metropolitan Studies, Portland State University.

**Figure 8. Lam Research Facility, Tualatin**

The semiconductor equipment manufacturer is the city's largest private employer, and a leader in the city's advanced manufacturing cluster.



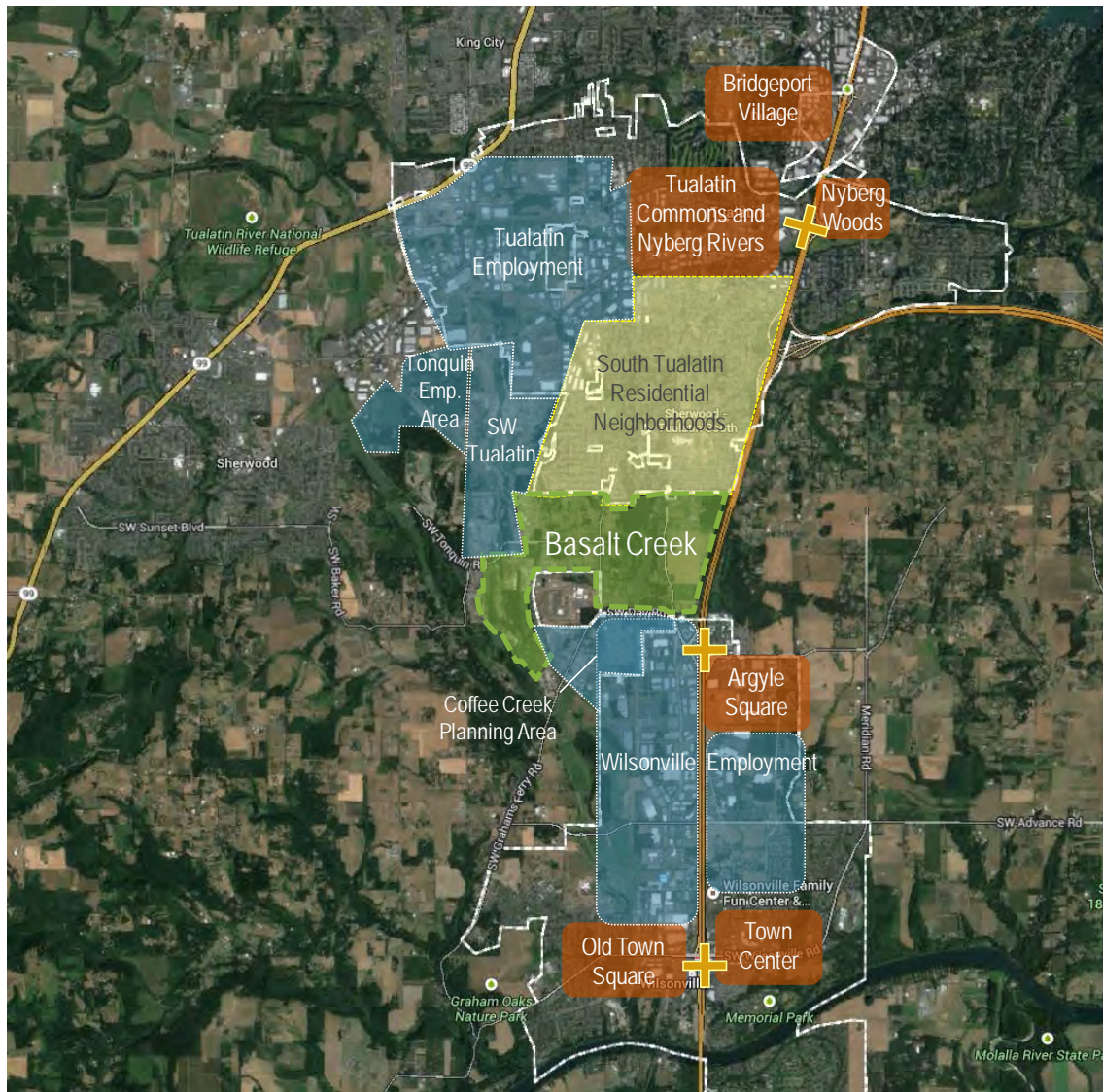
Photo credit: Tualatin Chamber.

## Subregional Context

Figure 9 below shows the Basalt Creek study area and the key employment, commercial, and residential areas nearby, along with three I-5 freeway interchanges. This map shows that Basalt Creek is located at the heart of a large, contiguous series of employment areas, which will provide Tualatin and Wilsonville with the land area to build on and expand their advanced manufacturing, corporate services, and other key industry clusters.

Transportation is fundamentally important to these employment areas, and transportation connectivity has the potential to make a whole that is greater than the sum of its parts by enabling firms to trade goods and services easily. I-5 is the most important single transportation corridor. The 124<sup>th</sup> Avenue Extension and East-West Connector will also be very important in knitting the employment areas together. This large agglomeration of employment areas creates momentum, and will also be a source of competition for Basalt Creek.

**Figure 9. Basalt Creek Geographic Context**



Source: Leland Consulting Group. **Note: Employment, commercial, and residential area boundaries are approximate.**



**Established Employment Areas.** The Tualatin and Wilsonville employment areas are developed areas that have capacity to continue to add businesses and jobs. To the west of I-5, Wilsonville's employment area tends to contain more industrial, manufacturing, distribution, and flex businesses and buildings; to the east of I-5, a larger share of businesses are office-based professional service firms, such as Mentor Graphics and Xerox Corporation. However, the zoning is the same (Planned Development Industrial) throughout the entire Wilsonville employment area.

The City of Wilsonville is currently at work developing a Light Industrial Form Based Code (FBC) intended to streamline approval of light industrial and office employment, while at the same time ensuring high-quality urban design. The FBC will apply to the Coffee Creek industrial area, but could also apply to Basalt Creek Creek and other areas.

**Planned Employment Areas.** Southwest Tualatin, Tonquin, and Coffee Creek are planned employment areas located within the UGB that have yet to be served by infrastructure or see new private development. Annexation and development in the areas are property owner initiated.

- The Southwest Tualatin Concept Plan Area is approximately 614 gross acres and is planned for a mix of light industrial, high tech, and campus employment users. Most of the area remains an active quarry; the City expects this use to continue for an indeterminate period.
- The Coffee Creek industrial area is a 225-gross-acre area that was master planned by the City of Wilsonville in 2007. It is adjacent to Basalt Creek on the south side of Day Road. In addition to industrial development throughout the area, the City's vision includes the development of an office corridor on Day Road (the dividing line between the Coffee Creek and Basalt Creek areas). No development or annexation has taken place in Coffee Creek since the adoption of the master plan; land assemblage challenges, and lack of City services and financing plan to build those services are the primary obstacles to development here.
- The Tonquin employment area is a 300-gross-acre area located in the City of Sherwood. It is planned for light industrial development with a small amount of ancillary retail/commercial services.

## Employment Strengths and Challenges

Basalt Creek's primary strengths/competitive advantages and challenges vis-à-vis the industrial and office development are as follows:

### Strengths and Competitive Advantages

- Tualatin and Wilsonville's established and successful industry clusters in advanced manufacturing, professional services, and a variety of other industrial and office-based employment categories. Large contiguous cluster of existing and planned employment areas.
- Long-term growth projections for employment and population in the southwest Portland metro area.
- Excellent access to I-5, as well as I-205 and Highway 217. Additional transportation strengths include existing and planned arterial roads, and local and regional transit service provided by TriMet, WES Commuter Rail, and SMART.
- Educated workforce.

- Market success of recent industrial, office, and retail developments.

### Challenges

- Vision and regulation: This Concept Plan, and subsequent Comprehensive Plan and zoning amendments, need to be in place prior to development.
- Planning, financing, and construction of new infrastructure.
- Lot sizes and property aggregation. There is a mix of large and small lots throughout Basalt Creek. The time and cost required to secure properties from multiple parties in order to aggregate developable industrial or office properties of adequate size can be a significant deterrent to developers.
- Natural features including wetlands and slopes. Basalt Creek and its surrounding slopes and wetland areas run north-south through the study area and divide the area into east and west sections.
- The market for new office development continues to be slow. However, the study area will not be ready for private development for several years, which may allow enough time for this market to recover.

## Absorption and Build Out

Employment development—including industrial and office land development—is expected to take place in Basalt Creek at a pace of about eight to 10 buildable acres annually, assuming zoning is in place and urban infrastructure (roads, sanitary sewer, and water) are available. The pace of development will depend on economic conditions at the time of development, the location of transportation and other improvements, and the number of other nearby employment areas also available for development, among other factors. This represents a 30 to 40 percent capture rate of Wilsonville’s annual average of 25 acres of employment land development (see Table 1) and is reasonable given that employment development can also be expected to take place at Coffee Creek and “infill” within existing urbanized parts of the city. The projection is also consistent with the estimates provided by developers interviewed for this project. If development at Coffee Creek and on infill sites is highly constrained, then development at Basalt Creek could accelerate.

Buildings in Basalt Creek are expected to range widely in terms of site and building sizes. However, the FARs for most buildings should fall between 0.2 and 0.4 FARs and be surface parked. Higher density buildings with some structured parking may be feasible at special locations, or in later years after the market has matured.

# Housing Market Analysis

## Demographic Context

Table 6 summarizes Metro's 2010 to 2035 gamma projections of household growth for the cities of Tualatin and Wilsonville, and other geographies relevant to Basalt Creek. Some key take aways are:

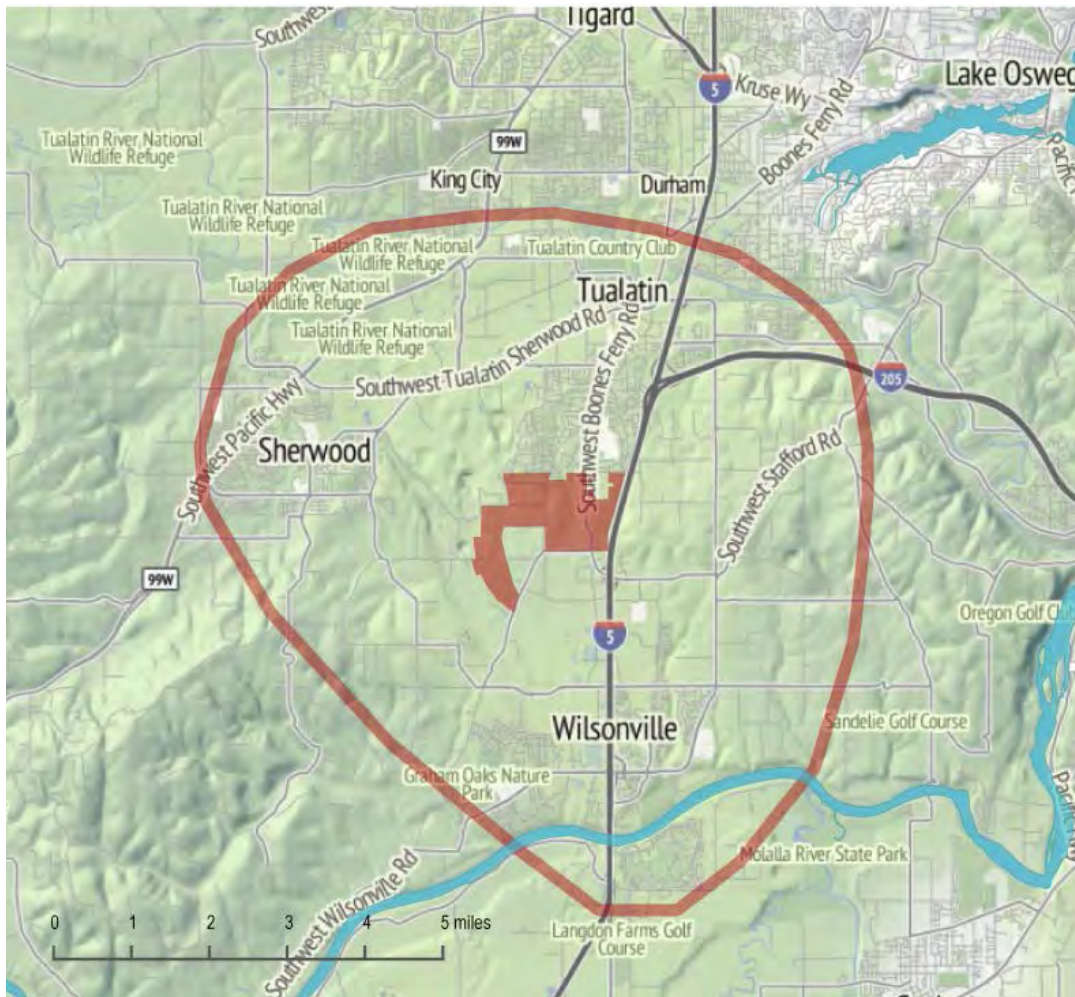
- The number of households in the three-county Metro area is expected to grow relatively quickly, at a 1.5 percent Compound Annual Growth Rate (CAGR), between 2010 and 2035, and thus add more than 11,000 households per year.
- Metro forecasts that Tualatin and Wilsonville will grow throughout the forecast period, with the number of households in Wilsonville projected to grow at a faster rate (1.5 percent) than Tualatin (0.4 percent). According to Metro, in 2010, Tualatin's average household size (2.61 persons) was slightly larger than Wilsonville's average (2.48 persons). Metro projects this difference will essentially remain through 2035, though Tualatin's household size will decrease somewhat (to 2.55 persons).
- The Basalt Creek market area (see Figure 10) was also defined in order to evaluate demographic trends that cross city and county boundaries. The market area includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas. This market area is the area from which new residents of Basalt Creek are most likely to come, based on Leland Consulting Group's market research.
- The consistent projected household growth in the region, market area, and subject cities suggest that there will be demand for new homes within the market area generally and Basalt Creek specifically through 2035, assuming that Basalt Creek is effectively planned and made available for development.

**Table 6. Demographic Forecasts for Market Area and and Metro Region**

Jurisdiction	Households			
	2010	2035	Change	CAGR
City of Tualatin	10,000	11,170	1,170	0.4%
City of Wilsonville	7,859	11,508	3,649	1.5%
City of Sherwood	6,316	7,269	953	0.6%
<b>Basalt Creek Market Area</b>	<b>27,825</b>	<b>38,704</b>	<b>10,879</b>	<b>1.3%</b>
Clackamas County	146,324	208,437	62,113	1.4%
Multnomah County	304,649	442,546	137,897	1.5%
Washington County	202,647	289,592	86,945	1.4%
<b>Three County Total</b>	<b>653,620</b>	<b>940,575</b>	<b>286,955</b>	<b>1.5%</b>

Source: MetroScope Gamma Forecasts, Published Feb 07, 2013, <http://www.oregonmetro.gov/regional-2035-forecast-distribution>.

Figure 10. Basalt Creek Market Area



Source: Fregonese Associates, Leland Consulting Group.

Table 7 below and Table 8 on the following page provide additional perspective on the demographics of the subject cities when compared to the Portland MSA.

The City of Tualatin, when compared to the Portland MSA, has a higher percentage of family households (two or more related people), larger average households, higher household incomes, and higher capita incomes. A larger share of residents have college degrees (43 percent) and are employed in white collar jobs (67.4 percent) compared to the region.

Wilsonville, when compared to the Portland MSA, has a higher percentage of family households and smaller households. This is likely because the city has a higher share of young households (in the 25 to 34 age category) and seniors, Baby Boomers, and retirees (65+ category). Each of these age groups has different housing preferences. Like Tualatin, Wilsonville has a larger share of residents with college degrees (43 percent) and white collar jobs (67.4 percent) than the region. (The data below shows information about *jobs held by residents of the given geographical areas*, not the jobs within those areas.)

**Table 7. Demographic Summary**

Key: Low High 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	Basalt Creek Market Area	Portland MSA
Comparison to Portland MSA:	More families Larger HHs Higher HH Incomes Higher PC Incomes More college degrees More white collar emp.	Fewer families Smaller HHs More Gen Y More Boomers More low-income HHs More college degrees More white collar emp.	More families Larger HHs Higher HH incomes Higher PC incomes More college degrees More white collar emp.	
Population	26,520	21,235	73,786	2,296,285
Number of Households	10,170	8,638	28,121	896,982
Family Households (2010 Census)	68%	59%	68%	64%
Household Size (Average)	2.60	2.32	2.57	2.52
Household by Size (2010 Census)				
1 and 2 person households	57%	68%	58%	61%
3 and 4 person households	33%	25%	32%	29%
5 + person households	10%	7%	10%	10%
Median Household Income	\$64,324	\$59,812	\$70,256	\$57,441
Per Capita Income	\$32,672	\$31,995	\$33,336	\$30,135
Population By Age				
0 to 24	35%	31%	34%	32%
25 - 34	14%	16%	13%	15%
35 - 44	15%	14%	15%	14%
45 to 54	14%	13%	14%	14%
55 to 64	13%	11%	12%	13%
65 +	9%	15%	11%	13%
Median Age	35.7	37.0	36.6	37.5

Source: ESRI Business Analyst, Leland Consulting Group.

The Basalt Creek market area is similar to Tualatin in many ways. When compared to the Portland MSA, the market area has a higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs.

**Table 8. Demographic Summary (Continued)**

Key: Low High 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	SW Metro Market Area	Portland MSA
<b>Education and Employment</b>				
Less than High School	9.7%	8.0%	8.0%	9.4%
High School or Equivalent	16.5%	20.4%	18.2%	22.1%
Associate's or some college	31.5%	32.3%	32.5%	34.2%
Bachelor's or Advanced Degree	42.3%	39.3%	41.3%	34.3%
<b>Occupation</b>				
"White Collar"	67.5%	70.1%	69.3%	63.1%
"Blue Collar"	11.3%	14.1%	13.5%	19.5%
<b>Housing</b>				
Median Home Value	\$331,190	\$349,927	\$337,289	\$275,516
<b>Housing Tenure</b>				
Owner Occupied Housing Units	51.9%	43.4%	55.0%	56.2%
Renter Occupied Housing Units	42.6%	50.5%	39.8%	37.7%

Source: ESRI, Leland Consulting Group. 2013 data except where noted.

In general, these demographics are favorable to housing development in Basalt Creek; they also reflect the types of residents most likely to locate in Basalt Creek.

Finally, the South Tualatin residential neighborhoods immediately to the north of Basalt Creek reflect many of the demographic attributes typical of Tualatin's population. The neighborhoods—including roads, street trees, parks, and schools—create a positive environment for residential development within Basalt Creek, particularly along the northern edge. It should be noted, however, that Basalt Creek is located in the Sherwood School District, not the Tigard-Tualatin School District, and therefore, school age children in Basalt Creek would need to travel west to Sherwood, rather than north, for classes.

## Regional and National Demographic Trends Affecting Housing

It is important to note that over the coming decades the metropolitan region's demographics are expected to become more like Wilsonville's demographics today, and somewhat less like Tualatin. Table 9 compares the age group split in the cities of Tualatin and Wilsonville today with Washington County's demographics in 2010 and projected demographics in 2035. The biggest change is that older households are expected to comprise a larger share of the total population, with a smaller share in the 35 to 64 age category. Household sizes are also expected to decrease. Washington County is used here as a proxy for the age groups and household types most likely to live in the Basalt Creek market area in coming years, and because Metro and the State of Oregon both produce long-range estimates for the County.

**Table 9. Demographic Comparison of Subject Cities in 2013 and Washington County 2035 Projection**

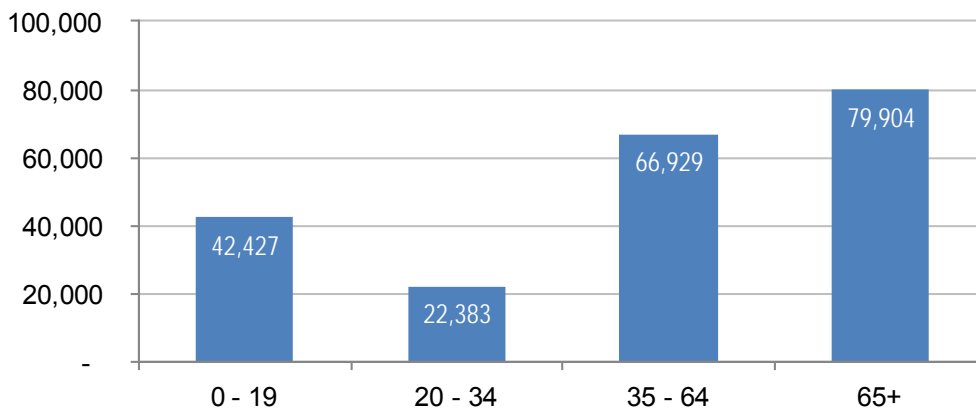
Age Group	City of Tualatin 2013	Washington County 2010	City of Wilsonville 2013	Washington County 2035
0 - 19	35%	34%	31%	30%
20 - 34	15%	15%	17%	14%
35 - 64	42%	40%	38%	38%
65+	8%	10%	15%	19%
Total	100%	100%	100%	100%

Source: Office of Economic Analysis, State of Oregon; ESRI Business Analyst, Leland Consulting Group.

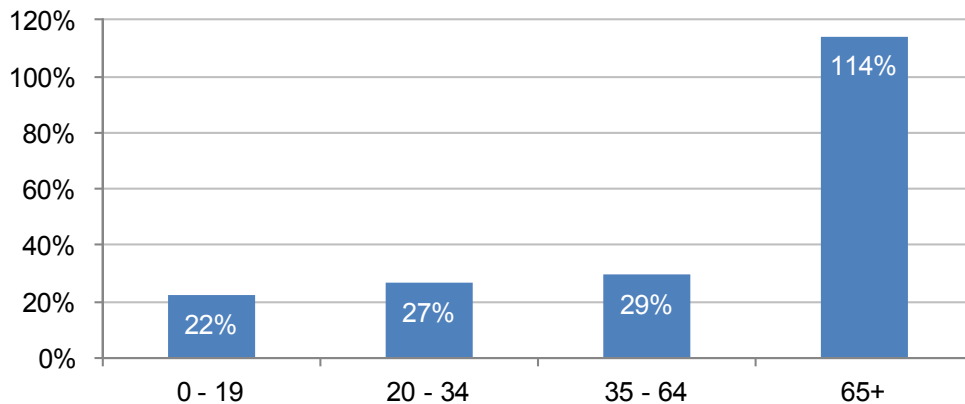
The figures below further emphasize the demographic trend that is referred to as the aging of the Baby Boomers or the “silver tsunami,” which is expected to have a significant impact on housing demand. As Baby Boomers, those born between 1946 and 1964, retire and begin to consider selling their homes and relocating, they are expected to have a major impact on housing markets. Many will be selling medium and large size single-family homes and looking for smaller homes with lower maintenance and upkeep, and the freedom to “lock and leave” home to visit family and friends, and vacation elsewhere. Many will also keep their homes.

Figure 11 highlights several points. The population of all age categories is growing between 2015 and 2035—the period during which Basalt Creek is expected to build out—and there should be demand for housing that meets the needs of all of these groups. The 65+ population will grow the most. The effect of this growth will be even more pronounced since these are relatively small households and thus more housing units are needed to serve the same population. The population of the 35 to 64 age category, and their children, under 19, will also grow significantly. This group is likely to re-occupy many of the single-family homes now in the market area, and new homes in Basalt Creek. The size of the 20 to 34 age group is not expected to increase much. This is because Generation Y / Millennials, now in their 20s and early 30s, is a large age cohort, and the age cohort behind them is expected to be smaller. Generation Y is driving the apartment boom now taking place in urban and mixed-use areas throughout the metro region.

**Figure 11. Net Population Change by Age Group, 2015 to 2035, Washington County**



**Figure 12. Percent Population Increase by Age Group, 2015 to 2035, Washington County, Oregon**



Source: Office of Economic Analysis, State of Oregon; Leland Consulting Group.

Figure 12 shows that, as a percentage of the current population, the growth in the 65+ age group will be far greater than growth in the other age groups. While the numerical increase (shown in Figure 11) is only slightly greater than the increase in other population groups, the percent increase is far greater. Therefore, our perception of this change, and its impact—on housing, health care, and other parts of society—is likely to be greater.

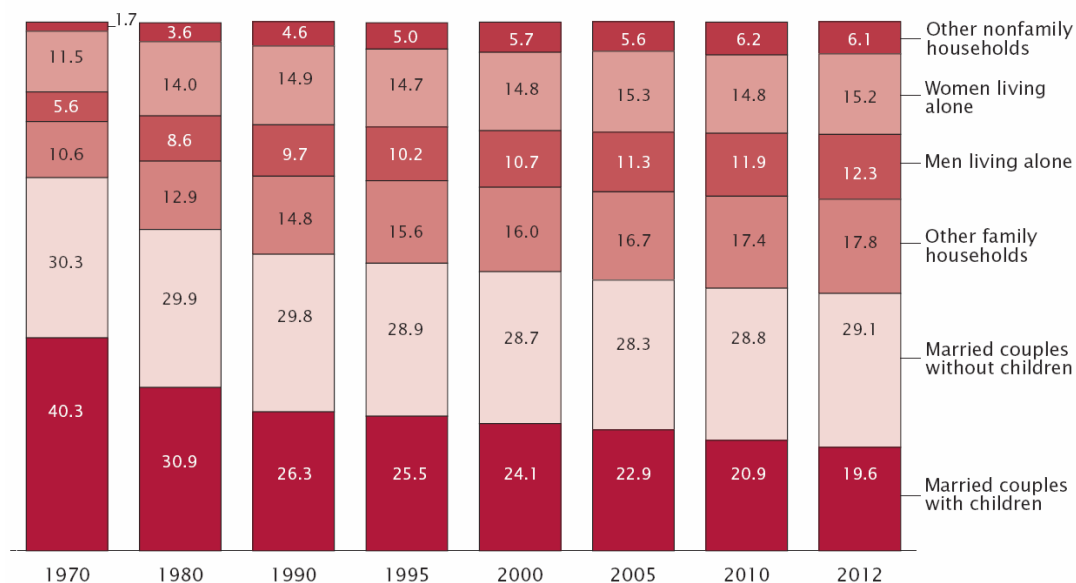
Some urban planners have identified four demographic groups that have seen the highest rate of growth in recent decades and are expected to continue growing in the coming decades. These are the “four S groups:”

- Seniors
- Singles
- Single-parent households
- Starter households



The growth in these groups nationwide is shown in Figure 13 below, along with the significant decrease in married couples with children as a share of all households. This strongly suggests that future housing demand, and the housing mix in residential neighborhoods, will continue to shift from single-family homes to a broader mix of housing types.

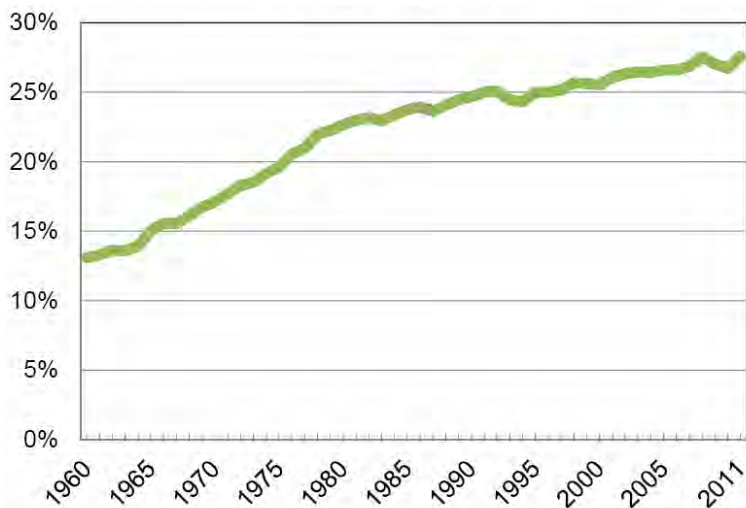
**Figure 13. Households by Type, United States**



Source: US Census Bureau.

Figure 14 shows the growth in the percent of households nationwide with one person. The share of one-person households doubled between 1960 and 2011. Two-person households are also making up a larger share of the national and regional population. Sixty percent of households in the market area, and 68 percent of Wilsonville’s households, are one or two-person households. These households are the core drivers of demand for housing types such as small lot single-family homes, attached single-family homes (townhouses and duplexes), and multifamily housing (apartments, condominiums, and senior housing).

**Figure 14. Percent of Households with One Person, United States**



Source: US Census Bureau.

## Community Preferences

Of course, real estate and home buying is all about “location, location, location”—in other words, the community, city, or neighborhood in which a given home is located. Since 2004, the National Association of Realtors (NAR) has conducted a nationwide poll to better understand what Americans are looking for in their future homes and communities. This is the most robust, widely-applicable survey instrument available to suggest how housing demand is evolving. One important focus of this poll is testing Americans’ interest in the features of what are variously called “walkable communities,” “complete communities,” or “traditional neighborhood development.” Such communities tend to be pedestrian friendly—parks, schools, shops and businesses are located within walking distance of homes—and contain a range of different housing types where households of different ages and sizes can live (single-family homes, townhouses, and multifamily housing).

Figure 15 shows how people responded when asked, “Do you think there is too much, too little, or the right amount of each of the following in the area close to where you live?” Respondents most often felt that there are too few features such as safe routes for walking and biking, public transit, a diversity of housing, and shops and restaurants within an easy walk.

**Figure 15. Which Neighborhood Amenities are in Demand?**

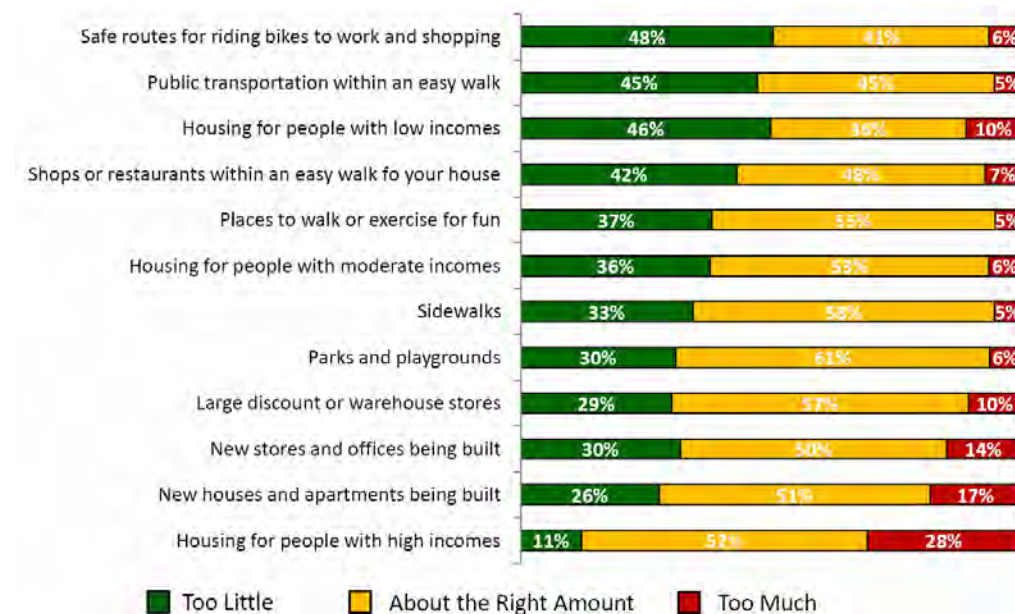


Figure 16 shows how people responded when asked to select the house where they would prefer to live when provided with two community options. By nearly a two-to-one margin, Americans prefer a neighborhood where they can walk to stores and businesses. The preference is significantly more pronounced among those who recently purchased a home or are currently in the market.

**Figure 16. Community Preferences**



Source, both figures: National Community Preference Survey, National Association of Realtors, October 2013.

## Housing Types

Table 10 and the images that follow show categories of housing that are used to estimate demand in the Basalt Creek area. While there are many different categories and subcategories of housing, these five housing types are representative of the vast majority of housing being built now and in the recent past in the Portland metropolitan region, and in the market area in particular. The net density (number of housing units that can be accommodated on buildable land) of various housing types will vary depending on conditions such as slope, wetlands and environmental constraints, property ownership, streetscape features such as sidewalks and parking strips, and other factors; the net densities shown below are based on the average density of numerous built and planned projects.

**Table 10. Housing Types**

Housing Type	Lot Size			Net Density
	Low	Average	High	
Large Lot Single Family	6,000	<b>7,500</b>	8,500	6.0
Medium Lot Single Family	4,000	<b>5,000</b>	6,000	7.5
Small Lot Single Family	2,500	<b>3,500</b>	4,000	11.0
Attached Single Family: Townhomes and Duplexes	1,000	<b>2,250</b>	2,500	16.0
Multifamily: Apts, Condos, and Senior Housing	NA	<b>NA</b>	NA	25.0

Large Lot Single-Family



Medium Lot Single-Family



Small Lot Single-Family



Single-Family Attached



Multifamily



## Recent Housing Development

Table 11 shows the recent residential permitting trends in the cities of Tualatin and Wilsonville, and in Villebois, a master planned community in Wilsonville. Villebois is shown here because: it is the largest master planned community (482 acres) that has been developed recently in the Southwest Metro area; it is a defined area that has been planned to include a range of housing, parks, and commercial services; and due to its success in the marketplace in recent years, housing absorption has been relatively rapid (adjusting for the recession), and many houses sell for a premium when compared to the competition in other areas. Naturally, recent housing built in these areas provides one benchmark from which to estimate future demand.

As Table 11 shows, the housing types that have been permitted and built in these areas correlate closely to the types of people and households who live there; the housing types also likely reflect zoning and other regulatory and market forces. Recent housing permitted in Tualatin is composed largely of large and medium lot single-family housing. No small lot single-family housing (lots smaller than 4,000 square feet) or attached single-family housing has been permitted since 2004. About 20 percent of the recently permitted housing in Tualatin is multifamily—market rate and affordable apartments, condominiums, and senior housing. Very little existing multifamily housing is located in the neighborhoods immediately north of Basalt Creek; most of Tualatin’s multifamily housing is clustered further north near the Tualatin Town Center, Tualatin-Sherwood Road, and Bridgeport Village. The majority were built prior to 2000, although the 367-unit Eddyline at Bridgeport, completed in 2013, is a notable exception. Historically, this multifamily share is relatively typical; multifamily has comprised about 20 percent of total housing in many communities during the past five decades.

Wilsonville’s housing is more diverse and features a significantly higher percentage of small lot single-family and multifamily housing, and much less large and medium lot single-family housing. Again, this is likely to be due to market, demographic, and regulatory reasons. The broad housing mix reflects the presence and growth of the four S groups in Wilsonville: seniors, singles, single-parent households, and starter households. The large multifamily share (66 percent) is partially due to the large number of new 20 and 30-something households recently formed, which will slow in coming years. Villebois’ housing mix is similar to that in Wilsonville overall; however, during the time period surveyed (2000 to 2012) a larger percentage of small lot single-family homes, townhouses and duplexes were built in Villebois, along with a smaller percentage of multifamily housing. Villebois’ developers and NAR surveys show that most American households, Baby Boomers included, prefer single-family homes over multifamily homes, but that they are quite open to smaller lot and homes sizes, especially when the surrounding neighborhood is attractive and walkable.

**Table 11. Residential Development in Tualatin and Wilsonville by Housing Type**

Housing Type	Tualatin	Wilsonville	Villebois
	Recent Permits	Recent Permits	Recent Permits
Large Lot Single Family	44%	9%	8%
Medium Lot Single Family	36%	10%	8%
Small Lot Single Family	0%	12%	35%
Attached Single Family	0%	2%	6%
Multifamily	20%	66%	43%
<b>Total</b>	100%	100%	100%

Sources: HUD; City of Wilsonville, *New Home Trends*, Leland Consulting Group. Due to data availability, Table 11 shows housing built in Tualatin between 2004 and 2014; and permits issued in Wilsonville between 2000 and 2012.

## Basalt Creek Housing Scenarios

Table 12 shows the residential development scenarios developed by Leland Consulting Group for Basalt Creek. Rather than a single recommendation, these scenarios represent a continuum of options for the area. Typically, there is no single residential land use program that is “correct” in the marketplace, especially because of the significant growth in all households projected to occur in the market area. Rather, public policy, community aspirations, the vision of developers and land owners, and the type of multidisciplinary planning now taking place in this Concept Plan can help to shape the type of community expected, and the proper housing markets to pursue. An average net density (across all housing products) for each scenario is shown below. The density of each product type is shown in Table 10 on page 29.

Scenario 1 can be thought of as reflecting the “status quo”—a housing mix similar to what has been built in Tualatin between 2004 and 2014. This is used as a status quo benchmark since Tualatin’s residential neighborhoods are in closest proximity to Basalt Creek. Eighty percent of the homes in this scenario are either large lot or medium lot single-family homes. While these homes are likely to appeal to families with children and many smaller households, this scenario may have an undersupply of small lot and attached single-family homes which will appeal to the growth in 65+ households and one and two-person households. There is less housing diversity in this scenario than other scenarios, and the predominance of large lot homes is likely to make it more challenging to create the type of walkable neighborhoods that 60 percent of those polled by the National Association of Realtors prefer.

Scenario 2 largely relies on the housing preferences expressed in the 2013 Realtors Survey. The one exception is that the 20 percent multifamily share was maintained from Scenario 1 to reflect historical multifamily construction patterns in Tualatin and Wilsonville. This scenario reflects the demand for small lot single-family, attached single-family, and multifamily expressed in the survey, and also greater share of these products in Wilsonville. Nonetheless, 75 percent of the housing remains single-family detached housing. The average density is just under 10 dwelling units per net buildable acre. This scenario contains a broader diversity of housing products and will be more suitable for a walkable community than Scenario 1.

**Table 12. Residential Development Scenarios**

	Scenario 1	Scenario 2	Scenario 3
<b>Percent of Units by Type</b>			
Large Lot Single Family	44%	10%	5%
Medium Lot Single Family	36%	41%	23%
Small Lot Single Family	0%	24%	43%
Attached Single Family	0%	5%	9%
Multifamily	20%	20%	20%
Total	100%	100%	100%
<b>Net Density</b>	7.7	9.6	10.9

Source: Leland Consulting Group.

Scenario 3 is similar to Scenario 2 but attempts to make several adjustments for changing housing demand. First, more demand is shifted to towards small lot single-family homes in response to stated preferences for such homes when they are located in a neighborhood where businesses and other amenities are located in close walking distance. Second, slightly higher demand for attached housing (duplexes, clustered cottage homes, and townhouses) is assumed because of the significant increase in 65+ aged households, and because of preferences for smaller homes in walkable communities. The multifamily share remains the same. Seventy percent of all housing remains single-family detached housing.

## Retail Market Analysis

Retail, commercial services, and commercial office space (e.g., medical and dental offices) may be feasible in Basalt Creek. However, the market for these goods and services cannot be determined without first establishing one or more land use alternatives for employment, housing, and other uses in Basalt Creek. Nearby residents and employees generate the main demand for retail and since the amount and location of these are unknown at this time, the amount and location of retail cannot be determined.

Despite these significant unknowns, the following observations can be made about retail in Basalt Creek.

### Market

In addition to new residents and employees that may locate in Basalt Creek, the residents of the Tualatin neighborhoods located immediately to the north are an important source of support for retail. Residents spend more of their retail dollars locally than employees or passersby, and therefore are generally a more important source of demand for retail goods and services. Approximately 4,000 households live in the area between Norwood Road and Tualatin-Sherwood Road. These households already have other places to shop, particularly on and near Tualatin-Sherwood Road. However, based on existing traffic counts and interviews with residents and developers, it is clear that some of these residents are already accustomed to driving south through Basalt Creek to access I-5 or other destinations.

Retailers also look at traffic counts as an important demand indicator, since retail relies on passby traffic for support. Boones Ferry Road carries average daily traffic (ADT) of about 15,000 today according to ESRI Business Analyst, which is high enough to suggest that it will be a good retail location in the future. Traffic counts on Grahams Ferry Road are below 6,000 ADT, and therefore it is likely to be a less desirable retail location. Traffic counts such as these likely reflect trips being made by residents and employees of the Southwest metro area and beyond. The 124<sup>th</sup> Avenue Extension, now being built to the western edge of the study area, and the planned East-West Connector Road that will run across the study area are also important transportation arterials along which retail will seek to locate. A prime location for retail may be at the intersection of Boones Ferry Road and the East-West Connector Road.

These demand factors should be taken into account along with housing and employment projections for the study area in order to estimate the total amount of supportable retail.

## Types of Retail Centers

Retail in Basalt Creek is likely to be built in the formats shown in Table 13: corner store, convenience centers, and/or neighborhood centers. These types of retail generally serve residents and employees within a one-half mile to three-mile radius, and are usually located on arterial roads such as Boones Ferry and Grahams Ferry Roads.

Neighborhood centers are typically anchored by a grocery store and usually include five to 15 smaller in-line tenants which may include pharmacy, food/restaurant, bakery, beauty, technology, financial services, and other tenants. Convenience centers and corner stores are smaller retail nodes that serve their immediate surroundings; they may be anchored by a convenience store (e.g., 7 Eleven) or simply include four to 10 tenants similar to those listed above.

Larger retail formats, such as community centers, regional shopping malls, and lifestyle centers, typically require immediate access to and visibility from a major freeway interchange or other major transportation infrastructure (e.g., high-capacity transit in downtown Portland); a large existing population base; and minimal immediate competition. There is already a series of established major retail clusters located around the freeway interchanges to the north and south. These clusters serve subregional and/or regional shoppers who sometimes travel a half hour or more to shop there. Each has very good access to and visibility from I-5. It is highly unlikely that retail at Basalt Creek could effectively compete against these centers for a share of the regional retail market, because the competition is well established and its freeway access is generally superior.

**Table 13. Types of Retail Centers**

Retail Center Type	Gross Retail Area	Dwellings Necessary To Support	Average Trade Area	Anchor Tenants
Corner Store	1,500 - 3,000	1,000	Neighborhood	Corner store
Convenience Center	10,000 - 30,000	2,000	1 mile radius	Specialty food or pharmacy
Neighborhood Center	60,000 - 90,000	6 - 8,000	2 mile radius	Supermarket and pharmacy
Community Center	100,000 - 400,000	20,000+	5 mile radius	Junior department store

Sources: Urban Land Institute, Leland Consulting Group.

## Timing

“Retail follows rooftops.” In other words, in most cases, residential (and employment) development come first, and then retail follows, simply because retail needs local shoppers in order to survive. Any retail space in Basalt Creek is likely to be built following significant residential and employment development. Details will depend on the concept plan prepared for the study area.





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# MEMORANDUM

**DATE:** June 17, 2016  
**TO:** Basalt Creek Concept Plan Project Team  
**FROM:** Ray Delahanty, AICP  
**SUBJECT:** Basalt Creek Concept Plan Transportation Analysis and Solutions

P#14044-000-005

This memorandum presents the forecast approach, future transportation analysis, and recommended solutions for the Basalt Creek Concept Plan.

## FORECASTING

This section documents the assumptions and methodology used for developing traffic forecasts for the Basalt Creek Concept Plan. The process outlined below was used to forecast traffic volumes for the operational analysis of the land use and transportation network alternatives. Key assumptions of the methodology, including regional land use, hour of analysis, and baseline infrastructure, are outlined in the sections that follow. The key assumptions are:

- Use current Gamma model regional land use (household and employment) assumptions
- Use PM peak hour without the “peak-spreading” for the analysis hour
- Assume all Basalt Creek area projects from the Basalt Creek Transportation Refinement Plan (BCTRP) except for the East-West I-5 Overcrossing

### ***Regional Land Use***

The Concept Plan analyzed alternatives regarding future development – and therefore trip generation -- in the Basalt Creek/West Railroad area. The land uses assumed for the Concept Plan are key inputs in traffic forecasting and future traffic operations.

Assumptions about regional land use (and intensity of trip generation) beyond the Concept Plan area in 2035 also have a strong impact on forecasting and future operations. While the Basalt Creek Transportation Refinement Plan (BCTRP) used Metro’s 2008 RTP (Regional Transportation Plan) model for forecasting, the Concept Plan analysis uses the Gamma model land use, which was also used for the recently adopted 2014 Regional Transportation Plan (RTP).

### ***Analysis Hour***

Metro’s PM peak hour model relies on an underlying demand matrix (trip table) that determines the origins and destinations for all trips within the model. The Gamma model allows for two different potential PM peak hour demand matrices:

- A standard (non-peak-spread) matrix, which reflects the full PM peak hour demand.



- A “Peak-Spread” matrix, which assumes that some potential peak hour trips will move to other hours (e.g., traveling in the 4-5 PM hour rather than the 5-6 PM hour), meaning there is less demand on the system overall.

For this project, the standard (non-peak-spread) matrix was used for forecasting. This approach is also consistent with the Washington County 2035 TSP.

**Transportation Projects**

Forecasting results depend partly on the projects that are assumed for the Basalt Creek area, as well those assumed for adjacent areas. Since this is a 2035 forecast, Washington County’s latest 2035 Gamma model was used. This model’s transportation network includes projects considered likely to be in place by 2035.

For the Basalt Creek area, we reviewed both the BCTRP and the newly released project list for the Metro 2014 RTP, which lists projects reasonably likely to be funded by 2040. Table 1, below, shows potential capacity-related projects from the RTP list and indicates which projects we are assuming to be in place by 2035.

**Table 1: 2014 RTP Projects Assumed for 2035 Forecasting**

Project Number	Project and Description	RTP Time Period	In Place by 2035?
10736	124 <sup>th</sup> Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – new two-lane roadway extension	2014-2017	Yes
11243	Day Rd. (Grahams Ferry Rd. to Boones Ferry Rd.) – widen to five lanes	2018-2024	Yes
10853	Kinsman Rd. Extension (Ridder Rd. to Day St.) – new three-lane roadway extension	2018-2024	Yes
10588	Grahams Ferry Rd. (Helenius St. to county line) – widen to three lanes	2025-2032	Yes
10590	Tonquin Rd. (Grahams Ferry Rd. to Oregon St.) – widen to three lanes	2025-2032	Yes
11438	Tonquin Rd./Grahams Ferry Rd. – add traffic signal	2025-2032	Yes
11469	124 <sup>th</sup> Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – widen to five lanes	2025-2032	Yes
11470	East-West Arterial (Grahams Ferry Rd. to Boones Ferry Rd.) – new five-lane roadway extension	2025-2032	Yes
11487	Boones Ferry Rd. (East-West Arterial to Day Rd.) – widen to five lanes	2025-2032	Yes
11488	Boones Ferry Rd./Commerce Circle/95 <sup>th</sup> Ave. – Intersection improvement and access control	2025-2032	Yes
11489	Boones Ferry Rd./I-5 Southbound – add second southbound right turn lane on ramp	2025-2032	Yes
11490	Day Rd. Overcrossing (Boones Ferry Rd. to Ellgsen Rd.) – new four-lane roadway extension/overcrossing of I-5	2033-2040	Yes
11436	East-West Arterial Overcrossing (Boones Ferry Rd. to east side of I-5) – new four-lane roadway extension/overcrossing of I-5	2033-2040	No

Source: <http://www.oregonmetro.gov/regional-transportation-plan>

Two projects, the Day Road Overcrossing and the East-West Overcrossing, are anticipated to be in place in the 2033-2040 time frame. For our 2035 forecasting effort, all projects in Table 1 are assumed to be in place by 2035 **except for the East-West Arterial Overcrossing**. This project was assumed to be the last one needed for the BCTRP (after the Day Road Overcrossing), and a portion of the project is outside the Urban Growth Boundary.



Therefore we assume the project is not considered likely to be part of the network by 2035, and is not included in the 2035 network assumptions.

### ***Additional Note on Kinsman Road Extension***

Subsequent to much of the Concept Plan's baseline forecasting, the City of Wilsonville removed project 10853, the Kinsman Road Extension between Ridder Road and Day Road, from its Transportation System Plan (TSP)'s list of likely funded projects. The City will instead develop Garden Acres Road between Ridder Road and Day Road as a north-south collector roadway in the area. These changes are reflected in the forecasting for the recommended network.

## **FINDINGS**

This section presents results of motor vehicle operations analysis for the Concept Plan's preferred land use alternative and associated trip generation characteristics. Two roadway network options were analyzed and compared to a previous network alternative.

### **Roadway Network**

The planned roadway network includes the facilities shown in Table 1, except for the East-West Arterial Overcrossing and the Kinsman Road Extension. Previous Concept Plan network alternatives included a new collector roadway aligned to the north of the Kinsman Road Extension. This collector roadway connected from SW Day Road to SW Tonquin Loop Road, parallel to SW Grahams Ferry Road. This roadway was referred to as North Kinsman Extension, and was intended to create a full collector connection from SW Ridder Road to SW Tonquin Loop Road. Subsequently, SW Kinsman Road between SW Ridder Road and SW Day Road was dropped from the Wilsonville TSP's list of likely funded projects, making the North Kinsman Extension a less useful collector-level connection.

The roadway network also includes local streets needed to provide access and circulation to existing development and developable parcels. The planned network is shown in the figures on the following page. Two options were analyzed to address the North Kinsman extension and compare to the previous analysis, which assumed SW Kinsman Road as a collector from SW Ridder Road to SW Tonquin Loop Road (see Figure 1):

- **North Kinsman as Local Connection.** This option retains North Kinsman as a facility connecting SW Tonquin Loop Road to SW Day Road, but classifies it as a local street. This means the SW Kinsman Road/SW Day Road intersection is stop-controlled, and not signalized as it was under the BCTRP. This option is shown in Figure 2.
- **North Kinsman without Grade-Separated Crossing of Basalt Creek Parkway.** This option retains parts of the North Kinsman facility in order to provide access and circulation, but does not provide a complete north-south connection with grade separation across the Basalt Creek Parkway. This option is shown in Figure 3.

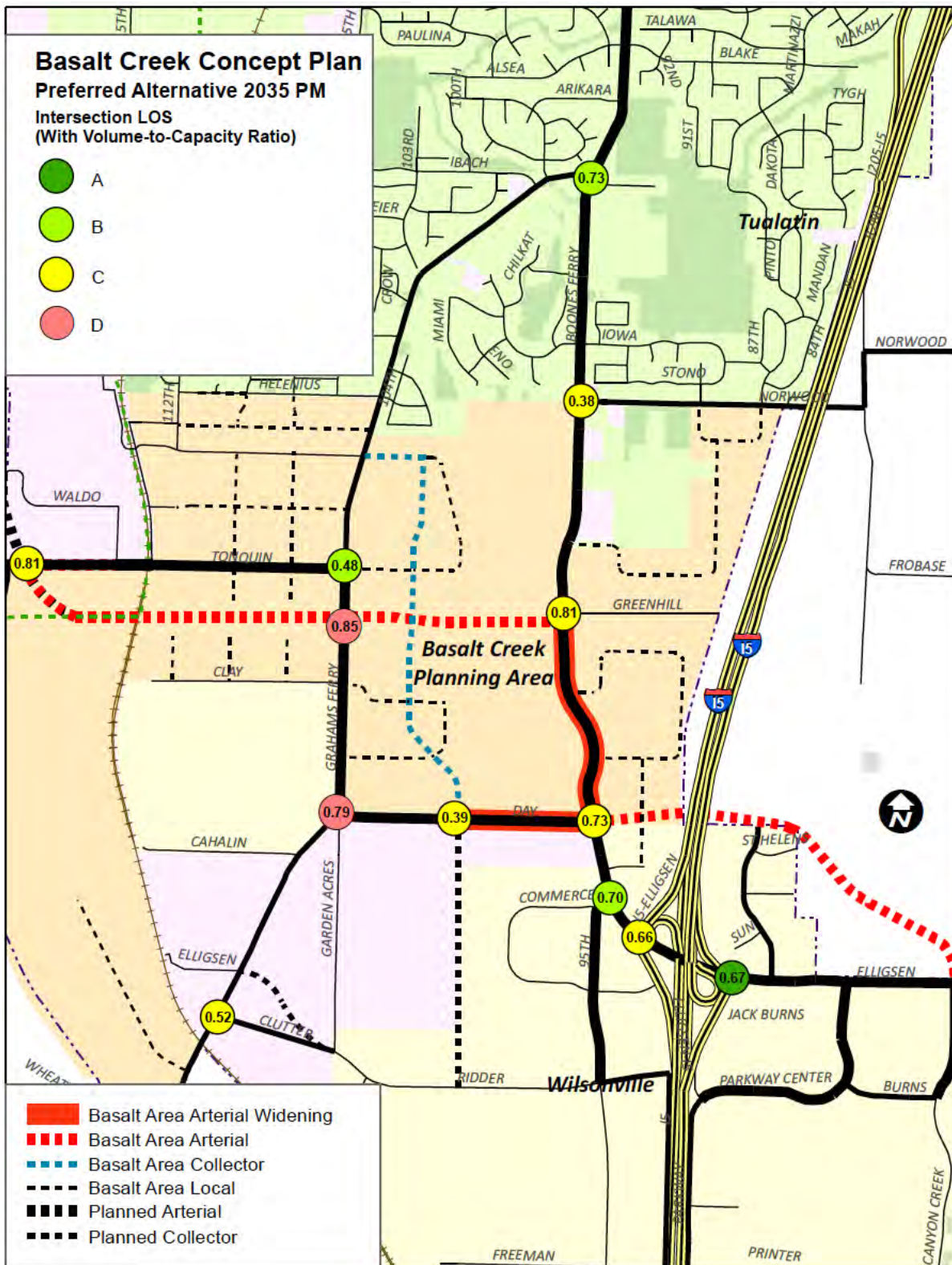


Figure 1: Concept Plan Network with Full Kinsman Road Extension

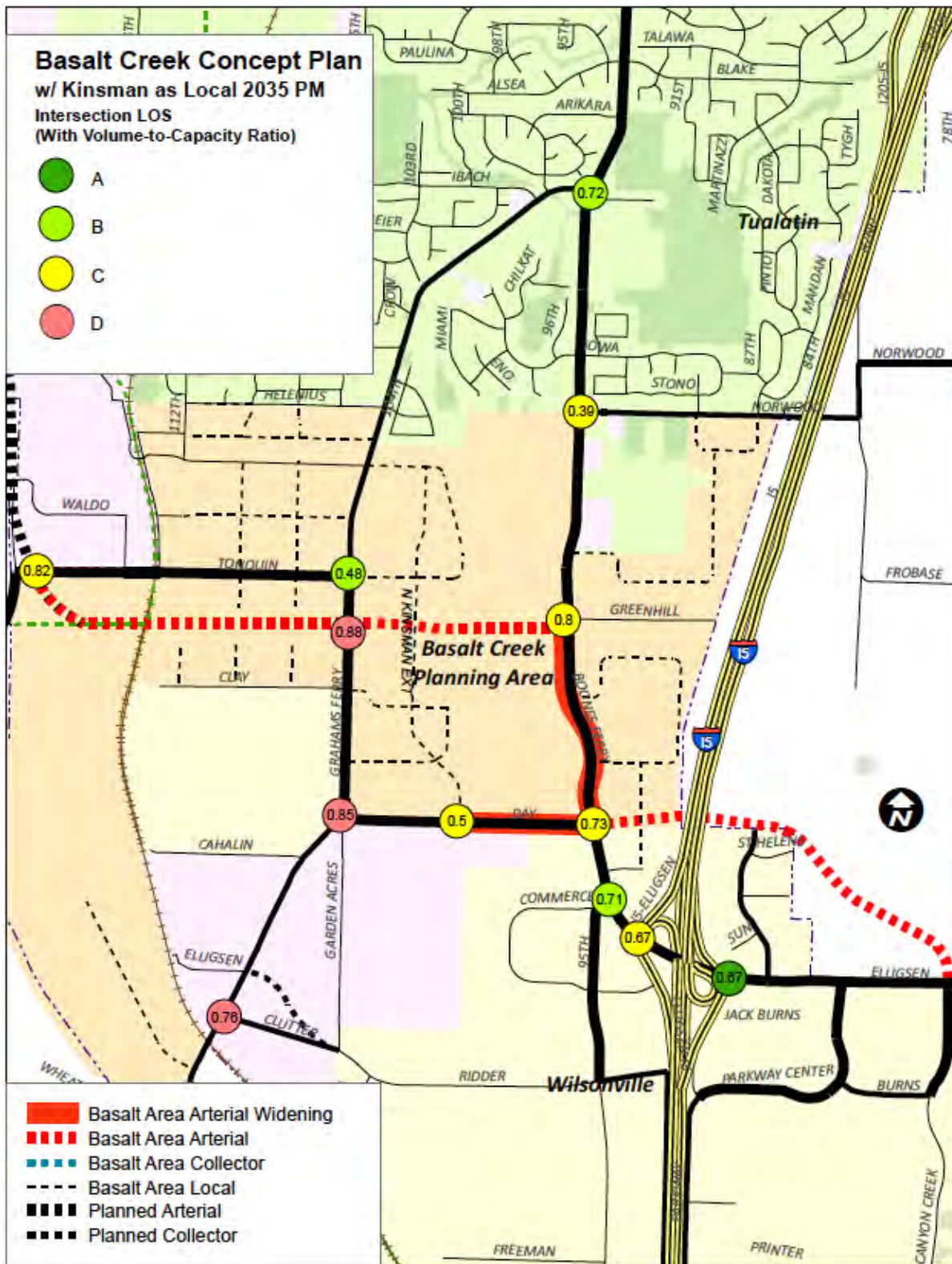


Figure 2: Concept Plan Network with Kinsman Road as Local Connection

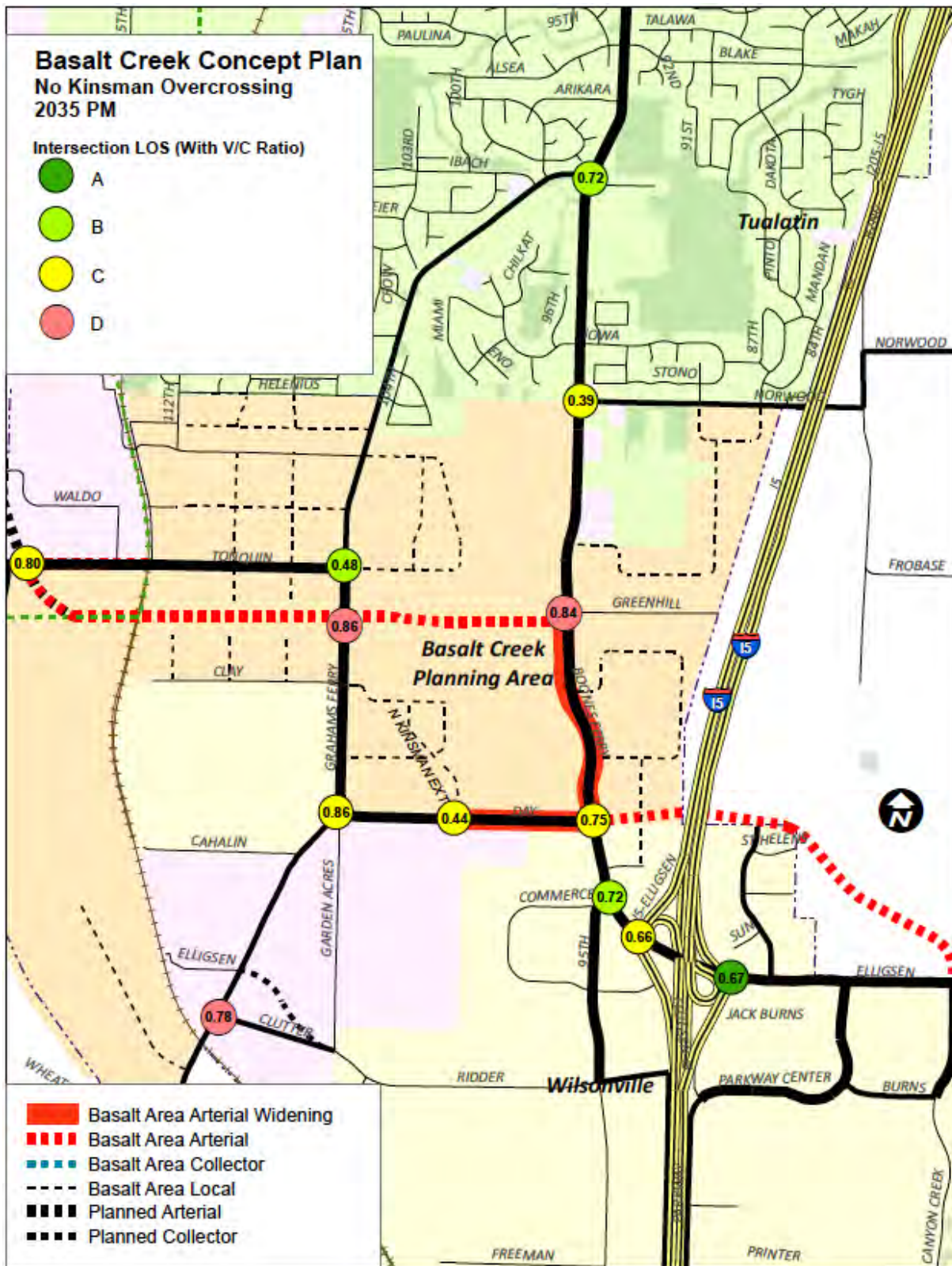


Figure 3: Concept Plan Network Without Kinsman Road Overcrossing



## Motor Vehicle Operations

Intersection turning movement volumes for the two network options were developed for the 2035 PM peak hour based on the approach described in the Forecasting section above. Results, with a comparison to the previous alternative with a full Kinsman collector are shown in Table 2 below.

**Table 2: Network Alternative Intersection Operations (2035 PM Peak Hour)**

Intersection	Jurisdiction	Mobility Target	Full Kinsman Collector (Tonquin Loop to Ridder)		Kinsman as Local		No Kinsman Crossing	
			PM LOS	PM V/C	PM LOS	PM V/C	PM LOS	PM V/C
I-5 NB/Elligsen Rd	ODOT	0.85	A	0.67	A	0.67	A	0.67
I-5 SB/Elligsen Rd	ODOT	0.85	C	0.66	C	0.67	C	0.66
Boones Ferry Rd/95th Ave	Washington County	0.99	B	0.70	B	0.71	B	0.72
Boones Ferry Rd/Day Rd	Washington County	0.99	C	0.73	C	0.73	C	0.75
Boones Ferry Rd/Basalt Creek Parkway	Washington County	0.99	C	0.81	C	0.80	D	0.84
Boones Ferry Rd/Ibach St	Washington County	0.99	B	0.73	B	0.72	B	0.72
Boones Ferry Rd/Norwood Rd	Washington County	0.99	A/C	0.38	A/C	0.39	A/C	0.39
Grahams Ferry Rd/Clutter Rd	Washington County	0.99	A/C	0.52	A/D	0.76	A/D	0.78
Grahams Ferry Rd/Day Rd	Wilsonville	D	D	0.79	D	0.85	C	0.86
Grahams Ferry Rd/Basalt Creek Parkway	Washington County	0.99	D	0.85	D	0.88	D	0.86
Grahams Ferry Rd/Tonquin Rd	Washington County	0.99	B	0.48	B	0.48	B	0.48
124th Ave/Tonquin Rd	Washington County	0.99	C	0.81	C	0.82	C	0.80
Kinsman Rd/Day Rd	Wilsonville	D	C	0.39	A/C	0.50	A/C	0.44

Worst mainline LOS/worst side street LOS reported for unsignalized intersections

As shown in the above table, all intersections meet future mobility standards under both Kinsman options as well as the full Kinsman Collector alternative. The removal of Kinsman Road between SW Ridder Road and SW Day Road has the most impact at SW Grahams Ferry Road/SW Clutter Road and SW Grahams Ferry Road/SW Day Road. These two intersections experience increased traffic volumes as drivers that might have used the Kinsman Extension use SW Grahams Ferry Road south of SW Day Road instead.



Differences between the two North Kinsman Road options are minor, as the North Kinsman extension primarily serves as access to properties between Grahams Ferry Road and the Basalt Creek, and serves very little through traffic when the overcrossing is in place. The largest difference in operations is at SW Boones Ferry Road/Basalt Creek Parkway, where the option with no North Kinsman overcrossing experiences slightly higher volumes. Without the overcrossing in place, more vehicles are expected to travel north on SW Boones Ferry Road and then west on the Basalt Creek Parkway rather than accessing the Basalt Creek Parkway via SW Day Road and SW Grahams Ferry Road.

### **Active Transportation**

While all network options analyzed above perform acceptably in terms of intersection capacity, connections for modes other than the motor vehicle are an important consideration. If a North Kinsman overcrossing of the Basalt Creek Parkway is not built, a connection for people biking and walking in the area east of SW Grahams Ferry Road should still be provided. A multi-use path along the west edge of the Basalt Creek, passing underneath the Basalt Creek Parkway, would provide this needed connection.



# Basalt Creek Utility Infrastructure Concept Plan

PREPARED FOR: Fregonese Associates  
PREPARED BY: Kelli Barton/CH2M  
DATE: May 27, 2016  
PROJECT NUMBER: 491811  
REVISION NO.: Revision 1: September 22, 2016  
Revision 2: June 25, 2018  
Revision 3: July 18, 2018  
APPROVED BY: Mark Anderson/CH2M

## Introduction

The conceptual sanitary sewer, water, and stormwater systems were updated based on the selected jurisdictional boundary that follows the proposed East-West connector. This memorandum describes the conceptual system designs, provides conceptual cost estimates for the sanitary sewer and water systems and funding strategies, and discusses development phasing. Conceptual level sizing and design were completed for cost estimating purposes. Modeling and detailed design were not completed as part of this work and detailed pipe sizes, slopes, flows, and updated cost estimates will be completed during the design phase. Conceptual level cost estimates are preliminary for comparison of alternatives and have a +100%/-50% accuracy. The Tualatin service area includes the Southwest Tualatin area west of the railroad (Tonquin Loop) and north of SW Tonquin Rd that is outside of the Basalt Creek planning boundary.

## Overview of Conceptual Utility Designs

### Sanitary Sewer System

The sanitary sewer conceptual design for the Basalt Creek planning area is shown in Figure 1. The Clean Water Services (CWS) and Wilsonville service basins are based on the proposed jurisdictional boundary. This design requires five pump stations to serve the Clean Water Services (CWS) service area and one pump station to serve the Wilsonville service area, and the sewers generally flow to the south and west, following the slope of the existing ground. The sanitary system uses gravity as much as possible, follows existing and proposed roadways and trails, and was designed to avoid streams and natural areas.

The conceptual sewer system connects to the existing CWS/Tualatin system at SW 112<sup>th</sup> Avenue between SW Cowlitz Drive and SW Nootka Street, at SW Grahams Ferry Road and SW Helenius Street, at SW Boones Ferry Road and SW Norwood Road, and at SW Vermillion Drive and SW Norwood Road. The sewer system connects to the existing Wilsonville system at SW Day Road and the planned extension of SW Kinsman Road, and at SW Garden Acres Road and SW Cutter Road.

The area immediately west of Basalt Creek, north of the jurisdictional boundary is shown as being served with a pump station to the CWS/Tualatin system, but could also be served by gravity to Wilsonville. If the gravity option is selected, it would require an intergovernmental agreement between

the cities. In the area just west of Boones Ferry Road and east of Basalt Creek in both Tualatin and Wilsonville service boundaries, residents will be required to install grinder pumps to connect to the proposed gravity systems. The southwest railroad section (west of the railroad and south of SW Tonquin Road) has a lower potential to develop due to several constraints including slope, geology, wetlands, habitat, and existing uses. The sanitary system and pump station to serve this area have been included as a separate column in the cost estimate but would only be required if and when development occurs.

There are three areas that will require boring or very deep excavations greater than 25 feet deep, which are highlighted in yellow in Figure 1. There are a few other areas that require excavations around 20-25 feet.

### Design Assumptions and Principles

The following design assumptions were made for the conceptual sanitary system design. Local laterals and service connections have not been included in the concept layout.

- Minimum sewer depth = 10 feet
- Maximum sewer depth = 25 feet
- Minimum pipe slope = 0.004 (for an 8-inch diameter pipe)
- Minimum sanitary pipe slopes from Clean Water Services Design and Construction Standards:

<b>Minimum Sanitary Pipe Slopes</b>	
<b>Pipe Diameter (inches)</b>	<b>Minimum Slope</b>
6	0.006
8	0.004
10	0.0028
12	0.0022
15	0.0015
18	0.0012

The sanitary system design followed these guiding principles for the layout:

- Use gravity as much as possible
- Follow existing or proposed roadways
- Follow property lines or tax lot boundaries when not possible to follow roads
- Follow land use boundaries (not serving Undeveloped Natural Area land use areas)
- Avoid streams and significant natural areas

### Flow Calculations

Loading estimates were calculated using the Land Use Scenario 5. Peak flows were calculated for each connection point into the existing Tualatin and Wilsonville systems. Dry weather flows were calculated separately for residential areas and commercial/industrial areas, according to the equations below.

$$Peak\ Dry\ Weather\ Flow\ (DWF) = Residential\ EDU * 2.4 \frac{people}{EDU} * 80 \frac{gal}{person * day} * 1.6\ peak\ factor$$

$$Peak\ Dry\ Weather\ Flow\ (DWF) = \frac{Comm./Ind.\ Area\ (sq.\ ft.)}{1000 \frac{sq.\ ft.}{person}} * 40 \frac{gal}{person * day} * 1.2\ peak\ factor$$

Wet weather flows were calculated based on the developable areas, not including the areas designated as “Open Space” land use, based on the Land Use Scenario 5 areas provided by Fregonese Associates. The wet weather flows were calculated using the following equation. An inflow and infiltration rate of 2,500 gallons per acre per day (gpac) is a conservative estimate within the range listed in the CWS

Sanitary Sewer Master Plan (2009) and the maximum value computed in the Wilsonville Wastewater Master Plan (2014).

$$Wet\ Weather\ Flow\ (WWF) = Developed\ Area\ (ac.) * 2,500 \frac{gal}{ac.*\ day}$$

The total peak flow was calculated by adding the wet and dry weather flows together, as follows.

$$Peak\ Sewer\ Flow = Dry\ Weather\ Flow\ (DWF) + Wet\ Weather\ Flow\ (WWF)$$

The estimated sewer flows at the connection points to the existing system are summarized in Table 1.

**Table 1.**  
*Estimated Sewer Flows at Connections to the Existing Systems*

Connection Point	Estimated Sewer Flow (gal/d)
112th and Helenius (Tualatin)	375,800
Grahams Ferry and Helenius (Tualatin)	166,400
Boones Ferry near Norwood (Tualatin)	202,200
Norwood and Vermillion (Tualatin)	107,600
Kinsman Road Extension Sewer (Wilsonville)	357,700
Garden Acres and Clutter (SW RR Area, Wilsonville)	600

### Cost Estimate and Preliminary Sizing

The cost estimate for the sewer system is provided in Table 4. Project costs include pipe costs, rock excavation, pump station capital costs, pump station operations and maintenance costs for 30 years, engineering/legal/admin fees (25%), and contingency (30%). Upgrades to the existing downstream systems are not included in the cost estimates.

Pipe installation costs were gathered from the Tualatin Sewer Master Plan (2002) and escalated to 2016 dollars. The construction costs are based on pipe diameter and average depth of bury, and include the costs of manholes and service laterals. An average diameter of 8 inches was used for pipes in the Wilsonville service system and diameters of 8 inches (approximately 34,000 linear feet) and 10 inches (approximately 2,200 linear feet, located along the northwestern edge of the proposed system) were used for pipes in the Clean Water Services (CWS) service system, based on the preliminary sizing completed at the downstream connection points. All force mains were assumed to be 6 inches in diameter.

The rock excavation cost was calculated based on information from geotechnical investigations and the estimated depth of trench. Based on the boring summary map and geotechnical data available, the Basalt Creek planning area was divided into regions where we expect to require rock excavation for 50%, 20% or 10% of the pipe installations. In order to quantify the amount of pipe that will require rock excavation, a percentage of the pipe length was assumed to require rock excavation based on the region the pipe is located in. Figure 3 (attached) outlines the regions that fall into the three categories. The regions were determined based on the depth to rock (from boring information), approximate depth of bury for pipes, and amount of data in the area. Areas with shallow depths to rock, greatly varying depths to rock, and/or that have a lack of data are assumed to have 50% of the pipe length requiring rock excavation. The area circled in the northeast is where the depths varied for different sewer layout alternatives. For this region, if the average depth of the pipe is deep (>20 feet), it was assumed that 40% of the pipe length required rock excavation and if average depth of the pipe is shallow (<20 feet), it was assumed that 20% of pipe length required rock excavation.

To estimate the linear footage of rock excavation required, the length of each pipe was multiplied by the percentage denoted by the region it is in. Unit costs for rock excavation were developed for two trench depths (15 feet and 20 feet) and the price for the depth closest to the average depth of bury for each pipe were applied to the rock excavation length for that pipe. The unit costs for rock excavation were \$30/LF for a 15-foot deep trench and \$90/LF for a 25-foot deep trench. The cost of rock excavation was added to the pipe unit costs.

A few segments of pipe require very deep sewers (shown in yellow on Figure 1) and will be installed by boring. The cost of boring was estimated at \$500 per linear foot and includes the cost of pipe.

Table 2 provides an estimate of the length of pipe requiring a shallow (<20 feet) or deep (>20 feet) trench, as used in the rock excavation cost estimate, as well as the total length of pipe. The estimated length of excavation was calculated using a percentage of the total length of each stick of pipe (10%, 20%, or 50%) based on location, as description above.

**Table 2.**  
*Summary of Estimated Excavation Lengths*

		Tualatin Service Area	Wilsonville Service Area
Shallow (<20 feet) Excavation	Estimated Length of Excavation (feet)	11,672	7,152
	Total Length of Pipe (feet)	38,190	23,430
Deep (>20 feet) Excavation	Estimated Length of Excavation (feet)	1,531	1,093
	Total Length of Pipe (feet)	4,776	2,274

### Existing System Improvements

Upgrades to the existing downstream systems may be required to accommodate the anticipated flows from the Basalt Creek planning area. These upgrades have not been included in the conceptual design and cost estimate.

**NOTE TO EDITOR:** CH2M is working on updating the Tualatin Master Plan to reflect the Basalt Creek concept plan and these results could be incorporated later.

### Water System

The conceptual drinking water systems are shown in Figure 2 and are divided by the jurisdictional boundary. Each system is a looped system, which requires water lines for each city located along the proposed east-west arterial road.

The Basalt Creek planning area has the potential to be served for drinking water supply from either Tualatin or Wilsonville. The existing service zones (levels B and C) from both communities would provide the necessary hydraulic pressure to provide service within the planning area. The Tualatin pressure zones that will be used to serve the Basalt Creek are Zones B (ground elevations 192 feet to 306 feet) and C (ground elevations 260 feet to 360 feet). A majority of the service area can be served by Pressure Zone B, but a small portion will require Pressure Zone C. The reservoirs intended to service this area are the newly constructed C-2 (1-MG) Reservoir, the Norwood Reservoirs B-1 (2.2-MG) and B-2 (2.8-MG). In addition to the B level storage reservoirs, the Portland Supply Main using a control valve would also serve pressure zone B. In order to provide service to the pressure zone C areas in the planning area, Wilsonville has identified a need to install a booster pump station. The booster pump station is one of the CIP projects listed in the 2012 Wilsonville Water Master Plan and has been included in the cost estimate for drinking water for Wilsonville.

The southwest railroad section (west of the railroad and south of SW Tonquin Road) has a lower potential for development. Service lines in this area would only need to be constructed if and when development occurs. The Coffee Creek system is shown outside of the Basalt Creek planning area (east of the railroad, west of SW Grahams Ferry Road, and south of SW Clay Road). This portion of the system would be installed and funded by the Coffee Creek development.

**Flow Calculations**

Water demand estimates were calculated using Land Use Scenario 5. Peak flows were calculated for the proposed Tualatin and Wilsonville service areas. Peak flows were calculated separately for residential areas and commercial/industrial areas, according to the equations below.

Residential water demand of 80 gallons/person/day is consistent with Wilsonville’s Water Master Plan (2012) and 90 gallons/person/day is consistent with Tualatin’s Water Master Plan (2013).

Industrial/commercial water demand of 1,000 gallons/acre/day is consistent with Wilsonville’s and Tualatin’s master plans.

$$Peak\ Residential\ Flow = Residential\ EDU * 2.4 \frac{people}{EDU} * 80\ or\ 90 \frac{gal}{person * day} * 2.2\ peak\ factor$$

$$Peak\ Commercial/Industrial\ Flow = Comm./Ind.\ Land\ Area\ (ac) * 1000 \frac{gal}{ac * day} * 2.2\ peak\ factor$$

Flow estimates for the final layout are provided below.

**Table 3.**  
*Estimated Water Demand*

	<b>Tualatin</b>	<b>Wilsonville</b>	<b>Both</b>
Peak Daily Demand (gal/d)	573,019	290,734	863,753
Average Annual Demand (gal/d)	260,463	132,152	392,645

**Cost Estimate and Preliminary Sizing**

The cost estimate for drinking water is based on construction costs for installing pipes. Construction costs for drinking water pipe construction were gathered from the Tualatin Water Master Plan (January 2013) and escalated to 2016 dollars. The pipe installation costs are based on pipe diameter, and do not include rock excavation or excessive dewatering. For drinking water, a pipe diameter of 12 inches was used for water lines along SW Grahams Ferry Road, SW Boones Ferry Road, and the proposed East-West connector. An average diameter of 8 inches was used for the remaining pipes. Preliminary pipe sizing was completed for cost estimating purposes, but further analysis is needed to confirm fire flow requirements in industrial areas. Drinking water pipes are shallower than sanitary sewer pipes, so rock excavation costs were estimated at 3% of the pipe installation cost. The conceptual cost estimate for the water system is provided in Table 2.

**Stormwater System**

The conceptual stormwater system design includes the layout for stormwater pipes in the public right-of-way and does not include private stormwater system designs. Stormwater detention and treatment will occur at local facilities and no regional facilities are planned for the area. All flows that outlet within each city will be guided by their respective protocols, design standards, and/or discharge permits. At locations where the City of Tualatin’s pipe system connects to the City of Wilsonville’s pipe system, the upstream stormwater discharged into Wilsonville’s system shall meet or exceed Wilsonville’s stormwater management requirements.

## Cost Estimate

Public stormwater costs are included in the road network cost estimate. Stormwater systems outside of the public right-of-way are paid for by the developer, and developer costs for the stormwater systems have not been estimated.

## Funding Strategies

The utility improvements will be funded by a combination of public and private entities. The cities of Tualatin and Wilsonville, with support from district entities, such as Clean Water Services and Metro, will fund public utility improvements and private developers/land owners will generally pay for utilities on private properties and certain enabling projects to allow for development to occur. The City of Tualatin and the City of Wilsonville will be responsible for the publicly-funded water and storm system improvements in their respective jurisdictions. For the sanitary sewer system, the City of Wilsonville will fund all public improvements in their jurisdiction, and the City of Tualatin will fund public gravity pipelines, while pump stations and forcemains are paid for by the service provider, Clean Water Services. There are opportunities for shared funding and partnering agreements for specific projects.

Cost estimates were developed for the conceptual sanitary sewer and water systems. The cost estimates summarize the anticipated costs for the cities, Clean Water Services, and private developers. For both systems, the cost for pipes that are 8 inches in diameter and smaller are paid for by the developer. Pipes that are greater than 8 inches in diameter have a cost share between the city and the developer, where the developer pays for the equivalent of installing 8-inch pipes and the city pays for the difference between the cost for the design pipe size and the cost for an 8-inch pipe. For the sanitary sewer system in the CWS/Tualatin jurisdiction, pump station and force main costs are paid for by the service provider, Clean Water Services (CWS), and pump station capital costs are SDC creditable (pump station operations and maintenance costs are not SDC creditable). For the sanitary sewer system in Wilsonville, pump station and forcemain costs are paid for by the city. City, service provider, and developer costs for the sanitary system are summarized in Table 4 and city and developer costs for the drinking water systems are summarized in Table 5. The southwest railroad (SW RR) area has a lower potential to develop and the costs for this area have been included as a separate column since they would only be required if and when development occurs.

**Table 4.**  
*Cost Estimate Summary for Conceptual Sewer System*

Item	Tualatin/CWS Service Area			Wilsonville Service Area		Wilsonville SW RR Area	
	Tualatin	CWS	Developer	Wilsonville	Developer	Wilsonville	Developer
Pipe Costs (8")			\$8,033,000		\$3,443,000		\$1,818,000
Pipe Costs (Upsize 8" to 10")	\$34,000						
Force Mains (6")		\$1,523,000				\$55,000	
Rock Excavation		\$66,000	\$422,000		\$161,000	\$6,000	\$145,000
Pump Station Capital Cost		\$2,638,000				\$678,000	
<b>Total Construction Costs</b>	<b>\$34,000</b>	<b>\$4,227,000</b>	<b>\$8,455,000</b>	<b>\$0</b>	<b>\$3,605,000</b>	<b>\$740,000</b>	<b>\$1,963,000</b>
Pump Station O&M Cost (30 years)*		\$5,599,000				\$1,120,000	
<b>Subtotal</b>	<b>\$34,000</b>	<b>\$9,826,000</b>	<b>\$8,455,000</b>	<b>\$0</b>	<b>\$3,605,000</b>	<b>\$1,860,000</b>	<b>\$1,963,000</b>

**Table 4.**  
*Cost Estimate Summary for Conceptual Sewer System*

Item	Tualatin/CWS Service Area			Wilsonville Service Area		Wilsonville SW RR Area	
	Tualatin	CWS	Developer	Wilsonville	Developer	Wilsonville	Developer
Engineering/Admin /Legal (25%)	\$9,000	\$2,457,000	\$2,114,000	\$0	\$901,000	\$465,000	\$491,000
Contingency (30%)	\$10,000	\$2,948,000	\$2,536,000	\$0	\$1,081,000	\$558,000	\$589,000
<b>TOTAL</b>	<b>\$53,000</b>	<b>\$15,231,000</b>	<b>\$13,105,000</b>	<b>\$0</b>	<b>\$5,588,000</b>	<b>\$2,883,000</b>	<b>\$3,043,000</b>

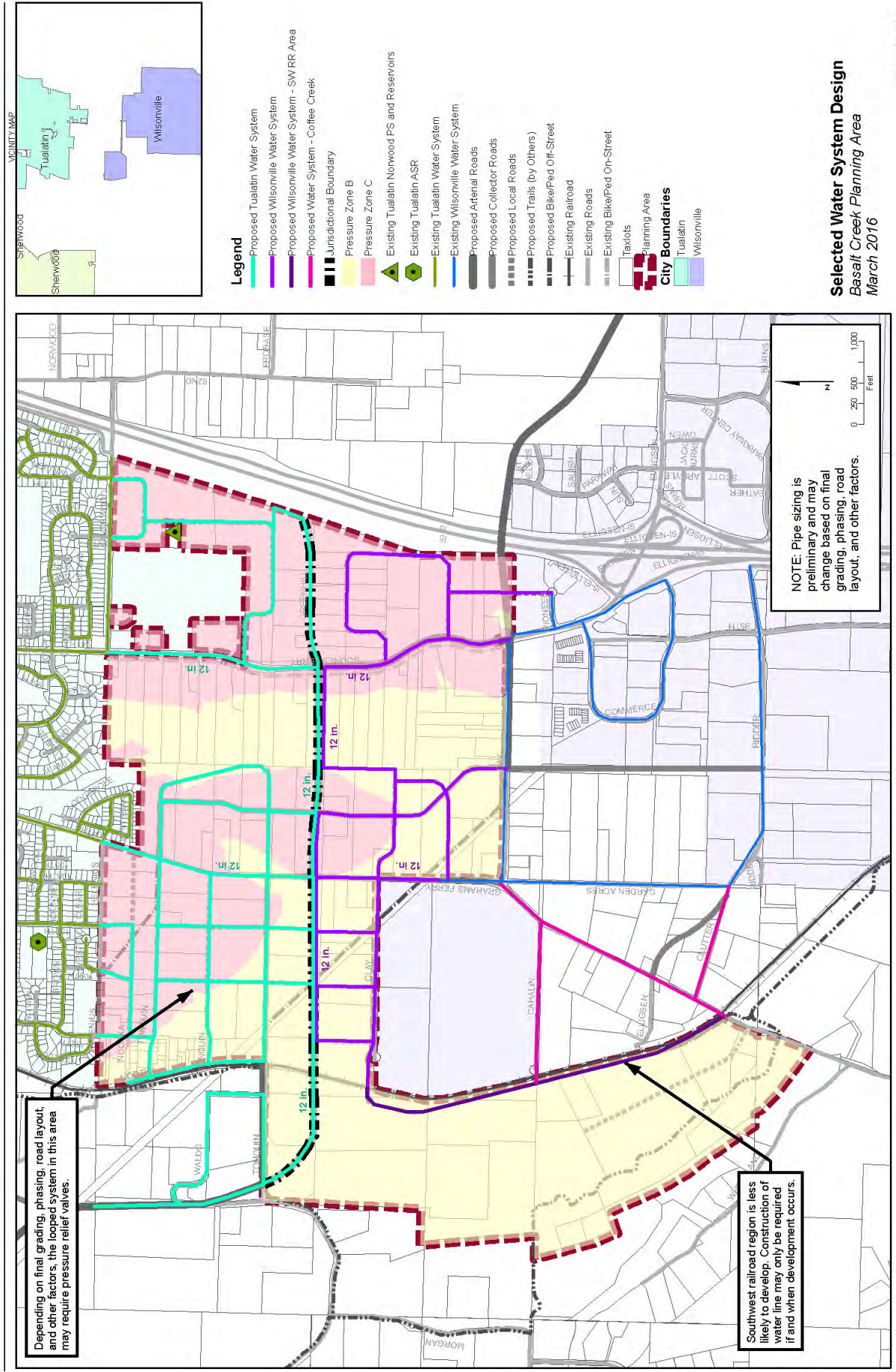
\*Pump Station O&M costs are not SDC creditable

**Table 5.**  
*Cost Estimate Summary for Conceptual Water System*

Item	Tualatin Service Area		Wilsonville Service Area		Wilsonville SW RR Area	
	Tualatin	Developer	Wilsonville	Developer	Wilsonville	Developer
Pipe Cost (8")		\$5,228,000		\$2,666,000		\$521,000
Pipe Cost (Upsize 8" to 12")	\$871,000		\$421,000			
Rock Excavation (3%)		\$157,000		\$80,000		\$16,000
<b>Total Construction Cost</b>	<b>\$871,000</b>	<b>\$5,385,000</b>	<b>\$421,000</b>	<b>\$2,746,000</b>	<b>\$0</b>	<b>\$537,000</b>
Engineering/Admin/Legal (25%)	\$218,000	\$1,346,000	\$105,000	\$687,000	\$0	\$134,000
Contingency (30%)	\$261,000	\$1,66,000	\$126,000	\$824,000	\$0	\$161,000
<b>Total Project Cost</b>	<b>\$1,351,000</b>	<b>\$8,347,000</b>	<b>\$652,000</b>	<b>\$4,257,000</b>	<b>\$0</b>	<b>\$832,000</b>
Wilsonville Booster PS			\$609,000			
<b>TOTAL</b>	<b>\$1,351,000</b>	<b>\$8,347,000</b>	<b>\$1,261,000</b>	<b>\$4,257,000</b>	<b>\$0</b>	<b>\$832,000</b>

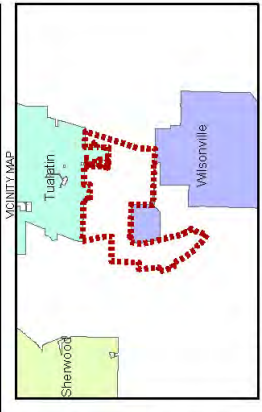
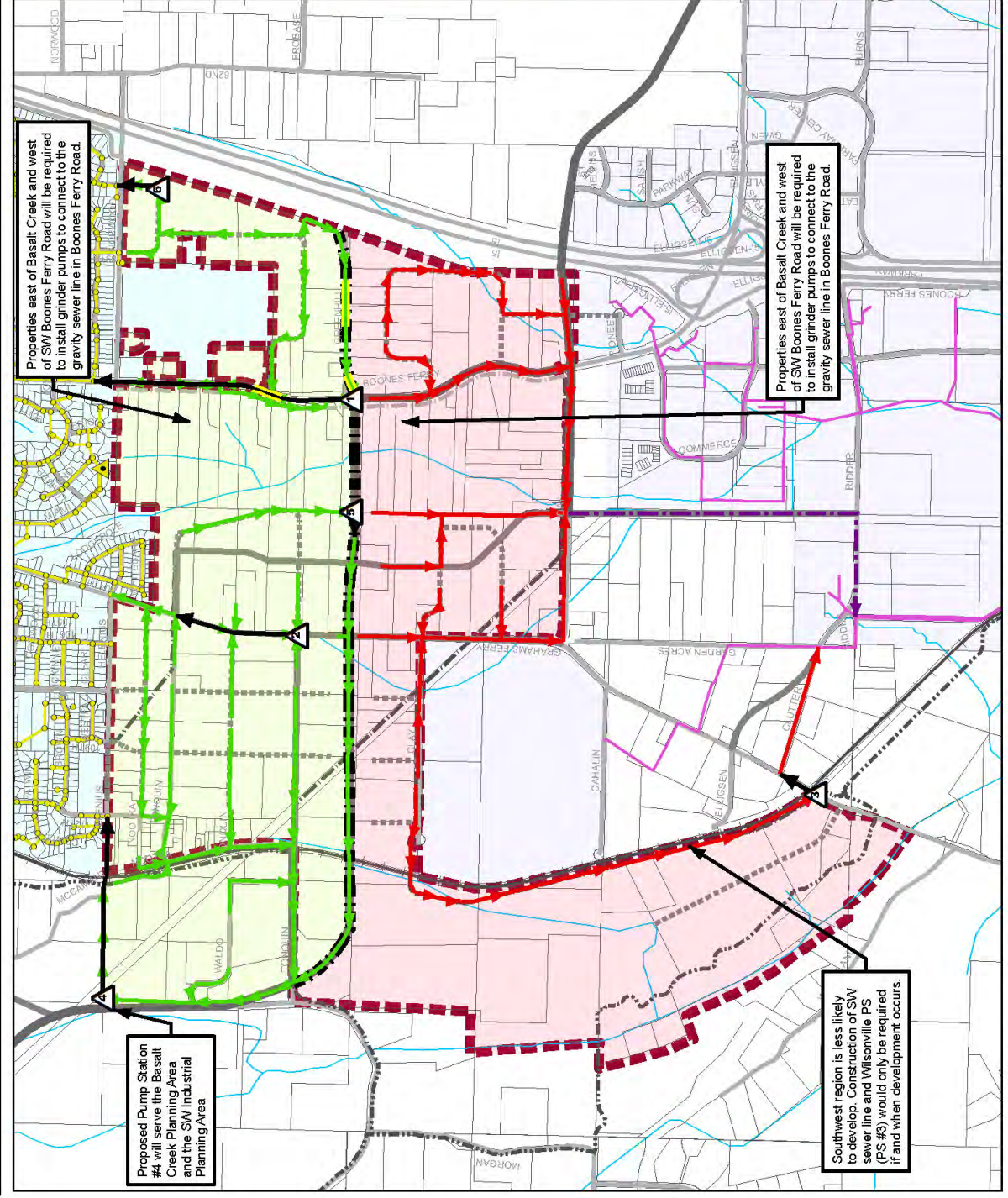
## Development Phasing

Utility improvements will be made as properties are annexed into each city, so phasing will be driven by the pace of development. Generally, utility improvements will begin at the boundaries of the planning area that are adjacent to the existing cities and progress outward. Most of the utility infrastructure follows existing or proposed roadways and construction should be coordinated with new road construction and existing roadway improvements. Some enabling projects may be required to be constructed prior to development to connect properties to existing systems. For example, the sanitary sewer pump station in the northeast corner of the planning area may be required in order for development in that sewer basin to occur.



**Selected Water System Design**  
 Basalt Creek Planning Area  
 March 2016





**Legend**

- Proposed Pump Stations
- Proposed Forcemains
- Proposed CWS Service System
- CWS Service Boundary
- Proposed Wilsonville Service System
- Wilsonville Service Boundary
- Deep Bore Segment (over 25' deep)
- Jurisdictional Boundary
- Planned SW Kinsman Rd Extension Sewer
- Existing CWS/Tualatin Pump Stations
- Existing CWS/Tualatin Gravity System
- Existing CWS/Tualatin Forcemains
- Existing Wilsonville System
- Proposed Arterial Roads
- Proposed Collector Roads
- Proposed Local Roads
- Proposed Bike/Ped Off-Street
- Proposed Trails (by Others)
- Existing Railroad
- Existing Roads
- Existing Bike/Ped On-Street
- Taxlots
- Streams
- Planning Area
- City Boundaries**
- Sherwood
- Tualatin
- Wilsonville



Properties east of Basalt Creek and west of SW Boones Ferry Road will be required to install grinder pumps to connect to the gravity sewer line in Boones Ferry Road.

Properties east of Basalt Creek and west of SW Boones Ferry Road will be required to install grinder pumps to connect to the gravity sewer line in Boones Ferry Road.

Proposed Pump Station #4 will serve the Basalt Creek Planning Area and the SW Industrial Planning Area.

Southwest region is less likely to develop. Construction of SW sewer line and Wilsonville PS (PS #3) would only be required if and when development occurs.

**Selected Sewer Alternative**  
**Basalt Creek Planning Area**  
 March 2016

# Basalt Creek Transportation Refinement Plan Recommendations

## Introduction

The Basalt Creek transportation planning effort analyzed future transportation conditions and evaluated alternative strategies for phased investments that support regional and local needs.<sup>1</sup> This document reflects the Policy Advisory Group’s unanimous approval of the transportation investments, next steps for policy and plan updates, and potential funding strategies described in this document.

## Purpose

The purpose of this refinement plan was to determine the major transportation system connecting Tualatin-Sherwood Road to I-5 in North Wilsonville through the Basalt Creek Planning Area, which is currently an unincorporated urban area of Washington County between the cities of Tualatin to the north, and Wilsonville to the south (see Figure 1). This plan refines recommendations from the I-5/99W Connector Study and the Regional Transportation Plan, setting the stage for land use concept planning and comprehensive plan development for the Basalt Creek area.

## Planning Context

The need to plan for the future transportation system in the Basalt Creek area is driven not only by future growth in the Basalt Creek Planning area itself, but by future growth in surrounding areas targeted for industrial development. Basalt Creek currently lacks the multi-modal transportation facilities needed to support economic and urban-level development. Several planning

The Basalt Creek Transportation Refinement Plan was a joint effort involving:

- Washington County
- City of Tualatin
- City of Wilsonville
- Metro
- The Oregon Department of Transportation
- Area Citizens

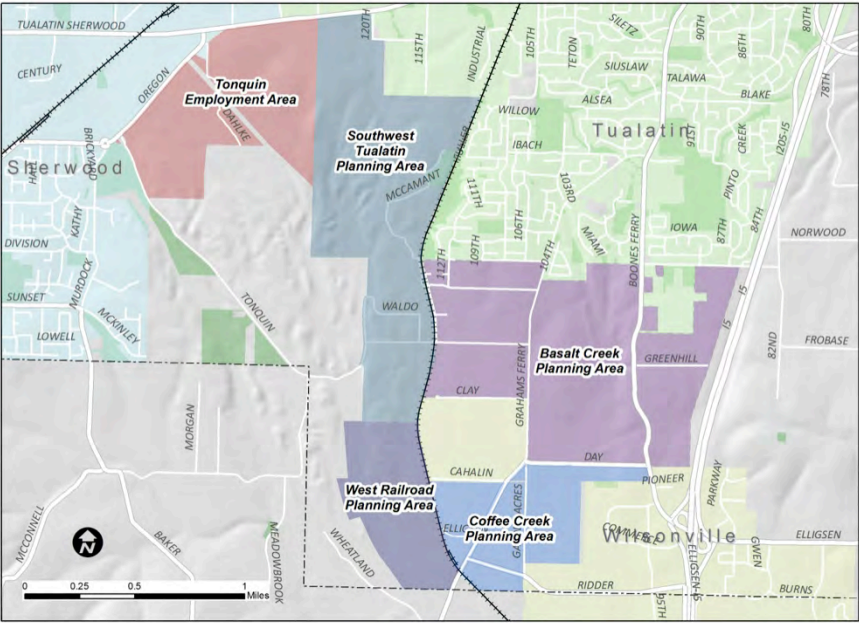


Figure 1: Basalt Creek Planning Area Location

<sup>1</sup> See *Basalt Creek Transportation Refinement Plan Technical Report* for more information.

efforts, summarized below, provide background and context for the Basalt Creek Transportation Refinement Plan.

- The **I-5/99W Connector Study** recommended an alternative that spreads east-west traffic across three smaller arterials rather than a single expressway. Although specific alignments for these arterials were not defined, the eastern end of the Southern Arterial was generally located within the Basalt Creek Planning Area, south of Tonquin Road. The present planning effort aims to further define the location of the connection between the SW 124<sup>th</sup> Avenue Extension and the I-5/Elligsen interchange in a manner that does not preclude the future Southern Arterial west of SW 124<sup>th</sup>.
- The **2035 Regional Transportation Plan (RTP)** calls for detailed project planning and near-term construction of an extension of SW 124<sup>th</sup> Avenue from Tualatin-Sherwood Road to the I-5/Elligsen Road interchange, supporting industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas. The RTP also calls for the near-term construction of the Tonquin Trail (see below).
- The **Tonquin Employment Area, Southwest Tualatin Concept Planning Area, and Coffee Creek Planning Area** together comprise about 1,000 acres surrounding the Basalt Creek area that are planned primarily for industrial use. These areas are expected to generate growing freight and work-related travel demands on the multi-modal transportation network that runs through the Basalt Creek area.
- The **SW 124<sup>th</sup> Avenue Extension** Project, currently underway, is planning and designing the corridor described in the RTP from Tualatin-Sherwood Road to Tonquin Road. The present planning effort aims to extend the corridor to I-5 as envisioned in the RTP and ensure consistency with current SW 124<sup>th</sup> Avenue project.
- Washington County's **Boones Ferry Road** improvement project, also currently underway, provides pedestrian and bicycle improvements and an intermittent center turn lane between Norwood Road and Day Road. It is an assumed improvement for the Basalt Creek area.
- Near-term construction of the **Tonquin Trail** is called for in the RTP. The master plan identifies an alignment for new bicycle and pedestrian connections between Sherwood, Tualatin, and Wilsonville, with connections to the larger regional trail system. The Tonquin Trail will travel through the Southwest Tualatin Concept Plan Area and the Tonquin Employment Concept Plan Area, and is an assumed improvement within the Basalt Creek Transportation Refinement Plan.
- **Transportation System Plan** updates for Washington County, Tualatin, and Wilsonville are currently underway. Washington County will incorporate recommendations from this refinement plan into the County TSP update. The cities of Tualatin and Wilsonville will not incorporate these recommendations into their current TSP updates, but will carry the recommendations into land use concept planning and future TSP updates.

## Facility Considerations and Characteristics

At the outset of this effort, agencies articulated a set of considerations to guide selection of the preferred transportation system as well as preferred characteristics of the primary east-west facility through the area.

- **Guiding considerations** included: ability to fund and phase improvements, level of impacts (environmental, right-of-way, etc.), support for development, consistency with regional policy, and traffic operations performance.
- **Facility characteristics** included: for the primary arterial connection, a 45 mph prevailing speed and access spacing of one-half mile to one mile to improve capacity.

## Recommendation

The Policy Advisory Group (PAG), which consists of elected officials and key staff from the project's five partner agencies, recommends the following elements as part of an overall Action Plan (illustrated in Figure 2) for the area.

### Roadways

The final recommendation is for a combination of new and improved roadways through the Basalt Creek area. The key new roadway through the area is a five-lane east-west extension of SW 124<sup>th</sup> Avenue, aligned south of Tonquin Road and extending east to Boones Ferry Road. The recommendation also includes improvements to existing roadways in the area, such as Tonquin Road, Grahams Ferry Road, Boones Ferry Road, and Day Road.

Protection of right-of-way for the new east-west roadway from the 124<sup>th</sup> Avenue extension to Boones Ferry Road is a key element of this recommendation. Right-of-way protection and purchase will be addressed separately, concurrent with the Basalt Creek land use concept planning.

During the planning process, the City of Wilsonville expressed concern about the structural condition of Day Road (i.e., failing roadway base and resulting pavement deterioration) and its ability to carry freight traffic for further development of industrial lands. While the Basalt Creek Transportation Refinement Plan focused on roadway needs related to capacity, the PAG agreed that the function of the arterial network in the Basalt Creek area includes providing roadways with adequate structural design for regional freight needs. Therefore, the PAG agreed that the project recommendations include a commitment to address the construction, operations, and maintenance of the arterial network through the concept planning process.

### Overcrossings

The ability to construct two new I-5 overcrossings, including an off-street multi-use path, should be preserved in order to provide for future circulation and connectivity across the Basalt Creek area and into areas east of I-5. These overcrossings are recommended as long-term improvements and are likely not needed until 2035 or later. Forecasts show that the second overcrossing is not needed unless surrounding urban reserve areas east of I-5 and south of I-205 are developed. This refinement plan is neutral on the timing of urban reserves development, and therefore does not specify the timing and order of overcrossing improvements.

## Active Transportation

All improved roadways in the Action Plan include bike lanes and sidewalks consistent with Washington County urban standards. This recommendation also includes integration of the regional Tonquin Trail into the transportation network. Metro, in close coordination with the cities of Tualatin, Wilsonville, Sherwood, and Washington and Clackamas counties, led the master planning effort that identified a preferred alignment that travels through the Basalt Creek Planning Area. Roadway cross-sections and right-of-way purchases for the future east-west facility will consider needs for the Tonquin Trail in the design for the railroad overcrossing and improvements to Tonquin Road between Morgan Road and Tonquin Loop Road. Design for the east-west facility should also consider providing an off-street multi-use path that connects to the Tonquin Trail and extends east of I-5. Details of how this multi-use path will be integrated with the east-west facility design will be refined during later land use concept planning.

## Action Plan

The recommended Action Plan consists of 18 transportation investments, shown in Figure 2. Timing of projects was prioritized through an analysis of likely transportation needs in 2020, 2030, and 2035 based on growth assumptions from the adopted Regional Transportation Plan. Because of uncertainty regarding the years during which development in the Basalt Creek Planning Area and surrounding areas will occur, phasing for investments is classified as short-term, medium-term, and long-term. Descriptions of these investments, as well as timing and the funding needed, are shown in Table 1. Cost estimates include right-of-way.

Table 1: Basalt Creek Action Plan

ID	Project	Short-Term	Medium-Term	Long-Term	Cost (\$2012)
1	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Construct three lane road extension with bike lanes and sidewalks	x			\$20,000,000
2	Tonquin Road (124 <sup>th</sup> Avenue to Grahams Ferry Road): Widen to three lanes with bike lanes and sidewalks, grade separate at railroad, improve geometry at Grahams Ferry Road <sup>1</sup>	x			\$10,500,000
3	Grahams Ferry Road (Tonquin Road to Day Road): Widen to three lanes with bike lanes and sidewalks	x			\$5,400,000
4	Boones Ferry Road (Norwood Road to Day Road): Widen to three lanes with bicycle and pedestrian improvements	x			\$10,800,000
5	124 <sup>th</sup> Avenue/Tonquin Road Intersection: Signal (may include Tonquin Trail crossing)	x			. <sup>2</sup>
6	Grahams Ferry Road/Tonquin Road Intersection: Signal	x			\$500,000
7	Boones Ferry Road/Day Road Intersection: Add second southbound through approach lane	x			. <sup>3</sup>
8	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Construct dual left-turn and right-turn lanes; improve signal synchronization, access management and sight distance	x			\$2,500,000
9a	Tonquin Trail (Clackamas County Line to Tonquin Loop Road): Construct multi-use trail with some segments close to but separated from road	x			\$8,900,000 <sup>4</sup>
9b	Tonquin Trail (Tonquin Loop Road to Tualatin-Sherwood Road): Construct multi-use trail with some segments close to but separated from road		x		\$7,100,000 <sup>4</sup>
10	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Widen from three to five lanes with bike lanes and sidewalks		x		\$14,000,000
11	East-West Arterial (124 <sup>th</sup> Avenue to Boones Ferry Road): Construct 5 lane roadway with railroad and creek crossings, integrate segment of Tonquin Trail <sup>5</sup>		x		\$57,900,000
12	Boones Ferry Road (East-West Arterial to Day Road): Widen to five lanes with bike lanes and sidewalks		x		\$1,100,000
13	Kinsman Road Extension (Ridder Road to Day Street): Construct three lane road extension with bike lanes and sidewalks		x		\$10,400,000
14	Day Road (Kinsman Road to Boones Ferry Road): Widen to five lanes with bike lanes and sidewalks		x		\$5,800,000
15	I-5 Southbound off-ramp at Boones Ferry Road/Elligsen Road: construct second right turn lane		x		\$500,000
16	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Access management		x		. <sup>6</sup>
17	Day Road Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Elligsen Road			x	\$33,700,000- \$44,100,000 <sup>7</sup>
18	East-West Arterial Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Stafford Road. Integrate multi-use path in corridor that connects to Tonquin Trail			x	\$38,000,000
<b>TOTAL</b>		<b>\$59M</b>	<b>\$97M</b>	<b>\$72-82M</b>	<b>\$228-238M</b>

<sup>1</sup> Grade separation for Tonquin Road is optional. An at-grade crossing would reduce cost by around \$2,000,000

<sup>2</sup> Cost included in Project 1

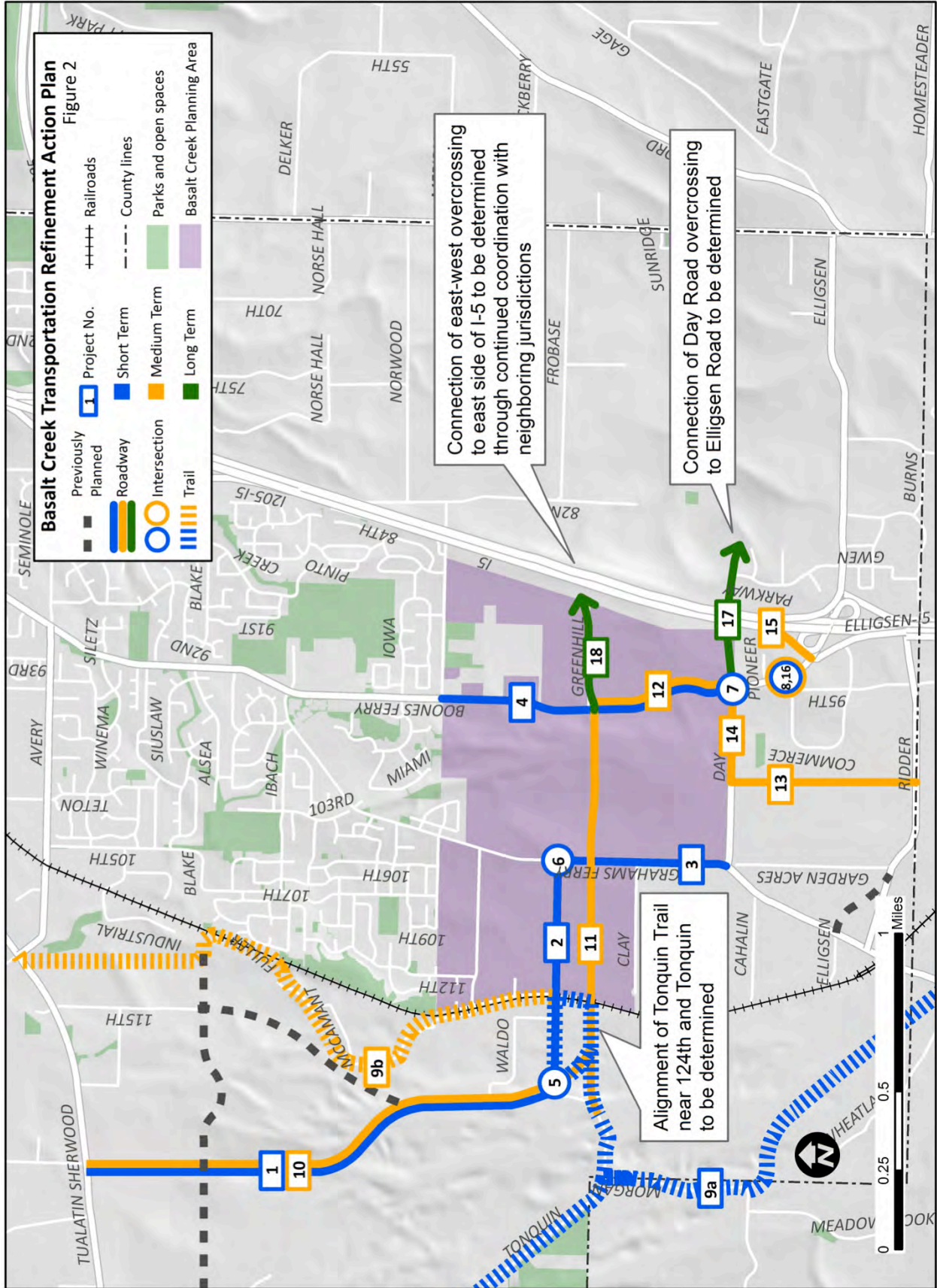
<sup>3</sup> Coordinate with Project 4. Cost of approach lane included in estimate for Project 12

<sup>4</sup> Tonquin Trail cost estimated by Metro as part of trail planning effort

<sup>5</sup> Project 11 can potentially be built in two phases funded separately, west and east of Grahams Ferry Road. However, traffic benefits needed in the medium term (around 2030) will not be realized unless entire project is completed

<sup>6</sup> Project details to be determined by further coordination between City of Wilsonville and ODOT. Cost expected to be minimal

<sup>7</sup> Specific alignment approaching Elligsen Road will determine project cost. Alignment to Parkway Center Drive is estimated at \$33,700,000, and alignment to Canyon Creek Road is estimated at \$44,100,000



Each investment adds important improvements to the major transportation system in the Basalt Creek area to support future development, adding new multimodal facilities and upgrading existing facilities to urban standards. Although not shown on the map, it is expected that future concept planning will identify locations for additional, lower-classification roads and other transportation facilities to serve future development as well.

**Are these new projects?**

While cost estimates for the entire recommendation may total as high as \$238,000,000, all of the 18 projects have some relation to investments already planned in the adopted RTP. Table 2 shows projects from the RTP that have overlap or similarity to projects contained in the Action Plan. **Note that many of these projects are different in scope from those contained in the Action Plan, and will have different cost estimates. Future RTP updates may include updated cost estimates from this study.**

**Table 2: Related projects from the Regional Transportation Plan**

RTP ID	RTP Project	Related Action Plan Projects	Time Period	Cost (\$2007)
10736	124 <sup>th</sup> Avenue: Construct new street from Tualatin-Sherwood Road to Tonquin Road: 5 lanes	1,5,10,11	2008-2017	\$82,500,000
10590	Tonquin Road: Realign and widen to three lanes with bike lanes and sidewalks (Oregon Street to Grahams Ferry Road)	2,6	2018-2025	\$28,406,000
10588	Grahams Ferry Road: Widen to three lanes, add bike/pedestrian connections to regional trail system and fix undersized railroad crossing (Helenius Street to Clackamas County line)	3	2008-2017	\$28,000,000
10732	Boones Ferry Road: Widen to five lanes (Norwood Road to Day Road)	4,7,12	2018-2025	\$40,050,000
10852	95 <sup>th</sup> /Boones Ferry/Commerce Circle Intersection Improvements	8,16	2008-2017	\$2,500,000
10854	Tonquin Trail: Construct multi-use trail with some on-street segments (Tualatin-Sherwood Road to Clackamas County line)	9a,9b	2008-2017	\$3,000,000
10853	Kinsman Road extension with bike lanes and sidewalks (Ridder Road to Day Road)	13	2008-2017	\$6,500,000
11243	Day Road reconstruction to accommodate trucks (Grahams Ferry Road to Boones Ferry Road)	14	2008-2017	\$3,200,000
11342	I-5/99W Connector Southern Arterial/I-5 Interface <sup>1</sup>	15,17,18	2026-2035	\$50,000,000

<sup>1</sup> Construction of projects specifically related to the I-5/99W Connector Southern Arterial, such as the I-5 interface, are contingent on certain project conditions being met. See Regional Transportation Plan for details.



## Policy and Plan Updates

Recommendations in this plan allow new concept planning efforts to move forward and provide guidance for updates of existing transportation plans.

### Basalt Creek and West Railroad Area Concept Planning

The transportation system recommended in this plan becomes the framework for more detailed land use concept planning of the Basalt Creek Planning Area and West Railroad Planning Area by the cities of Tualatin and Wilsonville. Key recommendations to be carried forward during concept planning include:

- Protection of the major transportation facility corridors from development encroachment.
- Coordination of the local transportation system with the transportation investments included in this plan (unless amended by the parties of this study). Each roadway in the Basalt Creek area has access spacing standards that protect the safety and operations of the system, and these standards help determine appropriate local street connections. The new east-west facility is limited to accesses at 124<sup>th</sup> Avenue, Grahams Ferry Road, and Boones Ferry Road.
- Detailed concept planning in the Basalt Creek area should consider multi-use path connections to the Tonquin Trail that emphasize directness and minimize conflicts, enhancing bicycle and pedestrian access to new residential and employment areas. In the West Railroad area, concept planning will also include sections of the Tonquin Trail.

### Regional Transportation Plan

In many cases, this transportation refinement plan provides new detail and cost estimates for projects that are already in the adopted RTP. These refined project descriptions, cost estimates, and timing considerations should be considered when projects are forwarded to Metro for the next RTP update. Examples of RTP projects that overlap with projects in this refinement plan include:

- 10590 (Tonquin Road). Action Plan project #2 includes a grade-separated railroad crossing, which is not included in the RTP project description.
- 10852 (95<sup>th</sup>/Boones Ferry/Commerce). Action Plan projects 8 and 16 will require further coordination with ODOT to determine geometry and timing of intersection improvements.
- 11243 (Day Road). Action Plan project #14, which widens part of Day Road, should also upgrade the roadway structure and pavement conditions to accommodate increasing heavy truck volumes. Although project #14 applies only to the section of Day Road between Kinsman Road and Boones Ferry Road, funding of roadway reconstruction between Kinsman Road and Grahams Ferry Road should also be discussed as part of land use concept planning.
- 10854 (Tonquin Trail). Action Plan projects #2, #5, #11 all need to consider Tonquin Trail in their design, including most recent alignment information and cost estimates from the trail master plan.

### Washington County TSP Update

Most of the projects included in the Action Plan are new facilities in unincorporated Washington County or improved facilities already under County jurisdiction. An amendment to update the Washington County TSP will be done in 2013 to incorporate the descriptions, cost estimates, and timing of these projects.

## Tualatin and Wilsonville TSP Updates

The Cities of Tualatin and Wilsonville are also currently updating their transportation system plans. However, because concept planning for Basalt Creek will include agreement on the future city limit boundary between the two cities, as well as more detailed transportation network considerations, the projects included in this plan will not be incorporated as part of the current TSP updates. Future TSP updates may reflect elements from this refinement plan by amending project lists, maps, and funding strategies.

## Funding

Funding for some short-term Action Plan projects has already been programmed by Washington County through their Major Streets Transportation Improvement Program (MSTIP). This includes \$16.9 million (\$10.9 million in MSTIP funding and \$6 million from other sources) for an interim two-lane extension of SW 124<sup>th</sup> Avenue from Tualatin-Sherwood Road to Tonquin Road. It also includes an additional \$10 million for right-of-way purchase or other improvements from the list identified by this Plan. Washington County has also provided \$11 million in funding for the current Boones Ferry Road improvement project.

While this recommendation does not identify a specific overall funding strategy for the Action Plan, there are many existing revenue sources that may be used to fund the recommended investments.

**Many are subject to a state or regionally competitive process where success can hinge on having a broadly supported plan in place.**

The revenue sources listed below form the basis of the financially constrained Regional Transportation Plan and related project list, which already contains many of the recommended Basalt Creek investments. The RTP assumes federal, state, and local sources, all of which will be key to funding the Action Plan.

### Federal

Based on MAP-21<sup>2</sup> legislation, sources may include:

- **National Highway Performance Program (NHPP).** These funds are intended for rehabilitation and expansion of principal arterials, especially those with important freight functions.
- **Regional Surface Transportation Program (STP) funds.** These funds may be used for virtually any transportation purpose short of building local residential streets.
- **Congestion Mitigation/Air Quality (CMAQ) funds.** These funds typically support biking, walking, and transit projects, and other projects that help to achieve air quality standards.
- **Transportation Alternatives (TA) funds.** TA takes the place of previous programs such as Transportation Enhancements and Recreational Trails, and may be used to fund a variety of non-motorized projects.

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<sup>2</sup> For more information see <http://www.fhwa.dot.gov/map21/>

These funds are allocated to projects through a state or regionally managed competitive process for inclusion in the Metropolitan Transportation Improvement Program (MTIP) and the State Transportation Improvement Program (STIP).

### State

State sources include the statewide gas tax, vehicle registration fees, and weight-mile taxes on trucks. These funds typically go to road and bridge maintenance projects, but funding for projects of regional significance, such as those provided by Oregon House Bill 2001 Jobs and Transportation Act (JTA), may be made available for modernization. Again, having a plan in place allows projects to access funds when new funding opportunities become available.

### Local

A variety of local funding sources are available, although some, such as urban renewal and local improvement districts, are subject to approval. Sources may include:

- Washington County Major Streets Transportation Improvement Program (MSTIP)
- Local portion of State Highway Trust Fund
- Local gas tax
- Transportation System Development Charges (SDCs) or Transportation Development Taxes (TDTs) levied on new development
- Urban renewal funding
- Developer contributions
- Local improvement districts (LIDs)

# Basalt Creek Concept Plan: Acknowledgements

## Joint Council

### **Tualatin City Council**

Mayor Lou Ogden  
Council President Monique Beikman  
Councilor Wade Brooskby  
Councilor Frank Bubenik  
Councilor Joelle Davis  
Councilor Nancy Grimes  
Councilor Ed Truax  
Councilor Jeff DeHaan  
Councilor Robert Kellogg  
Councilor Paul Morrison

### **Wilsonville City Council**

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Council President Scott Star  
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Councilor Susie Stevens  
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Mark Fryburg

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Rob Fagliano

Phil Johansen

### **SMART**

Stephan Lashbrook

### **Tigard/Tualatin School District**

Ernie Brown

David Moore

### **TriMet**

Tom Mills

### **City of Tualatin Community Services/ Parks and Recreation**

Paul Hennon

Rich Mueller

Ross Hoover

### **Tualatin Valley Fire and Rescue**

Brian Sherrard

### **Tualatin Valley Water District**

Todd Perimon

Todd Heidgerken

### **Washington County**

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Renus Kelfkens

Russell Knoebel

Karen Savage

### **Wilsonville/West Linn School District**

Tim Woodley

### **City of Wilsonville Natural Resources**

Kerry Rappold

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AMENDING THE ) ORDINANCE NO. 04-1040B  
METRO URBAN GROWTH BOUNDARY, THE )  
REGIONAL FRAMEWORK PLAN AND THE )  
METRO CODE TO INCREASE THE CAPACITY )  
OF THE BOUNDARY TO ACCOMMODATE )  
GROWTH IN INDUSTRIAL EMPLOYMENT ) Introduced by the Metro Council  
)

WHEREAS, by Ordinance No. 02-969B (For The Purpose Of Amending The Urban Growth Boundary, The Regional Framework Plan And The Metro Code In Order To Increase The Capacity Of The Boundary To Accommodate Population Growth To The Year 2022), the Council amended Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan to increase the capacity of industrial land to accommodate industrial jobs; and

WHEREAS, the Metro Council adopted an Employment and Industrial Areas Map as part of Title 4 (Retail in Employment and Industrial Areas) in Ordinance No. 96-647C (For the Purpose of Adopting a Functional Plan for Early Implementation of the 2040 Growth Concept) on November 21, 1996; and

WHEREAS, the Council amended the Regional Framework Plan (RFP) by Exhibit D to Ordinance No. 02-969B (For the Purpose of Amending the Metro Urban Growth Boundary, the Regional Framework Plan and the Metro Code in Order to Increase the Capacity of the Boundary to Accommodate Population Growth to the Year 2022), adopted on December 5, 2002, to establish a new 2040 Growth Concept design type entitled“Regionally Significant Industrial Area”(RSIA) and to add Policies 1.4.1 and 1.4.2 to protect such areas by limiting conflicting uses; and

WHEREAS, by Exhibit F to Ordinance No. 02-969B the Council amended Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan (“UGMFP”) to implement Policies 1.4.1 and 1.4.2 of the RFP; and

WHEREAS, by Exhibit E of Ordinance No. 02-969B the Council adopted a“Generalized Map of Regionally Significant Industrial Areas”depicting certain Industrial Areas that lay within the UGB prior to its expansion as part of Task 2 of periodic review as RSIA’s; and

WHEREAS, Title 4 calls upon the Council to delineate specific boundaries for RSIA's derived from the "Generalized Map of Regionally Significant Industrial Areas" after consultation with cities and counties; and

WHEREAS, by Ordinance No. 02-969B, the Council added capacity to the UGB but did not add sufficient capacity to accommodate the full need for land for industrial use; and

WHEREAS, the Metro Council submitted Ordinance No. 969B, in combination with other ordinances that increased the capacity of the UGB, to the Land Conservation and Development Commission (LCDC) as part of Metro's periodic review of the capacity of its UGB; and

WHEREAS, on July 7, 2003, LCDC issued its "Partial Approval and Remand Order 03-WKTASK-001524" that approved most of the Council's decisions, but returned the matter to the Council for completion or revision of three tasks: (1) provide complete data on the number, density and mix of housing types and determine the need for housing types over the next 20 years; (2) add capacity to the UGB for the unmet portion of the need for land for industrial use; and (3) either remove tax lots 1300, 1400 and 1500 in Study Area 62 from the UGB or justify their inclusion; and

WHEREAS, the Council completed its analysis of the number, density and mix of housing types and the need for housing over the planning period 2002-2022 and incorporated its conclusions in a revision to its Housing Needs Analysis; and

WHEREAS, the Council increased the capacity of the UGB both by adding land to the UGB and by revising the Regional Framework Plan and Title 4 of the UGMFP to meet the previously unmet portion of the need for land for industrial use; and

WHEREAS, a change in design type designation of a portion of Study Area 12 added to the UGB on December 5, 2002, by Ordinance No. 02-969B from residential to industrial will help the region accommodate the need for industrial use without reducing the region's residential capacity below the region's residential need; and

WHEREAS, the Council decided to remove tax lots 1300, 1400 and 1500 in Study Area 62 from the UGB; and



WHEREAS, the Council consulted its Metropolitan Policy Advisory Committee and the 24 cities and three counties of the metropolitan region and considered comments and suggestions prior to making this decision; and

WHEREAS, prior to making this decision, the Council sent individual mailed notification to more than 100,000 households in the region and held public hearings on Title 4 and the efficient use of industrial land on December 4 and 11, 2003, public workshops at six locations around the region in March, 2004, on possible amendments to the UGB, and public hearings on the entire matter on April 22 and 29, May 6, [May 27](#), and June 10 and 24, 2004; now, therefore

THE METRO COUNCIL HEREBY ORDAINS AS FOLLOWS:

1. Policy 1.12 of the Regional Framework Plan is hereby amended, as indicated in Exhibit A, attached and incorporated into this ordinance, to guide the choice of farmland for addition to the UGB when no higher priority land is available or suitable.
2. Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan is hereby amended, as indicated in Exhibit B, attached and incorporated into this ordinance, to improve implementation of Title 4 by cities and counties in the region.
3. The Employment and Industrial Areas Map is hereby amended, as shown in Exhibit C, attached and incorporated into this ordinance, to depict the boundaries of Regionally Significant Industrial Areas pursuant to Policy 1.4.1 of the Regional Framework Plan in order to ensure more efficient use of the areas for industries reliant upon the movement of freight and to protect the function and capacity of freight routes and connectors in the region.
4. The Revised Housing Needs Analysis, January 24, 2003, is hereby further revised, as indicated in Exhibit D, Addendum to Housing Needs Analysis, April 5, 2004, attached and incorporated into this ordinance, to comply with the first item in LCDC's "Partial Approval and Remand Order 03-WKTASK-001524."
5. The Metro UGB is hereby amended to include all or portions of the Study Areas shown on Exhibit E [with the designated 2040 Growth Concept design type, and more precisely identified in the Industrial Land Alternative Analysis Study, February, 2004, Item \(c\) in Appendix A](#), subject to the conditions set forth in Exhibit F, and to exclude tax lots 1300, 1400 and 1500 in Study Area 62 ~~and the southeast portion of Study Area 9 from the UGB~~, also shown on Exhibit E and more precisely identified in the Staff Report, "In Consideration of Ordinance No. 04-1040, For the Purpose of Amending the Metro Urban Growth Boundary, the Regional Framework Plan and the Metro Code to increase the capacity of the Boundary to Accommodate Growth in Industrial Employment", Item (a) in Appendix A. Exhibits E and F are attached and incorporated into this ordinance to comply with the second and third items in LCDC's "Partial Approval and Remand Order 03-WKTASK-001524."

6. Ordinance No. 02-969B is hereby amended to change the 2040 Growth Concept design type designation for that 90-acre portion of Study Area 12 that projects from the rest of the study area to the southeast along Highway 26 from “Inner Neighborhood” to “Regionally Significant Industrial Area.”

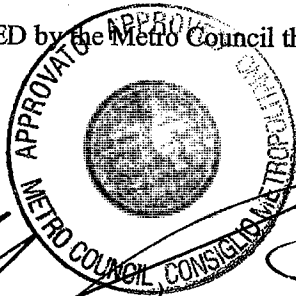
67. The Appendix, attached and incorporated into this ordinance, is hereby adopted in support of the amendments to the UGB, the Regional Framework Plan and the Metro Code in sections 1 through 3 of this ordinance. The following documents comprise the Appendix:

- a. Staff Report, ‘In Consideration of Ordinance No. 04-1040, For the Purpose of Amending the Metro Urban Growth Boundary, the Regional Framework Plan and the Metro Code to increase the capacity of the Boundary to Accommodate Growth in Industrial Employment’, April 5, 2004.
- b. 2002-2022 Urban Growth Report: An Employment Land Need Analysis, June 24, 2004 Supplement.
- c. Industrial Land Alternative Analysis Study, February, 2004.
- d. Measure 26-29 Technical Report: Assessment of the Impacts of the June, 2004, UGB Expansion on Property Owners.
- e. Industrial Land Expansion Public Comment Report, March, 2004.
- f. ‘An Assessment of Potential Regionally Significant Industrial Areas’, memorandum from Mary Weber to Dick Benner, October 21, 2003.
- g. ‘Recommended Factors for Identifying RSIA’s’, memorandum from Mary Weber to MTAC, June 30, 2003.
- h. ‘Slopes Constraints on Industrial Development’, memorandum from Lydia Neill to David Bragdon, November 25, 2003.
- i. ‘Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use’, prepared by the Metro Agricultural Lands Technical Workgroup, April, 2004.
- j. ‘Technical Assessment of Reducing Lands within Alternatives Analysis Study Areas’, memorandum from Lydia Neill to David Bragdon, October 30, 2003.
- k. Agriculture at the Edge: A Symposium, October 31, 2003, Summary by Kimi Iboshi Sloop, December, 2003.
- m. ‘Industrial Land Aggregation Methodology, Test and Results’, memorandum from Lydia Neill to David Bragdon, September 24, 2003.
- n. ‘Industrial Areas Requested by Local Jurisdictions’, memorandum from Tim O’Brien to Lydia Neill, July 29, 2003.

- o. 'Industrial Land Locational and Siting Factors', memorandum from Lydia Neill to David Bragdon, June 9, 2003.
- p. 'A Review of Information Pertaining to Regional Industrial Lands', memorandum from Dick Benner to David Bragdon, January 26, 2004.
- q. Map of Freight Network and Freight Facilities, Metro, November, 2003.
- r. 'Evaluating the Industrial Land Supply with Projected Demand', memorandum from Lydia Neill to David Bragdon, May 14, 2003.
- s. 'Identifying 2003 Industrial Land Alternatives Analysis Study Areas', memorandum from Tim O'Brien to Lydia Neill, July 9, 2003.
- t. 'For the Purpose of Reducing the Land Under Consideration in the 2002 and 2003 Alternatives Analysis for Meet the Remaining Need for Industrial Land through Urban Growth Boundary Expansion', Staff Report, November 18, 2003.
- u. 'Formation of Industrial Neighborhoods', memorandum from Lydia Neill to David Bragdon, October 24, 2003.
- v. 'Developed Lots 5 Acres and Smaller Outside the UGB', memorandum from Amy Rose to Lydia Neill, November 18, 2003.
- w. 'Employment Land Included in the 2002 Urban Growth Boundary Expansion', memorandum from Andy Cotugno to David Bragdon, March 10, 2003.
- x. 'Identifying Additional Land for Industrial Purposes', memorandum from Tim O'Brien to Lydia Neill, March 7, 2003.
- y. Staff Report, 'In Consideration of Ordinance No. 04-1040B, For the Purpose of Amending the Metro Urban Growth Boundary, the Regional Framework Plan and the Metro Code to increase the Capacity of the Boundary to Accommodate Growth in Industrial Employment', June 21, 2004.

78. The Findings of Fact and Conclusions of Law in Exhibit G, attached and incorporated into this ordinance, explain how this ordinance complies with state law, the Regional Framework Plan and the Metro Code.

ADOPTED by the Metro Council this 24<sup>th</sup> day of June, 2004.



*[Signature]*  
 David Bragdon, Council President

ATTEST:

Approved as to Form:

*[Signature]*  
 Christina Billington, Recording Secretary

*[Signature]*  
 Daniel B. Cooper, Metro Attorney

**REGIONAL FRAMEWORK PLAN POLICY 1.12  
Protection of Agriculture and Forest Resource Land**

~~1.12.1.1.1~~ Agricultural and forest land outside the UGB shall be protected from urbanization, and accounted for in regional economic and development plans, consistent with this Plan. However, Metro recognizes that all the statewide goals, including Statewide Goal 10, and Goal 14, Urbanization, are of equal importance to Goals 3 and 4, which protect agriculture and forest resource lands. These goals represent competing and, some times, conflicting policy interests which need to be balanced.

~~**1.12.1 Rural Resource Lands**~~

~~Rural resource lands outside the UGB that have significant resource value should actively be protected from urbanization. However, not all land zoned for exclusive farm use is of equal agricultural value.~~

1.12.2 When the Council must choose among agricultural lands of the same soil classification for addition to the UGB, the Council shall choose agricultural land deemed less important to the continuation of commercial agriculture in the region.

~~**1.12.2 Urban Expansion**~~

~~Expansion of the UGB shall occur in urban reserves, established consistent with the urban rural transition objective. All urban reserves should be planned for future urbanization even if they contain resource lands.~~

1.12.3 Metro shall enter into agreements with neighboring cities and counties to carry out Council policy on protection of agricultural and forest resource policy through the designation of Rural Reserves and other measures.

~~**1.12.3 Farm and Forest Practices**~~

~~Protect and support the ability for farm and forest practices to continue. The designation and management of rural reserves by the Metro Council may help establish this support, consistent with the Growth Concept. Agriculture and forestry require long term certainty of protection from adverse impacts of urbanization in order to promote needed investments.~~

1.12.4 Metro shall work with neighboring counties to provide a high degree of certainty for investment in agriculture in agriculture and forestry and to reduce conflicts between urbanization and agricultural and forest practices.

Exhibit B to Ordinance No. 04-1040B

TITLE 4: INDUSTRIAL AND OTHER EMPLOYMENT AREAS

3.07.410 Purpose and Intent

A. The Regional Framework Plan calls for a strong economic climate. To improve the region's economic climate, **[the plan] Title 4** seeks to **provide and** protect **[the] a** supply of sites for employment by limiting **[incompatible uses within] the types and scale of non-industrial uses in Regionally Significant Industrial Areas (RSIAs)**, Industrial Areas and Employment Areas. **Title 4 also seeks to provide the benefits of "clustering" to those industries that operate more productively and efficiently in proximity to one another than in dispersed locations. Title 4 further seeks [T]to** protect the capacity and efficiency of the region's transportation system for **the** movement of goods and services, and to **[promote the creation of jobs within designated Centers and discourages certain kinds of commercial retail development outside Centers] encourage the location of other types of employment in Centers, Employment Areas, Corridors, Main Streets and Station Communities. [It is the purpose of Title 4 to achieve these policies.] The Metro Council will [consider amendments to this title in order to make the title consistent with new policies on economic development adopted] evaluate the effectiveness of Title 4 in achieving these purposes** as part of **its** periodic **[review] analysis of the capacity of the urban growth boundary.**

3.07.420 Protection of Regionally Significant Industrial Areas

A. Regionally Significant Industrial Areas (RSIA) are those areas **[that offer the best opportunities for family-wage industrial jobs] near the region's most significant transportation facilities for the movement of freight and other areas most suitable for movement and storage of goods.** Each city and county with land use planning authority over **[areas] RSIAs** shown on the **[Generalized Map of Regionally Significant Industrial Areas adopted in Ordinance No. 02-969] Employment and Industrial Areas Map** shall derive specific plan designation and zoning district boundaries of **[the areas] RSIAs within its jurisdiction** from the Map, taking into account the location of existing uses that would not conform to the limitations on non-industrial uses in **[subsection C, D and E] this section, and [its] the need [of individual cities and counties] to achieve a mix of [types of] employment uses.**

B. **[Each city and county with land use planning authority over an area designated by Metro on the 2040 Growth Concept Map, as amended by Ordinance No. 02-969, as a Regionally Significant Industrial Area shall, as part of compliance with section 3.07.1120 of the Urban Growth Management Functional Plan, derive plan designation and zoning district boundaries of the areas from the Growth Concept Map] Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit the size and location of new buildings for retail commercial uses - such as stores and restaurants - and retail and professional services that cater to daily customers - such as financial, insurance, real estate, legal, medical and dental offices - to ensure that they serve primarily the needs of workers in the area. One such measure shall be that new buildings for stores, branches, agencies or other outlets for these retail uses and services shall not occupy more than 3,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project, with the following exceptions:**

**1. Within the boundaries of a public use airport subject to a facilities master plan, customary airport uses, uses that are accessory to the travel-related and freight movement activities of airports, hospitality uses, and retail uses appropriate to serve the needs of the traveling public; and**

**2. Training facilities whose primary purpose is to provide training to meet industrial needs.**

C. [After determining boundaries of Regionally Significant Industrial Areas pursuant to subsections A and B, the city or county] **Cities and counties** shall [adopt implementing ordinances that limit development in the areas to industrial uses, uses accessory to industrial uses, offices for industrial research and development and large corporate headquarters in compliance with subsection E of this section, utilities, and those non-industrial uses necessary to serve the needs of businesses and employees of the areas] **review their land use regulations and revise them, if necessary, to include measures to limit the siting and location of new buildings for the uses described in subsection B and for non-industrial uses that do not cater to daily customers - such as bank or insurance processing centers - to ensure that such uses do not reduce off-peak performance on Main Roadway Routes and Roadway Connectors shown on Metro's Freight Network Map, November, 2003, below standards set in the 2004 Regional Transportation Plan or require added road capacity to prevent falling below the standards.**

D. [Notwithstanding subsection C, a city or county shall not approve:

1. A commercial retail use with more that 20,000 square feet of retail sales area in a single building or in multiple buildings that are part of the same development project;  
or

2. Commercial retail uses that would occupy more than five percent of the net developable portion of all contiguous Regionally Significant Industrial Areas] **No city or county shall amend its land use regulations that apply to lands shown as RSIA on the Employment and Industrial Areas Map to authorize uses described in subsection B that were not authorized prior to July 1, 2004.**

E. [As provided in subsection C of this section, a city or county may approve an office for industrial research and development or a large corporate headquarters if:

1. The office is served by public or private transit; and

2. If the office is for a corporate headquarters, it will accommodate for the initial occupant at least 1,000 employees]

[F. A city or county] **Cities and counties** may allow division of lots or parcels into smaller lots or parcels as follows:

1. Lots or parcels [less] **smaller** than 50 acres may be divided into any number of smaller lots or parcels[;].

2. Lots or parcels [50 acres or] larger **than 50 acres** may be divided into smaller lots and parcels **pursuant to a master plan approved by the city or county** so long as the resulting division yields [the maximum number of lots or parcels of] at least [50 acres] **one lot or parcel of at least 50 acres in size**[;].

3. **Lots or parcels 50 acres or larger, including those created pursuant to paragraph (2) of this subsection, may be divided into any number of smaller lots or parcels pursuant to a master plan approved by the city or county so long as at least 40 percent of the area of the lot or parcel has**

**been developed with industrial uses or uses accessory to industrial use, and no portion has been developed, or is proposed to be developed, with uses described in subsection B of this section.**

4. Notwithstanding paragraphs 2[, **and**] 3 [**and**] of this subsection, any lot or parcel may be divided into smaller lots or parcels or made subject to rights-of-way for the following purposes:

- a. To provide public facilities and services;
- b. To separate a portion of a lot or parcel in order to protect a natural resource, to provide a public amenity, or to implement a remediation plan for a site identified by the Oregon Department of Environmental Quality pursuant to ORS 465.225;
- c. To separate a portion of a lot or parcel containing a nonconforming use from the remainder of the lot or parcel in order to render the remainder more practical for a permitted use; **or**
- d. [**To reconfigure the pattern of lots and parcels pursuant to subsection G or this section**]  
[e.] To allow the creation of a lot for financing purposes when the created lot is part of a master planned development.

[G. A city or county may allow reconfiguration of lots or parcels less than 50 acres in area if the reconfiguration would be more conducive to a permitted use and would result in no net increase in the total number of lots and parcels. Lots or parcels 50 acres or greater in area may also be reconfigured so long as the resulting area of any such lot or parcel would not be less than 50 acres.]

[H] F. Notwithstanding subsections [C and D] **B** of this section, a city or county may allow the lawful use of any building, structure or land existing at the time of adoption of its ordinance to implement this section to continue and to expand to add up to 20 percent more floor area and 10 percent more land area. Notwithstanding subsection E of this section, a city or county may allow division of lots or parcels pursuant to a master plan approved by the city or county prior to [**December 31, 2003**] **July 1, 2004**.

### 3.07.430 Protection of Industrial Areas

A. [**In Industrial Areas mapped pursuant to Metro Code section 3.07.130 that are not Regionally Significant Industrial Areas, c**] Cities and counties shall [limit new and expanded retail commercial uses to those appropriate in type and size to serve the needs of businesses, employees and residents of the Industrial Areas] **review their land use regulations and revise them, if necessary, to include measures to limit new buildings for retail commercial uses - such as stores and restaurants - and retail and professional services that cater to daily customers – such as financial, insurance, real estate, legal, medical and dental offices - in order to ensure that they serve primarily the needs of workers in the area. One such measure shall be that new buildings for stores, branches, agencies or other outlets for these retail uses and services shall not occupy more than 5,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project, with the following exceptions:**

**1. Within the boundaries of a public use airport subject to a facilities master plan, customary airport uses, uses that are accessory to the travel-related and freight movement activities of airports, hospitality uses, and retail uses appropriate to serve the needs of the traveling public; and**

2. Training facilities whose primary purpose is to provide training to meet industrial needs.

B. [In an Industrial Area, a city or county shall not approve:

1. A commercial retail use with more than 20,000 square feet of retail sales area in a single building or in multiple buildings that are part of the same development project; or

2. Commercial retail uses that would occupy more than ten percent of the net developable portion of the area or any adjacent Industrial Area] Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit new buildings for the uses described in subsection A to ensure that they do not interfere with the efficient movement of freight along Main Roadway Routes and Roadway Connectors shown on Metro's Freight Network Map, November, 2003. Such measures may include, but are not limited to restrictions on access to freight routes and connectors, siting limitations and traffic thresholds. This subsection does not require cities and counties to include such measures to limit new other buildings or uses.

C. No city or county shall amend its land use regulations that apply to lands shown as Industrial Area on the Employment and Industrial Areas Map to authorize uses described in subsection A of this section that were not authorized prior to July 1, 2004.

D. Cities and counties may allow division of lots or parcels into smaller lots or parcels as follows:

1. Lots or parcels smaller than 50 acres may be divided into any number of smaller lots or parcels.

2. Lots or parcels larger than 50 acres may be divided into smaller lots and parcels pursuant to a master plan approved by the city or county so long as the resulting division yields at least one lot or parcel of at least 50 acres in size.

3. Lots or parcels 50 acres or larger, including those created pursuant to paragraph (2) of this subsection, may be divided into any number of smaller lots or parcels pursuant to a master plan approved by the city or county so long as at least 40 percent of the area of the lot or parcel has been developed with industrial uses or uses accessory to industrial use, and no portion has been developed, or is proposed to be developed with uses described in subsection A of this section.

4. Notwithstanding paragraphs 2 and 3 of this subsection, any lot or parcel may be divided into smaller lots or parcels or made subject to rights-of-way for the following purposes:

a. To provide public facilities and services;

b. To separate a portion of a lot or parcel in order to protect a natural resource, to provide a public amenity, or to implement a remediation plan for a site identified by the Oregon Department of Environmental Quality pursuant to ORS 465.225;

c. To separate a portion of a lot or parcel containing a nonconforming use from the remainder of the lot or parcel in order to render the remainder more practical for a permitted use; or

d. To allow the creation of a lot for financing purposes when the created lot is part of a master planned development.



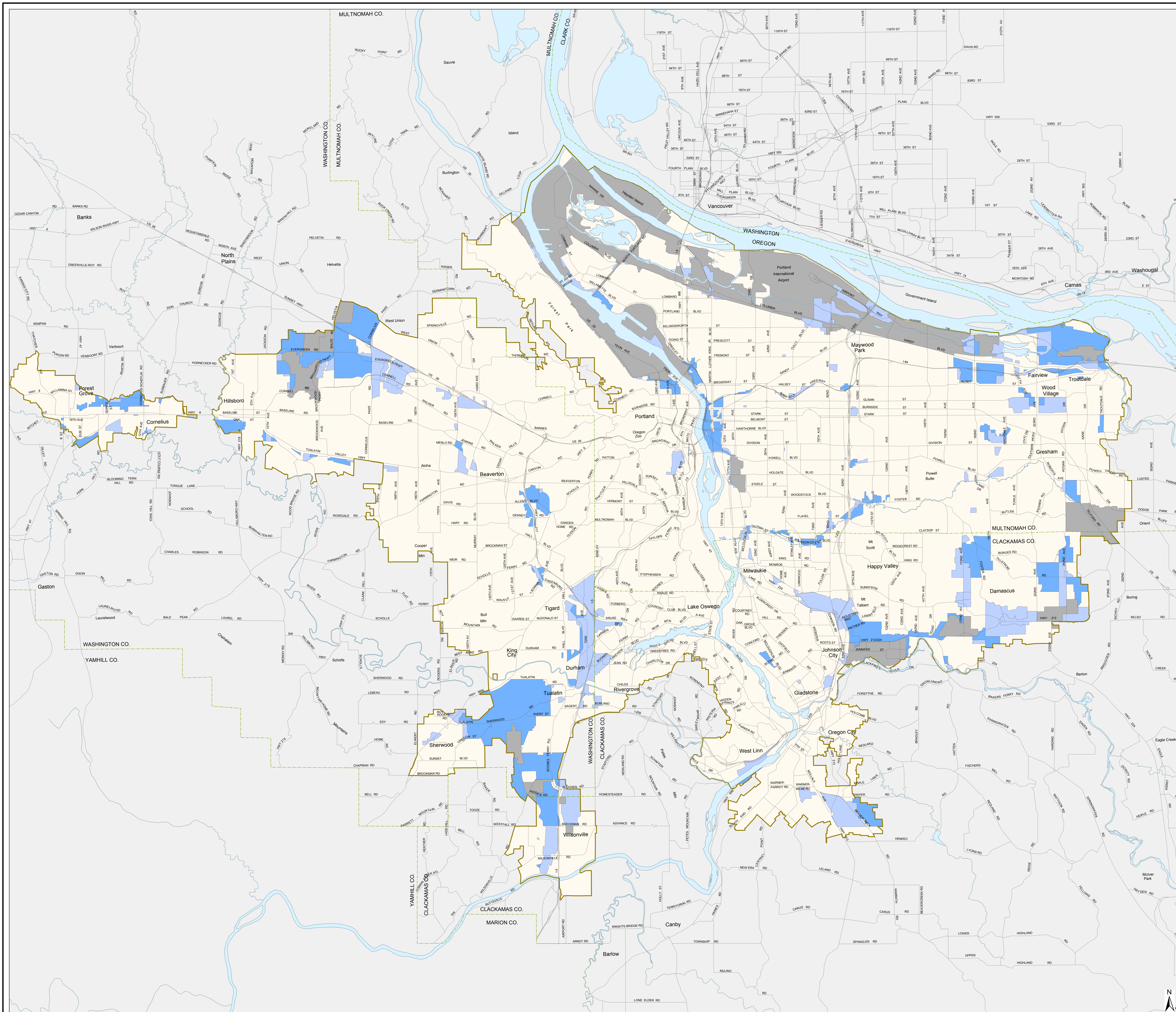
**E.** Notwithstanding **[subsection B] subsection A** of this section, a city or county may allow the lawful use of any building, structure or land existing at the time of **[enactment of an] adoption of its ordinance [adopted pursuant to this section] to implement this section** to continue and to expand to add up to 20 percent more **[floorspace] floor area** and 10 percent more land area. **Notwithstanding subsection D of this section, a city or county may allow division of lots or parcels pursuant to a master plan approved by the city or county prior to July 1, 2004.**

### 3.07.440 Employment Areas

- A. Except as provided in subsections C, D and E, in Employment Areas mapped pursuant to Metro Code Section 3.07.130, cities and counties shall limit new and expanded retail commercial uses to those appropriate in type and size to serve the needs of businesses, employees and residents of the Employment Areas.
- B. Except as provided in subsections C, D and E, a city or county shall not approve a commercial retail use in an Employment Areas with more than 60,000 square feet of gross leasable area in a single building, or retail commercial uses with a total of more than 60,000 square feet of retail sales area on a single lot or parcel, or on contiguous lots or parcels, including those separated only by transportation right-of-way.
- C. A city or county whose zoning ordinance applies to an Employment Area and is listed on Table 3.07-4 may continue to authorize retail commercial uses with more than 60,000 square feet of gross leasable area in that zone if the ordinance authorized those uses on January 1, 2003.
- D. A city or county whose zoning ordinance applies to an Employment Area and is not listed on Table 3.07-4 may continue to authorize retail commercial uses with more than 60,000 square feet of gross leasable area in that zone if:
1. The ordinance authorized those uses on January 1, 2003;
  2. Transportation facilities adequate to serve the retail commercial uses will be in place at the time the uses begin operation; and
  3. The comprehensive plan provides for transportation facilities adequate to serve other uses planned for the Employment Area over the planning period.
- E. A city or county may authorize new retail commercial uses with more than 60,000 square feet of gross leasable area in Employment Areas if the uses:
1. Generate no more than a 25 percent increase in site-generated vehicle trips above permitted non-industrial uses; and
  2. Meet the Maximum Permitted Parking – Zone A requirements set forth in Table 3.07-2 of Title 2 of the Urban Growth Management Functional Plan.

# Title 4 Industrial and Employment Land

- Employment Land
- Industrial Land
- Regionally Significant Industrial Area

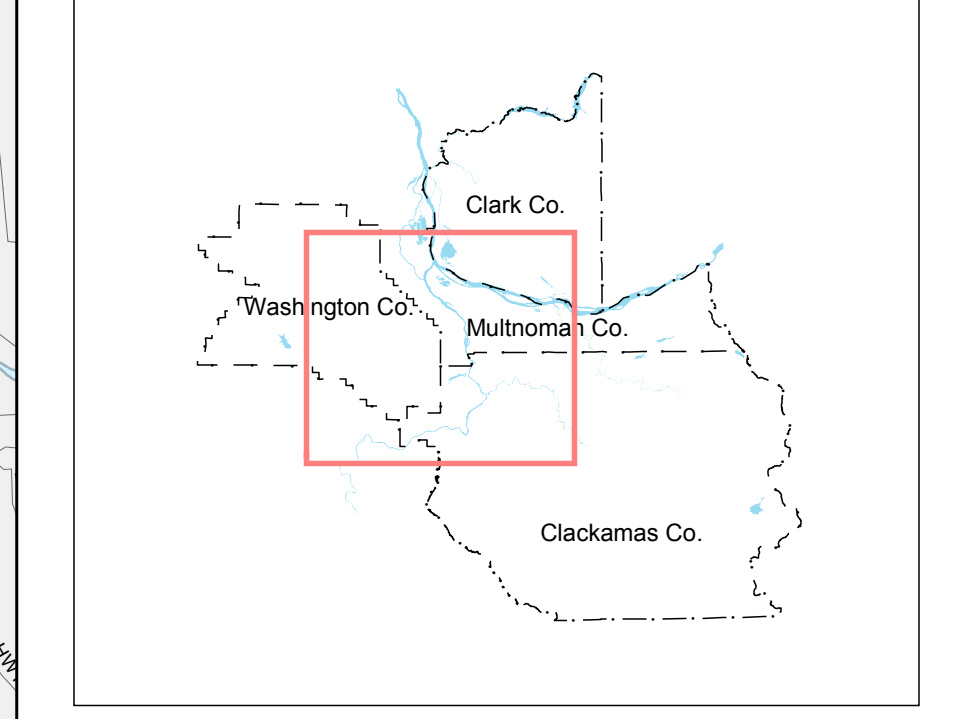


Updated May 10, 2006

WARNING: some maps combine data layers of differing map accuracies, e.g. flood plains can be lost or lost. When this occurs, the map is not reliable to correctly show data at the tax lot level.

The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors will be appreciated.

1 inch equals 1.0 miles



Location Map

METRO  
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TEL: (503) 797-1742 FAX: (503) 797-1909  
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**Exhibit D to Ordinance No. 04-1040B**  
**Addendum to Housing Needs Analysis**  
**April 5, 2004**

**I. INTRODUCTION**

The attached three Tables satisfy the requirements of ORS 197.298(5)(a)(E) to provide at least 3 years of data on the number, density and average mix of housing for vacant, partially vacant, redevelopment and infill (refill) and mixed use designated land. Table 5(a)(E) – 1 provides number, density and mix data on refill land for the period 1997 through 2001. Table 5(a)(E) – 2 provides the same data for development on vacant and partially vacant land for the period 1998 through 2001. Table 5(a)(E) – 3 displays the number, density and mix data for development on mixed use land for the period 1998 – 2001.

As noted in the original Housing Needs Analysis submission, the data in the attached Tables are subsets of more aggregated data contained in the original Housing Needs Analysis Report. While interesting and informative, the data in the attached Tables do not contradict the conclusions and actions taken in conjunction with the Urban Growth Report and periodic review. Nor do the data affect the determinations of the overall average density and overall mix of housing types at which residential development must occur in order to meet housing needs through 2022, as depicted in the original Housing Needs Analysis, pages 2 through 7 and Figures 3.1, 3.2, 3.3, 5.1 and 5.3.

The remainder of the report consists of an explanation of methodology and data sources and a synopsis of the data content of each of the tables.

**II. METHODOLOGY AND DATA SOURCES**

**A. Data Sources**

In order to retrospectively meet the requirements of State Statute we made maximum use of Metro's RLIS archived data that extend back in some degree to 1995. These data consist of the following elements:

1. Land use data at the tax lot level designating land by vacant, developed and zoning category.
2. County assessor tax lot data showing use, value, sales data, etc.
3. Geo-coded building permit data by building type.
4. Air photos for each year taken approximately in July of each year with a trend of improving resolution level over time.

**B. Sampling Approach**

We elected to measure the data using a 20% sampling approach so that we could manually audit each of the selected data points to insure accuracy. Machine processing of the data is not possible due to the following sources of measurement error.

1. Building permit geo-coding variability as approximately 70% of building permits actually geo-code exactly to the correct tax lot.

2. Building permit data error due to incomplete reporting, undetected duplicates and inaccurate descriptions of building type, work done and location.
3. Slight registration discrepancies between tax lot maps, air photos and archived land use coverages.
4. Variability between the time a building permit is issued, building takes place and the tax lot is created and enumerated in the County Assessor's tax lot coverage. The practical consequence of this is often that a row house constructed on a 2,500 sq. ft. lot appears to be on a 100,000 sq. ft. plus lot because the subdivision plat is not yet available in the data base.

For multi-family units we modified the 20% sample to include 100% of all building permits for 20 or more units and applied the 20% rate to permits of under 20 units. This avoided the potential sampling errors associated with having a few permits for multi-family of over 100 or more units.

**C. Expansion Back to the Population Totals**

Because we elected a 100% count of multi-family the sample was not self-weighting. As a consequence after the analysis was complete we used a two phase approach to estimate the building permit population. First, we expanded our sample by building type back to the totals reported in our building permit data base. Secondly, since our building permit data base is incomplete relative to the totals reported to the State and Federal Government, we expanded our building permit data base to match the County totals by building type.

**D. Definition of Entities Being Measure**

State Statute requires we report on the number and densities by building type of development on "refill", "vacant", "partly vacant" and "mixed use" land. These entities we define and discuss in the context of our RLIS data base and measurement protocols as follows:

1. Refill: Housing units developed on land that Metro already considers developed in its data base. Refill is further divided into redevelopment and infill. Redevelopment occurs after an existing building has been removed. Infill is additional building without removal of existing buildings.
  - a. **Method of Measurement**: We measure refill by counting the number of permits that locate on land Metro considers developed in the next fiscal year. For instance for the year "1998" we would compare the RLIS developed and vacant lands inventory for the year ending June 30, 1998 with all building permits issued beginning July 1, 1998 and ending June 30, 1999. Building permits located on land Metro classed vacant as of June 30, 1998 would be classed as development on vacant land and permits landing on land Metro classed as developed as of June 30, 1998 would be classed as refill.
  - b. **Measurement Protocols**: As noted earlier we select a 20% sample of all permits for new residential construction from the RLIS data base for the relevant years (with the exception of the 100% of multi-family permits equal to or exceeding 20 units). Each permit is scrutinized manually by a

trained intern using the RLIS data base and air photos to insure it is properly located and that the permit is for valid construction that did occur as the permit indicated. The analyst then determines whether the permit constitutes refill or vacant land development. Beginning with this study the analyst further classifies the permit to “legal – Urban Growth Report” refill and “economic – MetroScope” refill. This distinction results from the fact that RLIS analysts classify some individual lots in developing green field areas as developed prior to actual development occurring and also classify land cleared for urban renewal areas as vacant. In the former case the economic interpretation is development on new and in the latter case the economic interpretation is refill development. However, to be consistent with the RLIS land accounting system on which the Urban Growth Report is based we classify development the way RLIS accounts for it. On the other hand, the MetroScope land use model used for forecasting and policy evaluation counts green field development as vacant land consumption and urban renewal as refill (redevelopment). Consequently, we report refill data for both classifications.

2. Vacant and partially vacant: In RLIS tax lots that are “completely vacant” (90% vacant) are classed as totally vacant. If the unoccupied portion of a tax lot with development exceeds ½ acre, the unoccupied portion is classed a partially vacant. Green field sites under development may transition from vacant to partially vacant, back to totally vacant to developed and back again to totally vacant depending on the patterns of tax lot subdivision activity and zone changes. This also is true for urban renewal redevelopment sites. There are also a limited number of partially vacant sites in established residential areas where present zoning would allow further subdivision and development.
  - a. **Method of Measurement**: Using the audited building permit sample we machine processed the permits classed as legally vacant to fully vacant and partially vacant. Due to map registration discrepancies the RLIS developed lands coverage for 1997 could not be used so we dropped 600 observations for that year. In addition, another 1400 observations failed the machine screening in that they could not be conclusively classed as either vacant or partially vacant without manual auditing. The 2000 observations excluded from the vacant and partially vacant analysis resulting in the number of units developed on some type of vacant land dropping from 39,000 to 25,000. Though not relevant to the refill study or overall results, discussions with RLIS analysts indicated that the machine filtering process was more likely to exclude partially vacant than vacant tax lots. The bias, resulting from this procedure was minimized, by restating our inventory totals of vacant and partially vacant land using the same screening procedures.
  - b. **Measurement Protocols**: Once the refill data base was reclassified between vacant and partially vacant, we tabulated all the development on vacant land by the type of vacant land it fell on by building type (multi-family and single family) and by lot size.

3. Mixed use development: In our RLIS data base mixed use development is classed as MUC1, MUC2 and MUC3. From the original audited refill data base we selected all the records of building permits that fell on land classed as MUC1, MUC2 or MUC3 regardless of whether it was refill, vacant or partially vacant. Again matching the RLIS land use inventory for 1997 proved problematic for machine selection procedures and this year was excluded. The resulting selection process produced 402 observations representing over 4,600 units constructed from 1998 through 2001.

#### **E. Years of Data Included in the Retrospective Analysis**

We included building permit data from 12/97 through 6/2002 that could be reliably recovered and geo-coded from our existing RLIS data base. This time period allows us to evaluate 5 years of recent history in regard to “refill” and 4 years of history for “vacant”, “partly vacant” and “mixed use” land.

### **III. SYNOPSIS OF RESULTS**

#### **A. Data Table 5E1: Refill Numbers by Type and Density 1997 – 2001**

The data displayed on Table 5E1 show the amount of residential development of vacant and refill land that occurred during the period 1997 through 2001. During that period nearly 54,000 dwelling units located within the Metro region.<sup>1</sup> Of the 54,000 dwelling units, 26.5% occurred as refill according to the legal – Urban Growth Report definition. Using the economic-MetroScope definition 30.4% were refill reflecting the increasing importance of redevelopment in urban renewal areas and centers. Nearly 20,000 of the units constructed were multi-family with a legal refill rate of 31.5% and an economic rate of 40.2%. 34,000 units constructed were single family with a legal refill rate of 23.6% and an economic rate of 24.7%. Average lot sizes are also reported for every category.<sup>2</sup> For multi-family average lot sizes range from 1,800 to 2,000 sq. ft. depending on category. For single family average lot sizes range from 6,600 to 8,400 sq. ft. with refill development generally in the 6,500 – 7,000 sq. ft. range.

#### **B. Table 5E1(a): Median Lot Size Data**

This table provides additional and somewhat more meaningful weighted median lot size data. When we compare the average lot sizes in Table 5E1, we observe substantive differences in most cases. In general the median lot sizes are 30% less for vacant single family, 25% more for vacant multi-family, 25% less for refill single family and 30% less for refill multi-family. For all types combined the weighted median is 27% less for vacant and 26% less for refill. Assuming that the present median is a superior measure of long run average lot size, the combined weighted median of 4,417 sq. ft. should be used to determine vacant land consumption. This figure combined with the 39,619 units located on legally vacant land over the 5 year period implies a land consumption of slightly over 4,000 net buildable acres. Using a plausible range of gross to net conversion factors of .55 - .7 yields a gross buildable acre consumption of 1,150 to 1,450 acres per year, within the range estimated in the original Housing Needs Analysis.<sup>3</sup>

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<sup>1</sup> **Real Estate Report for Metropolitan Portland, Oregon**, Spring 2003. Numbers are based on building permits summarized at the County level and only approximate the UGB. This procedure slightly overstates UGB land consumption.

<sup>2</sup> Average as contrasted to median inflates land consumption as the measure is substantially influenced by a few large lot single family permits on urban land still zoned RRFU that will subsequently be subdivided. RLIS procedure of assuming ½ acre of land consumption for permits on non-subdivided land also inflates average lot size.

<sup>3</sup> While appearing precise, attempting to estimate long run densities and land consumption from individual lot sizes involves substantial uncertainties. The most serious of these is the gross to net conversion factor as we only observe

**C. Table 5E2: Housing on Fully Vacant and Partially Vacant Land**

The accompanying table presents the required data on development on a subcategory of vacant land – fully vacant land and land partially vacant. As noted in the methods section, fully or partially vacant is classified relative to the tax lot existing at the time of the RLIS vacant and developed lands inventory. As also noted in the methods section, due to procedures and quirks of the land development and reporting process land may be fully vacant, partially vacant or developed refill land several times during the development process. In addition as a result of attempting to categorize and measure “partially vacant” we discover that the acreage totals are extremely volatile and sensitive to whatever criteria we use in the machine query process to differ partial from full. Very minor discrepancies between vacant land coverages and assessor’s tax lot coverages can dramatically change the inventories of fully and partially vacant. In the methods section we note that we use the same selection criteria for both the inventory totals and the classification of the refill sample into fully and partially vacant.

Of the over 39,000 legal vacant units located in the Metro Region for the period 1997 – 2001 we were able to reliably classify 25,000 units covering the period 1998 – 2001. Of these 15,500 (62.6%) were on fully vacant land and 9,300 (37.4%) were on partially vacant land. Looking at *Table 5E2(a) Fully Vacant and Partially Vacant Land Inventory 1998 – 2001* (replacing Table 4.1AB in the original Housing Needs Analysis) that on average partially vacant comprised 34.3% of the vacant land inventory. In sum development on partially vacant land overall has been occurring at roughly the same rate as development on fully vacant land and appears to not be materially different.

At the same time we recognize that there are a number of instances where partially vacant land shares a tax lot with a high valued single family home. In order to better understand the likelihood of further development under these circumstances, we used our single family sales price study to estimate the “optimum lot size” by neighborhood and house size. We define optimum lot size as the lot size at which at the loss of value to a homeowner by selling off part of his lot just equals the amount he gains by selling the land. If the homeowner sells more land, the value of his house declines more than he gains by the sale. Conversely, if he sells less land, the land unsold contributes less to the value of his home than the amount he would receive were he to sell it. Making that calculation for Dunthorpe we found that a \$1,000,000 home on 5 acres would have a positive incentive to sell off land down to about 1 – 1.5 acres. By comparison, a \$600,000 home on 1 acre would have an incentive to sell off no more than ½ acre. Significantly, in 2000 the average Dunthorpe selling price was \$590,000 for a 3,100 sq. ft. house on a 22,000 sq. ft. lot, almost exactly the optimum lot size determined from our estimates. On average then we would expect Dunthorpe to have no additional capacity other than that resulting from subdivision of lots at least 1 acre to sizes no smaller than ½ acre. Optimum lot size calculations vary dramatically by neighborhood. For instance, the average house in the Powellhurst-Gilbert neighborhood has a positive incentive to sell off land down to and sometimes below a 5,000 sq. ft. lot minimum. This is more often the case within the Metro region notwithstanding the exceptionally high value areas such as Dunthorpe.

**D. Table 5E3: Housing on Mixed Use Designated Land**

As required by statute the accompanying table shows development for the period 1998 – 2001 that occurred on land Metro considered at the time of development to be MUC1, MUC2 and MUC3. As pointed out in the methods section, the mixed use inventory includes refill, vacant and partially vacant

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net buildable land consumption and cannot measure land lost to streets, parks, schools, freeways, etc. The second drawback is that average lot size measures are always exaggerated by a few large lot placements (often of manufactured homes) done by private individuals that will undoubtedly be further subdivided sometime in the future.

lands. Over the 4 year period we noted 4,600 housing units developed of which 3,000 were multi-family and 1,600 were single family. Average lot size for multi-family was 1,400 sq. ft. and single family lot size was 2,300 sq. ft. Table 5E3(a) depicts the 2040 Plan mixed use capacity as of 8/98. Total mixed use capacity at that time was roughly 23,000 units. Mixed use development constituted about 11% of residential development for the 4 year period 98 – 2001. As of 1998, mixed use capacity of 23,000 units constituted 12% of the capacity 193,000 dwelling unit capacity estimated at the time. As was the case with vacant and partially vacant, this sub-classification of land type seems to produce housing at a rate commensurate with its proportion of the land inventory.



**Exhibit 5E1\_: Housing on Vacant and Refill Land -  
Number, Type and Density 1997 Through 2001**

Vacant/Refill Status	Year					Grand Total
	1997	1998	1999	2000	2001	
	<b>Legal - Urban Growth Report Basis</b>					
<b>Vacant Legal</b>						
Multi Family	4,412	3,761	2,407	1,824	1,274	13,678
Average Lot Size	2,208	2,021	813	1,244	2,502	1,810
Single Family	4,594	5,670	4,814	5,425	5,439	25,941
Average Lot Size	8,516	8,611	10,104	6,292	8,161	8,292
Total All Types	9,005	9,431	7,221	7,249	6,713	39,619
Average Lot Size	5,425	5,983	7,007	5,022	7,087	6,054
<b>Refill Legal</b>						
Multi Family	2,228	1,567	918	503	1,059	6,275
Average Lot Size	2,729	2,042	1,178	1,353	1,499	2,013
Single Family	2,446	1,451	1,994	958	1,170	8,020
Average Lot Size	6,017	7,505	5,787	7,521	9,260	6,882
Total All Types	4,675	3,018	2,912	1,461	2,229	14,295
Average Lot Size	4,450	4,669	4,334	5,397	5,573	4,744
Percent of Development Refill	34.2%	24.2%	28.7%	16.8%	24.9%	26.5%
	<b>Economic - MetroScope Basis</b>					
<b>Vacant Economic</b>						
Multi Family	4,300	3,103	1,983	1,484	1,068	11,938
Average Lot Size	2,260	2,124	955	1,245	2,304	1,885
Single Family	5,196	4,962	5,466	4,503	5,455	25,582
Average Lot Size	8,352	9,035	9,614	6,463	8,178	8,384
Total All Types	9,496	8,065	7,449	5,986	6,523	37,520
Average Lot Size	5,593	6,376	7,309	5,169	7,216	6,317
<b>Refill Economic</b>						
Multi Family	2,340	2,225	1,342	843	1,265	8,015
Average Lot Size	2,608	1,894	852	1,309	1,830	1,856
Single Family	1,844	2,159	1,342	1,880	1,154	8,379
Average Lot Size	5,664	6,891	5,686	6,510	9,196	6,660
Total All Types	4,184	4,384	2,684	2,724	2,419	16,394
Average Lot Size	3,955	4,355	3,269	4,899	5,344	4,311
Percent of Development Refill	30.6%	35.2%	26.5%	31.3%	27.0%	30.4%

**Exhibit 5E1(a)\_: Housing on Vacant and Refill Land -  
Median Lot Size 1997 - 2001**

Year	Legal - Urban Growth Report Basis					2001 Totals	
	1997	1998	1999	2000			
<b>Single Family</b>							
Median Lot Size Vacant	5,936	5,887	6,021	5,268	5,001	5,605	
Median Lot Size Refill	5,406	5,628	4,001	5,301	5,047	5,032	
<b>Multi Family</b>							
Median Lot Size Vacant	3,550	2,348	352	825	2,377	2,242	
Median Lot Size Refill	1,630	2,318	953	408	534	1,384	
<b>Total All Types</b>							
Median Lot Size Vacant	4,684	4,480	4,159	4,105	4,562	4,417	
Median Lot Size Refill	3,930	3,902	3,003	3,851	2,724	3,506	
<b>Economic - MetroScope Basis</b>							
<b>Single Family</b>							
Median Lot Size Vacant	5,955	5,897	6,000	5,277	5,026	5,636	
Median Lot Size Refill	5,196	5,569	3,177	5,267	5,001	4,958	
<b>Multi Family</b>							
Median Lot Size Vacant	3,562	2,367	385	933	2,377	2,420	
Median Lot Size Refill	1,100	2,007	485	404	1,172	1,131	
<b>Total All Types</b>							
Median Lot Size Vacant	4,835	4,555	4,628	4,515	4,688	4,660	
Median Lot Size Refill	3,031	3,739	1,731	3,218	2,816	2,997	

**Exhibit 5E3\_ : Housing on Mixed Use Designated Land by  
Number, Type and Density 1998 Through 2001**

Land Use Class	Year				Grand Total
	1998	1999	2000	2001	
<b>Mixed Use One</b>					
Multi Family	1,116	367	262	321	2,066
Average Lot Size	1,834	1,427	1,437	2,313	1,786
Single Family	226	100	304	737	1,367
Average Lot Size	3,127	4,386	2,482	1,946	2,439
<b>Mixed Use Two</b>					
Multi Family	41	153	132	-	326
Average Lot Size	2,277	252	1,090	-	846
Single Family	40	87	55	25	207
Average Lot Size	1,919	2,159	1,265	1,574	1,803
<b>Mixed Use Three</b>					
Multi Family	133	203	146	107	590
Average Lot Size	1,605	345	250	100	561
Single Family	37	23	21	-	80
Average Lot Size	2,108	1,841	2,144	-	2,043
<b>Total Mixed Use</b>					
Multi Family	1,290	723	541	428	2,982
Average Lot Size	1,824	874	1,032	1,758	1,441
Single Family	303	210	380	763	1,655
Average Lot Size	2,845	3,187	2,287	1,934	2,340
Total All Types	1,593	933	920	1,190	4,637
Average Lot Size	2,018	1,394	1,549	1,870	1,762

**Exhibit 5E3(a)\_: Mixed Use 2040 Plan Designated Land Capacity 8/98**  
**(Includes Capacity of Vacant, Infill and Redevelopment Land & Areas)**

<b>Plan Category</b>	<b>DU Capacity</b>
<b>MUC 1</b>	10,320
<b>MUC 2</b>	7,250
<b>MUC 3</b>	4,650
<b>Total Capacity</b>	22,220

**Source: Compiled from Urban Growth Report Addendum, August 1998, page 40.**  
**MUC 1 includes MUEA capacity.**

**Exhibit 5E2\_: Housing on Fully Vacant and Partially Vacant Land - Number, Type and Density 1998 Through 2001**

Land Vacancy Class	Year				Grand Total
	1998	1999	2000	2001	
<b>Fully Vacant</b>					
Multi Family	1,012	1,910	714	801	4,438
Average Lot Size	2,383	871	1,720	2,784	1,698
Single Family	2,554	2,894	2,808	2,951	11,206
Average Lot Size	6,517	6,743	5,684	5,327	6,054
Total	3,566	4,804	3,522	3,752	15,644
Average Lot Size	5,344	4,408	4,880	4,784	4,818
<b>Partly Vacant</b>					
Multi Family	2,496	319	271	126	3,213
Average Lot Size	1,847	638	778	1,339	1,617
Single Family	2,219	1,159	1,501	1,244	6,122
Average Lot Size	5,984	7,764	5,624	4,622	5,956
Total	4,715	1,478	1,772	1,370	9,335
Average Lot Size	3,794	6,227	4,882	4,320	4,463
<b>Combined</b>					
Multi Family	3,508	2,229	986	927	7,651
Average Lot Size	2,002	837	1,460	2,588	1,664
Single Family	4,773	4,053	4,309	4,194	17,329
Average Lot Size	6,269	7,035	5,663	5,118	6,019
Total	8,281	6,282	5,295	5,122	24,979
Average Lot Size	4,461	4,836	4,881	4,660	4,685
<b>Percent Units on Fully Vacant:</b>					62.6%
<b>Percent Units on Partly Vacant:</b>					37.4%

**Exhibit 5E2(a)\_: Housing on Fully Vacant and Partially  
Vacant Land - Inventory of Fully Vacant and Partially Vacant All Land Classes**

Land Vacancy Class	Year				2001 4 Year Average	Percent
	1998	1999	2000			
<b>Fully Vacant</b>	33,422	30,820	28,789	26,631	29,916	65.7%
<b>Partly Vacant</b>	16,678	15,776	15,401	14,738	15,648	34.3%
<b>Total</b>	50,100	46,596	44,190	41,369	45,564	100.0%

**Filter Criteria: Full - 90% of year 1 tax lot is vacant**

**Maybe - Vacant area is <90% of year 1 taxlot and >=5,000 sq. ft. and <1/2 acre**

**Part - Vacant area is <90% of year 1 taxlot and >= 1/2 acre**

**Sliver - vacant area is <90% of year 1 taxlot and < 5,000 sq. ft.**

**Exhibit F to Ordinance No. 04-1040B**  
**Conditions on Addition of Land to the UGB**

**I. GENERAL CONDITIONS APPLICABLE TO ALL LANDS ADDED TO THE UGB**

A. The city or county with land use planning responsibility for a study area included in the UGB shall complete the planning required by Metro Code Title 11, Urban Growth Management Functional Plan (“UGMFP”), section 3.07.1120 (“Title 11 planning”) for the area. Unless otherwise stated in specific conditions below, the city or county shall complete Title 11 planning within two years after the effective date of this ordinance. Specific conditions below identify the city or county responsible for each study area.

B. The city or county with land use planning responsibility for a study area included in the UGB, as specified below, shall apply the 2040 Growth Concept design types shown on Exhibit E of this ordinance to the planning required by Title 11 for the study area.

C. The city or county with land use planning responsibility for a study area included in the UGB shall apply interim protection standards in Metro Code Title 11, UGMFP, section 3.07.1110, to the study area until the effective date of the comprehensive plan provisions and land use regulations adopted to implement Title 11.

D. In Title 11 planning, each city or county with land use planning responsibility for a study area included in the UGB shall recommend appropriate long-range boundaries for consideration by the Council in future expansions of the UGB or designation of urban reserves pursuant to 660 Oregon Administrative Rules Division 21.

E. Each city or county with land use planning responsibility for an area included in the UGB by this ordinance shall adopt provisions – such as setbacks, buffers and designated lanes for movement of slow-moving farm machinery – in its land use regulations to enhance compatibility between urban uses in the UGB and agricultural practices on adjacent land outside the UGB zoned for farm or forest use.

F. Each city or county with land use planning responsibility for a study area included in the UGB shall apply Title 4 of the UGMFP to those portions of the study area designated Regionally Significant Industrial Area (“RSIA”), Industrial Area or Employment Area on the 2040 Growth Concept Map (Exhibit C). If the Council places a specific condition on a RSIA below, the city or county shall apply the more restrictive condition.

G. In the application of statewide planning Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces) to Title 11 planning, each city and county with land use responsibility for a study area included in the UGB shall comply with those provisions of Title 3 of the UGMFP acknowledged by the Land Conservation and Development Commission (“LCDC”) to comply with Goal 5. If LCDC has not acknowledged those provisions of Title 3 intended to comply with Goal 5 by the deadline for completion of Title 11 planning, the city or county shall consider, in the city or county’s application of Goal 5 to its Title 11 planning, any inventory of regionally significant Goal 5 resources and any preliminary decisions to allow, limit or prohibit conflicting uses of those resources that is adopted by resolution of the Metro Council.

[H. Each city and county shall apply the Transportation Planning Rule \(OAR 660 Div 012\) in the planning required by subsections F \(transportation plan\) and J \(urban growth diagram\) of Title 11.](#)

## II. SPECIFIC CONDITIONS FOR PARTICULAR AREAS

### A. Damascus Area

1. Clackamas County and Metro shall complete Title 11 planning requirements through the incorporation of this area into the greater Damascus/Boring Concept Plan planning effort currently underway. This planning shall be completed within the same time frame as specified in Ordinance No. 02-969B.
2. In the planning required by Title 11, subsections (A) and (F) of section 3.07.1120, Clackamas County or any future governing body responsible for the area shall provide for annexation of those portions of the area whose planned capacity is sufficient to support transit to the Tri-met District.
3. In the planning required by Title 11, subsections (A) and (F) of section 3.07.1120, Clackamas County or any future governing body responsible for the area shall provide for annexation of those portions of the area whose planned capacity is sufficient to support transit to the Tri-met District.

### B. Beavercreek Area

1. Clackamas County or, upon annexation to Oregon City, the city and county, with Metro, shall complete Title 11 planning for the area.
2. This area shall be planned in conjunction with the adjoining tax lot added to the UGB in 2002, under Ordinance No. 02-969B.

### ~~C. Borland Area North of I-205~~

- ~~1. Clackamas County or, upon annexation to the City of Tualatin, the city and county, in coordination with the Cities of Lake Oswego, Tualatin, and West Linn and Metro, shall complete Title 11 planning within four years following the effective date of Ordinance No. 04-1040. The county and city, in conjunction with Lake Oswego and West Linn and Metro shall recommend long range boundaries in the Stafford Basin and general use designations for consideration by the Council in future expansions of the UGB.~~
- ~~2. Until the effective date of new regulations adopted pursuant to Title 11, the city or county with land use planning responsibility for the area shall not allow the division of a lot or parcel that is 50 acres or larger into lots or parcels smaller than 50 acres.~~

### ~~DC. Tualatin Area~~

1. Washington County or, upon annexation to the Cities of Tualatin or Wilsonville, the cities, in conjunction with Metro, shall complete Title 11 planning within ~~four~~ two years following the selection of the right-of-way alignment for the I-5/99W Connector, or within seven years of the effective date of Ordinance No. 04-1040, whichever occurs earlier.



2. Title 11 planning shall incorporate the general location of the projected right of way ~~location~~ alignment for the I-5/99W connector and the Tonquin Trail as shown on the 2004 Regional Transportation Plan. If the selected right-of-way for the connector follows the approximate course of the "South Alignment," as shown on the Region 2040 Growth Concept Map, as amended by Ordinance No. 03-1014, October 15, 2003, the portion of the Tualatin Area that lies north of the right-of-way shall be designated "Inner~~Inner~~Outer Neighborhood" on the Growth Concept Map; the portion that lies south shall be designated "Industrial."
3. The governments responsible for Title 11 planning shall consider using the I-5/99W connector as a boundary between the city limits of the City of Tualatin and the City of Wilsonville in this area.

~~D.~~ D. Quarry Area

1. Washington County or, upon annexation to the cities of Tualatin or Sherwood, the cities, and Metro shall complete Title 11 planning for the area.
2. Title 11 planning shall, if possible, be coordinated with the adjoining area that was included in the UGB in 2002 under Ordinance No. 02-969B.
3. Until the effective date of new regulations adopted pursuant to Title 11, the city or county with land use planning responsibility for the area shall not allow the division of a lot or parcel that is 50 acres or larger into lots or parcels smaller than 50 acres.
4. Title 11 planning shall incorporate the general location of the projected right-of-way for the Tonquin Trail as shown on the 2004 Regional Transportation Plan.

~~E.~~ E. Coffee Creek Area

1. Washington and Clackamas Counties or, upon annexation of the area to the ~~City~~ cities of Tualatin or Wilsonville, the city, ~~and in conjunction with~~ and in conjunction with Metro, shall complete the Title 11 planning for the area within ~~four~~ two years following the selection of the right-of-way alignment for the I-5/99W Connector, or within seven years of the effective date of Ordinance No. 04-1040B, whichever occurs earlier.
2. ~~The concept~~ Title 11 planning shall incorporate the general location of the projected right of way location for the I-5/99W connector and the Tonquin Trail as shown on the 2004 Regional Transportation Plan.

~~G.~~ G. Wilsonville East Area

1. ~~Clackamas County or, upon annexation of the area to the City of Wilsonville, the city, and Metro shall complete the Title 11 planning for the area within two years of the effective date of Ordinance No. 04-1040.~~
2. ~~In the planning required by Title 11 a buffer shall be incorporated to mitigate any adverse effects of locating industrial uses adjacent to residential uses located southwest of the area.~~

- ~~3. Until the effective date of new regulations adopted pursuant to Title 11, the city or county with land use planning responsibility for the area shall not allow the division of a lot or parcel that is 50 acres or larger into lots or parcels smaller than 50 acres.~~

~~H~~F. Cornelius Area

1. Washington County, or, upon annexation of the area to the City of Cornelius, the city and Metro shall complete the Title 11 planning for the area.

~~I~~G. Helvetia Area

1. Washington County, or upon annexation of the area to the City of Hillsboro, the city, and Metro shall complete the Title 11 planning for the area.
2. Until the effective date of new regulations adopted pursuant to Title 11, the city or county with land use planning responsibility for the area shall not allow the division of a lot or parcel that is 50 acres or larger into lots or parcels smaller than 50 acres.

**Exhibit G to Ordinance No. 04-1040B  
Findings of Facts, Conclusions of Law**

**Introduction**

The Metro Council adopted Ordinance 04-1040B in response to LCDC Partial Approval and Remand Order 03-WKTASK-001524, entered July 7, 2003. LCDC's order followed its review of seven ordinances (Nos. 02-969B, 02-983B, 02-984A, 02-985A, 02-986A, 02-987A and 02-990A) adopted by the Metro Council as part of Periodic Review Work Task 2. The findings of fact and conclusions of law that explained how those ordinances complied with state planning laws, together with the supplemental findings and conclusions set forth in this exhibit, are part of the explanation how Ordinance No. 04-1040B complies with those laws. These findings also explain how Ordinance No. 04-1040B complies with the three requirements of the remand order.

**REQUIREMENT NO. 1:**

**REMAND ORDER ON SUBTASK 17: COMPLETE THE ACCOMMODATION OF THE NEED FOR THE INDUSTRIAL LAND NEED COMPONENT OF EMPLOYMENT LAND THAT REMAINS APPROVAL OF WORK TASK 2.**

**I. GENERAL FINDINGS FOR TASK 2 REMAND DECISION ON UGB**

**A. Coordination with Local Governments**

Metro worked closely with the local governments and special districts that comprise the metropolitan region. The Metro Charter provides for a Metropolitan Policy Advisory Committee ("MPAC") composed generally of representatives of local governments, special districts and school districts in the region. MPAC reviewed all elements of this periodic review decision. MPAC made recommendations to the Metro Council on most portions of the decision. All recommendations were forwarded formally to the Council and the Council responded. Metro Councilors and staff held many meetings with local elected officials in the year since LCDC's remand (July 7, 2003).

The record of this decision includes correspondence between local governments and Metro, including Metro's responses to concerns and requests from local governments and local districts related to industrial land.

Metro accommodated the requests and concerns of local governments as much as it could, consistent with state planning laws and its own Regional Framework Plan (Policy 1.11) and Regional Transportation Plan (Policy 2.0).

**B. Citizen Involvement**

These findings address Goal 1 and Regional Framework Plan Policy 1.13.

To gather public input on this Task 2 remand decision, Metro conducted an extensive citizen involvement effort. The findings for Ordinance No. 02-969B set forth Metro's effort leading to adoption of that ordinance on December 5, 2002. Those findings are incorporated here. Since that time, the Metro notified by mail nearly 75,000 people of the pending decision to expand the UGB for industrial land. Metro also provided individual mailed notice to nearly 5,000 landowners of possible revisions to Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan ("UGMFP"). In March, 2004, Metro held six workshops on industrial land throughout the region, attended by some 1,200 people. Finally, the Council held public hearings on the UGB expansion and Title 4 on December 4 and December 11 of 2003 and April 22 and 29, May 6 and 27, and June 10 and 24 of 2004.

These efforts bring Metro into compliance with Goal 1 and Metro's Regional Framework Plan. More important, this work to involve Metro area citizens has contributed greatly to their understanding of the importance of this set of decisions for the region and have brought Metro invaluable comment on options available to it.

### **C. Need for Land**

These findings address ORS 197.296; ORS 197.732(1)(c)(A); Goal 2, Exceptions, Criterion (c)(1); Oregon Administrative Rules 660-004-0010(1)(c)(B)(i) and 660-004-0020(2)(a); Goal 9 (local plan policies); Goal 10; Goal 14, Factors 1 and 2; Metro Regional Framework Plan ("RFP") Policies 1.2, 1.4, 1.4.1 and 1.4.2; and Metro Code 3.01.020(b)(1) and (2).

The findings for Ordinance No. 02-969B set forth Metro's analysis of the need for land for new jobs through the year 2022. The Urban Growth Report-Employment ("UGR-E") provides the details of that analysis. The analysis indicates that the region will need approximately 14,240 acres to accommodate an additional 355,000 jobs (all employment, commercial and industrial). Based upon new information that came to the Council during hearings on Title 4 revisions and UGB expansion, Metro completed a supplement (Ordinance No. 04-1040B, Appendix A, Item b) to the UGR-E that describes emerging trends in industrial use.

Leading to adoption of the ordinances that expanded the UGB in December, 2002, Metro analyzed the capacity of the existing UGB to accommodate this employment growth. The analysis determined that the UGB contained a surplus of land (759.6 acres) for commercial employment and a deficit of land (5,684.9 acres) for industrial development. The UGR-E provides the details of this analysis.

Following adoption of the December, 2002, ordinances, Metro analyzed the capacity of the expanded UGB. Those ordinances left Metro with a deficit of 1,968 acres of industrial land and a surplus of 393 acres of commercial land. From this analysis, the Council concluded that the UGB, as expanded by ordinances in December, 2002, did not have sufficient capacity to accommodate the remaining unmet need for industrial land. This deficit was one reason for LCDC's July 7, 2003, remand order directing Metro to complete the accommodation of this need for industrial land.

Based upon interviews with industrial developers, brokers and consultants, the Regional Industrial Land Survey ("RILS") and Metro's UGR-E, Metro refined the need for industrial land. Not just any land will satisfy the need for industrial use. Metro defined the need as 1,968 acres of land composed generally of less than 10 percent slope that lies either within two miles of a freeway interchange or within one mile of an existing industrial area. RILS and the UGR-E also calculate the need for parcels of varying sizes by sectors of the industrial economy. Table 13 of the UGR-E shows a need for 14 parcels 50 acres or larger for the warehouse and distribution and tech/flex sectors (page 25).

### **D. Alternatives: Increase Capacity of the UGB**

These findings address ORS 197.732(c)(B); Goal 14, Factors 3 and 4; Goal 2, Exceptions, Criterion 2; OAR 660-004-0010(1)(B)(ii) and 660-004-0020(2)(b); Metro Code 3.01.020(b)(1)(E); and RFP Policies 1.2, 1.3, 1.4, 1.6, 1.7, 1.8 and 1.9.

To address the shortfall in employment capacity, Metro considered measures to increase the efficiency of land use within the UGB designated for employment. Metro's UGMFP Title 4, first adopted in 1996, limited non-employment uses in areas designated Industrial and Employment. Analysis of results of local implementation of Title 4 indicates that commercial uses and other non-industrial uses are converting land designated for industrial use to non-industrial use.

In response to this information, the Metro Council amended the RFP in Ordinance No. 02-969B in December, 2002, to improve the protection of the existing industrial land base. The Council created a new 2040 Growth Concept design type – “Regionally Significant Industrial Land” (“RSIA”) – and revised Title 4 to establish new limitations on commercial office and commercial retail uses in RSIA. Metro estimated that these new measures would reduce the shortfall in industrial land by 1,400 acres by reducing encroachment by commercial uses. The Council counted this “savings” of industrial land in its determination that the deficit of industrial land following the December, 2002, expansion of the UGB was 1,968 net acres.

Following adoption of the December ordinances, the Council began implementation of the new policy and code, including the mapping of RSIA. The process of developing the map with cities and counties in the region uncovered implementation difficulties with the provisions of the new Title 4 that limited commercial retail and office uses. With Ordinance No. 04-1040B, the Council once again revised Title 4 with two objectives: greater flexibility for traded-sector companies and retention of the 1,400-acre “savings” estimated from the December, 2002, revisions. Based upon the analysis of Title 4 revisions in the supplement to the UGR-E (Ordinance No. 04-1040B, Appendix A, Item b), the Council estimates that the revisions, in combination with conditions placed upon areas added to the UGB for industrial use, will continue to “save” 1,400 acres of industrial land from intrusion by commercial uses.

During hearings on the remand from LCDC, the Council received testimony that an increasing number of industrial jobs is finding space in office buildings rather than in traditional industrial buildings. The Council relied upon this testimony to revise Title 4 limitations on offices in industrial areas. The Council also relied upon the testimony to apply the 393-acre surplus of commercial land taken into the UGB by the December, 2002, ordinances to the need for 1,968 acres of industrial land. The Council assumed that offices in the region’s designated Employment Areas, Centers, Corridors, Station Communities and Mains Streets would absorb industrial jobs. This assumption reduced the need for industrial land from 1,968 to 1,575 net acres.

Also during the hearings, the cities of Wilsonville, Oregon City and Fairview brought news of recent plan amendments (adopted after completion of Metro’s inventory of industrial land) adding land to the industrial land supply. The Council concluded that the land added by Wilsonville (127 acres) and Oregon City (74 acres) are actually available for industrial use, subject to timing and infrastructure requirements. The Council concluded that the Fairview land, though designation industrial in the city’s comprehensive plan, is not yet appropriately zoned to make it available for industrial use. These actions reduced the need for industrial land from 1,575 to 1,374 net acres.

The City of Gresham requested a change to the 2040 Growth Concept Map and the Title 4 Employment and Industrial Areas map for a 90-acre tract that is part of Study Area 12 and adjacent to land added to the UGB in December, 2002, for industrial use. The city says further planning work on its part has revealed that some 20 acres of the tract are suitable for industrial use. The Council makes this change in Ordinance No. 04-1040B, reducing the need from 1,374 to 1,354.

In a further effort to accommodate industrial development more efficiently within the UGB, the Council discovered that it had assumed a commercial development refill rate of 50 percent, lower than the most recently observed rate of 52 percent. For the reasons stated above, the Council concludes that this infill and re-development of lands in designated Employment Areas, Centers, Corridors, Station Communities and Mains Streets will accommodate some of the increasing number of industrial jobs that is locating in offices rather than factories or other traditional industrial buildings. Correction of the commercial refill rate assumption reduces the need for industrial land from 1,354 to 1,180 acres.

**E. Alternatives: Expand the UGB**

These findings address ORS 197.732(c)(B), (C) and (D) and Goal 2, Exceptions; ORS 197.298(1); Goal 11; Goal 14, Factors 3-7; OAR 660-004-0010(1) and 660-004-0020(2); RFP Policies 1.2, 1.3.1, 1.4, 1.4.1, 1.7, 1.7.2, 1.9, 1.12.1, 1.12.2 and 5.1.1; Regional Transportation Plan Policy 3.0 and Metro Code 3.01.020(b)(3) through (7) and 3.01.020(d)

The measures taken by the Council to increase the capacity of the existing UGB for industrial use, described above leave an unmet need for industrial land of 1,180 acres.

Metro began the search for the most appropriate land for inclusion in the UGB by applying the priorities in ORS 197.298(1). Because Metro has not re-designated "urban reserve" land since its 1997 designation was invalidated on appeal, the highest priority for addition of land is exception land.

Metro first included for consideration all exception land that was studied for inclusion in the December, 2002, ordinances, but not included at that time (59,263 acres). Metro then expanded the search to consider all other land, resource land included, that met the siting characteristics that help define the need for industrial land (less than 10 percent slope and within two miles of a freeway interchange or one mile of an existing industrial area (9,071 acres). In all, Metro looked at approximately 68,000 acres to find the most appropriate land.

Once Metro mapped land by its statutory priority, Metro analyzed the suitability of the land for industrial use, considering the locational factors of Goal 14, the consequences and compatibility criteria of the Goal 2 and statutory exceptions process, the policies of the Regional Framework Plan (RFP) and the criteria in the Metro Code that are based upon Goal 14. This analysis is set forth in the Alternatives Analysis Study, Item (c) in Appendix A of Ordinance No. 04-1040B and subsequent staff reports [Appendix A, Items (a) and (y)].

The Alternatives Analysis and testimony from the hearings gave the Council few easy or obvious choices among the lands it considered. The land most suitable for the types of industrial use forecast in the region for the next 20 years is flat land near freeway interchanges or near existing industrial areas. In addition, the region needs parcels 50 acres or larger for the warehouse and distribution and tech/flex sectors. The land most likely to meet these needs at the perimeter of the UGB is agricultural land, the last priority for inclusion under ORS 197.298(1).

The highest priority for inclusion, under the priority statute, where no urban reserves have been designated, is exception land. But the character of most exception areas makes them unable to fill the region's needs for industrial use. The great majority of exception land outside the UGB is designated for residential use, and most of that is settled with residences. Parcels are generally small (five acres and smaller), the topography is usually rolling and often steep, and streams, small floodplains and wildlife habitat are common. And residents, as evidenced by testimony at Council hearings, are often vigorously opposed to industrial intrusions into what they consider their neighborhoods.

The Council excluded from further consideration those exception lands that lie further than two miles from a freeway interchange and more than one mile from existing industries for the reason that these areas cannot meet the identified need for industrial land. The Staff Report [Appendix A, Item (a)] describes these specific areas in detail at pages 13 to 18.

The Council excluded other study areas (or portions of them) from further consideration even though they could meet the identified need (less than 10 percent slope and either within two miles from a freeway interchange or within one mile from existing industries) because they are unsuitable for industrial use. Further analysis showed that some combination of parcelization, existing development, limitations on use

imposed by Title 3 of the UGMFP (Water Quality, Flood Management and Fish and Wildlife Conservation), poor road access, difficulty in providing public services and negative effects of urbanization on nearby agricultural practices renders the areas unsuitable for industrial use. Portions of the areas contain designated farm or forest land. The Staff Report [Appendix A, Item (a)] describes these specific areas in detail at pages 18 to 25 (and portions of other areas at pages 13 to 18).

The Council also excluded those exception areas that are not contiguous to the UGB, or to areas added to the UGB for industrial use, and do not contain enough suitable land to comprise a minimum of 300 gross acres. Based upon an analysis of industrial areas within the pre-expansion UGB and reasoning set forth in "Formation of Industrial Neighborhoods", memorandum from Lydia Neill to David Bragdon, October 24, 2003, the Council concludes that these small areas cannot satisfy the need for industrial land.

The Council looked next to resource land, beginning with land of lowest capability. The Council included 354 acres (236 net acres) designated for agriculture in the Quarry Study Area, composed predominantly of the poorest soils (Class VII) in the region. Other land with poor soils in the vicinity were rejected due to steep slopes. The Council included 63 acres (30 net acres) designated for forestry in the Beaver Creek Study Area composed of Class IV and VI soils and 102 acres (69 net acres) of Class III and IV soils in the Damascus West Study Area. No other land with soil capability lower than Class II can meet the need for industrial use identified by the Council.

Finally, the Council turned to the many lands under consideration with predominantly Class II soils. To choose among thousands of acres of this flat farmland near urban industrial areas or near freeway interchanges, the Council considered the locational factors of Goal 14 and policies in its Regional Framework Plan ("RFP") and Regional Transportation Plan ("RTP"). Further, the Council sought advice from a group of farmers and agriculturalists in the three counties, assembled by the Oregon Department of Agriculture ("ODA"). This group submitted a report to the Council entitled "Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use." [Appendix A, Item (i).] Preliminary guidance from ODA led the Council to consider an amendment to Policy 1.12 of the RFP on agricultural land, adopted and applied in Ordinance No. 04-1040B: "When the Council must choose among agricultural lands of the same soil classification for addition to the UGB, the Council shall choose agricultural land deemed less important to the continuation of commercial agriculture in the region." (Exhibit A.)

The Council finds that the region will be able to urbanize the lands it has added to the UGB in an efficient and orderly fashion. The Council concludes that the overall consequences of urbanization of these lands are acceptable, especially given the protections in place in the RFP and Metro Code for sensitive resources. Through mitigation measures required by the conditions in Exhibit F, the Council believes it can achieve compatibility between urbanization of the land added to the UGB and adjacent land outside the UGB.

The Council also believes that it is able to maintain separations between communities at the urban fringe sufficient to allow each community to retain a sense of place. The Council chose ridgelines, streams, power lines, roads and property lines to define the boundaries of the UGB in an effort to provide a distinct boundary and a clear transition between urban and rural uses.

The Council also finds that the lands it added to the UGB for industrial use contribute to a compact urban form. The lands are adjacent to the existing UGB. Many involve exception lands that are already partially urbanized and contain some components of public facilities needed to serve urban industrial uses. The Council rejected some areas of exception land that extend far from the UGB and would require long extensions of linear services such as sewer, water and stormwater lines. The Council chose land that adheres closely to siting characteristics needed by the industries likely to grow during the planning period: proximity

to existing industrial areas and accessibility to freeway interchanges. These choices contribute to the region's urban form which, among other things, calls for siting uses with higher densities (commercial and residential) in Centers and other design types served by high-capacity public transit.

Combined with areas added to the UGB for employment in the December, 2002, periodic review ordinances, areas added by Ordinance No. 04-1040B for industrial use are distributed round the region. Most of the jobs land was added to the east side of the region in December, 2002. This ordinance adds industrial land mostly to the south and west sides of the region. In particular, addition of 262 acres north of Cornelius will add jobs, income, investment and tax capacity to a part of the region with disproportionately little of those resources.

**F. Water Quality**

Each local government responsible for an area added to the UGB must complete the planning requirements of Title 11, Urban Growth Management Functional Plan ("UGMFP"), including compliance with the water quality provisions of Title 3 of the UGMFP.

**G. Areas Subject to Natural Disasters and Hazards**

The Council has excluded environmentally constrained areas from the inventory of buildable land (see UGRs) and from its calculation of the housing and jobs capacity of each study area (see Alternatives Analysis). Each local government responsible for an area added to the UGB must complete the planning requirements of Title 11, Urban Growth Management Functional Plan ("UGMFP"), including compliance with Title 3 of the UGMFP on floodplains and erosion control.

The Council considered the best information available on known hazards, including earthquake hazard. The study areas with the highest earthquake hazard have been rejected. The are small portions of several study areas with known earthquake hazards added to the UGB. Local governments responsible for Title 11 planning are required by that title (and Goal 7) to take these portions into account in their comprehensive plan amendments.

**H. Economic Development**

As part of Task 2 of periodic review, Metro reviewed the economic development elements of the comprehensive plans of each of the 24 cities and three counties that comprise the metro area. Metro used the review in its determination of the region's need for employment land and for coordination with local governments of its choices to add land to the UGB for employment purposes.

Revisions to Title 4 (Industrial and Other Employment Areas) of the UGMFP and the conditions placed upon lands added to the UGB (Exhibit F of Ordinance No. 04-1040B and exhibits to December, 2002, ordinances) add significant protection to sites designated for industrial use, both those added to the UGB and those within the UGB prior to expansion, to help ensure their availability for that purpose.

Inclusion of these areas adds 1,920 acres (1,047 net acres) to the UGB for industrial use. Combined with the efficiency measures described in Section D of these Findings (Alternatives: Increase Capacity of the UGB), above, and actions taken in December, 2002, these additions to the UGB accommodate approximately 99 percent of the need for industrial land [identified in the 2002-2022 Urban Growth Report: An Employment Land Need Analysis (9,366 net acres)]. Given the unavoidable imprecision of the many assumptions that underlie the determination of need for industrial land – the population forecast; the employment capture rate; the industrial refill rate; employment density (particularly given changes in building types used by industry over time); the rate of encroachment by non-industrial uses; and the vintage



industrial relocation rate – the Council concludes that its actions in the December, 2002, ordinances and in this Ordinance No. 04-1040B provide a 20-year supply of industrial land for the region and comply with part 2 (periodic review Subtask 17) of LCDC’s Partial Approval and Remand Order 03-WKTASK-001524, July 7, 2003.

## **II. SPECIFIC FINDINGS FOR PARTICULAR AREAS ADDED TO UGB IN TASK 2 REMAND DECISION**

These findings address ORS 197.298; ORS 197.732(1)(c)(B), (C) and (D); Goal 2, Exceptions, Criteria (c)(2), (3) and (4); Oregon Administrative Rules (OAR) 660-004-0010(1)(B)(ii), (iii) and (iv); OAR 660-004-0020(2)(b), (c) and (d); Goal 5; Goal 11; Goal 12; Goal 14, Factors 3 through 7; Metro Code 3.01.020(b)(3) through (7) and 3.01.020(d); Metro RFP Policies 1.2, 1.3, 1.4, 1.6, 1.7, 1.11 and 1.12; and Regional Transportation Plan Policies 2.0, 3.0, 4.0 and 14.0.

### **A. Damascus West**

The Council relies upon the facts and analysis in the Industrial Land Alternative Analysis Study [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 21-23; 111; A-1 – A-4] and the Staff Report [Appendix A, Item (a), p. 27] to support its conclusion that addition of a portion of Damascus West will provide for an orderly and efficient transition from rural to urban land use. The Council chose this area of resource land because it contains a concentration of larger parcels (five parcels between 10 and 20 acres). Parcels of this range are needed for the types of industries Metro expects will grow during the planning period (UGR-E, p. 25) and are generally unavailable in exception areas. Also, soils in the area are Class III and IV, of lower capability than other resource land under consideration. In addition, the area lies within a ground-water restricted area designated by the Oregon Department of Water Resources. Finally, it occupies a small notch that extends into land within the UGB and is relatively isolated by topography and forested land from other agricultural lands to the south, as noted in the report of the Metro Agricultural Lands Technical Workgroup led by the Oregon Department of Agriculture [“Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use”, Appendix A, Item (i)].

#### **1. Orderly Services**

The Council relies upon the Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Alternative Analysis Study (Appendix A, Item 6, pages 111 and Table A-2, respectively) for its determination that these services can be provided to the Damascus West area in an orderly and economic manner by extending services from existing serviced areas. Condition IIA(1) of Exhibit F calls for transportation and public facility and service plans within the same four years allowed for Title 11 planning of the entire Damascus area by Condition IIA(1) of Exhibit M of Ordinance No. 02-969B.

The Alternative Analysis Study (p. 20) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the larger Damascus Study Area. Serviceability generally ranges from “easy” to “difficult” to serve (Table 1, p. 111) and compares favorably with areas not included (such as Borland Road South, Norwood/Stafford and Wilsonville West). Transportation services will be only moderately difficult to provide for reasons set forth in the Alternative Analysis Study, p. 21.

#### **2. Efficiency**

The Council relies on the same information on provision of essential services mentioned above for its conclusion that the area can urbanize efficiently, particularly knowing that Damascus West will be planned in conjunction with the greater Damascus area added to the UGB in December, 2002. The Council

also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

### 3. Consequences

The Council relies upon the analysis of the consequences of urbanization on the Damascus West area set forth in the Alternative Analysis Study, pp. 21-22 and Table A-3. The analysis indicates that the consequences will be low, especially considering the requirements of Title 11 of the UGMFP that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of Ordinance No. 04-1040B.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning considered Metro's adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F). The local governments will eventually adopt provisions to implement Metro's Goal 5 program following the Council's adoption of that program, if the local government's ordinance do not already comply.

### 4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Damascus West area would have low adverse consequences for nearby agriculture (Alternative Analysis Study, p. 21; Table A-4). This is, in part, due to the facts that the area occupies a small notch that extends into land within the UGB and is relatively isolated by topography and forested land from other agricultural lands to the south, as noted in the report of the Metro Agricultural Lands Technical Workgroup led by the Oregon Department of Agriculture ["Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use", Appendix A, Item (i)]. Ordinance No. 04-1040B, Exhibit F, imposes Condition IE upon urbanization of Damascus West to reduce conflict and improve compatibility between urban use in the area and agricultural use on land to the south.

### 5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Damascus West area protected by Clackamas County in its acknowledged comprehensive plan (p. 22). The county will be responsible for protecting these resources in the area when it amends its comprehensive plan and zoning ordinance to implement expansion of the UGB. Condition IG of Exhibit F requires the county to consider Metro's inventory of Goal 5 resources in their application of Goal 5 to the Damascus area. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires Clackamas County to protect water quality and floodplains in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county planning for the area.

### 6. Public Utilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Clackamas County from upzoning and from dividing land into resulting lots or parcels smaller than 20 acres until the county revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public

facilities such as sanitary sewers, storm sewers and water lines for the area. Metro and the county began this work with the evaluation of the serviceability of the Damascus area in the Alternative Analysis Study (pages 20-21 and 111).

## 7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Damascus West area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Clackamas County from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county revises its comprehensive plans and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county to develop conceptual transportation plans and urban growth diagrams with the general locations of arterial, collector and essential local streets for the area. Metro and Clackamas County began this work with the evaluation of the serviceability of the area in the Alternative Analysis Study (p. 21 and Table A-2) and consideration of how to provide services as part of the analysis required to satisfy Goal 14, factors 3 and 4.

Metro's 2000 Regional Transportation Plan (RTP) anticipated inclusion of the area within the UGB. The plan's "Priority System" of planned transportation facilities shows improvements planned for the area to serve anticipated growth. Among the improvements is the Sunrise Highway, a likely alignment for which (shown on the 2040 Growth Concept Map) borders the portion of the Damascus West Study Area included by this ordinance. The "Financially Constrained System" includes improvements that will add capacity to East Sunnyside Road near the included area (see discussion of RTP below).

## 8. Regional Framework Plan

The area lies within ½-mile of Damascus Town Center and will provide additional employment to support the center. The area will not only provide employment opportunities for new residents of the Damascus area, but also improve the ratio between jobs and housing in the east side of the region.

## 9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan adopted a "Priority System" of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements are the "East Multnomah County Transportation Projects" and the "Pleasant Valley and Damascus Transportation Projects" that will provide the basic transportation services to the area (pages 5-49 to 5-57). Figures 1.4, 1.12, 1.16, 1.17, 1.18 and 1.19 of the RTP show how the region's street design, motor vehicle, public transportation, freight, bicycle and pedestrian systems will extend into the Damascus area.

### **B. Beavercreek**

The Council relies upon the facts and analysis in the Alternative Analyses Study [2003 in Appendix A, Item(d) in Ordinance No. 04-1040B, pp. 32-34; 111; A-1 – A-4] and the Staff Report [Appendix A, Item (a), p. 25] to support its conclusion that addition of a portion of the Beavercreek area will provide for an orderly and efficient transition from rural to urban land use. The Council added this single tract, zoned for forest use but occupied by a portion of a larger golf course, in part because the Council included the other half of the golf course in the UGB by Ordinance No. 02-969B in December, 2002 (as part of Task 2), and

designated it for industrial use. The predominant soils on the tract are Class IV and VI. This parcel (63 acres; 30 net acres) helps satisfy the identified need for large parcels (see UGR-E, page 25), particularly in combination with the other part of the golf course included in December, 2002.

### 1. Orderly Services

The Council relies upon the Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Alternative Analysis Study (Appendix A, Item 6, pages 111 and Table A-2, respectively) for its determination that these services can be provided to this portion of the Beavercreek area in an orderly and economic manner by extending services from existing serviced areas. Condition IA of Exhibit F calls for transportation and public facility and service plans within two years. Condition IIB(2) specifies that Title 11 planning of the area be done in conjunction with Title 11 planning for the adjoining area added to the UGB by Ordinance No. 02-969B.

The Alternative Analysis Study (p. 32-33) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the larger Beavercreek area. The developable portion of the area included in the UGB adjoins and will be served by the same providers that will serve the area added to the UGB in December, 2002. Serviceability generally ranges from “easy” to “difficult” to serve (Table 1, p. 111) and compares favorably with areas not included (such as Borland Road South, Norwood/Stafford and Wilsonville West). Table A-2 shows transportation services for the larger Beavercreek area to be difficult. However, for the portion of Beavercreek added, transportation services will be the same as those provided to the adjoining property added to the UGB in December, 2002.

### 2. Efficiency

The Council relies on the same information on provision of essential services mentioned above for its conclusion that the area can urbanize efficiently, particularly knowing that this portion of the Beavercreek area will be planned in conjunction with the portion added to the UGB and designated for industrial use in December, 2002. Both portions can be urbanized more efficiently if the portions are planned and urbanized together.

The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

### 3. Consequences

The Council relies upon the analysis of the consequences of urbanization on this portion of the Beavercreek area set forth in the Industrial Land Alternative Analysis Study, p. 34 and Table A-3). The analysis indicates that the consequences will be high if the Council were to include the entire Beavercreek study area (2,540 acres). But Ordinance No. 04-1040B includes only a single, 63-acre tract, half of a golf course the other half of which was included in the UGB by Ordinance No. 02-969B. Title 11 of the UGMFP requires that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the tract subject to Title 3 of the UGMFP and the conditions in Exhibit F of this ordinance.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning considered Metro’s adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F). The local governments will eventually adopt provisions to implement Metro’s Goal 5 program following the Council’s adoption of that program, if the local government’s ordinance do not already comply.

#### 4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Beavercreek area would have moderate adverse consequences for nearby agriculture (p. 111). There will be little effect on agriculture from urbanization of this small portion of the area, however, because the tract itself is part of a golf course, and there are no nearby agricultural activities.

#### 5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the larger Beavercreek area protected by Clackamas County in its acknowledged comprehensive plan (page 34). The single portion of the larger area added to the UGB by this ordinance contains no inventoried Goal 5 sites protected by Clackamas County. Condition IG of Exhibit F requires the county to consider Metro's inventory of Goal 5 resources in their application of Goal 5 to the small portion of the Beavercreek area included in the UGB. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires Clackamas County to protect water quality and floodplains in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the counties to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county planning for the area.

#### 6. Public Facilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Clackamas County or Oregon City from upzoning and from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area. Metro, the county and the city began this work with the evaluation of the serviceability of the Beavercreek area in the Alternative Analysis Study done as part of Ordinance No.02-969B (pages 108-09; A-9, A-13;) and the Industrial Land Alternative Analysis Study done as part of Ordinance No. 04-1040A (pages 25, 32-33 and 111).

#### 7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Beavercreek area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Clackamas County or Oregon City from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop a conceptual transportation plan and urban growth diagram with the general locations of arterial, collector and essential local streets for the area. Metro, the county and the city began this work with the evaluation of the serviceability of the Beavercreek area in the Alternative Analysis done as part of Ordinance No.02-969B (pages 108-09; A-9, A-15-19) and the Analysis done as part of Ordinance No. 04-1040B (pages 25 and 33 and A-2).

The City of Oregon City indicates that the Beavercreek area can be provided with transportation services. The small included portion adjoins an area that is more serviceable than other portions of the larger Beavercreek area considered by the Council. It is contiguous to the city and can be served in an orderly manner.

## 8. Regional Framework Plan

This small addition of industrial land (63 acres) will be planned in combination with adjoining industrial land added by Ordinance No. 02-969B to comprise a more efficient industrial area. The area will provide employment to support the Oregon City Regional Center.

## 9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan adopted a "Priority System" of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements is the "Highway 213 Corridor Study" to complete a long-term traffic management plan and identify projects to implement the plan (pages 5-59 to 5-61).

### **C. Quarry (Partial)**

The Council relies upon the facts and analysis in the Industrial Land Alternative Analyses Study [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 64-66; 111; A-1 – A-4] and the Staff Report [Appendix A, Item (a), pp. 26-27] to support its conclusion that addition of a portion of the Quarry Study Area will provide for an orderly and efficient transition from rural to urban land use. The Council chose this area of resource land because it contains a concentration of larger parcels, relatively few of which are developed with residences. Parcels of this range are needed for the types of industries Metro expects will grow during the planning period (UGR-E, p. 25) and are generally unavailable in exception areas. Also, soils in the area are predominantly Class VII, of lower capability than other resource land under consideration. Significant portions are devoted to quarry operations, which have removed soils altogether. There are major quarry operations adjoining this area to the east and elsewhere nearby. There is also significant industrial development and zoning north and east of the Quarry area. See "Perfect for Industry", prepared by Davis, Wright, Tremaine, LLP, April 29, 2004. The Council included one of the quarry areas in the UGB in Ordinance No. 02-990A for industrial use. Some agricultural activity takes place in the northern section of this area, but it is isolated from other areas devoted to agriculture by quarry operations and other nonfarm activities [Tualatin Valley Sportsmens Club (gun club), for example].

### 1. Orderly Services

The Council relies upon the Quarry Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Industrial Land Alternative Analysis Study (Appendix A, Item (c), pages 111 and Table A-2, respectively) for its determination that urban services can be provided to the Quarry area in an orderly and economic manner by extending services from existing serviced areas. Condition IIE(2) of Exhibit F calls for coordination of transportation and public facility and service planning for this area with the adjoining area added to the UGB for industrial use on December 12, 2002.

The Alternatives Analysis (p. 64-65) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the Quarry Study Area. Serviceability ranges from "easy" to "moderately difficult" to serve (Table 1, p. 111) and compares favorably with areas not included (such as Borland Road South, Norwood/Stafford and Wilsonville West). Transportation services would be easy to provide for reasons set forth in the Alternative Analysis Study, p. 65.

## 2. Efficiency

The Council relies on the same information on provision of essential services mentioned above for its conclusion that the area can urbanize efficiently, particularly knowing that this portion of the Quarry Study Area will be planned in conjunction with the quarry area to the east, added to the UGB and designated for industrial use in December, 2002. This portion lies close to existing services and Tualatin-Sherwood and Oregon Roads. Both portions can be urbanized more efficiently if the portions are planned and urbanized together.

The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

## 3. Consequences

The Council relies upon the analysis of the consequences of urbanization on this portion of the Quarry Study Area set forth in the Alternative Analysis Study, p. 65-66 and Table A-3). The analysis indicates that the environmental consequences will be low. In addition, Title 11 of the UGMFP requires that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of this ordinance.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning considered Metro's adopted Goal 5 inventory during its planning (see Condition I G, Exhibit F). The local governments will eventually adopt provisions to implement Metro's Goal 5 program following the Council's adoption of that program, if the local government's ordinance do not already comply.

## 4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Quarry Study Area would have few adverse consequences for nearby agriculture. The area has the UGB on three sides and quarry operations to the east and southeast. The portion devoted to agriculture is in the northwest portion, isolated from agricultural operations south of the quarries.

## 5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Quarry Study Area protected by Washington County in its acknowledged comprehensive plan (page 65-66). Significant portions of the area are identified as aggregate sites in the county's Goal 5 inventory and are protected by aggregate overlays. Under Metro's Title 11, current county land use regulations will remain in place until the county, or one of the cities (Tualatin or Sherwood), adopts new plan provisions and land use regulations to allow industrial uses in the area, at which time the county or city will apply Goal 5 to the area and re-consider the decision to protect the quarries under Goal 5.

Condition IG of Exhibit F requires the county or cities to consider Metro's inventory of Goal 5 resources in its application of Goal 5 to the Quarry area included in the UGB. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires the county to protect water quality and wetlands in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county or city planning for the area.

## 6. Public Facilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Sherwood or Tualatin from upzoning and from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area. Metro, the county and the cities began this work with the evaluation of the serviceability of the Quarry Study Area in the Alternative Analysis done as part of Ordinance No.02-969B (pages 161-63; A-9) and the Analysis done as part of Ordinance No. 04-1040B (pages 64-65 and 111).

## 7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Quarry Study Area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Sherwood or Tualatin from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and land use regulations to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop a conceptual transportation plan and urban growth diagram with the general locations of arterial, collector and essential local streets for the area. Metro and the county and cities began this work with the evaluation of the serviceability of the area in the Alternatives Analysis done as part of Ordinances No.02-969B (pages 108-09; A-9, A-15-19) and 990A and the Analysis done as part of Ordinance No. 04-1040B (pages 64-65 and A-2). The cities indicate a willingness to serve the Quarry area with transportation services pending the determination of service boundaries.

## 8. Regional Framework Plan

This addition of industrial land will be planned in coordination with adjoining industrial land to the east added by Ordinance No. 02-990A to comprise a more efficient industrial area. The area will provide employment to support the Sherwood and Tualatin Town Centers. The Quarry area runs along the Tualatin-Sherwood Road within two miles of the two centers. Given that the added portion of the Quarry area is suitable for the types of industry likely to grow in the future, the Council includes the area notwithstanding that this part of the region is relatively well-endowed with employment.

By adding the Quarry area to the UGB, following addition of the quarry area to the east, Metro will be bringing a “notch” into the UGB that lies between the two cities of Sherwood and Tualatin. This keeps the form of the region compact and efficient.

## 9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan adopted a “Priority System” of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements are the “The Tualatin-Sherwood Major Investment Study”, to complete environmental design for the I-5 to 99W principal arterial connector, and the “Tualatin-Sherwood



Connector”, to construct the four-lane tollway connection (pages 5-65 to 5-67). Although a final corridor for this facility has not yet been chosen, it is almost certain that it will pass less than a mile from the south border of the Quarry area.

#### **D. Coffee Creek (partial)**

The Council relies upon the facts and analysis in the Alternatives Analyses [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 58-60; 111; A-1 – A-4] and the Staff Report [Appendix A, Item (a), pp. 26] to support its conclusion that addition of a portion of the Coffee Creek Study Area [264 acres (97 net acres) of 442 in the study area] will provide for an orderly and efficient transition from rural to urban land use. The Council chooses this portion because it is almost entirely exception land (there is a 4.6-acre tract of resource at the northern edge), it can be planned in conjunction with land added to the UGB in December, 2002, for industrial use, urban services are available in the vicinity, and urbanization will have no effect on agricultural practices on adjacent land due to its isolation from agricultural activities.

##### **1. Orderly Services**

The Council relies upon the Coffee Creek Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Industrial Land Alternative Analysis Study (Appendix A, Item 6, pages 111 and Table A-2, respectively) for its determination that urban services can be provided to the Quarry area in an orderly and economic manner by extending services from existing serviced areas. Condition IIF(1) of Exhibit F allows four years for Title 11 planning for this area so that planning for urban services can be done in conjunction with such planning for the adjoining area added to the UGB for industrial use on December 5, 2002.

The Alternative Analysis Study sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the Coffee Creek area (p. 58-60; Table 1, p. 111). Serviceability ranges from “moderate” to “difficult” to serve and compares favorably with areas not included (such as Borland Road South and Wilsonville West).

##### **2. Efficiency**

The Council relies on the same information on provision of essential services mentioned above for its conclusion that the area can urbanize efficiently, knowing that this portion of the Coffee Creek Study Area will be planned in conjunction with the area to the east, added to the UGB and designated for industrial use in December, 2002. The area lies adjacent to a principal north-south rail line that will make industrial use and movement of freight more efficient.

The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

##### **3. Consequences**

The Council relies upon the analysis of the consequences of urbanization on this portion of the Coffee Creek area set forth in the Alternative Analysis Study, p. 58-60 and Table A-3). Because the Council included only the easternmost portion of the study area – the portion that borders the UGB on the west – the adverse consequences will be reduced. Title 11 of the UGMFP requires that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of this ordinance.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning considered Metro's adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F, Ordinance No. 04-1040B). The local government will eventually adopt provisions to implement Metro's Goal 5 program following the Council's adoption of that program, if the local government's ordinance do not already comply.

4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the included portion of the Coffee Creek area would have no adverse consequences for nearby agriculture (p. 111). The area has quarry operations nearby and is isolated from commercial agricultural activity by stream drainages.

5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Coffee Creek Study Area protected by Washington County in its acknowledged comprehensive plan (p. 60). The quarries in the area are protected by aggregate overlays by Washington County. Under Metro's Title 11, current county land use regulations will remain in place until the county, or the City of Wilsonville or Tualatin, adopts new plan provisions and land use regulations to allow industrial uses in the area, at which time the county or city will apply Goal 5 to the area and re-consider the decision to protect the quarries under Goal 5.

Condition IG of Exhibit F requires the county or city to consider Metro's inventory of Goal 5 resources in its application of Goal 5 to the portion of Coffee Creek area included in the UGB. The area contains streams, wetlands and floodplains. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires the county or city to protect water quality and wetlands in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county or city to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county or city planning for the area.

6. Public Facilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Wilsonville or Tualatin from upzoning and from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of the area; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area.

7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Coffee Creek Study Area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits the county or city from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and zoning ordinance to authorize urbanization of the area; and (2) requires the county or city to develop conceptual transportation plans and urban growth diagrams with the general locations of arterial, collector and essential local streets for the area.

## 8. Regional Framework Plan

This addition of industrial land will be planned in combination with adjoining industrial land to the east added by Ordinance No. 02-969B to comprise a more efficient industrial area. The Coffee Creek Study Area will provide employment to support the Tualatin and Wilsonville Town Centers, to the north and south respectively. Given that the developable portion of the area is exception land and is suitable for the types of industry likely to grow in the future, the Council includes the Coffee Creek area notwithstanding that this part of the region is relatively well-endowed with employment.

Adding the Coffee Creek area to the UGB, lying between and adjacent to the Cities of Tualatin and Wilsonville, following addition of the area to the east, keeps the form of the region compact and efficient.

## 9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan (“RTP”) adopted a “Priority System” of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements are improvements to Boones Ferry Road from Durham Road in the north to Elligsen Road in the south, east of the Coffee Creek Study Area.

The RTP also includes “The Tualatin-Sherwood Major Investment Study”, to complete environmental design for the I-5 to 99W principal arterial connector, and the “Tualatin-Sherwood Connector”, to construct the four-lane tollway connection (pages 5-65 to 5-67). Although a final corridor for this facility has not yet been chosen, it is almost certain that it will pass through or just to the north of the Coffee Creek area, likely enhancing its access to I-5. Finally, the principal north-south rail line that lies along the eastern boundary of the area will offer an additional mode of transport for movement of freight in the area.

### **E. Tualatin**

The Council relies upon the facts and analysis in the Industrial Land Alternative Analyses Study [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 61-63; 111; A-1 – A-4] and the Staff Reports [Appendix A, Item (a), pp. 27-28] to support its conclusion that addition of a portion of the Tualatin Study Area will provide for an orderly and efficient transition from rural to urban land use. The Council chose this area because it is exception land (rural residential and rural industrial) with characteristics that make it suitable for industrial use. It lies within two miles of the I-5 corridor and within one mile of an existing industrial area, and portions of the area are relatively flat. These characteristics render it the most suitable exception area under consideration for warehousing and distribution, a significant industrial need facing the region.

The City of Tualatin and many residents of the area expressed concern about compatibility between industrial use and residential neighborhoods at the south end of the city. They have also worried about preserving an opportunity to choose an alignment between Tualatin and Wilsonville for the I-5/99W Connector; the south alignment for this facility passes through the northern portion of the Tualatin Study Area.

In response to these concerns, the Council placed several conditions upon addition of this area to the UGB. First, the Council extended the normal time for Title 11 planning for the area: two years following the identification of a final alignment for the Connector, or seven years after the effective date of Ordinance No. 04-1040B, whichever comes sooner. This allows Title 11 planning by Washington County, the cities of Tualatin and Wilsonville and Metro to accommodate planning for the Connector alignment. Second, the

Council states that, so long as the alignment for the Connector falls close to the South Alignment shown on the 2040 Growth Concept Map, it will serve as the buffer between residential development to the north (the portion least suitable for industrial uses) and industrial development to the south (the portion of the area most suitable for industrial use)

1. Orderly Services

The Council relies upon the Tualatin Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Industrial Land Alternative Analysis Study (Appendix A, Item (c), pages 111 and Table A-2, respectively) for its determination that urban services can be provided to the area in an orderly and economic manner by extending services from existing serviced areas.

The Alternatives Analysis (pp. 61-62) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the Tualatin Study Area. Serviceability ranges from “easy” to “difficult” to serve (Table 1, p. 111). Throughout Task 2 of periodic review the Council has found, however, that provision of services to almost every exception area is difficult and expensive. The City of Wilsonville anticipates further industrial development in the portion of the study area north and northwest of the existing city, in part due to the siting of the Coffee Creek Correctional Facility, and expects to be the service provider over time. Given the critical need for sites proximate to interchanges on I-5 and the rarity of such sites, the Council has decided to include the Tualatin Study Area notwithstanding.

2. Efficiency

The Council relies on the same information on provision of essential services mentioned above (Orderly Services) for its conclusion that the area can urbanize efficiently. The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

This area lies between two cities and among areas added to the UGB for industrial use in December, 2002, making urbanization of the area more efficient than projecting urbanization from the UGB into a rural area. Given the likelihood that the region will build the I-5/99W Connector through this area, industrial development in the area will ensure efficient use of that facility.

3. Consequences

The Council relies upon the analysis of the consequences of urbanization on the Tualatin Study Area set forth in the Alternative Analysis Study, pp. 62-63 and Table A-3). The analysis indicates that the consequences will be low to moderate, especially considering the requirements of Title 11 of the UGMFP that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of Ordinance No. 04-1040B.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning considered Metro’s adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F). The local governments will eventually adopt provisions to implement Metro’s Goal 5 program following the Council’s adoption of that program, if the local government’s ordinance do not already comply.

#### 4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Tualatin Study Area would have low adverse consequences for agriculture (Alternative Analysis Study, p. 62; Table A-4). Although there are a few agricultural uses in the study area itself, the area is designated entirely for rural residential and rural industrial uses, pursuant to exceptions from statewide planning Goals 3 and 4. The area is isolated from land designated for agriculture by the UGB, I-5 and mining operations to the west. Hence, it is unlikely that industrial use will conflict with agricultural activities on land designated for agricultural or forest use.

#### 5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Tualatin Study Area protected by Washington County in its acknowledged comprehensive plan (pp. 62-63). There are aggregate mines in the vicinity; portions of Washington County's Mineral and Aggregate Overlay District B cover small portions of the study area in the northwest and southwest corners and the top central portion.

The county, or the City of Wilsonville or Tualatin upon annexation to one of the cities, will be responsible for protecting these resources when it amends its comprehensive plan and zoning ordinance to implement expansion of the UGB. Condition IG of Exhibit F requires the county or city to consider Metro's inventory of Goal 5 resources in their application of Goal 5 to the Tualatin Study Area. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires the county or city to protect water quality and floodplains in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county or city to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county or city planning for the area.

#### 6. Public Facilities and Service

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County and the cities of Wilsonville and Tualatin from upzoning and from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of the area; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area.

#### 7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Tualatin Study Area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County and the cities of Tualatin and Wilsonville from upzoning and from land divisions into lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land added to the UGB; and (2) requires the county or city to develop conceptual transportation plans and urban growth diagrams with the general locations of arterial, collector and essential local streets for the area. Metro began this work with the evaluation of the serviceability of the area in the Alternative Analysis Study (pp. 61-62 and Table A-2) and consideration of how to provide services as part of the analysis required to satisfy Goal 14, factors 3 and 4.

Table A-2 recognizes that provision of transportation to new industrial uses in the area will be difficult. The Oregon Department of Transportation, Region 1 ("ODOT"), expects the volume-to-capacity ratio on I-5 in the vicinity of the North Wilsonville interchange to be "extremely poor" by 2025, and states

that the interchange “may need to be reviewed for impact” if the Council adds land to the UGB dependent upon the interchange. The “Priority System” in Metro’s RTP calls for improvement to Boones Ferry Road from Durham Road in Tualatin to Elligsen Road in Wilsonville and for construction of a four-lane tollway between I-5 and Highway 99W, the southern and most likely alignment of which passes through the study area. There is no planned improvement to the capacity of the freeway or the interchange in the RTP or either city’s TSP. In 2002, however, a joint ODOT/Wilsonville study concluded that in 2030, widening of I-5 to eight lanes would be required to meet interstate freeway capacity standards set by Metro and ODOT. This study will help Metro, ODOT, Wilsonville and Tualatin understand the improvements needed to accommodate industrial use in the study area. The 2004 Federal RTP also identifies a corridor refinement study for I-5 in the vicinity. These studies will inform Title 11 planning for the study area.

#### 8. Regional Framework Plan

The Tualatin Study Area lies midway between the Tualatin and Wilsonville Town Centers, and is nearly as close to the Sherwood Town Center as to Tualatin and Wilsonville. Industrial development in the study area will provide additional employment to support businesses in those centers. The Council includes this area, notwithstanding that this part of the region is relatively well-endowed with employment, because it has more of the characteristics needed for warehousing and distribution than other areas considered. The Wilsonville South Area has many of the same characteristics. But it lies on the opposite side of the Willamette River and requires a trip on I-5 across the river to gain access to the Wilsonville Town Center. The Council concludes that addition of the north portion of the Tualatin Study Area provides better urban form to the city and the region than adding land on the south side of the Willamette River.

#### 9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan adopted a “Priority System” of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements in the vicinity of the Tualatin Study Area are improvement to Boones Ferry Road from Durham Road in Tualatin to Elligsen Road in Wilsonville and construction of a four-lane tollway between I-5 and Highway 99W, the southern and most likely alignment of which passes through the study area.

#### F. Helvetia (Partial)

The Council relies upon the facts and analysis in the Industrial Land Alternative Analyses Study [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 104-06; 111; A-1 to A-4] and the Staff Reports [Appendix A, Item (a), p. 28] to support its conclusion that addition of a 249-acre portion of the Helvetia Study Area will provide for an orderly and efficient transition from rural to urban land use. The Council chose this area because it has several characteristics that render it among the most suitable sites under consideration for industrial use: a large parcels; relatively flat land; and proximity to a freeway interchange. The Urban Growth Report-Employment (UGR-E) identifies a specific need for large parcels (50 acres or larger) (Ordinance No. 02-969B, Appendix A, Item 4, page 25). This portion of the Helvetia Study Area contains one parcel between 50 and 100 acres.

Two-thirds of this area (162 acres) is designated for agriculture in Washington County’s comprehensive plan (predominantly Class II soil). The farmland portion lies between the existing UGB (to the south and east) and the exception land portion to the west. West Union Road separates the included farmland from excluded farmland to the north. The Council includes this farmland because the exception land portion (87 acres) contains some land suitable for industrial use. Also, among farmlands considered,

this farmland is already affected by nearby urban and rural residential use. Further, the Council found only two areas designated for agriculture of higher priority (Class IV or III soils) suitable for industrial use (Damascus West and Quarry Study Areas) (see discussion of West Union Study Area, below).

The Council considered including a portion of the Evergreen Study Area, which also contains a combination of exception land and Class II farmland, because it, too, contains several large parcels. The Council favored the Helvetia area because the farmland portion of the Evergreen area that lies between the UGB to the east, the exception land to the west and NW Meek Road to the north includes considerably more farmland than the included portion of the Helvetia Area (478 acres versus 162 acres in Helvetia). Further, unlike the exception land portion of Helvetia, the exception land portion of the Evergreen Study Area does not contain land suitable for industrial use.

The Council also considered inclusion of the West Union Study Area, which contains farmland of Class II and III soils. The Council chose the Helvetia area rather than the West Union area because the portion of the West Union area with higher-priority Class III soils is not suitable for industrial use (slopes greater than 10 percent), and this portion lies to the north of the portion with predominantly Class II soils (adjacent to the UGB). Also, the Council found no good barrier in the West Union area to separate farmland included from farmland excluded until Cornelius Pass Road to the north, which would enclose many more acres of farmland (862 acres) than the 162 acres in the Helvetia area.

The Council also considered Class II farmland in the Wilsonville East Study Area in order to find large parcels suitable for industrial use. The Council chose the Helvetia Study Area over the Wilsonville area because the former will be considerably easier to provide with public facilities and services (p. 111). As a result, inclusion of the Helvetia area has the support of the City of Hillsboro, while the City of Wilsonville opposes inclusion of the Wilsonville East area.

The Council considered two other study areas composed predominantly of Class II soils: the Noyer Creek and South Hillsboro areas. According to the report of the Metro Agricultural Lands Technical Workgroup led by the Oregon Department of Agriculture [“Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use”, Appendix A, Item (i)], both areas have higher value for commercial agriculture than the Helvetia area.

Finally, the Council considered Class II farmland south of Wilsonville, near the I-5 corridor on the south side of the Willamette River. The Council rejected this farmland because inclusion would constitute a projection away from the urbanization portion of the metropolitan region, toward Marion County to the south. Industrial development south of the river would also be separated from the services of the City of Wilsonville and the rest of the metropolitan region, connected only by a limited access (interstate highway) bridge across the river. Inclusion of the Helvetia area would better achieve the compact urban form sought by Policies 1 and 1.6 of the RFP and Policy 3 of the Regional Transportation Plan. The Oregon Department of Agriculture urged the Council not to add farmland south of the Willamette River because it would further introduce urban uses into that core area of the Willamette Valley’s commercial agriculture. Although the department also expressed concern about inclusion of the Helvetia area, it placed a higher priority on protection of farmland south of the Willamette River. The Council concludes that inclusion of the Helvetia area rather than the Wilsonville South Study area farmland better achieves Policy 1.12.2 of the RFP.

In short, of the Class II farmlands considered by the Council, this portion of the Helvetia Study Area best meets the identified need for industrial land and is most separated from nearby agricultural lands. Other than the exception lands that are part of this study area, there are no other exception lands that can help the region meet its need for larger parcels for industrial use.

## 1. Orderly Services

The Council relies upon the Helvetia Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Industrial Land Alternative Analysis Study (Appendix A, Item (c), pages 111 and Table A-2, respectively) for its determination that urban services can be provided to the area in an orderly and economic manner by extending services from existing serviced areas.

The Alternatives Analysis (pp. 104-05) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the larger Helvetia Study Area. Serviceability ranges from “easy” to “moderate” to serve the entire area (Table 1, p. 111). It will be easier to serve the smaller portion of the study area included by the Council because it is the portion closest to the existing UGB (borders on east and south) and services just to the east.

## 2. Efficiency

The Council relies on the same information on provision of essential services mentioned above (Orderly Services) for its conclusion that the area can urbanize efficiently. The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

This area borders the UGB on two sides, with employment and industrial uses on the urban sides of the UGB, making urbanization of the area for industrial use more efficient than projecting urbanization from the UGB into a rural area.

## 3. Consequences

The Council relies upon the analysis of the consequences of urbanization on the Helvetia Study Area set forth in the Alternative Analysis Study, pp. 105-06 and Table A-3). The analysis indicates that the consequences will be moderate. The requirements of Title 11 of the UGMFP that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of Ordinance No. 04-1040B will reduce adverse consequences from urbanization of the area.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning consider Metro’s adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F). The local government will eventually adopt provisions to implement Metro’s Goal 5 program following the Council’s adoption of that program, if the local government’s ordinance do not already comply.

## 4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Helvetia Study Area would have high adverse consequences for nearby agriculture (Alternative Analysis Study, pp. 105-06; Table A-4). The analysis, however, is based urbanization of the entire Helvetia Study Area (1,339 acres) rather than just the portion included within the UGB (249 acres). Adverse consequences and incompatibility from urbanization of the included portion will be much reduced, given that the UGB borders this portion on the east and south sides, West Union Road borders the portion on the north side, and much of this portion (87 acres) is exception area lying between the included farmland portion and the excluded farmland portion to the west.



According to the report of the Metro Agricultural Lands Technical Workgroup led by the Oregon Department of Agriculture [“Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use”, Appendix A, Item (i)], the included portion of the Helvetia area is less important to commercial agriculture in the region than other agricultural areas under consideration because it lies amid urban and rural residential uses: “However, the workgroup could not ignore the land use pattern both within the area, the location of the area within a small notch of the current urban growth boundary and the two hard edges provided by Helvetia and West Union Roads” (p. 11).

Ordinance No. 04-1040B, Exhibit F, imposes Condition IE upon urbanization of the area to reduce conflict and improve compatibility between urban use in the area and agricultural use on land to the north and west.

#### 5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Helvetia Study Area protected by Washington County in its acknowledged comprehensive plan (p. 106). The county, or the City of Hillsboro upon annexation to the city, will be responsible for protecting these resources in the area when it amends its comprehensive plan and zoning ordinance to implement expansion of the UGB. Condition IG of Exhibit F requires the county or the City of Hillsboro to consider Metro’s inventory of Goal 5 resources in their application of Goal 5 to the Helvetia area. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires the county or city to protect water quality and floodplains in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county or city to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county or city planning for the area.

#### 6. Public Facilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Hillsboro from upzoning or from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area.

#### 7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Helvetia Study Area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Hillsboro from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop conceptual transportation plans and urban growth diagrams with the general locations of arterial, collector and essential local streets for the area. Metro began this work with the evaluation of the serviceability of the area in the Alternative Analysis Study (pp. 104-05 and Table A-2) and consideration of how to provide services as part of the analysis required to satisfy Goal 14, factors 3 and 4.

The Oregon Department of Transportation (“ODOT”), Region 1, notes that the Shute Road interchange on Hwy. 26, to which most of the trips generated by development in the Helvetia area will go, “is already inadequate to accommodate the 2003 Urban Growth Boundary (“UGB”) expansion in this area.” Metro’s 2004 RTP includes an interchange improvement to serve the industrial land added to the UGB for industrial use in December, 2002, with partial funding. The RTP also identifies the need to widen several stretches of Hwy. 26 from four to six lanes. The county or city, together with Metro, will fully assess the effects of development on these facilities during Title 11 planning. Title 11 calls for a conceptual transportation plan as part of amendment of city or county comprehensive plans and land use regulations, to which statewide planning Goal 12 and the Transportation Planning Rule apply.

#### 8. Regional Framework Plan

The Helvetia Study Area lies adjacent to, and will likely become part of the North Hillsboro Industrial Area. This industrial area is the anchor of the high tech cluster that runs from this tract to Wilsonville. It contains the largest concentration of high technology firms in the state. The area supports businesses in the Hillsboro Regional Center, other Centers on the west side of the region, and the Central City. Industrial development in the Helvetia Study Area will provide additional employment to support those centers. The Council includes this area, notwithstanding that this part of the region is relatively well-endowed with employment, because, as noted above, it the characteristics needed for the industrial sectors likely to grow during the planning period.

#### 9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan (“RTP”) adopted a “Priority System” of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements in the vicinity of the Helvetia Study Area in Metro’s 2004 RTP is an interchange improvement to serve the industrial land added to the UGB for industrial use in December, 2002, with partial funding.

#### G. Cornelius

The Council relies upon the facts and analysis in the Industrial Land Alternative Analyses Study [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 84-87; 111; A-1 to A-4] and the Staff Reports [Appendix A, Item (a), p. 27] to support its conclusion that addition of this 262-acre portion of the Cornelius Study Area will provide for an orderly and efficient transition from rural to urban land use. Slightly more than half (56 percent) of the included portion is designated for agriculture in Washington County’s comprehensive plan (predominantly Class II soil). The farmland portion lies in two tracts separated by an exception area. A second tract of exception land borders the farmland on the east side. Together, these four adjacent tracts comprise the portion of the study area included in the UGB.

The Council chose this portion of the study area because it has characteristics that render it suitable for industrial use: large and mid-sized parcels and relatively flat land. The Urban Growth Report-Employment (UGR-E) identifies a specific need for large parcels (50 acres or larger) (Ordinance No. 02-969B, Appendix A, Item 4, page 25). The included portion of the study area contains one parcel between 50 and 100 acres [Appendix A, Item (a), p.30].

The Council also chose this area to help achieve Policies 1.2, 1.3.1 and 1.4 of the Regional Framework Plan (RFP), which call, among other things, for an equitable and balanced distribution of employment opportunities, income, investment and tax capacity throughout the region. The Council considered the fiscal and equity effects of including this area on the City of Cornelius. Given that the city

has the highest poverty rate, the lowest property tax revenue per capita, the lowest land improvement market value and the longest average commute in the region, the Council concluded that industrial development in this area would help achieve these policies better than inclusion of any other Class II agricultural land.

The Council considered including a portion of the Evergreen Study Area, which also contains a combination of exception land and Class II farmland, because it, too, contains several large parcels. The Council favored the Cornelius area for the reasons stated above, and because the farmland portion of the Evergreen area that lies between the UGB to the east, the exception land to the west and NW Meek Road to the north includes considerably more farmland than the included portion of the Cornelius Study Area (478 acres versus 147 acres in the Cornelius area).

The Council also considered inclusion of the West Union Study Area, which contains farmland of Class II and III soils. The Council chose the Cornelius area rather than the West Union area because the portion of the West Union area with higher-priority Class III soils is not suitable for industrial use (slopes greater than 10 percent), and this portion lies to the north of the portion with predominantly Class II soils (adjacent to the UGB).

The Council also considered Class II farmland in the Wilsonville East Study Area in order to find large parcels suitable for industrial use. The Council chose the Cornelius area over the Wilsonville area for the reasons stated above, and because the former will be considerably easier to provide with public facilities and services (p. 111). As a result, inclusion of the Cornelius area has the support of the City of Cornelius, while the City of Wilsonville opposes inclusion of the Wilsonville East area.

The Council considered two other study areas composed predominantly of Class II soils: the Noyer Creek and South Hillsboro areas. The Cornelius area is easier to provide with public services than either Noyer Creek or South Hillsboro. Inclusion of industrial land in the Cornelius area will better accomplish Policies 1.2, 1.3.1 and 1.4 of the RFP than inclusion of Noyer Creek or South Hillsboro.

Finally, the Council considered Class II farmland south of Wilsonville, near the I-5 corridor on the south side of the Willamette River. The Council rejected this farmland because inclusion would constitute a projection away from the urbanization portion of the metropolitan region, toward Marion County to the south. Industrial development south of the river would also be separated from the services of the City of Wilsonville and the rest of the metropolitan region, connected only by a limited access (interstate highway) bridge across the river. Inclusion of the Cornelius area would better achieve the compact urban form sought by Policies 1 and 1.6 of the RFP and Policy 3 of the Regional Transportation Plan. The Oregon Department of Agriculture urged the Council not to add farmland south of the Willamette River because it would further introduce urban uses into that core area of the Willamette Valley's commercial agriculture. Although the department also expressed concern for expansion of the UGB north of Council Creek in the Cornelius area (part of the included area lies north of Council Creek; part lies south), it placed a higher priority on protection of farmland south of the Willamette River. The Council concludes that inclusion of the Cornelius area rather than the Wilsonville South Study Area farmland better achieves Policy 1.12.2 of the RFP.

#### 1. Orderly Services

The Council relies upon the Cornelius Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Industrial Land Alternative Analysis Study (Appendix A, Item (c), pages 111 and Table A-2, respectively) for its determination that urban services can be provided to the area in an orderly and economic manner by extending services from the City of Cornelius.

The Alternatives Analysis (pp. 84-85) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the entire Cornelius Study Area. Serviceability ranges from “easy” to “moderate” to serve the entire area (Table 1, p. 111). It will be easier to serve the portion of the study area included by the Council because it is the portion closest to the existing UGB (borders on south) and existing services.

## 2. Efficiency

The Council relies on the same information on provision of essential services mentioned above (Orderly Services) for its conclusion that the area can urbanize efficiently. The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

This area borders the UGB to the south, with employment and industrial uses along a portion of the urban side of the UGB. The included portion also includes two exception area of predominantly rural residential use. Inclusion of the exceptions areas will, over time, lead to more efficient use of the areas.

## 3. Consequences

The Council relies upon the analysis of the consequences of urbanization on the Cornelius Study Area set forth in the Alternative Analysis Study, pp. 86-87 and Table A-3). The analysis indicates that the consequences will be moderate. The requirements of Title 11 of the UGMFP that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of Ordinance No. 04-1040B will reduce adverse consequences from urbanization of the area.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning consider Metro’s adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F). The local government will eventually adopt provisions to implement Metro’s Goal 5 program following the Council’s adoption of that program, if the local government’s ordinance do not already comply.

## 4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Cornelius Study Area would have high adverse consequences for nearby agriculture (Alternative Analysis Study, pp. 84-85; Table A-4). The analysis, however, is based urbanization of the entire study area (1,154 acres) rather than just the portion included within the UGB (262 acres). Adverse consequences and incompatibility from urbanization of the included portion will be much reduced, given that the UGB borders this portion on the south side, and that the farmland portions of the included area border two exception areas, also included.

Ordinance No. 04-1040B, Exhibit F, imposes Condition IE upon urbanization of the area to reduce conflict and improve compatibility between urban use in the area and agricultural use on land to the north and west.

## 5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Cornelius Study Area protected by Washington County in its acknowledged comprehensive plan (p. 86). The county, or the City of Cornelius upon annexation to the city, will be responsible for protecting these resources in the area when it amends its comprehensive plan and zoning ordinances to implement expansion of the UGB. Condition IG of

Exhibit F requires the county or the city to consider Metro's inventory of Goal 5 resources in their application of Goal 5 to the area. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires the county or city to protect water quality and floodplains in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county or city to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county or city planning for the area.

#### 6. Public Facilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Cornelius from upzoning or from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area.

#### 7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Cornelius Study Area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Cornelius from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop conceptual transportation plans and urban growth diagrams with the general locations of arterial, collector and essential local streets for the area. Metro began this work with the evaluation of the serviceability of the area in the Alternative Analysis Study (pp. 85 and Table A-2) and consideration of how to provide services as part of the analysis required to satisfy Goal 14, factors 3 and 4.

The Oregon Department of Transportation ("ODOT"), Region 1, notes that industrial development in the Cornelius area will worsen the level of service on the Tualatin Valley Highway between Cornelius and Hillsboro. The "Financially Constrained" and "Priority System" in Metro's Regional Transportation Plan ("RTP") include several projects that will address congestion in the corridor (Projects 3156, 3164, 3166, 3167, 3168 and 3171). The county or city, together with Metro, will fully assess the effects of development on these facilities during Title 11 planning. Title 11 calls for a conceptual transportation plan as part of amendment of city or county comprehensive plans and land use regulations, to which statewide planning Goal 12 and the Transportation Planning Rule apply.

#### 8. Regional Framework Plan

The included portion of the Cornelius Study Area lies directly north of and adjacent to the City of Cornelius. The area is within one mile of the designated Main Street of Cornelius (there is no designated Town Center). Industrial development in the included area will provide additional employment to support the businesses on Main Street, and provide employment opportunities for the many residents of Cornelius who now travel to other parts of the region for work. As stated above, industrial development in this area will help achieve Policies 1.2, 1.3.1 and 1.4 of the RFP better than inclusion of any other land, including other farmland.

9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan (“RTP”) adopted a “Priority System” of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements in the vicinity of the included portion of the Cornelius Study Area in Metro’s RTP are intersection safety improvements on the TV Highway couplet and improved transit service (see list of projects noted in section 8, above).

**REQUIREMENT NO. 2:**

**REMAND ORDER ON SUBTASK 17: EITHER REMOVE TAX LOTS 1300, 1400 AND 1500 FROM THE BOUNDARY OF EXPANSION AREA 62, OR JUSTIFY THEIR INCLUSION UNDER GOAL 14.**

Ordinance No. 04-1040A amends the UGB to remove Tax Lots 1300, 1400 and 1500, all in Study Area 62, from the UGB (Exhibit E). The Council concludes that there is no need to include these lots given the small surplus of land for residential use that resulted from expansion of the UGB by Ordinance No. 02-969B.

**REQUIREMENT NO. 3:**

**REMAND ORDER ON SUBTASK 12B: PROVIDE DATA ON THE ACTUAL NUMBER DENSITY AND AVERAGE MIX OF HOUSING TYPES AS REQUIRED BY ORS 197.296(5) AND DETERMINE THE OVERALL AVERAGE DENSITY MUST OCCUR IN ORDER TO MEET HOUSING NEEDS OVER THE NEXT 20 YEARS AS REQUIRED BY ORS 197.296(7)**

Ordinance No. 04-1040A further revises the Revised Housing Needs Analysis (“HNA”) to display data required by ORS 197.296(5) (Exhibit D). The data show the number, density and average mix of housing types arranged by type of buildable land (vacant, partially vacant, redevelopment and infill and mixed-use land). These data were subsets of aggregated data in the HNA, but were not displayed in the Revised HNA submitted to LCDC with the Task 2 Submittal on January 24, 2003.

The purpose for collecting the data is to help determine “the overall average density and overall mix of housing types at which residential development of needed housing types must occur in order to meet housing needs over the next 30 years.” ORS 197.296(7). Metro determined the overall density and mix of needed housing types in the Revised HNA submitted on January 24, 2003 (see pages 2-7, Figures 3.1, 3.2, 3.3, 5.1 and 5.3). [add text and explanation from earlier HNA] The data newly displayed in this revision do not affect Metro’s earlier determination.

**Basalt Creek Supplemental Transportation Analysis**

January 2019

Page 1 of 7

The purpose of this document is to demonstrate that the solutions identified in the 2012 Basalt Creek Transportation Refinement Plan are still appropriate in response to the 2018 Regional Transportation Plan update. The Basalt Creek Transportation Refinement Plan was adopted in 2012 and provided the framework for the development of concept and comprehensive plans for the Basalt Creek Urban Growth Expansion Area. Since that time, the plans for the area have refined the types of expected urban development that will occur in the area. In addition, regional planning efforts, such as the 2018 Regional Transportation Plan, have continued to be refined.

The Basalt Creek Transportation Refinement Plan was developed to determine the major transportation system necessary to serve development throughout the Basalt Creek Area. The Basalt Creek Transportation Refinement Plan set the stage for concept planning and comprehensive plan development for the Basalt Creek area. The transportation investments identified by the Basalt Creek Transportation Refinement Plan considered not only future growth within the Basalt Creek Planning area itself, but also future growth in adjacent areas, including:

- Southwest Tualatin Concept Planning Area
- Tonquin Employment Planning Area (in Sherwood)
- Coffee Creek Planning Area in Wilsonville

Since the development of the Basalt Creek Transportation Refinement Plan the Cities of Tualatin and Wilsonville have proceeded with concept and comprehensive planning for the Basalt Creek area. These planning efforts have built upon the Basalt Creek Transportation Refinement Plan as a framework for organizing the land use plans.

Furthermore, the 124th Avenue connection and Basalt Creek parkway has been constructed as an interim 3-lane facility between Tualatin-Sherwood Road and Grahams Ferry Road. The interim improvement is intended to serve existing transportation needs. Development along the corridor is encouraged to dedicate the right-of-way and complete the ultimate cross-section as appropriate.

The Regional Transportation Plan was updated in 2014 to reflect the Basalt Creek Transportation Refinement Plan. Regional land use growth assumptions and additional regional planning efforts have continued as the concept and comprehensive planning for the Basalt Creek area has been developed through an extensive multi-year and multi-jurisdictional public process.

With the advent of the 2018 Regional Transportation Plan and revised growth assumptions it seemed prudent to revisit the Basalt Creek Transportation Refinement Plan to ensure that the transportation system anticipated at the start of the process was indeed still adequate to serve the planning area.

The following tables document the land use assumptions for the Basalt Creek Area.

Land Use in the 2010 Regional Transportation Plan travel demand forecast  
(Land Use in the 2012 Basalt Creek Transportation Refinement Plan Technical Report)

<b>Zone Number</b>	<b>2005 Households</b>	<b>2035 Households</b>	<b>2005 Total Employment</b>	<b>2035 Total Employment</b>
1013	94	706	52	896
1014	54	645	16	938
<b>Total</b>	<b>148</b>	<b>1,351</b>	<b>68</b>	<b>1,834</b>

Land Use in the 2018 Regional Transportation Plan travel demand forecast

<b>Zone Number</b>	<b>2015 Households</b>	<b>2040 Households</b>	<b>2015 Total Employment</b>	<b>2040 Total Employment</b>
980	45	0	79	1,447
981	107	646	167	1,447
<b>Total</b>	<b>152</b>	<b>646</b>	<b>246</b>	<b>2,894</b>

Buildout of the Basalt Creek Concept Plan

<b>Zone Number</b>	<b>2015 Households</b>	<b>2040 Households</b>	<b>2015 Total Employment</b>	<b>2040 Total Employment</b>
980	45		79	2,227
981	107	581	167	2,227
<b>Total</b>	<b>152</b>	<b>581</b>	<b>246</b>	<b>4,453</b>

It should be noted that the zone numbering system changed in 2013 but the geographic boundaries of these two zones remained the same.

Also note the total 2040 employment for both zones is the same number; however the model assumed zone 981 will have slightly more service employment than zone 980.



The following table provides a list of transportation investments assumed in the 2040 regional travel demand forecast:

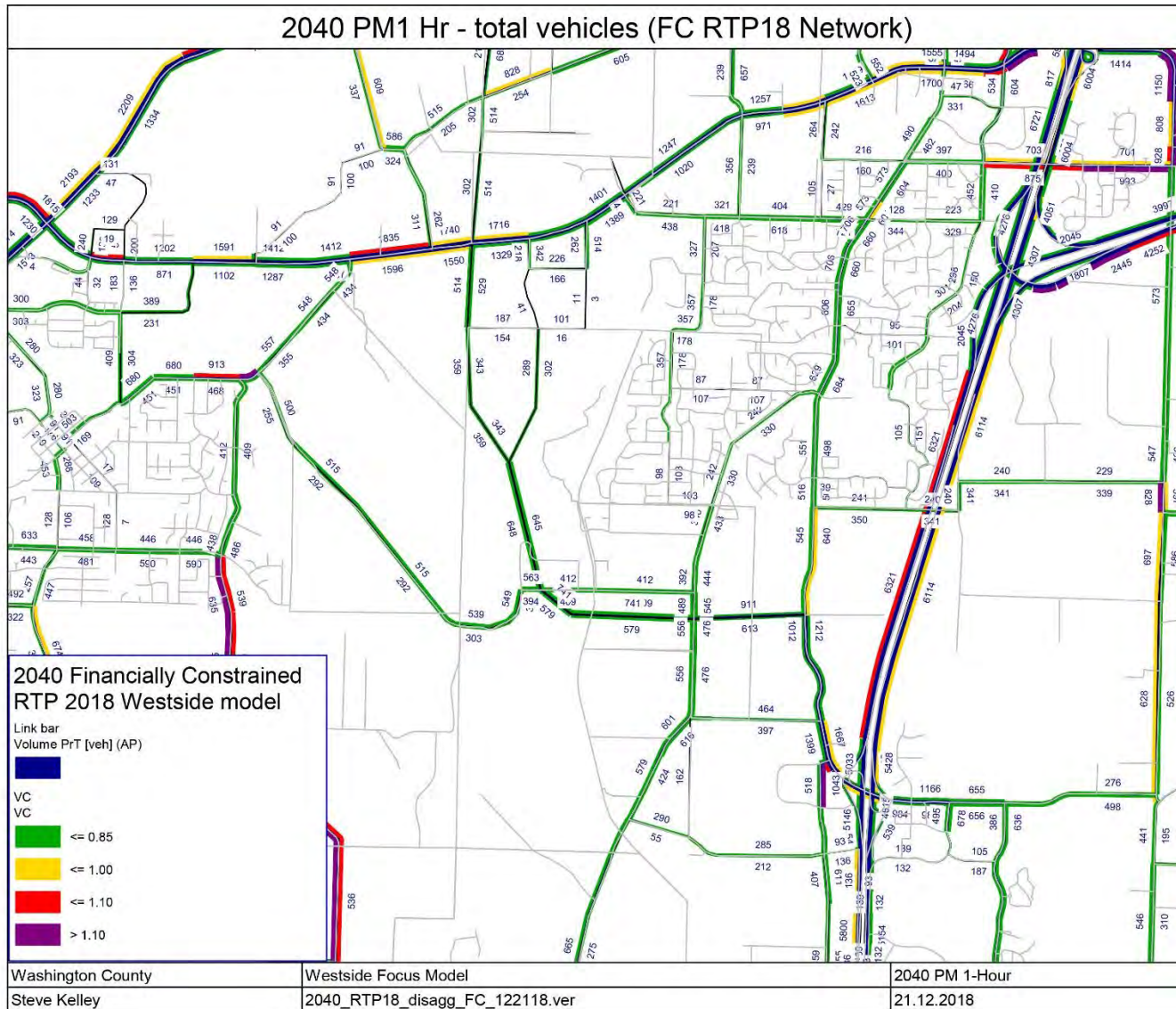
**2040 Financially Constrained RTP Projects near Basalt Creek area**

Nominating Agency	2018 RTP ID	Project Name	Start Location	End Location	Description	Estimated Cost (2016 Dollars)	Time Period	Financially Constrained	RTP Investment Category	Primary Purpose
Washington County	10568	Tualatin-Sherwood Rd Improvements	Langer Farms Pkwy	Teton Ave	Widen from three to five lanes with bike lanes and sidewalks.	\$35,000,000	2018-2027	Yes	Roads and Bridges	Relieve current congestion
Sherwood	10674	Oregon-Tonquin Intersection Improvements	SW Oregon St	SW Tonquin Rd	Reconstruct and realign three leg intersection with a roundabout (partial two-lane roundabout) approx 400 feet northeast of existing roundabout at SW Oregon St & Murdock Rd. ROW, PE, design & construction. Potential for signal in-lieu of dual-roundabout system if better for development and once SW 124th Ave project is completed. If roundabout, project will include rapid flashing beacons at new roundabout and retrofit of adjacent roundabout to meet MUTCD suggestions for pedestrian crossings at roundabouts. This is currently a Washington County facility but would likely become Sherwood's upon completion of project to TSP standards.	\$2,400,000	2018-2027	Yes	Roads and Bridges	Relieve future congestion
Wilsonville	10588	Grahams Ferry Rd Improvements	Day Rd	County line	Widen Grahams Ferry Road to 3 lanes, add bike/pedestrian connections to regional trail system and fix (project development only) undersized railroad overcrossing.	\$13,200,000	2028-2040	Yes	Freight	Improve freight access to indust & intermodal
Washington County	10590	Tonquin Rd Improvements	Grahams Ferry Rd	124th Ave	Realign and widen to three lanes with bike lanes and sidewalks and street lighting.	\$11,400,000	2018-2027	Yes	Roads and Bridges	Build Complete Street
Wilsonville	10853	Garden Acres Road Extension	Day Road	Ridder Road	Construct three lane road extension with sidewalks and cycle track and reconstruct/reorient Day Road/Grahams Ferry Road/Garden Acres Road intersection.	\$14,260,000	2018-2027	Yes	Roads and Bridges	Relieve future congestion
Wilsonville	11243	Day Rd Improvements	Grahams Ferry Rd	Boones Ferry Rd	Widen street from 3 to 5 lanes with buffered bike lanes, sidewalks and street lighting. Improve structural integrity for increased freight traffic and provide congestion relief. Sidewalk infill and creation of Tonquin Trail multi-use path spur will reduce pedestrian and vehicle conflicts. Bike buffers will reduce bicycle and freight conflicts.	\$10,560,000	2028-2040	Yes	Roads and Bridges	Relieve future congestion

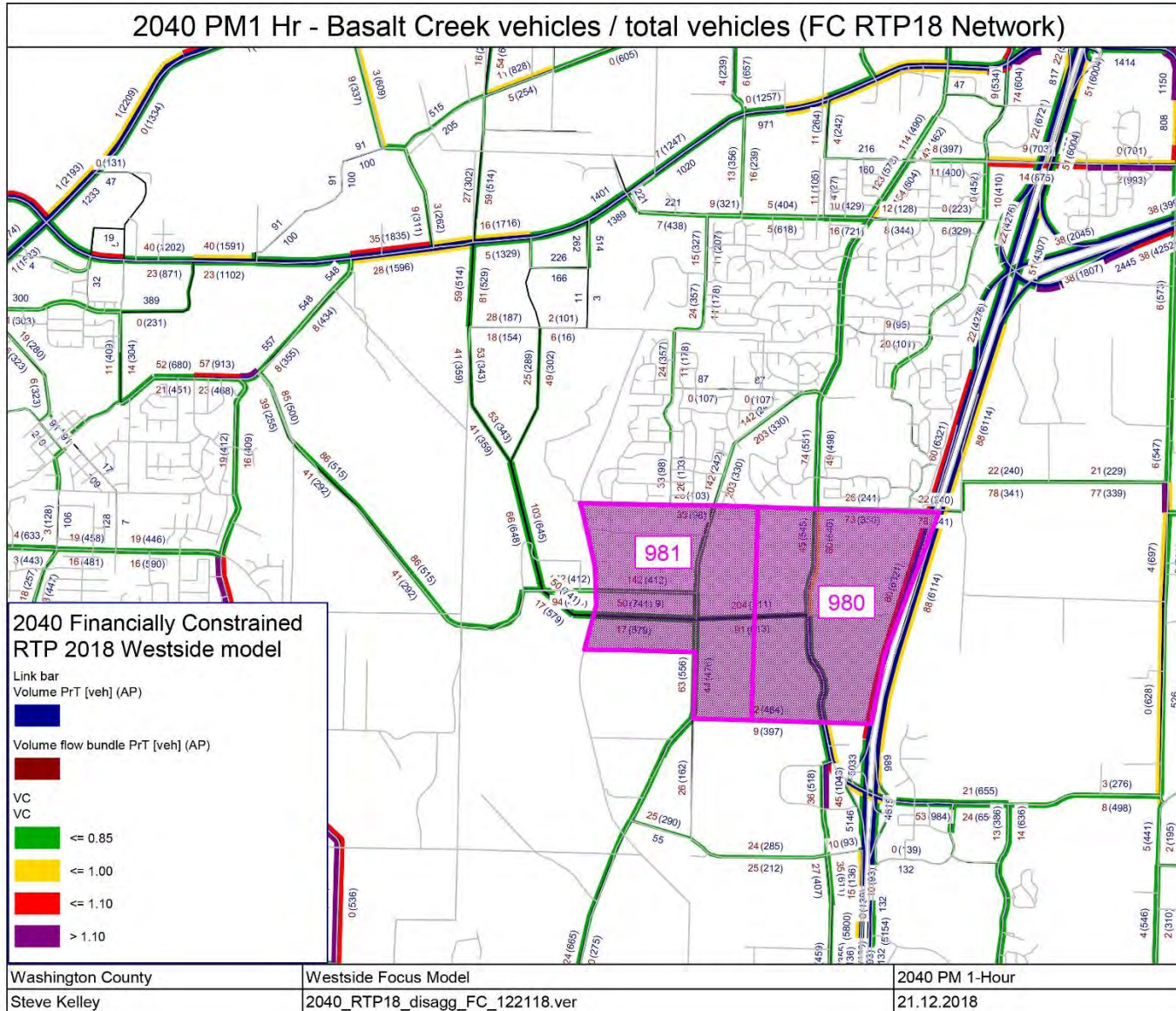
**2040 Financially Constrained RTP Projects near Basalt Creek area (Continued)**

Nominating Agency	2018 RTP ID	Project Name	Start Location	End Location	Description	Estimated Cost (2016 Dollars)	Time Period	Financially Constrained	RTP Investment Category	Primary Purpose
Tualatin	11417	Blake Street Extension	115th Ave	124th Ave	Extend Blake Street to create an east-west connection between 115th and 124th. Install signal at Blake and 124th. New road section will provide an alternative route for industrial traffic on the high injury corridor: Tualatin/Sherwood Road.	\$17,000,000	2018-2027	Yes	Roads and Bridges	Increase access to jobs
Washington County	11470	Basalt Creek Parkway	Grahams Ferry Rd	Boones Ferry Rd	Extend new 5 lane Arterial with bike lanes, sidewalks and street lighting.	\$31,700,000	2018-2027	Yes	Roads and Bridges	Serve new urban area
Washington County	11487	Boones Ferry Improvements	Basalt Creek East-West Arterial	Day Rd	Widen from 3 lanes to 5 lanes with bike lanes, sidewalks and street lighting	\$1,200,000	2028-2040	Yes	Roads and Bridges	Relieve future congestion
Wilsonville	11489	Boones Ferry / I-5 off ramp improvements	SB I-5 off ramp	Boones Ferry Rd	construct second right-turn lane	\$1,063,000	2028-2040	Yes	Roads and Bridges	Relieve current congestion
Tualatin	11962	Grahams Ferry Rd	SW Ibach Rd	Helenius Rd	Upgrade SW Grahams Ferry Road to roadway standards between SW Ibach Road and Helenius Road.	\$5,048,800	2028-2040	Yes	Roads and Bridges	Build Complete Street

Financially Constrained 2018 Regional Transportation Plan Network  
 2040 PM 1 Hour Total Vehicle Volume Forecast Results



Financially Constrained 2018 Regional Transportation Plan Network  
 2040 PM 1 Hour Basalt Creek Vehicles (and Total Vehicles) Forecast Results



## **Summary**

The 2018 Regional Transportation Plan contains a number of Financially Constrained projects identified in the Basalt Creek area. These projects were generally identified by the Basalt Creek Transportation Refinement Plan in 2012. It is anticipated that these projects will be implemented in conjunction with development in the area. The resulting planned system, including the build out scenario documented in the land use tables above, results in anticipated traffic operations consistent with regional and local level of service standards.

The level of service maps and analysis in this report are intended to provide a planning level system assessment consistent with the requirements for Transportation Planning in Oregon. A detailed operational analysis will be necessary prior to project development. The detailed operational analysis should consider needed turn lanes and assess vehicular movements at intersections to determine the appropriate design configuration. This analysis is intended to provide a generalized system assessment that would be an appropriate input into an operational evaluation necessary for project development.



METRO

December 5, 2006

Doug Rux  
Community Development Director  
City of Tualatin  
18880 SW Martinazzi Avenue  
Tualatin, OR 97062-7092

**RE: CITY OF TUALATIN TITLE 13 AND TUALATIN BASIN PLAN COMPLIANCE REVIEW**

Dear Mr. Rux:

I have had the pleasure of working with Jim Jacks, former Special Projects Manager, on the City's efforts to comply with the Tualatin Basin Program and Metro's Title 13. Until his recent departure to take a new job, Jim served on the Tualatin Basin Natural Resources Steering Committee for many years and contributed to the formulation of the Tualatin Basin Program. He was very helpful to me in explaining the City's amendments to its plan and codes to implement portions of the Tualatin Basin Program. Although the City Council has already taken final action on the proposed code amendments, we ask that the City consider the points raised in this letter and take appropriate action in the future to address them.

Thank you for transmitting to Metro the City of Tualatin's proposed changes to its development code and comprehensive plan to comply with Title 13 of the Metro Urban Growth Management Functional Plan, Metro Code 3.07.1310 through .1370 ("UGMFP"). Tualatin is seeking to comply with Title 13 via "Option 5" (Metro Code 3.07.1330(B)(5)), by complying with the "Tualatin Basin Program." Our comments are based on our review of the City's two September 14, 2006 compliance memoranda, and September 7, 2006 draft code amendments. Please advise us if these are not the most recent versions of the review documents or if we are missing other necessary documents.

This letter serves as Metro's compliance review under Title 8 (Metro Code 3.07.820(A)). I note that compliance with Title 13 pursuant to Option 5 requires Tualatin to undertake certain non-regulatory steps, including some ongoing responsibilities, that do not require amendments to Tualatin's comprehensive plan and land use regulations. This compliance review by Metro is a review only of whether the amendments Tualatin is proposing are consistent with the UGMFP, and is not a review of whether Tualatin has complied, or will comply, with the other requirements of Option 5 and the Tualatin Basin Program.

**Applicable Requirements for Compliance**

There are essentially four substantive elements of Option 5 compliance that could require amendments to comprehensive plan and land use regulations. In order to comply with Title 13 under Option 5, Tualatin must:

- "[F]acilitate and encourage the use of habitat-friendly development practices, where technically feasible and appropriate, in all areas identified as Class I and II riparian habitat areas on the Metro Regionally Significant Fish and Wildlife Habitat Inventory Map." Metro Code 3.07.1330(B)(5)(d) (see also, step 2 of the Tualatin Basin Program implementation steps, applicable via Metro Code 3.07.1330(B)(5)(a), which requires Tualatin to adopt Low Impact-Development guidelines "to reduce environmental impacts of new development and removing barriers to their utilization.") In addition, Metro Code 3.07.1330(E) requires Beaverton to remove

barriers to the use of habitat-friendly development practices in all regionally significant habitats. Metro provides examples of such habitat-friendly practices in Table 3.07-13c of Title 13;

- “[A]llow for the reduction of the density and capacity requirements of Title 1 of the [UGMFP]” for all properties within Metro’s habitat inventory. Metro Code 3.07.1330(B)(5)(e) and 3.07.1330(H). Such allowance may be provided only for properties within the Metro urban growth boundary on January 1, 2002, require the protection of the habitat via a public dedication or restrictive covenant, and only allow for the density/capacity reduction in proportion to the amount of habitat permanently protected on the property;
- Provide both a simple and a detailed process for property owners to verify the location of inventoried habitat on their property. Metro Code 3.07.1330(G); and
- Adopt protection provisions consistent with Title 13 applicable to upland wildlife habitat areas within territory added to the Metro UGB in the future. Metro Code 3.07.1330(B)(5)(f). (A jurisdiction is not required to adopt such provisions at this time, it may instead choose to address this requirement at the time that new areas are brought into the UGB and concept planning and local zoning is applied.)

In addition to these substantive requirements, Tualatin must, first, also ensure that provisions it adopts provide property owners with clear and objective compliance standards, Metro Code 3.07.1330(C), and may also provide discretionary compliance standards, Metro Code 3.07.1330(D). Second, Tualatin must have made its proposed amendments available for public review at least 45 days prior to a public hearing regarding those amendments. Metro Code 3.07.1330(F).

### **Summary of Comments**

We first want to commend Tualatin on its thorough efforts in complying with Title 13. The City’s proposed amendments are responsive to Metro’s expectations and will result in better protection of our region’s wildlife habitats. Despite these commendable efforts, we understand that Title 13 has many complex requirements, and so this letter includes Metro’s comments to ensure the City fully complies with all aspects of Title 13. We also include a number of suggestions to improve the clarity of the proposed amendments. This section provides only a summary of our comments, a more detailed discussion of each comment is found in the following sections.

#### *Required for Compliance*

- The City must ensure that its density waiver is voluntary, applicable to all six habitat types contained in Metro’s Regionally Significant Fish and Wildlife Habitat Inventory Map, and applicable only to properties located inside the UGB as of January 1, 2002;
- The definition of “Fish and Wildlife Habitat Area” (FWHA) (or some equivalent) must be clarified to ensure that it includes all six regionally significant habitats in Metro’s Significant Fish and Wildlife Habitat Inventory Map. The City must then demonstrate that its proposed code changes, using whatever habitat definitions it deems necessary, do in fact facilitate and encourage HFDPs and remove barriers to Low Impact Development practices;
- The City must clearly demonstrate that it has provided a “simple” verification process in addition to the detailed approach to locate boundaries of Metro’s Regionally Significant Fish and Wildlife Habitat on a property specific basis.

#### *Suggestions*

- Amend code to allow flexibility in building height, provided that the height increase results in an offsetting reduction in impervious surface or other beneficial outcome for habitat;
- Amend code to create a mechanism, if one does not already exist, to allow and encourage landowners to shift required landscaping from one part of their property to areas adjacent to a habitat area;

- Modify the City's proposed provisions prohibiting the spillage of light into FWHA to clarify that it only encourages, not prohibits, landowners to do so. One suggestion is to insert the qualifying phrase "where practical and feasible" into the City's language that otherwise prohibits the shining of light into habitat areas;
- Continue to work with CWS to ensure the timely development of effective stormwater facility design standards, including those for open drainage systems, and to make the appropriate future code changes to encourage landowners to take advantage of the new design standards;
- Amend City's code to affirmatively state its encouragement for certain HFDPs involving stream crossings and stormwater facilities (see more detailed comments below), instead of relying only on compliance with Title 3 and CWS standards to comply with Title 13.

## Detailed Comments

### *Density Waiver*

Metro Code Section 3.07.1330(B)(5)(e) requires that each city or county adopt a waiver process from the density requirements of Title 1 of the UGMFP for all properties in Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map. This waiver can only apply to properties that were within the UGB before January 1, 2002.

*Issue #1: The City's existing density reduction provision, through its Net Acreage definition, is not broad enough to allow density waivers for all six habitat types contained in Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map, as required by Title 13.*

As best can be determined, the City proposes to meet the density waiver requirement by reference to its existing language of Net Acreage, which excludes from development rights-of-way and tracts, as well as habitats protected under CWS requirements. No changes to this definition are proposed. The City explains that the current application of the Net Acreage definition already allows landowners to avoid meeting minimum density requirements and so does not penalize landowners for having protected habitats on their property. It appears, however, that the scope of the allowed density reduction under the Net Acreage definition falls short of Title 13's requirement that the density waiver apply to all regionally significant fish and wildlife habitats (e.g., Class I, II, and III riparian, and Class A, B, and C upland).

Compliance Recommendation: The City must ensure that, regardless of the methodology used to comply with the density waiver requirement of Metro Code Section 3.07.1330(B)(5)(e), the density waiver is applicable to all six regionally significant habitats (see next two issues for complete recommendation).

*Issue #2: The City's proposed scheme makes the density waiver option a mandatory requirement, whereas Title 13 specifies that the waiver is intended to a voluntary option for landowners.*

*Issue #3: The City's proposed scheme fails to limit application of the density waiver to only properties inside the urban growth boundary on January 1, 2002.*

Metro Code Section 3.07.1330(B)(5)(e) requires that each jurisdiction allow landowners to apply for a density waiver as a voluntary option to protect regionally significant habitat. Thus, the density waiver is not intended to be a mandatory density restriction in a landowner's property right. In fact, making the density waiver a mandatory requirement is a prohibition on development that clearly goes beyond the intent of Title 13 and would need to be justified by a separate Goal 5 ESEE analysis and decision.

In addition, Metro Code Sections 3.07.1330(B)(5)(e) and 3.07.1330(H)(1)(a) state that the density waiver applies only to properties that were located inside the UGB on January 1, 2002. The City has not included this limitation in its proposed code changes.



**Compliance Recommendation:** The City must provide a density waiver option that is voluntary and applies to all six of Metro's regionally significant habitats. We recommend the City add language to its Net Acreage definition that states, in effect:

"A landowner of property with regionally significant habitat, as shown on Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map [the City should incorporate Metro's Inventory Map by reference], and which is habitat not already excluded under this definition, may request a density waiver to protect such habitat, provided that the habitat has been verified by local process as regionally significant. This density waiver option applies only to properties located within the UGB before January 1, 2002."

As an alternative to integrating the density waiver into the Net Acreage definition, the City could add an entirely separate code section that specifies how landowners can obtain a density waiver.

#### **Definition of Fish and Wildlife Habitat Area**

*Issue: The City's proposed definition of "Fish and Wildlife Habitat Area" does not clearly demonstrate that it includes all six regionally significant habitat areas in Metro's Inventory Map.*

Tualatin proposes to add to its code a new habitat category called "Fish and Wildlife Habitat Area" (FWHA). This term is defined as "an area in the Natural Resources Protection Overlay District, Other Natural Areas identified in Figure 3-4 of the Parks and Recreation Master Plan, or in the Clean Water Services Vegetated Corridor." The City then applies Title 13's required HFDPs and Low Impact Development practices to properties that contain FWHA. It is not clear, however, whether the proposed definition of FWHA includes all of the six regionally significant habitat areas in Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map, as required by Title 13, because the definition refers to habitat maps and resources that are different from Metro's Habitat Inventory Map. Our best estimate is that the definition includes most, but not all, the habitats in Metro's Regionally Significant Fish and Wildlife Habitat Inventory. Thus, in order to better determine compliance with requirements of Title 13 and the Tualatin Basin Program, Metro needs to know the exact extent of overlap between FWHA and Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map.

**Compliance Recommendation:** The City must ensure that its definition of FWHA (or some other equivalent habitat category) includes all six classes of Metro's regionally significant fish and wildlife habitats.

#### **Verification Process**

Metro Code Section 3.07.1330(G) requires that each jurisdiction provide landowners a "reasonable, timely, and equitable process" to verify the specific location of "habitat areas" (i.e., all six habitat types on the RSFWH Inventory Map or functional equivalent). This is called the "simple" verification process and requires only a minimal expenditure of time and money in cases where the habitat boundary is uncontested or easily resolved. Metro Section 3.07.1340(D) also requires a detailed map verification process for Habitat Conservation Areas ("HCA"), which include Class I and II riparian habitats and Class A and B upland habitats. This detailed process requires expert opinion and more technical supporting data in cases where the habitat boundary is complex or controversial.

*Issue: The City has not clearly demonstrated that it has provided a detailed verification process and a simple verification process for identifying the boundaries of regionally significant fish and wildlife habitat.*

Because the City has not adopted Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map, and because it is unclear how the City's proposed FWHA relates to the Inventory Map (as discussed

above), Metro is unable to determine whether the City has a verification process that complies with Metro Code Sections 3.07.1330(G) and 3.07.1340(D). Although our review indicates that most of the six regionally significant habitats are likely included in the City's definition of FWHA, and that the City appears to have an existing verification process for many of the habitats included in FWHA, we still are not certain that all of Title 13's verification requirements are being met.

It should be noted that Title 13 does allow jurisdictions to rely on existing local habitat maps and verification processes, but compliance is dependent on Metro making a finding that these existing local provisions "substantially comply" with Title 13's requirements. This City appears to be taking this alternative approach. However, the City has not clearly demonstrated how its existing habitat maps include all the acreage that comprises regionally significant fish and wildlife habitat.

Compliance Recommendation: The City must clearly demonstrate that it is providing both a "simple" and more detailed verification process to identify the boundaries of regionally significant fish and wildlife habitat. Enclosed is draft code language from the City of Tigard providing a "simple" as well as detailed verification process. Metro recommends that Tualatin adopt similar provisions. Alternatively, Tualatin can comply by adopting the basic and detailed verification processes contained in Metro's Model Ordinance.

### ***Suggestions on HFDP and LID***

Title 13 requires cities and counties to "facilitate and encourage" the use of habitat-friendly development practices ("HFDP") (Metro Code 3.07.1330(B)(5)(d)), and to "remove barriers" to the use of these HFDPs (Metro Code 3.07.1330(E)). Metro provides examples of such habitat-friendly practices in Table 3.07-13c of Title 13. In addition, step 2 of the Tualatin Basin Program implementation requires Tualatin to adopt Low Impact-Development ("LID") guidelines to reduce the environmental impacts of new development and to remove barriers to the use of these LIDs.

With this in mind, the below comments do not raise "compliance" issues per se, but are intended to pose questions or make suggestions to improve the likely effectiveness of the proposed credit program.

*Flexibility for Building Height:* No code changes are proposed by the City to provide increased flexibility for building height. The City's rationale is that since the presumable intent would be to protect habitat by reducing development (i.e., reducing building height), that it seems counterproductive to allow increased height as a way to protect wildlife habitats. This rationale misses the intent of this HFDP which is to allow increased height in exchange for, for example, a decreased building footprint, thereby reducing impervious surface. This basic rationale is provided in the Tualatin Basin Implementation Report as well.

Recommendation: We recommend that the City amend its code to allow flexibility in building height, provided that the height increase results in an offsetting reduction in impervious surface or other beneficial outcome for habitat.

*Locating landscaping adjacent to habitat areas:* No code changes are proposed by the City to encourage this HFDP. While the City's current landscaping standards may allow for this practice, it does not appear that there is any explicit encouragement to do so.

Recommendation: We recommend that the City amend its code to create a mechanism, if one does not already exist, to allow and encourage landowners to shift required landscaping from one part of their property to areas adjacent to a habitat area.

*Re-direct outdoor lighting away from habitat areas:* Metro's intent with this HFDP is for localities to encourage landowners to avoid shining their outdoor lights, which can disturb wildlife, into habitat areas. The City, however, is proposing to prohibit the shining of light into FWHA. This prohibition is a restriction of land use that goes beyond Title 13's intent to use only non-regulatory measures to encourage HFDPs.

Recommendation: We recommend that the City modify its proposed provisions prohibiting the spillage of light into FWHA to say that it only encourages landowners to do so. One suggestion is to insert the qualifying phrase "where practical and feasible" into the City's language that currently prohibits the shining of light into habitat areas.

*Use of multi-functional open drainage systems:* The City addresses this HFDP by delaying action until CWS and the City develop new design standards for open drainage systems and similar stormwater facilities. While Metro recognizes the benefit of deferring to CWSs expertise to develop a comprehensive stormwater design manual that can be used by jurisdictions throughout the Tualatin Basin, we do expect the City to take future action to amend its code to incorporate the CWS standards that will encouraging these HFDPs.

Recommendation: We encourage the City to continue to work with CWS to ensure the timely development of effective stormwater facility design standards, including those for open drainage systems, and to make the appropriate future code changes to encourage landowners to take advantage of the design standards.

*Stream crossings and detention ponds:* We also note that for a number of HFDPs — such as minimizing stream crossings, encouraging perpendicular crossings, using habitat sensitive bridge and culvert designs, use of detention ponds, and allowance of narrow road widths through stream corridors — the City does not propose any code changes. Instead, the City states that its code is silent on such practices, but does not prohibit them, and mostly relies on its adoption of Metro's Title 3 and CWS requirements to meet Title 13's "encourage and facilitate" requirement.

Recommendation: We recommend that the City amend its code to affirmatively support these HFDPs. Doing so would leave no doubt that the City is encouraging and facilitating these HFDPs.

Please do not hesitate to contact me if you having any questions regarding our comments.

Sincerely,



Paul Ketcham  
Principal Regional Planner

Cc: Councilor Carl Hosticka, District 3  
Michael Jordan, Chief Operating Officer  
Christina Deffebach, Long Range Planning Manager  
Paul Garrahan, Metro Attorney  
Amanda Punton, DLCD Natural Resource Specialist  
Steve Kelley, Senior Planner, Washington County

Enclosure

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF RESOLVING A ) RESOLUTION NO. 18-4885  
DISPUTE BETWEEN THE CITY OF )  
WILSONVILLE AND THE CITY OF ) Introduced by Chief Operating Officer Martha  
TUALATIN REGARDING THE CONCEPT ) Bennett in concurrence with Council  
PLAN FOR THE BASALT CREEK PLANNING ) President Tom Hughes  
AREA )

WHEREAS, in 2004 Metro adopted Ordinance No. 04-1040B, which amended the Urban Growth Boundary to add 1,940 acres of land to satisfy an identified regional need for industrial land, including approximately 646 acres located between the City of Tualatin and the City of Wilsonville that is now known as the Basalt Creek Planning Area; and

WHEREAS, in 2007 Metro awarded a \$365,000 grant of construction excise tax funds to the cities of Tualatin and Wilsonville to undertake concept planning for the Basalt Creek Planning Area; and

WHEREAS, in 2011 Washington County, Metro, and the cities of Tualatin and Wilsonville entered into an Intergovernmental Agreement (IGA) that outlines the requirements and responsibilities of the parties regarding their coordinated efforts toward adopting a concept plan for the Basalt Creek Planning Area; and

WHEREAS, under the 2011 IGA, all parties must agree regarding the jurisdictional boundary between the cities and the planning designations in the concept plan before the county may transfer planning authority to the cities to facilitate future annexation and urban development; and

WHEREAS, between 2013 and 2016 the two cities engaged in a joint concept planning process for the Basalt Creek Planning Area, but reached an impasse in 2017 regarding the appropriate planning designation for a 52-acre portion of the planning area known as the “Central Subarea,” and asked Metro to take on the role of arbitrating their dispute; and

WHEREAS, on January 22, 2018 the two cities, Metro, and Washington County entered into an IGA that assigns Metro the task of creating a process for arbitrating the dispute between the cities and reaching a decision regarding the appropriate land use designation for the Central Subarea; and

WHEREAS, Metro created a special process for the arbitration wherein the Metro Chief Operating Officer (COO) agreed to accept written evidence and argument from the cities and county prior to issuing a written recommendation to the Metro Council that would be reviewed by the Council in an “on the record” proceeding; and

WHEREAS, the 2018 IGA and the arbitration process created by Metro recognize that Metro’s decision as arbitrator does not itself result in the adoption or amendment of any land use plan or map, and will not have any land use effects unless and until it is implemented by the cities through future city land use decisions that will be appealable to LUBA; and

WHEREAS, the Metro COO reviewed the evidence and argument submitted by the cities, Washington County, and two property owners, and issued her written COO Recommendation to the Metro Council on March 26, 2018 recommending that the cities should designate the Central Subarea for future employment use; and

WHEREAS, the Metro Council reviewed the COO Recommendation and all of the evidence that was placed in the record before the COO, and at the Council meeting on April 19, 2018 voted unanimously to approve the COO Recommendation; now therefore,

BE IT RESOLVED that:

1. The Metro Council approves the COO Recommendation and agrees that the cities should designate the 52-acre Central Subarea of the Basalt Creek Planning Area for employment purposes, as depicted on the Basalt Creek Land Use Concept Map attached to the COO Recommendation as Exhibit C.
2. The Metro Council adopts the COO Recommendation dated March 26, 2018, attached as Exhibit A to this Resolution and incorporated herein, as the Council's findings and conclusions in support of this decision.
3. The Metro Council also adopts the Supplemental Findings attached as Exhibit B to this Resolution and incorporated herein as the Council's supplemental findings and conclusions in support of this decision.

ADOPTED by the Metro Council this 3 day of May 2018

  
Tom Hughes, Council President



Approved as to Form:

  
Alison R. Kean, Metro Attorney

# EXHIBIT A TO RESOLUTION 18-4885

## Chief Operating Officer Recommendation to the Metro Council Regarding the Basalt Creek Planning Area

This is my recommendation to the Metro Council concerning the appropriate land use designation of a 52-acre portion of the Basalt Creek Planning Area known as the “Central Subarea,” which is identified in Figure 1 below. A decision by Metro on this issue is contemplated by the Intergovernmental Agreement (IGA) among Metro, the City of Tualatin, the City of Wilsonville, and Washington County creating a process for Metro to resolve the dispute between the two cities regarding whether the Central Subarea should be planned for employment or residential use. My recommendation is that the Central Subarea should be designated as an employment area, as shown on the Figure 1 map.

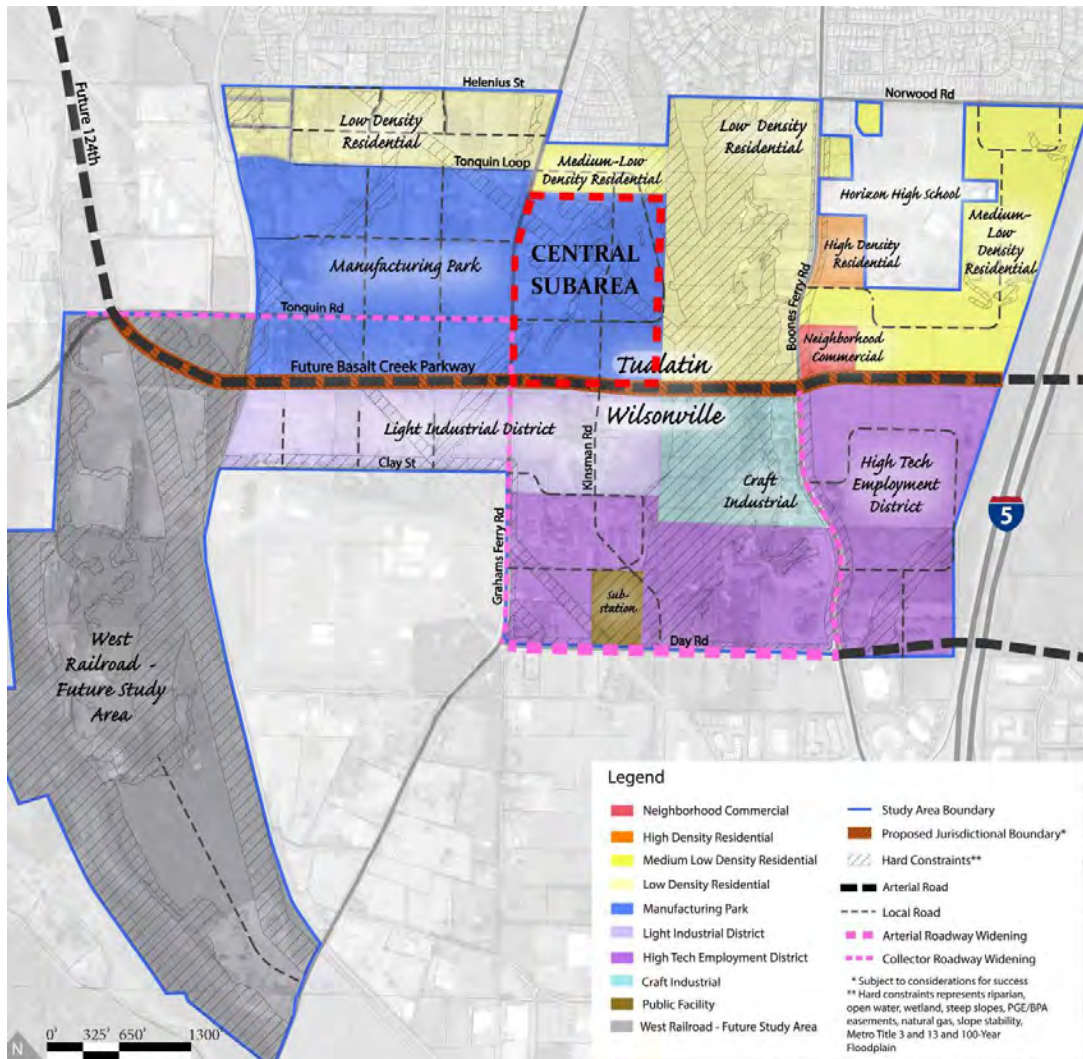


Figure 1: Basalt Creek Land Use Concept Map (Sept. 2016)

## EXHIBIT A TO RESOLUTION 18-4885

### A. Process

In 2017 the cities of Wilsonville and Tualatin reached an impasse regarding concept planning for a 52-acre portion of the Basalt Creek Planning Area known as the “Central Subarea” and asked Metro to take on the role of arbitrating their dispute. To that end, the cities, Metro, and Washington County entered into an IGA in January of 2018 that assigns Metro the task of making a final and non-appealable decision regarding the appropriate land use designation for the Central Subarea. The IGA is attached as Exhibit A and provides:

“Metro will have sole discretion to determine what to call this decision making process, where and when to hold the process, who Metro will appoint to make the decision, a briefing schedule, whether or not to hear oral argument, and ground rules that must be adhered to by the cities and county throughout the process.”

The process created by Metro began with the issuance of a staff report to the COO on February 21, 2018, which recommended an employment designation. The cities and the county then had until March 7, 2018 to submit written argument and evidence in support of their positions. The cities and county were provided an additional seven days to submit arguments and evidence in rebuttal to the first round of materials.

In addition to the materials submitted by the cities, Metro received a letter from the Chair of the Washington County Board of Commissioners in support of retaining the employment designation and stating concerns regarding Tualatin’s proposal to add more residential land in an area that has long been planned for industrial and employment use. Metro also received submittals from Herb Koss and Peter Watts, who own property within the Central Subarea and are advocating for a residential designation. Those two submittals include materials that had been provided to the two cities during the concept planning process.

After reviewing all of the documents provided by the parties and relevant regional planning materials, it is my conclusion that an employment designation for the Central Subarea is: (1) more consistent with the planning goals and expectations of the local government stakeholders over the last 14 years; and (2) supported by the greater weight of evidence in the record.

The Metro process calls for the Metro Council to review this recommendation and deliberate to a decision regarding whether to accept, reject, or modify it. The Council’s

## EXHIBIT A TO RESOLUTION 18-4885

review will be based on the record of written materials submitted by the cities, county, and Metro staff. The Council will then adopt a resolution memorializing its decision and directing the cities to prepare concept plans consistent with Metro's final decision and with Title 11 of the Urban Growth Management Functional Plan. In the IGA, the cities agree that they will accept Metro's final decision and adopt corresponding concept plans.

### **B. Basalt Creek Planning History**

#### **1. 2004 UGB Expansion**

The Basalt Creek Planning Area was added to the UGB as part of a 2004 expansion for industrial and employment purposes. Metro had previously expanded the UGB in 2002 to add 17,458 acres of land, with 15,047 acres added for residential purposes and 2,411 acres for employment. In the 2002 decision, Metro acknowledged that the amount of land being added for employment purposes was not sufficient to meet the identified 20-year need, and therefore requested that the Land Conservation and Development Commission (LCDC) assign a new work task that would allow Metro to complete its work and accommodate the region's need for industrial land. *See* Exhibit P to Metro Ordinance 02-969B. LCDC approved the majority of the decision, and returned the matter to Metro with instructions to satisfy the unmet 20-year need for industrial land.

Metro responded in 2004 by adopting Ordinance No. 04-1040B, the stated purpose of which was "to increase the capacity of the boundary to accommodate growth in industrial employment." That decision expanded the UGB to include 1,940 acres of land for industrial use, including the 646 acres now known as the Basalt Creek Planning Area between the cities of Tualatin and Wilsonville. The Metro Council adopted the following findings in support of adding the Basalt Creek area to the UGB:

"The Council chose this area because it is exception land (rural residential and rural industrial) with characteristics that make it suitable for industrial use. It lies within two miles of the I-5 corridor and within one mile of an existing industrial area, and portions of the area are relatively flat. These characteristics render it the most suitable exception area under consideration for warehousing and distribution, a significant industrial need facing the region." Metro Ordinance 04-1040B at Exhibit G, page 17.

During the Metro proceedings, the City of Tualatin and some of its residents expressed concerns about compatibility between future industrial uses in the Basalt Creek area and residential neighborhoods at the south end of the city, and about preserving the opportunity to choose an alignment between Tualatin and Wilsonville for the then-



## EXHIBIT A TO RESOLUTION 18-4885

planned connector between Interstate 5 and Highway 99W. In response, the Metro Council adopted the following condition of approval:

“2. Title 11 planning shall incorporate the general location of the projected right of way alignment for the I-5/99W connector and the Tonquin Trail as shown on the 2004 Regional Transportation Plan. If the selected right-of-way for the connector follows the approximate course of the ‘south alignment,’ as shown on the Region 2040 Growth Concept Map, ... the portion of the Tualatin Area that lies north of the right-of-way shall be designated ‘Outer Neighborhood’ on the Growth Concept Map; the portion that lies south shall be designated ‘Industrial.’” Metro Ordinance 04-1040B at Exhibit F, page 3.

A copy of the 2004 version of the 2040 Growth Concept Map showing the two proposed alignments for the I-5/99W connector is attached as Exhibit B. That exhibit also shows the locations of the Central Subarea and the Basalt Creek Parkway. The Metro Council adopted the following findings describing the purpose of the condition:

“Second, the Council states that, so long as the alignment for the Connector falls close to the South Alignment shown on the 2040 Growth Concept Map, it will serve as the buffer between residential development to the north (the portion least suitable for industrial uses) and industrial development to the south (the portion of the area most suitable for industrial use).” Metro Ordinance 04-1040B at Exhibit G, pages 17-18.

### **2. Local Concept Planning**

In 2007, Metro awarded a \$365,000 CET Grant to the cities of Tualatin and Wilsonville to perform concept planning for the Basalt Creek Planning Area. In 2011 the cities, Metro, and Washington County entered into an IGA that outlines the requirements and responsibilities of the parties regarding their coordinated efforts on the Basalt Creek concept plan. The IGA defines a decision-making process that requires all four parties to agree to the final decisions about the jurisdictional boundary between the two cities and the appropriate land use designations for the entire area.

The concept plan was put on hiatus from 2011 to 2013 while transportation planning issues for the larger South County Industrial Area were being resolved via the Basalt Creek Transportation Refinement Plan. The stakeholders concluded that it was important to address transportation issues for the area prior to any industrial development occurring. As part of that transportation planning effort, the Basalt Creek Parkway was one of several options identified as critical to the success of the transportation system. The

## **EXHIBIT A TO RESOLUTION 18-4885**

Parkway was seen as one of the vital connectors for truck traffic from the Tonquin and Southwest Tualatin Industrial areas to the north down to Interstate 5, in order to mitigate the traffic impacts on Tualatin-Sherwood Road and the Tualatin Town Center.

Upon completion of the Basalt Creek Transportation Refinement Plan in 2013, the cities of Wilsonville and Tualatin resumed their concept planning efforts, utilizing Metro's CET grant funds. In December of 2015, the City Councils of Wilsonville and Tualatin reached an agreement regarding a jurisdictional boundary between the cities, delineated by the Basalt Creek Parkway. Further work between the cities resulted in a "Preferred Basalt Creek Land Use Map" in September of 2016, which designated the majority of the area north of the Basalt Creek Parkway in Tualatin, including the Central Subarea, with a Manufacturing Park zoning classification. Exhibit C.

### **3. Summary of Dispute**

In October of 2016, a property owner in the Central Subarea presented the City of Tualatin with a proposal to change the designation of the subarea from employment to residential. The property owner asserted that the area is not well suited for employment uses due to topography and geologic conditions. In support of this proposal, the property owner submitted a request from OTAK to amend the Preferred Basalt Creek Land Use Map, stating a concern that the Central Subarea would be difficult to develop for employment purposes due in part to the existence of slopes in excess of ten percent. The property owner also submitted letters from other development professionals stating that the site topography is too challenging for industrial development and is better suited for smaller footprint buildings such as housing. Tualatin Brief, Exhibit 108.

At a Tualatin City Council work session on October 10, 2016, the City Council directed planning staff to consider the property owner's request as proposed by OTAK. The matter came back to the City Council on November 28, 2016. The Tualatin planning department staff report for that meeting noted that the OTAK proposal to amend the concept plan "includes substantially more residential land uses in the central subarea" than had been previously discussed, and recommended rejecting the property owner's proposal and retaining the proposed employment designation: "After consideration of OTAK's proposal and all of the above factors together, staff believes the central subarea can be developed for employment over the long-term. While there are some hilly areas, the Manufacturing Park designation can be made flexible enough to include some smaller scale employment uses." Wilsonville Rebuttal Brief, Exhibit G.

## **EXHIBIT A TO RESOLUTION 18-4885**

In response to the property owner's testimony to the City of Tualatin in October of 2016 regarding the unsuitability of the Central Subarea for employment uses, Washington County hired Mackenzie development group to undertake an independent study regarding the viability of employment uses in that area. The study was completed in January of 2017 and concluded that employment uses are viable in the Central Subarea, specifically for flex business park, office campus, manufacturing, and commercial support services. Wilsonville Brief, Exhibit G.

In February of 2017, the Tualatin City Council directed their staff to proceed with changing the designation of the Central Subarea from employment to residential. In March of 2017, the City of Wilsonville hired the engineering firm KPFF to evaluate the feasibility of development for employment uses in the Central Subarea. The resulting KPFF feasibility study provided three different scenarios for viable employment development, taking into consideration the slope and geologic composition of the site. Wilsonville Brief, Exhibit D.

Under the 2011 IGA regarding concept planning for the Basalt Creek Planning Area, all parties must agree regarding the jurisdictional boundary between the cities and the land use designations. Since the cities cannot agree, the area cannot be planned or annexed by either city. The cities asked Metro to act as an arbitrator and resolve the dispute.

### **ANALYSIS**

#### **A. Planning Goals and Expectations of Local Government Stakeholders**

The planning history of the Central Subarea and the planning expectations of local government stakeholders lean heavily in the direction of an employment designation. The area was brought into the UGB by Metro in 2004 as part of an expansion for the purpose of meeting a regional need for industrial land, and the entire Basalt Creek Planning Area is designated on Metro's Title 4 map as a future industrial area.

Although the 2004 UGB expansion decision did contemplate that some portions of the Basalt Creek Planning Area could become residential, the relevant condition of approval and findings (quoted above on page 3) drew a line at the location of the south alignment of the proposed I-5/99W connector and stated that areas north of that line, closer to the City of Tualatin boundary, are more appropriate for residential use, while areas south of that line (including the Central Subarea) are more appropriate for industrial use.

As noted by the City of Wilsonville in its brief, the City of Tualatin has already designated a substantial portion of its share of the 2004 UGB expansion area for

## EXHIBIT A TO RESOLUTION 18-4885

residential development. Without removing the employment designation from the Central Subarea, 91 the 194 developable acres in Tualatin's portion of the Basalt Creek Planning Area are designated as residential. Those 91 acres include flat land adjacent to Interstate 5 at the eastern edge of the planning area between Norwood Road and the future Basalt Creek Parkway that appear to be ideal for employment purposes. Wilsonville Brief, Exhibit A. If the Central Subarea designation is changed from employment to residential, Tualatin will have designated 65% of its developable land in the planning area for residential purposes.

Evidence in the record indicates that the City of Tualatin strongly advocated for an employment designation in the Central Subarea during the concept planning process until the end of 2016, when the property owner and OTAK proposed the change to residential. Wilsonville Brief, Exhibit A and Exhibit C at page 6; Wilsonville Rebuttal Brief, Exhibit I. Evidence in the record also shows that the City of Tualatin moved the proposed jurisdictional boundary between the cities farther south in order to provide more employment opportunities for Tualatin. Minutes from the Tualatin City Council work session on August 24, 2015 state:

“Mayor Ogden stated he did not believe the mix of residential and industrial in this option [boundary option 3] is a good value for the people who live in Tualatin. This mix creates more trips in turn creating more congestion. He understands the need for residential capacity but does not believe it should be done at the exclusivity of other options. His recommendation would be to move the boundary line further down to accommodate for job producing land options creating a more balanced growth option.

“Council Bubenik would like to see more land in this option converted to light industrial.

“Council President Beikman expressed dissatisfaction with boundary option three. She stated boundary option three removes all industrial land and converts it to residential leaving no room for job growth.” Wilsonville Rebuttal Brief, Exhibit A.

As a result of this direction from the Tualatin City Council regarding the city's desire for more employment land, Tualatin planning staff generated a new Boundary Option 4, which moved the boundary between the two cities south to Tonquin Road and changed the designation of the Tualatin portion of the Central Subarea from residential to

## EXHIBIT A TO RESOLUTION 18-4885

employment. Wilsonville Rebuttal Brief, Exhibit C. Planning staff then presented Boundary Option 4 at the joint meeting between the two city councils on December 16, 2015. Wilsonville Rebuttal Brief, Exhibit D.

At the December 16, 2015 meeting, the two city councils agreed that the boundary line between the two cities should be moved even farther south, to the future location of the Basalt Creek Parkway. Tualatin Reply Brief, Exhibit 128. The City of Wilsonville argues that there was an express agreement between the cities at the December 16, 2015 joint meeting regarding an employment designation for the Central Subarea. The City of Tualatin disagrees, noting that the stated purpose and outcome of the meeting was limited to the agreement regarding the location of the jurisdictional boundary, and that future land use designations were not included as part of the presentation to the two city councils. Tualatin Reply Brief, Exhibits 128, 129 and 130.

The City of Tualatin appears to be correct that there was no formal agreement or vote taken by the two cities at the December 16, 2015 joint meeting regarding land use designations. However, the evidence, and common sense, support the City of Wilsonville's contention that its agreement regarding the jurisdictional boundary was based in part on the Tualatin City Council's position regarding Tualatin's need for more employment land, and that Wilsonville would not have agreed to cede more land to Tualatin if it was proposed to be residential.

There is no dispute that the Tualatin City Council directed its staff to move the city boundary south to Tonquin Road because it believed Tualatin was not being provided enough employment land for future job growth in the city. That directive resulted in Boundary Option 4, which changed the Tualatin portion of the Central Subarea from residential to employment. At the same December 16, 2015 joint meeting where Tualatin's Boundary Option 4 was presented to the two city councils, the councils reached agreement on a boundary location even farther south, at the Basalt Creek Parkway. Given Tualatin's push to move the boundary south in order to provide itself with more employment land, there was no reason for Wilsonville to think that Tualatin was going to change its proposed employment designation for the Central Subarea to residential. Although there was no vote or other formal action taken at the December 16, 2015 joint meeting regarding land use designations, the evidence supports a finding that Wilsonville's agreement regarding the jurisdictional boundary was premised on its belief that areas north of that boundary would remain in an employment designation as proposed by Tualatin on December 16, 2015. As stated by Wilsonville Mayor Tim Knapp at a city council work session on March 20, 2017, "Our prior offer to set the boundary at the parkway is contingent on the rest of that agreement that has, apparently, disappeared.

## EXHIBIT A TO RESOLUTION 18-4885

So the proposal to put the boundary at the parkway is no longer operative.” Wilsonville Rebuttal Brief, Exhibit I, page 2.

Since 2016, Washington County has objected to changing the employment designation based on the county’s planning expectations and related transportation investments in the Basalt Creek Planning Area. The March 5, 2017 submittal from the Chair of the Washington County Commission states:

“Our position remains consistent with my letter to Mayor Ogden and members of the Tualatin City Council dated October 27, 2016, wherein I expressed the concerns of the Board of County Commissioners regarding potential increases in the amount of residential units proposed in the Tualatin side of the Basalt Creek Concept Plan. The County supports the planned employment uses in this area and has invested over \$65 million in the construction of the new 124<sup>th</sup> arterial to leverage future economic development in the area.”

A copy of the county’s October 27, 2016 letter is attached as Exhibit D. That letter provides, in relevant part:

“We believe this area to be prime future industrial land needed to support the regional economy. In 2013, Washington County, City of Tualatin, City of Wilsonville, and Metro acknowledged the Basalt Creek Transportation Refinement Plan. This plan identified transportation infrastructure needed to support this future industrial area. We have moved forward in support of this agreement with construction of the new 124<sup>th</sup> arterial to leverage future economic development. We believe that eliminating industrial land beyond what the latest concepts show would be a big mistake for the economic health of South County and counter to our agreement.”

The Basalt Creek Transportation Refinement Plan Recommendations from 2013, attached as Exhibit E, supports the assertion of Washington County that an important function of the planned Basalt Creek Parkway (also referred to as the SW 124<sup>th</sup> arterial) is “supporting industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas.” Exhibit E, page 2. This planning objective is also reflected in Metro’s 2014 Regional Transportation Plan (RTP), which describes the recommended alternative to the I-5/99W connector proposal as follows:

“The recommended alternative ... is based upon the principle that it is preferable to spread the traffic across three smaller arterials rather than one

## EXHIBIT A TO RESOLUTION 18-4885

large expressway. The analysis concluded this approach could effectively serve the traffic demand, would provide better service to urban land uses in the Tualatin/Sherwood area, especially industrial lands, and could be built incrementally based upon need to serve growth and revenue availability.”

“\* \* \* \* \*

“Since completion of the I-5/99W Connector Study, Washington County led the Basalt Creek Transportation Refinement Plan along with Metro, ODOT, and the Cities of Tualatin and Wilsonville. The purpose of this refinement plan was to determine the major transportation system to serve the Basalt Creek Planning Area. The plan sets the stage for land use concept planning and comprehensive plan development for the Basalt Creek area. The need to plan for the future transportation system was driven by future growth in the Basalt Creek area itself as well as almost 1000 acres of future industrial development targeted for surrounding areas.” 2014 RTP, pages 5-21 and 5-22.

The relevant transportation planning documents for the Basalt Creek Planning Area indicate that one reason for abandoning the I-5/99W connector proposal was to create a better plan for transportation connectivity for planned industrial development in the area. As noted by Washington County in its March 5, 2017 letter, a primary purpose of the \$65 million investment in the planning and development of the Basalt Creek Parkway is to support future economic development from planned employment areas in the Basalt Creek Planning Area. The City of Tualatin’s decision to add more residential land to the sizeable areas it has already planned for residential is not consistent with the county’s planning expectations and investment in the Basalt Creek Parkway arising out of the agreement reached by the local governments in the Basalt Creek Transportation Refinement Plan.

### **B. Consideration of the Cities’ Arguments**

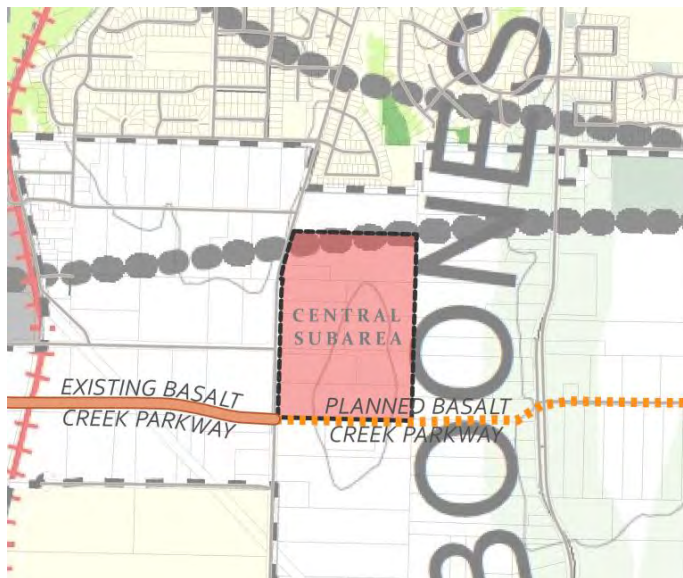
#### **1. Consistency with Condition of Approval on 2004 UGB Expansion**

The City of Tualatin contends that the Central Subarea must be designated for residential purposes under the condition of approval attached to the 2004 UGB expansion in Metro Ordinance 04-1040B. Tualatin asserts this is because the condition requires all areas north of the Basalt Creek Parkway to be designated “Outer Neighborhood.” However, the condition refers to the south alignment of the proposed I-5/99W connector and not to the Basalt Creek Parkway:

## EXHIBIT A TO RESOLUTION 18-4885

“2. Title 11 planning shall incorporate the general location of the projected right of way alignment for the I-5/99W connector and the Tonquin Trail as shown on the 2004 Regional Transportation Plan. If the selected right-of-way for the connector follows the approximate course of the ‘south alignment,’ as shown on the Region 2040 Growth Concept Map, as amended by the portion of the Tualatin Area that lies north of the right-of-way shall be designated ‘Outer Neighborhood’ on the Growth Concept Map; the portion that lies south shall be designated ‘Industrial.’” Metro Ordinance 04-1040B at Exhibit F, page 3.

The map below (also attached as Exhibit B) shows the location of the Central Subarea and the Basalt Creek Parkway overlaid on the 2040 Growth Concept Map from 2004 with the proposed north and south alignments for the I-5/99W connector. As shown on this map, the south alignment is located along the northern boundary of the Central Subarea.



**Figure 2: Central Subarea and Basalt Creek Parkway overlaid on Metro 2040 Growth Concept Map (2004 version)**

In reviewing the cities’ arguments on this issue, it is important to note that the I-5/99W connector concept was abandoned by the stakeholders in favor of spreading traffic across three smaller arterials. Therefore the two alternative connector alignments have been removed from the current 2040 Growth Concept Map. As a result, the significance of this condition of approval is limited, since the proposed connector will never exist. Tualatin contends that the Basalt Creek Parkway should be treated as if it were the connector because it “follows the approximate course” of the south alignment, consistent with the condition of approval. Therefore, Tualatin argues, the Parkway must serve as the buffer



## EXHIBIT A TO RESOLUTION 18-4885

between industrial development to the south and residential to the north, as stated in the Metro Council findings explaining the condition of approval:

“Second, the Council states that, so long as the alignment for the Connector falls close to the South Alignment shown on the 2040 Growth Concept Map, it will serve as the buffer between residential development to the north (the portion least suitable for industrial uses) and industrial development to the south (the portion of the area most suitable for industrial use).” Metro Ordinance 04-1040B at Exhibit G, pages 17-18.

However, the Basalt Creek Parkway and the previously proposed I-5/99W connector are not interchangeable facilities. As stated in the above-quoted portion of the 2014 RTP, the recommended alternative to the I-5/99W connector “is based on the principle that it is preferable to spread the traffic across three smaller arterials rather than one large expressway.” 2014 RTP, page 5-21.

More importantly, the location of the Basalt Creek Parkway is sufficiently south of the proposed connector’s south alignment that it cannot reasonably be considered the “approximate course” of that alignment. Tualatin argues that the distance is only approximately 1800 feet, or one-third of a mile. However, shifting the entire length of a proposed roadway project by one-third of a mile is not an insignificant change. Also, as pointed out by Wilsonville in its brief, the amount of acreage that would be changed from industrial to residential as a result of shifting the alignment that far south is significant – the residential acreage would increase from 110 acres to 380 acres. Wilsonville Rebuttal Brief at Exhibit F, page 2.

This highlights a flaw in Tualatin’s argument – if the condition of approval still applies as the city contends, and is interpreted so that the Basalt Creek Parkway is the equivalent of the I-5/99W connector and therefore must separate industrial uses to the south and residential to the north, then 100% of the approximately 200 acres of employment land in Tualatin’s portion of the planning area would need to be converted to residential. Wilsonville Rebuttal Brief at Exhibit H. This is an outcome that has never been contemplated by any party to this decade-long planning process, and would create further obstacles and disputes among the cities, county, and Metro regarding planning for the Basalt Creek area.

The part of the Metro Council’s 2004 UGB expansion findings regarding the location of the proposed south alignment that is more relevant today is that the Council identified the area north of the proposed alignment as being the least suitable for industrial use, and the

## EXHIBIT A TO RESOLUTION 18-4885

area to the south as being the most suitable for industrial use. As shown on the map above (and attached as Exhibit B), the location of that proposed alignment follows the northern boundary of the Central Subarea.

In conclusion, the 2004 condition of approval does not support Tualatin's argument that the Central Subarea must be designated for housing. However, the 2004 Metro Council findings do indicate that Metro's UGB expansion decision identified the area south of the proposed I-5/99W connector, including the Central Subarea, as "the area most suitable for industrial use."

### **2. Suitability for Industrial/Employment Development**

The primary reason stated by the City of Tualatin for changing the Central Subarea planning designation from employment to residential was that the area is too steep and too rocky to be developable for employment purposes. This issue was initially raised in testimony from a property owner in the Central Subarea, who hired OTAK to prepare and submit a request for an amendment to the concept plan that provides a bullet-point list of concerns, along with a slope analysis and a proposal for residential development in the subarea. The three concerns identified in the OTAK document are topography, access, and the fact that the subarea abuts the Basalt Creek Canyon. Tualatin Exhibit 108.

The property owner also submitted four one-page letters from development professionals at Brian Copton Excavating, Real Estate Investment Group, PacTrust, and Ken Leahy Construction stating that development of the Central Subarea for employment purposes would be "very difficult," "very inefficient," "uneconomic," and that the area is generally better suited for residential use due to its topography, rockiness, and access limitations. Wilsonville Brief, Exhibit H.

In response to this testimony, Washington County hired Mackenzie development group to undertake a study regarding the viability of employment uses in the Central Subarea. The study was completed in January of 2017 and provides a slopes map, an estimation of development area acreage for employment purposes, and a conceptual employment use concept plan. The Mackenzie report acknowledges that there are development constraints on the site, noting that nearly a third of the site consists of slopes greater than 10%, which are generally considered undevelopable for employment purposes. The report states that "of the 63 gross acres, approximately half of the site (about 37 acres) may be suitable for employment development, if slopes ranging above 5% to 10% can be mitigated." Wilsonville Brief Exhibit G, page 3. The report provides an employment use concept plan showing 40% developable area and approximately 315,000 square feet of building

## EXHIBIT A TO RESOLUTION 18-4885

area, and goes on to conclude that employment uses are viable in the Central Subarea, specifically for flex business park, office campus, manufacturing, and commercial support services.

The Mackenzie report includes two incorrect assumptions that undercut the evidentiary value of the report's concept plan and conclusions. First, Mackenzie mistakenly included the 11-acre property to the north of the Central Subarea as part of its study, and located two buildings and an access road in that location in its concept plan. That property has been agreed upon as a future residential area and is not part of the dispute between the cities. It also includes some of the flattest terrain in the area, so its inclusion in the Mackenzie study skews the conclusions regarding total developable area. Second, the Mackenzie concept plan shows a public road access point onto the Basalt Creek Parkway, which is not correct due to the limited access nature of that facility. However, the Mackenzie report does have evidentiary value in that it describes land suitability factors for employment development, identifies the locations of the best developable areas within the Central Subarea for employment purposes, and identifies types of employment uses that could be located in those areas.

After the Tualatin City Council directed staff to change the designation of the Central Subarea from employment to residential in February of 2017, the City of Wilsonville hired the engineering firm KPFF to undertake a study evaluating the feasibility of development for employment uses in the Central Subarea. The KPFF study provides a comprehensive evaluation of the site, including environmental constraints, slopes, rock location and excavation, grading, and site access. Based on that evaluation, the KPFF study identifies three different "schemes" for employment development of the Central Subarea. The three schemes offer differing intensities of development, based in part on the level of desired protection of open space areas in the northern portion of the site. Scheme A shows a total building area of 480,000 square feet, Scheme B shows a total building area of 594,800 square feet, and Scheme C shows a total building area of 781,350 square feet. The KPFF study concludes as follows:

"Various employment opportunities can be accommodated on the site from larger industrial facilities such as Building A to smaller craft industrial facilities such as Building E. The slope on the site is conducive to the stepped and smaller buildings such as Buildings E and C. These buildings could provide office space as well as smaller craft facilities that can include breweries, textiles, pottery and metal works. Not only will these facilities increase the employment opportunities in the area but they also fill a need for providing space to support local artists and craft industry. As indicated

## EXHIBIT A TO RESOLUTION 18-4885

in the three schemes there is flexibility on the site to use a variety of building types and footprints. This feasibility study has validated through the test fits that the area can be developed to increase employment opportunities in the region. As a result, other land uses were not analyzed for feasibility since the area is designated as a regional employment area.”

“The site does pose some grading challenges which will require the use of stepped foundations and retaining walls as indicated and discussed. This is not unexpected in the region and the use of retaining walls and stepped footings has been done in other projects locally as indicated by the included images. The cost for accommodating the grade changes is higher than if the project site were completely flat, but it is not out of line with development on similar types of sites. Infrastructure costs such as construction of new roadway and utilities are required for all greenfield sites and would be required to develop the feasibility study site regardless of the intended use.”  
Wilsonville Brief, Exhibit D, page 28.

Metro is presented with a situation where there is conflicting evidence in the record regarding the viability of employment uses in the Central Subarea. Metro’s decision on this issue must be based on substantial evidence in the record, which is legally defined as evidence a reasonable person would rely on in making a decision. In reaching that decision, Metro may consider the weight and credibility of the relevant conflicting evidence and decide which evidence it finds to be more persuasive in reaching its decision.

After reviewing all of the relevant evidence in the record, and evaluating its comparative weight and credibility, the greater weight of more credible evidence supports a conclusion that it is feasible to develop the Central Subarea for employment purposes. The evidence indicates that, although the Central Subarea may not be a likely candidate for a large industrial facility, there is sufficient developable area on the site for multiple buildings housing smaller employment uses, as depicted in the Mackenzie and KPFF studies, such as office, flex business park, manufacturing, and craft industrial.

The best evidence in the record regarding the viability of employment uses in the Central Subarea is the KPFF study, which provides an independent and highly credible professional analysis of potential employment uses on the site, and concludes that although there will be some challenges and costs associated with grading and excavation that would not exist if the site were totally flat, those costs are “not out of line with development on similar types of sites.” Wilsonville Brief, Exhibit D, page 28. The KPFF

## EXHIBIT A TO RESOLUTION 18-4885

study also provides photo examples of other projects in the Metro region where grading and retaining walls have been used to allow employment development in similarly sloped areas.

The property owner advocating for a residential designation has not provided a similarly thorough and independent professional study of the site. The OTAK materials provide topographic and slope maps that appear identical to those provided by Mackenzie and KPFF, and state the uncontested fact that the site contains slopes in excess of 10% and 25% that are unlikely to be developable. However, as noted in the Mackenzie study, those portions of the Central Subarea that contain slopes of less than 5% may be readily developed, as well as those areas between 5% and 10% with more significant grading. OTAK expressly agreed with this aspect of the Mackenzie analysis. Wilsonville Brief, Exhibit H, item #9. The Mackenzie and KPFF studies each show those locations where employment-related buildings may be developed, including areas with slopes up to 10%. The OTAK memorandum goes on to make two inconclusive statements regarding access and the presence of the Basalt Creek Canyon, which have little evidentiary value. Tualatin Brief, Exhibit 108.

The record includes four one-page letters from individuals in the construction and real estate professions, written at the request of the property owner, generally stating their opinions that the Central Subarea is not well suited for employment uses due to topography, rockiness, and limited access. None of these letters include or reference the type of detailed and site-specific evidence provided in the analysis undertaken by KPFF. Two of the letters state that large industrial or flex buildings would not be viable due to the size of their footprints, but do not appear to consider the types of smaller employment uses identified by KPFF and Mackenzie. The common theme of the letters is that development of the site for employment purposes will be expensive due to grading and excavation costs, followed by conclusions that those higher costs will make future development “inefficient” or “uneconomic,” but providing little or no direct evidence supporting those opinions.

Taking a step back, the question properly before the cities, and now Metro, is a *planning* question regarding what would be the best type of use in this particular location in the future, given the long-range plan for the area. The question is not whether the Central Subarea will be developed tomorrow, or even in the next three years, for employment purposes. Accordingly, testimony that raises potential concerns about site-specific development issues, and particularly economic feasibility, is necessarily less relevant in reaching a determination as to whether an employment designation is appropriate. In reaching a decision regarding a land use planning designation for future development, a

## EXHIBIT A TO RESOLUTION 18-4885

local government is not required to demonstrate that there is a particular development plan for the property that could occur immediately.

The KPFF study demonstrates that it is feasible for the Central Subarea to be developed for employment uses. The study acknowledges that it will be more challenging (and expensive) than if the area were flat, but states that the resulting costs are not out of line with existing development on similar sites. As noted by the City of Wilsonville in its brief, employment properties in the region that are easy to develop have largely been developed already, requiring developers and local governments to become more innovative and flexible regarding the siting of employment uses. The importance of local government flexibility was recognized by City of Tualatin planning staff when it concluded that the Central Subarea could be developed for employment uses: “While there are some hilly areas, the Manufacturing Park designation can be made flexible enough to include some smaller scale employment uses.” Wilsonville Rebuttal Brief, Exhibit G,

The property owner also submitted three letters from engineering and planning firm CES/NW that are of higher evidentiary value than the other materials relied upon by the City of Tualatin, in that the CES materials include a more objective and evidence-based analysis than letters that primarily state opinion-based conclusions. The first letter, dated February 10, 2017, raises similar issues regarding slopes and access points; however, it is primarily aimed at critiquing the Mackenzie concept plan, which as acknowledged above includes incorrect assumptions regarding access and developable acreage. Those errors are correctly pointed out in the CES letter.

Since the flaws in the Mackenzie plan are now known, and it has been essentially superseded by the more detailed (and accurate) KPFF study, the subsequent CES letter dated May 18, 2017 is more relevant because it provides a direct review of the KPFF study and conceptual development plan. The letter from CES focuses on the preferred Scheme B and makes an estimate regarding the amount of grading that would be required and the associated costs of that grading plus necessary retaining walls. Significantly, one conclusion of the CES letter is that “we feel the proposed grading plan is possible.” Tualatin Brief, Exhibit 113. Thus, the consultants hired by the property owner admit that it is *possible* for the Central Subarea to be graded for employment use. The issue posed by CES is not physical feasibility; it is how much it would cost. The CES letter estimates \$10.5 million for grading and \$1.2 million for retaining walls. However, the letter does not provide any evidence or conclusions regarding whether or why those expenses would render development of the site economically infeasible. This letter has evidentiary value

## EXHIBIT A TO RESOLUTION 18-4885

for the amount of money that could be required to grade the site, but not for a conclusion that grading costs would render development economically infeasible.

The question of economic feasibility is more directly addressed in the next letter from CES, dated July 20, 2017, the primary point of which is to compare residential development to employment development in the Central Subarea given its site constraints. But again, that letter stops short of saying that employment development is not feasible: “Add rock excavation at six to ten times the normal cost of grading to the excessive amount of grading required, and this property *may not be* economically feasible to develop.” Tualatin Brief, Exhibit 114 (emphasis added). This letter provides evidentiary support for the proposition that it will be more expensive to develop the Central Subarea for employment than residential, and that excavation and grading costs *could* make it economically infeasible. But it does not directly support the conclusion asserted by the City of Tualatin that developing the site for employment use “is not economically feasible.” Tualatin Brief, page 6.

In its brief, the City of Tualatin also challenges certain assumptions and conclusions in the KPFF study. Tualatin notes that all three potential development schemes depicted in the KPFF study “have office space as the predominant use, not industrial.” Tualatin Brief, page 11. Office space is an employment use and the debate here is about whether the site is appropriate for employment purposes, which of course could include industrial but are not limited to industrial. Tualatin also argues that the KPFF study concludes that “the area is useful, at best, for ‘split elevation’ office use.” Tualatin Brief, page 5. The City of Wilsonville provided the following response from KPFF engineer Matt Dolan, which more accurately describes the study’s conclusions: “To the contrary, the study suggests that a different building type could be utilized in areas with steeper slopes and does not suggest this approach for the entire area. All of the scenarios and building typologies imagined in the study support employment opportunities within the study area....” Wilsonville Rebuttal Brief, Exhibit K.

Tualatin also notes that the office buildings include “split elevations and access at varying levels to accommodate grade,” and then asserts “[a]s explained by an industrial/employment developer, stepped floors are not desired for industrial/employment development,” citing the PacTrust letter dated November 14, 2016. However, the PacTrust letter does not say anything about stepped floors being undesirable for employment development. The conclusion of the PacTrust letter is that “the topography of your site makes development of industrial or flex buildings uneconomic.” Tualatin Brief, Exhibit 115. Notably, the PacTrust letter does not say that the site topography

## EXHIBIT A TO RESOLUTION 18-4885

renders development infeasible for other smaller employment uses, such as the office or craft industrial buildings that are included in the KPFF development schemes.

Tualatin also contends that the KPFF proposed development schemes do not comply with Oregon Fire Code requirements regarding the allowable grade of an access road and a need for secondary access to the southern development area. These issues are adequately addressed in the response from the KPFF engineer, who notes that applicable TVFR requirements allow grades up to 15%, and that whether and where secondary access will be provided would be determined in consultation with TVFR at the time development is actually proposed. The KPFF memo also includes the following assessment:

“The discussion regarding economic feasibility does not seem pertinent or relevant to the determination of the long range planning goals for the area. If they are to be considered, a much more impartial and holistic approach would need to be applied to some sort of criteria that can equally evaluate long term economics for varying development scenarios. This is well beyond the scope of the feasibility study or any conclusions that could be extrapolated from the report and development scenarios envisioned.”

Wilsonville Rebuttal Brief, Exhibit K.

Tualatin also argues that the KPFF study is “biased” because KPFF purposely ignored the possibility of residential development on the site, and only studied the possibility of employment uses. Tualatin Reply Brief at 6. This argument ignores the statement on the first page of the KPFF report that the purpose of the study is to “ascertain whether the policy objective of employment uses is achievable in this subarea. Only if this investigation determines employment uses not to be feasible on this site will this analysis then consider feasibility of other land uses.” Wilsonville Brief, Exhibit D, page 1.

After reviewing all of the evidence in the record, and evaluating its comparative weight and credibility, the greater weight of more credible evidence supports a conclusion that it is feasible to develop the Central Subarea for employment purposes. Regarding credibility, this analysis cannot overlook the property owners’ monetary incentive to obtain a residential designation, which is more likely to provide a higher investment return than employment.

The evidence indicates that, although the Central Subarea may not be a likely candidate for a large footprint industrial facility, there is sufficient developable area on the site for multiple buildings housing smaller employment uses, as depicted in the Mackenzie and KPFF studies, such as office, flex business park, manufacturing, and craft industrial. This



## EXHIBIT A TO RESOLUTION 18-4885

conclusion is supported by the City of Tualatin staff report to the City Council dated November 28, 2016, which concludes: “After consideration of OTAK’s proposal and all of the above factors together, staff believes the central subarea can be developed for employment over the long-term. While there are some hilly areas, the Manufacturing Park designation can be made flexible enough to include some smaller scale employment uses.” Wilsonville Rebuttal Brief, Exhibit G.

### **3. Responding to the Housing Crisis**

The City of Tualatin contends that changing the planning designation for the Central Subarea to housing is an effective response to the regional housing crisis. Tualatin cites Metro materials that identify an urgent need to provide more affordable housing in the region, including the proposed 2018 affordable housing bond.

The Metro materials relied upon by the city describe an urgent need to address the current shortage of affordable housing in the region. As correctly noted by the City of Wilsonville, there is no evidence to support a conclusion that new homes constructed in the Central Subarea would fit any traditional definition of “affordability.”

More importantly, zoning the Central Subarea for residential use also would not address an immediate need for any type of housing. New residential development in this type of greenfield area takes a very long time, due in part to the need to plan, finance and construct all of the necessary infrastructure. Areas in Washington County that were added to the UGB in 2002 have only recently begun to actually be developed with housing. The long timelines associated with greenfield development do not lend themselves to addressing short-term housing needs. That will require development in existing urban areas that are already served by infrastructure.

Tualatin asserts that it has a shortage of land available for housing, based on its number of estimated dwelling units in Metro’s 2015 Buildable Land Inventory (BLI). However, the BLI is an inventory, not a housing needs analysis. In the absence of any information regarding the city’s projected population growth and corresponding future housing needs, an inventory does not support a conclusion that there is a need for housing. Tualatin’s brief does not refer to a local housing needs analysis under Goal 10, and it is not clear if the city has a current acknowledged housing needs analysis.

Tualatin’s argument that adding housing in the Central Subarea is necessary in order to provide housing for workers in the Basalt Creek area is unsubstantiated. Data gathered by Metro regarding work commutes at the intra-county level suggest that decisions regarding where to live are influenced by many other factors besides proximity to work.

## **EXHIBIT A TO RESOLUTION 18-4885**

Exhibit F. Locating housing near an employment area does not guarantee that people will choose to live and work in the same area. Also, the high costs of infrastructure for new residential construction in this greenfield area will likely result in home costs exceeding the available income of most individuals working in nearby industrial jobs.

### **C. Conclusion**

Metro identified the Central Subarea as viable industrial and employment land and included it in the UGB for that purpose. It has a regional Industrial designation under Title 4 of Metro's functional plan. The area is close to Interstate 5, has good existing and planned transportation infrastructure, including the Basalt Creek Parkway, consists of relatively large parcels, and is in close proximity to other areas planned and developed for employment uses. As described above, the weight of more credible evidence in the record supports a conclusion that an employment designation remains appropriate for the Central Subarea, and that the area should be planned accordingly by the cities.

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EXHIBIT A**

**INTERGOVERNMENTAL AGREEMENT  
BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF  
TUALATIN AND WILSONVILLE SEEKING A BINDING NON-APPEALABLE  
DECISION FROM METRO CONCERNING ONE AREA, THE CENTRAL SUBAREA,  
OF THE BASALT CREEK PLANNING AREA**

This Intergovernmental Agreement (IGA) is entered into by the following parties: Metro, a metropolitan service district organized under the laws of the State of Oregon (hereinafter referred to as "Metro"), Washington County, a political subdivision in the State of Oregon (hereinafter referred to as "County"), and the City of Tualatin ("Tualatin") and City of Wilsonville ("Wilsonville"), incorporated municipalities of the State of Oregon (hereinafter referred to as "Cities").

Whereas, in 2004 the Metro Council added two areas, known as the Basalt Creek and West Railroad Planning Areas, located generally between the Cities, to the Urban Growth Boundary (UGB) via Metro Ordinance No. 04-1040B; and

Whereas, Metro conditioned that these UGB expansion areas undergo Title 11 concept planning, as defined in Metro Code Chapter 3.07, cited as the Urban Growth Management Functional Plan (UGMFP); and

Whereas, County and Cities agreed to consider the Basalt Creek and the West Railroad areas in a single concept planning effort and to refer to the two areas generally as the Basalt Creek Planning Area; and

Whereas, located within the Basalt Creek Planning Area is a distinct subarea consisting of the following parcels identified by Washington County tax lot identification: 2S135CB00400, 2S135CB00500, 2S135CC00300, 2S135CC00100, 2S135CC00800, 2S135CC00900, 2S135CC00500, 2S135CC00600, 2S135CC00700, as reflected in Exhibit 1, attached hereto and incorporated by reference herein, which subarea is hereafter referred to as the "Central Subarea"; and

Whereas, in 2011, Metro, County, and Cities entered into an Intergovernmental Agreement (2011 IGA) for concept planning the Basalt Creek Planning Area; and

Whereas, in 2013, Metro, County, and Cities entered into the First Addendum to the 2011 IGA, acknowledging the Basalt Creek Transportation Refinement Plan; and

Whereas, in 2013, Cities began concept planning the Basalt Creek Planning Area; and

Whereas, a disagreement has arisen with respect to what the land use designation should be for the Central Subarea; and

Whereas, Tualatin wants the land use in the Central Subarea to be designated for housing; and

**EXHIBIT A TO RESOLUTION 18-4885**  
**EXHIBIT A**

Whereas, Wilsonville wants the land use in the Central Subarea to be designated for employment; and

Whereas, representatives from the Cities jointly met with County representatives in an attempt to identify a process to move forward and complete the Basalt Creek land use Concept Plan map, but were unable to do so; and

Whereas, the governing bodies for the Cities and County agreed to ask Metro to settle the dispute and to make a final, binding, non-appealable decision on the sole issue of designation of the land use for the Central Subarea; and

Whereas, Metro has agreed to accommodate this request, based on the Cities' joint assertion that they cannot agree, with the clear understanding that this is not a role Metro intended, wanted, or asked for itself, but is willing to take on at the request of the Cities and the County;

Now, therefore, incorporating the above Recitals as if fully set forth below, the Cities, County, and Metro agree as follows:

**1. FINAL BINDING AND NON-APPEALABLE DECISION BY METRO**

Metro will act as the decision-maker to resolve the issue of the land use designation for the area known as the Central Subarea. In that capacity, Metro will have sole discretion to determine what to call this decision making process, where and when to hold the process, who Metro will appoint to make the decision, a briefing schedule, whether or not to hear oral argument, and ground rules that must be adhered to by the Cities and County throughout the process. Metro may require the Cities and County to sign ground rules and decision protocol, as determined solely by Metro. Once designated by Metro, the Parties agree that the Central Subarea will be designated in the final Concept Plans and in the Urban Planning Area Agreement between the Parties, as determined by Metro.

**2. CITIES AND COUNTY AGREEMENT**

The Cities agree to follow whatever decision-making process and rules are created by Metro, including timelines for submitting evidence and argument. The County may participate and advocate for its preference or may elect to be neutral. Cities and County agree that Metro's decision will be binding and non-appealable by any of them and, once made, all of their respective governing bodies and staff will support the decision to move the Basalt Creek Planning effort to completion without delay and in accordance with the decision of Metro. Each City agrees that it will prepare concept plans for the Basalt Creek Planning Area consistent with Metro's final decision and with Title 11 of Metro's Urban Growth Management Functional Plan. Each City agrees to adopt a resolution accepting the concept plan, reflecting the Metro decision, within 120 days after the date Metro's decision becomes final and effective and finalize their respective comprehensive plans to include that concept plan within one year of the Metro decision. Cities and County further agree that if the designation is appealed by any third party, each will vigorously defend and support the decision and will not support or assist in the

**EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A**

decision and will not support or assist in the appeal of the designation determined by Metro through this process. At the conclusion of Metro's decision, a binding agreement will be signed by all Parties to this effect, with any future disputes or violations with respect to the agreement to be resolved in accordance with the specified requirements of that binding decision. Hereafter the Parties will work in good faith to reach agreement on all other issues so that the final Concept Plans and Urban Planning Area Agreement can be finalized.

This Agreement is effective the 22<sup>nd</sup> day of January, 2018.

Exhibit 1 – Map

**CITY OF WILSONVILLE, OREGON**

By:   
Tim Knapp  
As Its: Mayor

Date: 12/27/2017

ATTEST:

By: 

*[Signatures continue on following pages]*

**EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A**

CITY OF TUALATIN, OREGON

By:   
\_\_\_\_\_

Lou Ogden

As Its: Mayor

Date: 12-11-2017

ATTEST:

By:   
\_\_\_\_\_

*[Signatures continue on following pages]*

EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A

WASHINGTON COUNTY, OREGON

By: Andy Duyck  
Andy Duyck  
As Its: Chair, Board of County Commissioners  
Date: 1-4-2018

ATTEST:

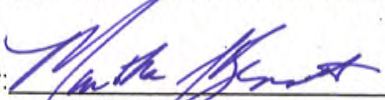
By: A. D. Napf

APPROVED WASHINGTON COUNTY  
BOARD OF COMMISSIONERS  
MINUTE ORDER # 17-351  
DATE 12-19-2017  
BY A. D. Napf  
CLERK OF THE BOARD

*[Signatures continued on following page]*

EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A

ACCEPTED AND AGREED TO BY METRO:

By:   
Martha Bennett  
As Its: Chief Operating Officer

Date: 4/22/18

ATTEST:

By: 



EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A

Exhibit 1: Central Sub Area

TUALGIS

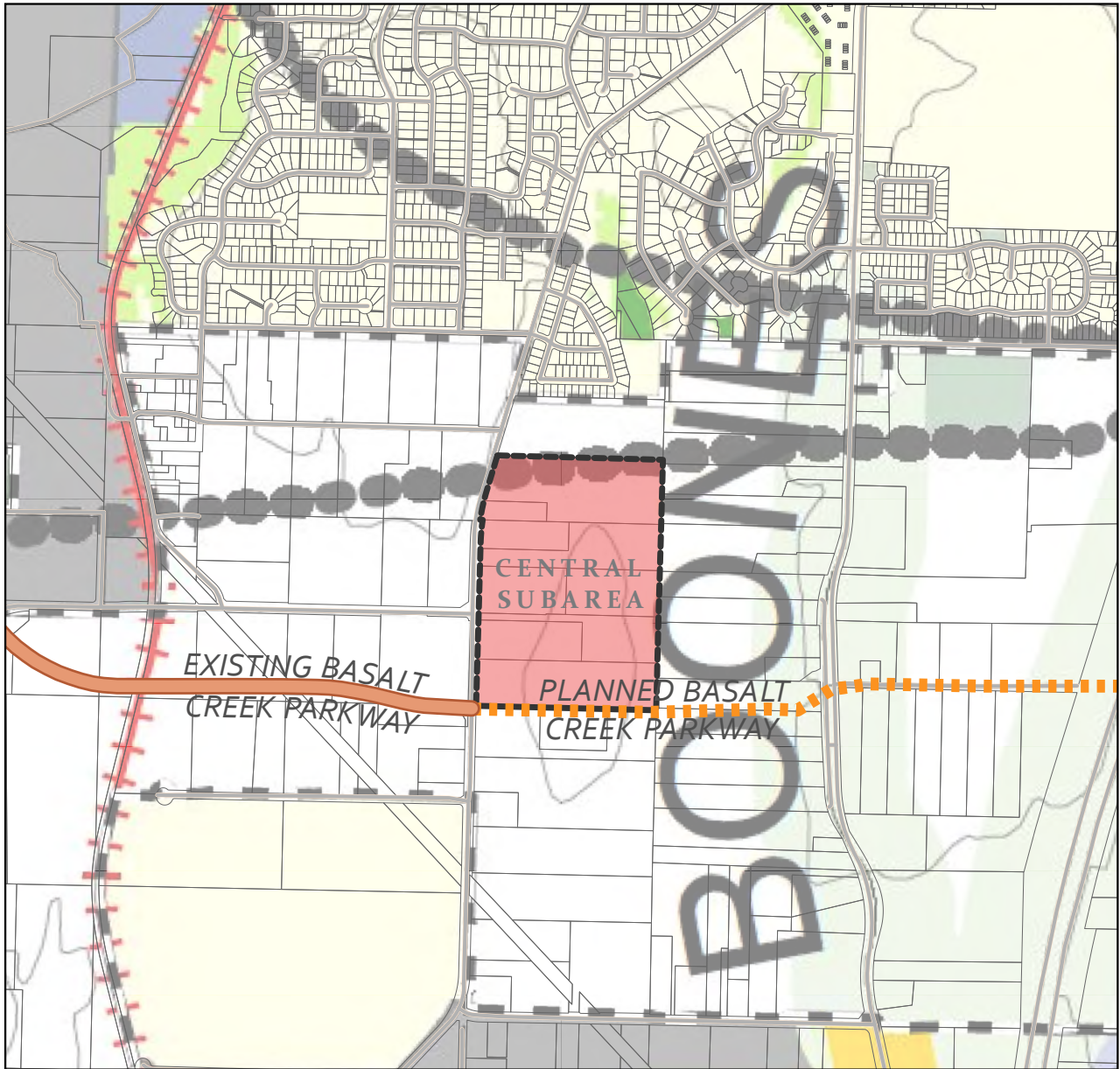


 Central Sub Area



This map is derived from various digital database sources. While an attempt has been made to provide an accurate map, the City of Tualsis, OR assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is".

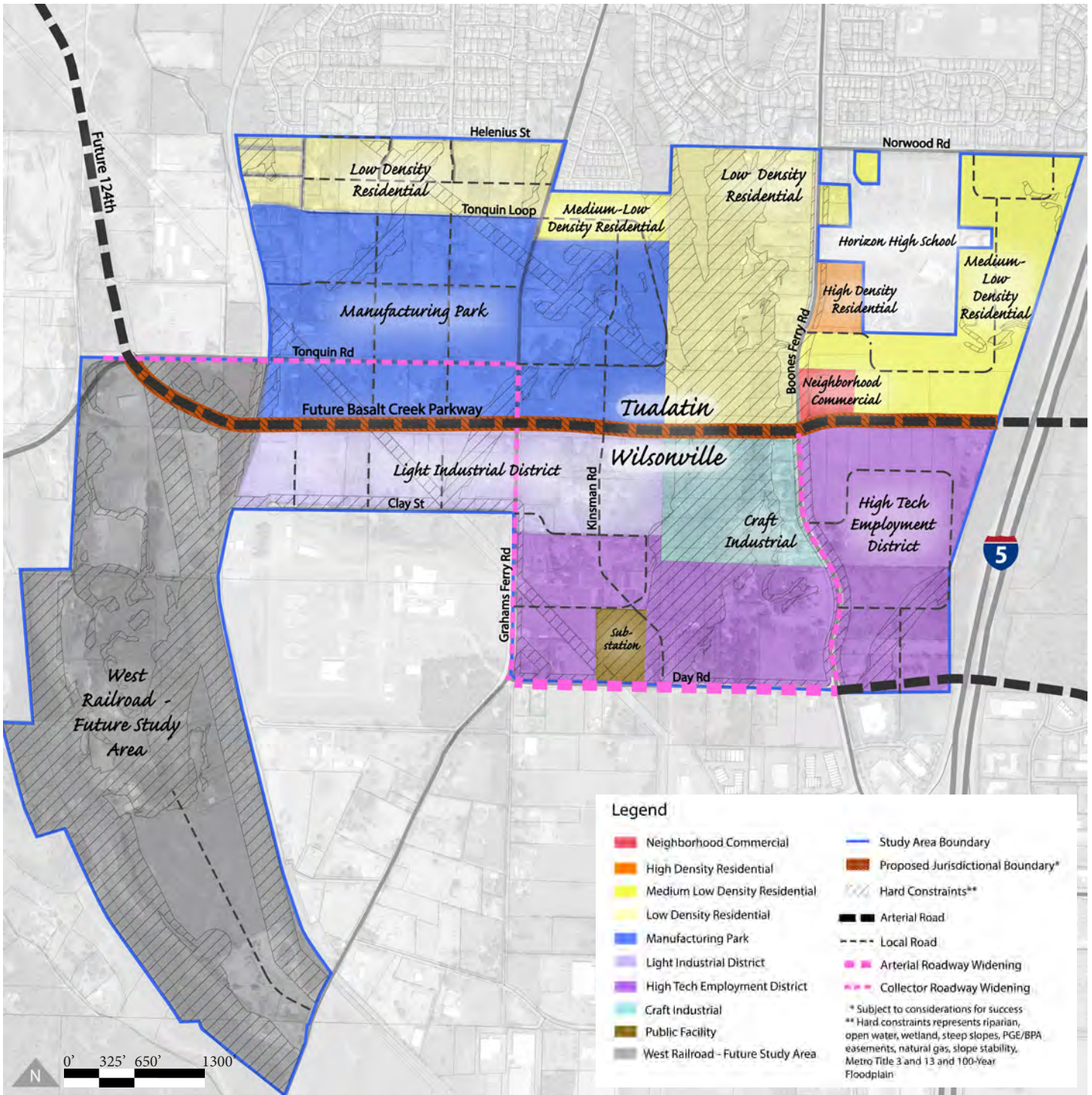
EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT B



Central Subarea and Basalt Creek Parkway  
overlaid on 2040 Growth Concept Map

EXHIBIT A TO RESOLUTION 18-4885

EXHIBIT C



Basalt Creek Land Use Concept Map

DRAFT September 16, 2016

**EXHIBIT A TO RESOLUTION 18-4885**

**EXHIBIT D**



**WASHINGTON COUNTY  
OREGON**

October 27, 2016

Mayor Ogden  
Tualatin City Council  
18880 SW Martinazzi Ave,  
Tualatin, OR 97062

Dear Mayor Ogden and Members of the Tualatin City Council:

I am writing to express concerns to the Board of County Commissioners regarding potential increases in the amount of residential units proposed in the Tualatin side of the Basalt Creek Concept Plan.

We believe this area to be prime future industrial land needed to support the regional economy. In 2013, Washington County, City of Tualatin, City of Wilsonville, and Metro acknowledged the Basalt Creek Transportation Refinement Plan. This plan identified transportation infrastructure needed to support this future industrial area. We have moved forward in support of this agreement with construction of the new 124<sup>th</sup> arterial to leverage future economic development. We believe that eliminating industrial land beyond what the latest concepts show would be a big mistake for the economic health of South County and counter to our agreement.

Our IGA calls for the Cities to coordinate with the County in developing a concept plan for the Basalt Creek area. After the concept plan is complete, we can amend our Urban Planning Area Agreement to include this area, which is necessary for annexations to occur. This area is currently not included in our Urban Planning Area Agreement with Tualatin.

The City needs to be reminded the Basalt Creek Planning area is not currently within our Urban Planning Area Agreements. We believe Washington County is a partner in the planning of this area and would like to weigh in before any decision is made or report accepted that would substitute more residential units for employment areas.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Duyck". The signature is fluid and cursive.

Andy Duyck, Chairman  
Washington County Board of Commissioners

c: Andrew Singelakis, Director, Land Use & Transportation

**Board of County Commissioners**  
155 N. First Avenue, Suite 300, MS 22 Hillsboro, OR 97124-3072  
Phone: (503) 846-8681 Fax: (503) 846-4545

# Basalt Creek Transportation Refinement Plan Recommendations

## Introduction

The Basalt Creek transportation planning effort analyzed future transportation conditions and evaluated alternative strategies for phased investments that support regional and local needs.<sup>1</sup> This document reflects the Policy Advisory Group’s unanimous approval of the transportation investments, next steps for policy and plan updates, and potential funding strategies described in this document.

## Purpose

The purpose of this refinement plan was to determine the major transportation system connecting Tualatin-Sherwood Road to I-5 in North Wilsonville through the Basalt Creek Planning Area, which is currently an unincorporated urban area of Washington County between the cities of Tualatin to the north, and Wilsonville to the south (see Figure 1). This plan refines recommendations from the I-5/99W Connector Study and the Regional Transportation Plan, setting the stage for land use concept planning and comprehensive plan development for the Basalt Creek area.

## Planning Context

The need to plan for the future transportation system in the Basalt Creek area is driven not only by future growth in the Basalt Creek Planning area itself, but by future growth in surrounding areas targeted for industrial development. Basalt Creek currently lacks the multi-modal transportation facilities needed to support economic and urban-level development. Several planning

The Basalt Creek Transportation Refinement Plan was a joint effort involving:

- Washington County
- City of Tualatin
- City of Wilsonville
- Metro
- The Oregon Department of Transportation
- Area Citizens

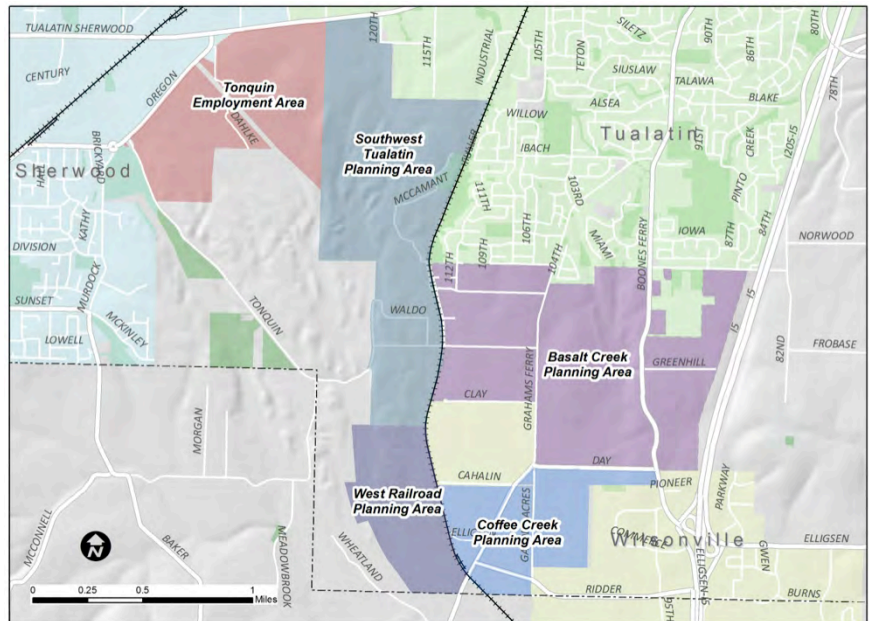


Figure 1: Basalt Creek Planning Area Location

<sup>1</sup> See *Basalt Creek Transportation Refinement Plan Technical Report* for more information.

## EXHIBIT A TO RESOLUTION 18-4885 EXHIBIT E

January 2013

efforts, summarized below, provide background and context for the Basalt Creek Transportation Refinement Plan.

- The **I-5/99W Connector Study** recommended an alternative that spreads east-west traffic across three smaller arterials rather than a single expressway. Although specific alignments for these arterials were not defined, the eastern end of the Southern Arterial was generally located within the Basalt Creek Planning Area, south of Tonquin Road. The present planning effort aims to further define the location of the connection between the SW 124<sup>th</sup> Avenue Extension and the I-5/Elligsen interchange in a manner that does not preclude the future Southern Arterial west of SW 124<sup>th</sup>.
- The **2035 Regional Transportation Plan (RTP)** calls for detailed project planning and near-term construction of an extension of SW 124<sup>th</sup> Avenue from Tualatin-Sherwood Road to the I-5/Elligsen Road interchange, supporting industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas. The RTP also calls for the near-term construction of the Tonquin Trail (see below).
- The **Tonquin Employment Area, Southwest Tualatin Concept Planning Area, and Coffee Creek Planning Area** together comprise about 1,000 acres surrounding the Basalt Creek area that are planned primarily for industrial use. These areas are expected to generate growing freight and work-related travel demands on the multi-modal transportation network that runs through the Basalt Creek area.
- The **SW 124<sup>th</sup> Avenue Extension** Project, currently underway, is planning and designing the corridor described in the RTP from Tualatin-Sherwood Road to Tonquin Road. The present planning effort aims to extend the corridor to I-5 as envisioned in the RTP and ensure consistency with current SW 124<sup>th</sup> Avenue project.
- Washington County's **Boones Ferry Road** improvement project, also currently underway, provides pedestrian and bicycle improvements and an intermittent center turn lane between Norwood Road and Day Road. It is an assumed improvement for the Basalt Creek area.
- Near-term construction of the **Tonquin Trail** is called for in the RTP. The master plan identifies an alignment for new bicycle and pedestrian connections between Sherwood, Tualatin, and Wilsonville, with connections to the larger regional trail system. The Tonquin Trail will travel through the Southwest Tualatin Concept Plan Area and the Tonquin Employment Concept Plan Area, and is an assumed improvement within the Basalt Creek Transportation Refinement Plan.
- **Transportation System Plan** updates for Washington County, Tualatin, and Wilsonville are currently underway. Washington County will incorporate recommendations from this refinement plan into the County TSP update. The cities of Tualatin and Wilsonville will not incorporate these recommendations into their current TSP updates, but will carry the recommendations into land use concept planning and future TSP updates.

# EXHIBIT A TO RESOLUTION 18-4885

## EXHIBIT E

January 2013

### Facility Considerations and Characteristics

At the outset of this effort, agencies articulated a set of considerations to guide selection of the preferred transportation system as well as preferred characteristics of the primary east-west facility through the area.

- **Guiding considerations** included: ability to fund and phase improvements, level of impacts (environmental, right-of-way, etc.), support for development, consistency with regional policy, and traffic operations performance.
- **Facility characteristics** included: for the primary arterial connection, a 45 mph prevailing speed and access spacing of one-half mile to one mile to improve capacity.

### Recommendation

The Policy Advisory Group (PAG), which consists of elected officials and key staff from the project's five partner agencies, recommends the following elements as part of an overall Action Plan (illustrated in Figure 2) for the area.

#### Roadways

The final recommendation is for a combination of new and improved roadways through the Basalt Creek area. The key new roadway through the area is a five-lane east-west extension of SW 124<sup>th</sup> Avenue, aligned south of Tonquin Road and extending east to Boones Ferry Road. The recommendation also includes improvements to existing roadways in the area, such as Tonquin Road, Grahams Ferry Road, Boones Ferry Road, and Day Road.

Protection of right-of-way for the new east-west roadway from the 124<sup>th</sup> Avenue extension to Boones Ferry Road is a key element of this recommendation. Right-of-way protection and purchase will be addressed separately, concurrent with the Basalt Creek land use concept planning.

During the planning process, the City of Wilsonville expressed concern about the structural condition of Day Road (i.e., failing roadway base and resulting pavement deterioration) and its ability to carry freight traffic for further development of industrial lands. While the Basalt Creek Transportation Refinement Plan focused on roadway needs related to capacity, the PAG agreed that the function of the arterial network in the Basalt Creek area includes providing roadways with adequate structural design for regional freight needs. Therefore, the PAG agreed that the project recommendations include a commitment to address the construction, operations, and maintenance of the arterial network through the concept planning process.

#### Overcrossings

The ability to construct two new I-5 overcrossings, including an off-street multi-use path, should be preserved in order to provide for future circulation and connectivity across the Basalt Creek area and into areas east of I-5. These overcrossings are recommended as long-term improvements and are likely not needed until 2035 or later. Forecasts show that the second overcrossing is not needed unless surrounding urban reserve areas east of I-5 and south of I-205 are developed. This refinement plan is neutral on the timing of urban reserves development, and therefore does not specify the timing and order of overcrossing improvements.

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## Active Transportation

All improved roadways in the Action Plan include bike lanes and sidewalks consistent with Washington County urban standards. This recommendation also includes integration of the regional Tonquin Trail into the transportation network. Metro, in close coordination with the cities of Tualatin, Wilsonville, Sherwood, and Washington and Clackamas counties, led the master planning effort that identified a preferred alignment that travels through the Basalt Creek Planning Area. Roadway cross-sections and right-of-way purchases for the future east-west facility will consider needs for the Tonquin Trail in the design for the railroad overcrossing and improvements to Tonquin Road between Morgan Road and Tonquin Loop Road. Design for the east-west facility should also consider providing an off-street multi-use path that connects to the Tonquin Trail and extends east of I-5. Details of how this multi-use path will be integrated with the east-west facility design will be refined during later land use concept planning.

## Action Plan

The recommended Action Plan consists of 18 transportation investments, shown in Figure 2. Timing of projects was prioritized through an analysis of likely transportation needs in 2020, 2030, and 2035 based on growth assumptions from the adopted Regional Transportation Plan. Because of uncertainty regarding the years during which development in the Basalt Creek Planning Area and surrounding areas will occur, phasing for investments is classified as short-term, medium-term, and long-term. Descriptions of these investments, as well as timing and the funding needed, are shown in Table 1. Cost estimates include right-of-way.



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**Table 1: Basalt Creek Action Plan**

ID	Project	Short-Term	Medium-Term	Long-Term	Cost (\$2012)
1	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Construct three lane road extension with bike lanes and sidewalks	x			\$20,000,000
2	Tonquin Road (124 <sup>th</sup> Avenue to Grahams Ferry Road): Widen to three lanes with bike lanes and sidewalks, grade separate at railroad, improve geometry at Grahams Ferry Road <sup>1</sup>	x			\$10,500,000
3	Grahams Ferry Road (Tonquin Road to Day Road): Widen to three lanes with bike lanes and sidewalks	x			\$5,400,000
4	Boones Ferry Road (Norwood Road to Day Road): Widen to three lanes with bicycle and pedestrian improvements	x			\$10,800,000
5	124 <sup>th</sup> Avenue/Tonquin Road Intersection: Signal (may include Tonquin Trail crossing)	x			-. <sup>2</sup>
6	Grahams Ferry Road/Tonquin Road Intersection: Signal	x			\$500,000
7	Boones Ferry Road/Day Road Intersection: Add second southbound through approach lane	x			-. <sup>3</sup>
8	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Construct dual left-turn and right-turn lanes; improve signal synchronization, access management and sight distance	x			\$2,500,000
9a	Tonquin Trail (Clackamas County Line to Tonquin Loop Road): Construct multi-use trail with some segments close to but separated from road	x			\$8,900,000 <sup>4</sup>
9b	Tonquin Trail (Tonquin Loop Road to Tualatin-Sherwood Road): Construct multi-use trail with some segments close to but separated from road		x		\$7,100,000 <sup>4</sup>
10	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Widen from three to five lanes with bike lanes and sidewalks		x		\$14,000,000
11	East-West Arterial (124 <sup>th</sup> Avenue to Boones Ferry Road): Construct 5 lane roadway with railroad and creek crossings, integrate segment of Tonquin Trail <sup>5</sup>		x		\$57,900,000
12	Boones Ferry Road (East-West Arterial to Day Road): Widen to five lanes with bike lanes and sidewalks		x		\$1,100,000
13	Kinsman Road Extension (Ridder Road to Day Street): Construct three lane road extension with bike lanes and sidewalks		x		\$10,400,000
14	Day Road (Kinsman Road to Boones Ferry Road): Widen to five lanes with bike lanes and sidewalks		x		\$5,800,000
15	I-5 Southbound off-ramp at Boones Ferry Road/Elligsen Road: construct second right turn lane		x		\$500,000
16	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Access management		x		-. <sup>6</sup>
17	Day Road Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Elligsen Road			x	\$33,700,000- \$44,100,000 <sup>7</sup>
18	East-West Arterial Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Stafford Road. Integrate multi-use path in corridor that connects to Tonquin Trail			x	\$38,000,000
<b>TOTAL</b>		<b>\$59M</b>	<b>\$97M</b>	<b>\$72-82M</b>	<b>\$228-238M</b>

<sup>1</sup> Grade separation for Tonquin Road is optional. An at-grade crossing would reduce cost by around \$2,000,000

<sup>2</sup> Cost included in Project 1

<sup>3</sup> Coordinate with Project 4. Cost of approach lane included in estimate for Project 12

<sup>4</sup> Tonquin Trail cost estimated by Metro as part of trail planning effort

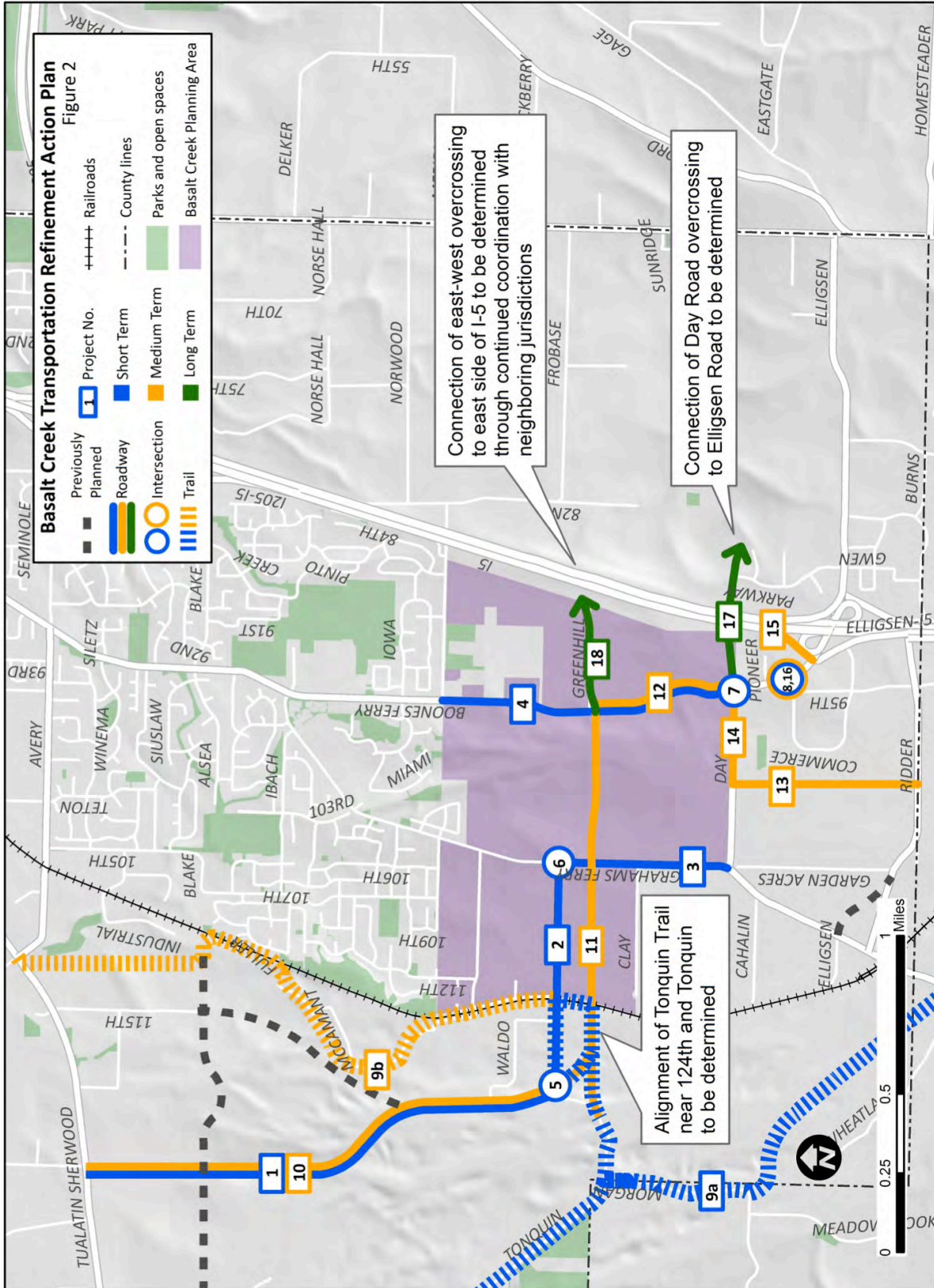
<sup>5</sup> Project 11 can potentially be built in two phases funded separately, west and east of Grahams Ferry Road. However, traffic benefits needed in the medium term (around 2030) will not be realized unless entire project is completed

<sup>6</sup> Project details to be determined by further coordination between City of Wilsonville and ODOT. Cost expected to be minimal

<sup>7</sup> Specific alignment approaching Elligsen Road will determine project cost. Alignment to Parkway Center Drive is estimated at \$33,700,000, and alignment to Canyon Creek Road is estimated at \$44,100,000

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Each investment adds important improvements to the major transportation system in the Basalt Creek area to support future development, adding new multimodal facilities and upgrading existing facilities to urban standards. Although not shown on the map, it is expected that future concept planning will identify locations for additional, lower-classification roads and other transportation facilities to serve future development as well.

### Are these new projects?

While cost estimates for the entire recommendation may total as high as \$238,000,000, all of the 18 projects have some relation to investments already planned in the adopted RTP. Table 2 shows projects from the RTP that have overlap or similarity to projects contained in the Action Plan. **Note that many of these projects are different in scope from those contained in the Action Plan, and will have different cost estimates. Future RTP updates may include updated cost estimates from this study.**

**Table 2: Related projects from the Regional Transportation Plan**

RTP ID	RTP Project	Related Action Plan Projects	Time Period	Cost (\$2007)
10736	124 <sup>th</sup> Avenue: Construct new street from Tualatin-Sherwood Road to Tonquin Road: 5 lanes	1,5,10,11	2008-2017	\$82,500,000
10590	Tonquin Road: Realign and widen to three lanes with bike lanes and sidewalks (Oregon Street to Grahams Ferry Road)	2,6	2018-2025	\$28,406,000
10588	Grahams Ferry Road: Widen to three lanes, add bike/pedestrian connections to regional trail system and fix undersized railroad crossing (Helenius Street to Clackamas County line)	3	2008-2017	\$28,000,000
10732	Boones Ferry Road: Widen to five lanes (Norwood Road to Day Road)	4,7,12	2018-2025	\$40,050,000
10852	95 <sup>th</sup> /Boones Ferry/Commerce Circle Intersection Improvements	8,16	2008-2017	\$2,500,000
10854	Tonquin Trail: Construct multi-use trail with some on-street segments (Tualatin-Sherwood Road to Clackamas County line)	9a,9b	2008-2017	\$3,000,000
10853	Kinsman Road extension with bike lanes and sidewalks (Ridder Road to Day Road)	13	2008-2017	\$6,500,000
11243	Day Road reconstruction to accommodate trucks (Grahams Ferry Road to Boones Ferry Road)	14	2008-2017	\$3,200,000
11342	I-5/99W Connector Southern Arterial/I-5 Interface <sup>1</sup>	15,17,18	2026-2035	\$50,000,000

<sup>1</sup> Construction of projects specifically related to the I-5/99W Connector Southern Arterial, such as the I-5 interface, are contingent on certain project conditions being met. See Regional Transportation Plan for details.

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### Policy and Plan Updates

Recommendations in this plan allow new concept planning efforts to move forward and provide guidance for updates of existing transportation plans.

### Basalt Creek and West Railroad Area Concept Planning

The transportation system recommended in this plan becomes the framework for more detailed land use concept planning of the Basalt Creek Planning Area and West Railroad Planning Area by the cities of Tualatin and Wilsonville. Key recommendations to be carried forward during concept planning include:

- Protection of the major transportation facility corridors from development encroachment.
- Coordination of the local transportation system with the transportation investments included in this plan (unless amended by the parties of this study). Each roadway in the Basalt Creek area has access spacing standards that protect the safety and operations of the system, and these standards help determine appropriate local street connections. The new east-west facility is limited to accesses at 124<sup>th</sup> Avenue, Grahams Ferry Road, and Boones Ferry Road.
- Detailed concept planning in the Basalt Creek area should consider multi-use path connections to the Tonquin Trail that emphasize directness and minimize conflicts, enhancing bicycle and pedestrian access to new residential and employment areas. In the West Railroad area, concept planning will also include sections of the Tonquin Trail.

### Regional Transportation Plan

In many cases, this transportation refinement plan provides new detail and cost estimates for projects that are already in the adopted RTP. These refined project descriptions, cost estimates, and timing considerations should be considered when projects are forwarded to Metro for the next RTP update. Examples of RTP projects that overlap with projects in this refinement plan include:

- 10590 (Tonquin Road). Action Plan project #2 includes a grade-separated railroad crossing, which is not included in the RTP project description.
- 10852 (95<sup>th</sup>/Boones Ferry/Commerce). Action Plan projects 8 and 16 will require further coordination with ODOT to determine geometry and timing of intersection improvements.
- 11243 (Day Road). Action Plan project #14, which widens part of Day Road, should also upgrade the roadway structure and pavement conditions to accommodate increasing heavy truck volumes. Although project #14 applies only to the section of Day Road between Kinsman Road and Boones Ferry Road, funding of roadway reconstruction between Kinsman Road and Grahams Ferry Road should also be discussed as part of land use concept planning.
- 10854 (Tonquin Trail). Action Plan projects #2, #5, #11 all need to consider Tonquin Trail in their design, including most recent alignment information and cost estimates from the trail master plan.

### Washington County TSP Update

Most of the projects included in the Action Plan are new facilities in unincorporated Washington County or improved facilities already under County jurisdiction. An amendment to update the Washington County TSP will be done in 2013 to incorporate the descriptions, cost estimates, and timing of these projects.

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### Tualatin and Wilsonville TSP Updates

The Cities of Tualatin and Wilsonville are also currently updating their transportation system plans. However, because concept planning for Basalt Creek will include agreement on the future city limit boundary between the two cities, as well as more detailed transportation network considerations, the projects included in this plan will not be incorporated as part of the current TSP updates. Future TSP updates may reflect elements from this refinement plan by amending project lists, maps, and funding strategies.

### Funding

Funding for some short-term Action Plan projects has already been programmed by Washington County through their Major Streets Transportation Improvement Program (MSTIP). This includes \$16.9 million (\$10.9 million in MSTIP funding and \$6 million from other sources) for an interim two-lane extension of SW 124<sup>th</sup> Avenue from Tualatin-Sherwood Road to Tonquin Road. It also includes an additional \$10 million for right-of-way purchase or other improvements from the list identified by this Plan. Washington County has also provided \$11 million in funding for the current Boones Ferry Road improvement project.

While this recommendation does not identify a specific overall funding strategy for the Action Plan, there are many existing revenue sources that may be used to fund the recommended investments.

**Many are subject to a state or regionally competitive process where success can hinge on having a broadly supported plan in place.**

The revenue sources listed below form the basis of the financially constrained Regional Transportation Plan and related project list, which already contains many of the recommended Basalt Creek investments. The RTP assumes federal, state, and local sources, all of which will be key to funding the Action Plan.

### Federal

Based on MAP-21<sup>2</sup> legislation, sources may include:

- **National Highway Performance Program (NHPP).** These funds are intended for rehabilitation and expansion of principal arterials, especially those with important freight functions.
- **Regional Surface Transportation Program (STP) funds.** These funds may be used for virtually any transportation purpose short of building local residential streets.
- **Congestion Mitigation/Air Quality (CMAQ) funds.** These funds typically support biking, walking, and transit projects, and other projects that help to achieve air quality standards.
- **Transportation Alternatives (TA) funds.** TA takes the place of previous programs such as Transportation Enhancements and Recreational Trails, and may be used to fund a variety of non-motorized projects.

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<sup>2</sup> For more information see <http://www.fhwa.dot.gov/map21/>

## EXHIBIT A TO RESOLUTION 18-4885 EXHIBIT E

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These funds are allocated to projects through a state or regionally managed competitive process for inclusion in the Metropolitan Transportation Improvement Program (MTIP) and the State Transportation Improvement Program (STIP).

### State

State sources include the statewide gas tax, vehicle registration fees, and weight-mile taxes on trucks. These funds typically go to road and bridge maintenance projects, but funding for projects of regional significance, such as those provided by Oregon House Bill 2001 Jobs and Transportation Act (JTA), may be made available for modernization. Again, having a plan in place allows projects to access funds when new funding opportunities become available.

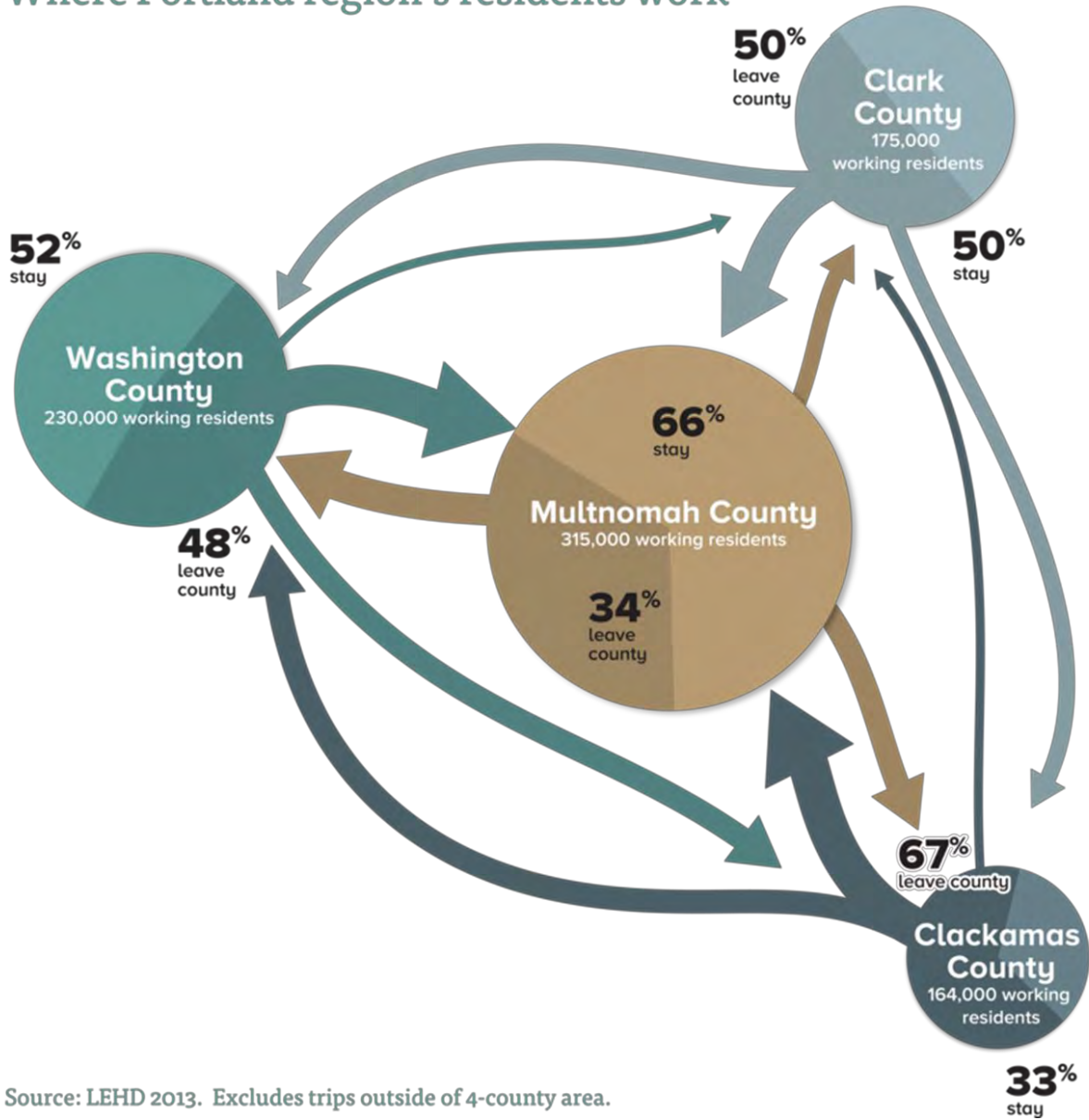
### Local

A variety of local funding sources are available, although some, such as urban renewal and local improvement districts, are subject to approval. Sources may include:

- Washington County Major Streets Transportation Improvement Program (MSTIP)
- Local portion of State Highway Trust Fund
- Local gas tax
- Transportation System Development Charges (SDCs) or Transportation Development Taxes (TDTs) levied on new development
- Urban renewal funding
- Developer contributions
- Local improvement districts (LIDs)

EXHIBIT F

Where Portland region's residents work



## **EXHIBIT B TO RESOLUTION 18-4885**

### **Supplemental Findings of the Metro Council In Support of Resolution No. 18-4885 Regarding the Basalt Creek Planning Area**

These findings supplement the decision of the Metro Council in Resolution No. 18-4885 regarding its arbitration of the dispute between the City of Tualatin and the City of Wilsonville concerning the concept plan for the Basalt Creek Planning Area. The Metro Council adopts these supplemental findings in support of its decision to adopt the Metro COO Recommendation dated March 26, 2018 regarding the appropriate designation of the Central Subarea.

#### **1. Process and Record**

The Intergovernmental Agreement (IGA) among Metro, the two cities, and Washington County dated January 22, 2018 expressly delegates complete authority and discretion to Metro regarding the creation of a process to arbitrate the dispute between the cities. Metro described the process in a letter to the cities and the county dated February 15, 2018. The process calls for a written recommendation to the Metro Council from the Metro Chief Operating Officer (COO) to be made after review of written evidence and argument submitted by the cities and the county during two consecutive open record periods. As stated in that letter, “the Metro Council’s review will be based on the record of written materials submitted by the cities, county, and Metro staff.”

The first open record period closed on March 7, 2018; the second (and final) open record period closed on March 14, 2018. As contemplated by the parties to the IGA, Metro received submittals from the two cities and the county during those time periods. Metro also received emails from two property owners, one from Peter Watts dated March 7, 2018 and another from Herb Koss dated March 8, 2018. Those emails raised objections to the process and requested that the emails and attached exhibits be included in the record. The email from Mr. Watts included references to 12 attached exhibits, but no exhibits were attached. However, the first 11 of the 12 referenced exhibits were attached to the email from Mr. Koss, which forwarded an earlier similar version of the email from Mr. Watts. The first 11 exhibits referenced in the email from Mr. Watts were also included in the exhibits attached to the briefs submitted by the cities on March 7, 2018, and those exhibits are therefore part of the record.

The process created by Metro calls for an “on the record” review of the COO Recommendation by the Metro Council. Accordingly, any evidence or other testimony that was not provided to the Metro COO during the open record period prior to the



## EXHIBIT B TO RESOLUTION 18-4885

issuance of her recommendation is not properly before the Metro Council in this proceeding, and is expressly rejected.

The two property owners who submitted emails to the Metro COO raise objections to the process, alleging that Metro's proposal to only accept evidence and argument from the cities and the county violates Statewide Planning Goal 1 and Metro's Public Engagement Guide. As described above, Metro agreed to accept the testimony that was provided via email from the property owners on March 7, 2018 and March 8, 2018 for consideration by the Metro COO in making her recommendation to the Metro Council.

Metro disagrees with the implicit assertion by the property owners that the process created by Metro results in a final land use decision that is subject to Goal 1 and typical land use decision-making procedures. At the request of the cities, Metro agreed to create a unique arbitration process for the limited purpose of resolving their dispute. The purpose and intent of Metro and the cities was solely to resolve a dispute, and not to create a process that would result in a final land use decision.

The Metro Council's adoption of Resolution No. 18-4885 does not result in the adoption or amendment of a concept plan or a comprehensive plan map for the Basalt Creek area, and does not itself have any effects on land use. Metro's decision has no effect until it is implemented by the cities in their own future land use decisions, as described in paragraph 2 of the IGA. Those local land use decisions will need to be supported by substantial evidence in the record, and will be appealable to LUBA.

### **2. Regional Housing Needs**

The March 7, 2018 email from Peter Watts includes a Metro-specific argument regarding regional housing needs that was not previously raised before the cities. The gist of the argument is that the Central Subarea should be designated for residential purposes in order to address an "extreme need" for more housing in the Metro region. Mr. Watts asserts that this need exists by challenging certain growth-related forecasts made by Metro in its most recent Urban Growth Report (UGR), which was adopted by the Metro Council in 2015 and concluded that the region has enough land inside the boundary to meet housing needs for 20 years.

A slightly different version of this argument is addressed in the COO Recommendation in response to arguments made by the City of Tualatin. The COO Recommendation notes that there is broad agreement in the region that there is an immediate need to address the

## EXHIBIT B TO RESOLUTION 18-4885

current shortage of *affordable* housing, and building a new residential subdivision on undeveloped land south of Tualatin does not address that shortage.

Metro's most recent UGR in 2015 concluded that, based on peer-reviewed population growth forecasts for the region, there was no need to expand the Urban Growth Boundary because there is a sufficient supply of residentially zoned land in the region to accommodate 20 years of growth. The growth forecasts, buildable land inventory, and legal conclusions in the UGR were adopted by the Metro Council via Ordinance No. 15-1361. That ordinance and the UGR were not challenged by any party, are acknowledged by DLCD, and are not subject to collateral attack in this proceeding.

Metro planning department staff reviewed the arguments and data provided in the March 7, 2018 email from Mr. Watts and were unable to fully understand the arguments or corroborate the cited data regarding population forecasts and 2016 census figures. For example, there is a reference to U.S. Census estimates showing one-year 2016 population growth of 57,677 in Metro cities with populations over 5,000. Metro staff was unable to identify a census-based source for the 57,677 figure, which is significantly higher than the annual increases shown in U.S. Census data for the entire seven-county Portland Metropolitan Statistical Area (MSA).

The population forecast in Metro's UGR is based in part on census data for the seven-county MSA. Those figures show an average annual increase of just 23,300 people in all seven counties between 2010 and 2015. UGR Appendix 1a, page 9. The UGR forecast for 2020 predicts an average annual increase of 35,300 people in all seven counties. Based in part on the U.S. Census data, the UGR projects that there will be about 400,000 more people in the Metro UGB over the 20-year period ending in 2035, which reflects an average increase of approximately 20,000 people each year – a forecast that is consistent with previous annual averages within the UGB.

Even if the census data could be corroborated, it is empirically misguided to use a single year of estimated population growth in an attempt to disprove the accuracy of a 20-year forecast. Population increases are subject to fairly dramatic fluctuations on a year-to-year basis, and a single year of high growth can be easily offset by much lower growth in subsequent years. It appears that some of the figures cited by Mr. Watts attempt to create an annualized growth projection for individual cities. However, the purpose of the UGR is to assess the adequacy of the regional land supply over a 20-year horizon, not to assess the annual local growth and future land needs for each individual city. The UGR provides a long-term regional forecast regarding the next 20 years that is not intended to capture annual growth fluctuations and/or business cycles in individual jurisdictions.

## EXHIBIT B TO RESOLUTION 18-4885

Another argument asserts that the 2015 UGR improperly allocates 27% of future housing to “high rise condos.” The actual figure in the UGR is 26%, and it is not assigned to “high rise condos,” it is assigned to any multifamily dwelling of two units or more. UGR Appendix 4, Table 11. This would include duplexes, rowhouses, one or two-story condos or co-housing developments, and any other form of ownership structure involving at least two attached units.

The housing-related argument is summarized as follows: (1) in the 2015 UGR, Metro incorrectly applied ORS 197.296 and adopted inaccurate future growth projections; (2) because of those errors, there is “an inadequate amount of available unconstrained buildable land in the region” for residential purposes; and (3) therefore, the 52-acre Central Subarea should be planned for residential purposes. First, Metro’s growth management decision in 2015 is not being reviewed in this proceeding. This arbitration does not provide a forum to collaterally attack Metro’s application of ORS 197.296 or Metro’s population forecasts in the 2015 UGR. The conclusions in the UGR were adopted by ordinance, acknowledged by DLCD, and under ORS 195.036 must be applied by Metro and local governments in the region for land use planning purposes until the next UGR is adopted at the end of 2018. Because that process is currently underway, stakeholders who are interested in regional growth issues already have an opportunity this year to comment on any perceived deficiencies in the population-related data and projections that were made in 2015.

Second, even if there was evidence in the record suggesting that actual growth in 2016 outpaced the 2015 forecast, that does not mean there is currently an inadequate amount of buildable land for housing in the Metro region. The Metro Council adopted the UGR a little over two years ago, concluding that there is enough buildable land inside the UGB to provide housing for the next 20 years. Mr. Watts is arguing that the region has already used up 20 years’ worth of its buildable land supply in the last 2.5 years; however, the evidence in the record does not support that conclusion.

The COO Recommendation provides a detailed analysis of the planning goals and expectations of local government stakeholders regarding the Basalt Creek Planning Area and the Central Subarea. As noted in that recommendation, “the planning history of the Central Subarea and the planning expectations of local government stakeholders lean heavily in the direction of an employment designation.” The Metro Council finds that unsubstantiated arguments regarding an inadequate land supply inside the UGB do not provide a compelling basis to reject the COO Recommendation.



# 2018 Compliance Report

*February 28, 2019*

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results*

**Teamwork**

*We engage others in ways that foster  
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**Respect**

*We encourage and appreciate  
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## **Executive Summary**

Metro's Urban Growth Management Functional Plan provides tools and guidance for local jurisdictions to implement regional policies and achieve the goals set out in the region's 2040 Growth Concept. The 2018 Compliance Report summarizes the status of compliance for each city and county in the region with the Metro Code requirements included in the Urban Growth Management Functional Plan and the Regional Transportation Functional Plan. Every city and county in the region is required if necessary to change their comprehensive plans or land use regulations to come into compliance with Metro Code requirements within two years of acknowledgement by the Oregon Land Conservation and Development Commission and to remain in compliance. The information in this report confirms the strong partnerships at work in this region to implement regional and local plans.

In 2018, there were no requests for extensions of existing compliance dates for the Urban Growth Management Functional Plan.

### **Metro Code Chapter 3.07 Urban Growth Management Functional Plan and Metro Code Chapter 3.08 Regional Transportation Functional Plan – March 2018**

#### **Introduction**

Metro Code 3.07.870 requires the Chief Operating Officer to submit the status of compliance by cities and counties with the requirements of the Metro Code Chapter 3.07 (Urban Growth Management Functional Plan) annually to the Metro Council. In an effort to better integrate land use and transportation requirements, this compliance report includes information on local government compliance with the Regional Transportation Functional Plan (Metro Code Chapter 3.08) as well as the Urban Growth Management Functional Plan (Metro Code Chapter 3.07).

#### **Overview**

Per the Metro Code, the Chief Operating Officer (COO) may grant an extension request if a local government meets one of two criteria: 1) the city or county is making progress towards compliance; or 2) there is good cause for failure to meet the deadline for compliance.

By statute, cities and counties had two years following the date of acknowledgement of Metro's Regional Transportation Plan (RTP) in Summer 2014 to bring their Transportation System Plans (TSPs) into compliance with any new or changed regional requirements. However, Metro exercised its authority under the state's Transportation Planning Rule to extend city and county deadlines beyond the two-year statutory deadline. Metro consulted with each city and county to determine a reasonable timeline for this work and adopted a schedule that is available on Metro's website at [www.oregonmetro.gov/tsp](http://www.oregonmetro.gov/tsp). The deadlines are phased to take advantage of funding opportunities and the availability of local and Metro staff resources.



Appendix A summarizes the compliance status for all local governments with the requirements of the Urban Growth Management Functional Plan (UGMFP) by the end of 2018.

Appendix B shows the status of Title 11 new urban area planning for areas added to the Urban Growth Boundary (UGB) since 1998.

Appendix C summarizes the compliance dates for each UGMFP title.

Appendix D summarizes the compliance dates for the Regional Transportation Functional Plan (RTFP) in effect as of December 31, 2018.

Appendix E is the Annual Report on Amendments to the Title 4 Employment and Industrial Areas Map dated January 8, 2018.

Appendix F is Exhibit C to Ordinance No. 18-1427.

Appendix G is the Accessory Dwelling Unit (ADU) Zoning Code Audit Report dated September 2018.

### **Urban Growth Management Functional Plan Compliance Status**

All jurisdictions are in compliance with the Urban Growth Management Functional Plan.

### **2018 Urban Growth Management Decision**

In December 2018, the Metro Council made an urban growth management decision (Ordinance No. 18-1427). The decision included four urban growth boundary expansions into urban reserves. The four cities responsible for planning these expansions – Beaverton, Hillsboro, King City, and Wilsonville – are now required to complete a comprehensive plan that complies with Title 11 (Planning for New Urban Areas) of the Urban Growth Management Functional Plan. Additionally, the Metro Council adopted conditions of approval (attached to this report as Appendix F) that will guide the planning that the four cities conduct both for the expansion areas and for existing urban areas in their jurisdiction. Metro Planning and Development staff will participate in those planning efforts to ensure compliance with applicable regulations and conditions.

### **Title 1 (Housing Capacity)**

Since 1997, Metro code section 3.07.120g has stated “a city or county shall authorize the establishment of at least one accessory dwelling unit for each detached single-family dwelling unit in each zone that authorizes detached single-family dwelling. The authorization may be subject to reasonable regulation for siting and design purposes.” A number of years ago, all cities and counties in the region were found to be in compliance with this requirement.

Barring subsequent amendments to city or county codes, it is not the practice of Metro staff to review codes that were previously found to be in compliance with Metro regulations. However, in an effort to encourage the development of accessory dwelling units (ADU), Metro completed the September 2018 ADU Zoning Code Audit, which is attached to this

report as Appendix G. The audit presents a snapshot of city and county codes as of spring 2018. That audit indicates that a number of cities and counties in the region have codes that do not follow a literal reading of Metro code section 3.07.120g. In particular, most codes authorize one ADU on each lot rather than for each dwelling.

Although current Metro staff are not familiar with previous staff's reasoning when determining earlier compliance, it is likely that these local codes were deemed to substantially comply with Metro code. This would be consistent with the reasoning of the 2018 ADU Code Audit, which asserts that the reference to "lots" instead of "dwellings" "...likely has a limited impact on actual ADU feasibility..."

In 2017, the Oregon legislature passed SB 1051, which mirrors Metro code section 3.07.120g. In response to this as well as the Metro ADU code audit, a number of cities and counties in the region have been updating relevant code sections. Metro staff will continue to monitor city and county plan amendments to ensure compliance. It also appears possible that the 2019 legislature will adopt additional laws that clarify what constitutes "reasonable siting and design standards" for ADUs.

### **Regional Transportation Functional Plan Compliance Status**

All (non-exempt) jurisdictions are in compliance with the Regional Transportation Functional Plan, with the exception of the City of Hillsboro. Hillsboro is scheduled to adopt its TSP update in late 2019, which will allow the city to be in compliance with the Regional Transportation Functional Plan.

**APPENDIX A**  
**Summary of Compliance Status as of December 31, 2018**  
**(Functional Plan effective 1/18/12)**

<b>City/ County</b>	<b>Title 1 Housing Capacity</b>	<b>Title 3 Water Quality &amp; Flood Management</b>	<b>Title 4 Industrial and other Employment Land</b>	<b>Title 6<sup>1</sup> Centers, Corridors, Station Communities &amp; Main Streets</b>	<b>Title 7 Housing Choice</b>	<b>Title 11 Planning for New Urban Areas</b> <small>(see Appendix B for detailed information)</small>	<b>Title 13 Nature in Neighborhoods</b>
Beaverton	In compliance	In compliance	In compliance	See footnote	In compliance	Not in compliance	In compliance
Cornelius	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance
Durham	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Fairview	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Forest Grove	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance
Gladstone	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Gresham	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance
Happy Valley	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance
Hillsboro	In compliance	In compliance	In compliance	See footnote	In compliance	Not in compliance	In compliance
Johnson City	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
King City	In compliance	In compliance	In compliance	See footnote	In compliance	Not in compliance	In compliance
Lake Oswego	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Maywood Park	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Milwaukie	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Oregon City	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance

<sup>1</sup> Title 6 is an incentive approach and only those local governments wanting a regional investment (currently defined as a new high-capacity transit line) will need to comply.

<b>City/ County</b>	<b>Title 1 Housing Capacity</b>	<b>Title 3 Water Quality &amp; Flood Management</b>	<b>Title 4 Industrial and other Employment Land</b>	<b>Title 6<sup>1</sup> Centers, Corridors, Station Communities &amp; Main Streets</b>	<b>Title 7 Housing Choice</b>	<b>Title 11 Planning for New Urban Areas</b> <small>(see Appendix B for detailed information)</small>	<b>Title 13 Nature in Neighborhoods</b>
Portland	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance
Rivergrove	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Sherwood	In compliance	In compliance	In compliance	See footnote	In compliance	Area 61 extended to 12/31/21*	In compliance
Tigard	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance.	In compliance
Troutdale	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Tualatin	In compliance	In compliance	In compliance	See footnote	In compliance	Basalt Creek extended to 9/1/2019	In compliance
West Linn	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Wilsonville	In compliance	In compliance	In compliance	See footnote	In compliance	Basalt Creek extended to 9/1/2019 not in compliance	In compliance
Wood Village	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Clackamas County	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Multnomah County	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Washington County	In compliance	In compliance	In compliance	See footnote	In compliance	North Cooper Mountain not in compliance	In compliance

\*The City of Tualatin requested that the City of Sherwood take over concept planning for Area 61 Title 11 planning in 2012.

<sup>1</sup> Title 6 is an incentive approach and only those local governments wanting a regional investment (currently defined as a new high-capacity transit line) will need to comply.

**APPENDIX B  
TITLE 11 NEW AREA PLANNING COMPLIANCE  
(As of December 31, 2018)**

<b>Project</b>	<b>Lead Government(s)</b>	<b>Compliance</b>	<b>Status</b>
<b>1998 UGB Expansion</b>			
Rock Creek Concept Plan	Happy Valley	Yes	Concept plan and implementation measures completed; development on-going.
Pleasant Valley Concept Plan	Gresham and Portland	Yes	Concept plan and implementation measures completed; city annexed 524 acres and development to begin in eastern section.
<b>1999 UGB Expansion</b>			
Witch Hazel Community Plan	Hillsboro	Yes	Concept plan and implementation measures completed; development on-going.
<b>2000 UGB Expansion</b>			
Villebois Village	Wilsonville	Yes	Concept plan and implementation measures completed; development on-going.
<b>2002 UGB Expansion</b>			
Springwater Community Plan	Gresham	Yes	Concept plan and implementation measures completed for this mostly industrial area; waiting annexation & development.
Damascus/Boring Concept Plan	Happy Valley	Yes	HV portion: Concept plan and implementation measures completed; waiting annexation and development.
	Happy Valley/ Clackamas County	No	The former City of Damascus land area. Happy Valley currently completing comprehensive planning for additional portions of the area.
	Gresham	Yes	Gresham portion, called Kelley Creek Headwaters Plan, was adopted by city in 2009.
Park Place Master Plan	Oregon City	Yes	Concept plan and implementation measures completed; waiting annexation & development.
Beavercreek Road	Oregon City	Yes	Concept plan completed and accepted by Metro.
South End Road	Oregon City	Yes	Concept plan and implementation measures completed.
East Wilsonville (Frog Pond area)	Wilsonville	Yes	Comprehensive plan adopted; development on-going.
NW Tualatin Concept Plan (Cipole Rd & 99W)	Tualatin	Yes	Concept plan and implementation measures completed for this small industrial area.
SW Tualatin Concept Plan	Tualatin	Yes	Concept plan and implementation measures completed for this industrial area.
Brookman Concept Plan	Sherwood	Yes	Concept plan completed. Refinement plan underway
West Bull Mountain (River Terrace)	Tigard	Yes	Concept plan completed.
Study Area 59	Sherwood	Yes	Concept plan and implementation measures completed; school constructed.
Study Area 61 (Cipole Rd)	Sherwood	Extension to 12/31/2021	Extension agreement – planning shall be completed when Urban Reserve 5A is completed, or by 12/31/2021, whichever is sooner.
99W Area (near Tualatin-Sherwood Rd)	Sherwood	Yes	Concept plan and implementation measures completed.

<b>Project</b>	<b>Lead Government(s)</b>	<b>Compliance</b>	<b>Status</b>
Cooper Mountain area	Washington County	No	Preliminary planning completed by City of Beaverton. Community plan pending Washington County work program.
Study Area 64 (14 acres north of Scholls Ferry Rd)	Beaverton	Yes	Concept plan and implementation measures completed; annexed to City.
Study Area 69 & 71	Hillsboro	Yes	Areas are included in South Hillsboro Area Plan. City has adopted these areas into its comprehensive plan; upon annexation, they will be zoned to comply with comp plan.
Study Area 77	Cornelius	Yes	Concept plan and implementation measures completed; annexed to City.
Forest Grove Swap	Forest Grove	Yes	Concept plan and implementation measures completed; annexed to City.
Shute Road Concept Plan	Hillsboro	Yes	Concept plan and implementation measures completed; annexed to City and portion developed with Genentech.
North Bethany Subarea Plan	Washington County	Yes	Concept plan and implementation measures completed; annexations underway with development occurring.
Bonny Slope West Concept Plan (Area 93)	Multnomah County	Yes	Planning completed; development on-going.
<b>2004/2005 UGB Expansion</b>			
Damascus area	Damascus	See under 2002 above	Included with Damascus comprehensive plan (see notes above).
Tonquin Employment Area	Sherwood	Yes	Concept plan and implementation measures completed.
Basalt Creek/West RR Area Concept Plan	Tualatin and Wilsonville	IGA extension to 10/2019; CET extension to 6/30/18	Basalt Creek Concept Plan adopted by both jurisdictions. Comprehensive plan adoption expected by mid-2019.
N. Holladay Concept Plan	Cornelius	Yes	Concept plan completed; implementation to be finalized after annexation to City.
Evergreen Concept Plan	Hillsboro	Yes	Concept plan and implementation measures completed.
Helvetia Concept Plan	Hillsboro	Yes	Concept plan and implementation measures completed.
<b>2011 UGB Expansion</b>			
North Hillsboro	Hillsboro	Yes	Concept planning completed. Development on-going.
South Hillsboro	Hillsboro	Yes	Concept planning completed. Development on-going.
South Cooper Mountain	Beaverton	Yes	Concept planning completed.
Roy Rogers West (River Terrace)	Tigard	Yes	See West Bull Mountain.

<b>2014 UGB Expansion (HB 4078)</b>	<b>Lead Government(s)</b>	<b>Compliance</b>	<b>Status</b>
Cornelius North	Cornelius	Yes	Comprehensive planning completed. Awaits annexation to city.
Cornelius South	Cornelius	Yes	Comprehensive planning completed. Partially annexed to city.
Forest Grove (Purdin Road)	Forest Grove	Yes	Comprehensive planning completed. Awaits annexation to city.
Forest Grove (Elm Street)	Forest Grove	Yes	Comprehensive planning completed. Awaits annexation to city.
Hillsboro (Jackson School)	Hillsboro	No	Comprehensive plan work in progress.
<b>2018 UGB Expansion</b>			
Cooper Mountain	Beaverton	No	Added to the UGB in December 2018
Witch Hazel Village South	Hillsboro	No	Added to the UGB in December 2018
Beef Bend South	King City	No	Added to the UGB in December 2018
Advance Road	Wilsonville	No	Added to the UGB in December 2018

**APPENDIX C**  
**COMPLIANCE DATES FOR THE**  
**URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN**

Functional Plan Requirement	When Local Decisions Must Comply		
	Plan/Code Amendment 3.07.810(C) <sup>1</sup>	Land Use Decision 3.07.810(D) <sup>2</sup>	Adoption 3.07.810(B) <sup>3</sup>
<b>Title 1:</b> Adopt minimum dwelling unit density (3.07.120.B)	12/21/2013	12/21/2013	12/21/2014
<b>Title 1:</b> Allow accessory dwelling unit in SFD zones (3.07.120.G) <i>(provision included in previous version of Metro Code as 3.07.140.C)</i>	12/8/2000		12/8/2002
<b>Title 3:</b> Adopt model ordinance or equivalent and map or equivalent (3.07.330.A)	12/8/2000		12/8/2002
<b>Title 3:</b> Floodplain management performance standards (3.07.340.A)	12/8/2000	12/8/2001	12/8/2002
<b>Title 3:</b> Water quality performance standards (3.07.340.B)	12/8/2000	12/8/2001	12/8/2002
<b>Title 3:</b> Erosion control performance standards (3.07.340.C)	12/8/2000	12/8/2001	12/8/2002

<sup>1</sup> After one year following acknowledgment of a UGMFP requirement, cities and counties that amend their plans and land use regulations shall make such amendments in compliance with the new functional plan requirement.

<sup>2</sup> A city or county that has not yet amended its plan to comply with a UGMFP requirement must, following one year after acknowledgement of the requirement (the date noted), apply the requirement directly to land use decisions

<sup>3</sup> Cities and counties must amend their plans to comply with a new UGMFP requirement within two years after acknowledgement of the requirement (the date noted)



<b>Functional Plan Requirement</b>	<b>When Local Decisions Must Comply</b>		
	<b>Plan/Code Amendment</b> 3.07.810(C) <sup>1</sup>	<b>Land Use Decision</b> 3.07.810(D) <sup>2</sup>	<b>Adoption</b> 3.07.810(B) <sup>3</sup>
<b>Title 4:</b> Limit uses in Regionally Significant Industrial Areas  (3.07.420)	7/22/2005	7/22/2006	7/22/2007
<b>Title 4:</b> Prohibit schools, places of assembly larger than 20,000 square feet, or parks intended to serve people other than those working or residing in the area in Regional Significant Industrial Areas  (3.07.420D)	12/21/2013	12/21/2013	12/21/2014
<b>Title 4:</b> Limit uses in Industrial Areas  (3.07.430)	7/22/2005	7/22/2006	7/22/2007
<b>Title 4:</b> Limit uses in Employment Areas  (3.07.440)	7/22/2005	7/22/2006	7/22/2007
<b>Title 6:</b> (Title 6 applies only to those local governments seeking a regional investment or seeking eligibility for lower mobility standards and trip generation rates)	12/21/12	12/21/13	12/21/14
<b>Title 7:</b> Adopt strategies and measures to increase housing opportunities  (3.07.730)			6/30/2004
<b>Title 8:</b> Compliance Procedures (45-day notice to Metro for amendments to a comprehensive plan or land use regulation)  (3.07.820)	2/14/2003		
<b>Title 11:</b> Develop a concept plan for urban reserve prior to its addition to the UGB  (3.07.1110)	N/A	N/A	N/A

Functional Plan Requirement	When Local Decisions Must Comply		
	Plan/Code Amendment 3.07.810(C) <sup>1</sup>	Land Use Decision 3.07.810(D) <sup>2</sup>	Adoption 3.07.810(B) <sup>3</sup>
<b>Title 11:</b> Prepare a comprehensive plan and zoning provisions for territory added to the UGB  (3.07.1120)	12/8/2000	12/8/2001	2 years after the effective date of the ordinance adding land to the UGB unless the ordinance provides a later date
<b>Title 11:</b> Interim protection for areas added to the UGB  (3.07.1130) <i>(provision included in previous version of Metro Code as 3.07.1110)</i>	12/8/2000	12/8/2001	12/8/2002
<b>Title 12:</b> Provide access to parks by walking, bicycling, and transit  (3.07.1240.B)			7/7/2005
<b>Title 13:</b> Adopt local maps of Habitat Conservation Areas consistent with Metro-identified HCAs  (3.07.1330.B)	12/28/2005	1/5/2008	1/5/2009
<b>Title 13:</b> Develop a two-step review process (Clear & Objective and Discretionary) for development proposals in protected HCAs  (3.07.1330.C & D)	12/28/2005	1/5/2008	1/5/2009
<b>Title 13:</b> Adopt provisions to remove barriers to, and encourage the use of, habitat-friendly development practices  (3.07.1330.E)	12/28/2005	1/5/2008	1/5/2009

**APPENDIX D**  
**Summary of Compliance Status for 2018**  
**(Regional Transportation Functional Plan in effect as of 12/31/2014)**

<b>Jurisdiction</b>	<b>Title 1 Transportation System Design</b>	<b>Title 2 Development and Update of Transportation System Plans</b>	<b>Title 3 Transportation Project Development</b>	<b>Title 4 Regional Parking Management</b>	<b>Title 5 Amendment of Comprehensive Plans</b>
Beaverton	In compliance	In compliance	In compliance	In compliance	In compliance
Cornelius	In compliance	In compliance	In compliance	In compliance	In compliance
Durham	Exempt	Exempt	Exempt	Exempt	Exempt
Fairview	In compliance	In compliance	In compliance	In compliance	In compliance
Forest Grove	In compliance	In compliance	In compliance	In compliance	In compliance
Gladstone	In compliance	In compliance	In compliance	In compliance	In compliance
Gresham	In compliance	In compliance	In compliance	In compliance	In compliance
Happy Valley	In compliance	In compliance	In compliance	In compliance	In compliance
Hillsboro	12/31/17*	12/31/17*	12/31/17*	12/31/17*	12/31/17*
Johnson City	Exempt	Exempt	Exempt	Exempt	Exempt
King City	Exempt	Exempt	Exempt	Exempt	Exempt
Lake Oswego	In compliance	In compliance	In compliance	In compliance	In compliance
Maywood Park	Recommending exemption	Recommending exemption	Recommending exemption	Recommending exemption	Recommending exemption
Milwaukie	In compliance	In compliance	In compliance	In compliance	In compliance
Oregon City	In compliance	In compliance	In compliance	In compliance	In compliance
Portland	In compliance	In compliance	In compliance	In compliance	In compliance
Rivergrove	Exempt	Exempt	Exempt	Exempt	Exempt
Sherwood	In compliance	In compliance	In compliance	In compliance	In compliance
Tigard	In compliance	In compliance	In compliance	In compliance	In compliance
Troutdale	In compliance	In compliance	In compliance	Exception	In compliance
Tualatin	In compliance	In compliance	In compliance	In compliance	In compliance
West Linn	In compliance	In compliance	In compliance	In compliance	In compliance
Wilsonville	In compliance	In compliance	In compliance	In compliance	In compliance
Wood Village	In compliance	In compliance	In compliance	In compliance	In compliance
Clackamas County	In compliance	In compliance	In compliance	In compliance	In compliance
Multnomah County	12/31/17	12/31/17	12/31/17	12/31/17	12/31/17
Washington County	In compliance	In compliance	In compliance	In compliance	In compliance

*Date shown in table is the deadline for compliance with the Regional Transportation Functional Plan (RTFP). Note – a city or county that has not yet amended its plan to comply with the RTFP must, following one year after RTFP acknowledgement, apply the RTFP directly to land use decisions.*

*\*Expected completion by end of 2019.*

# Memo



**Metro**

600 NE Grand Ave.  
Portland, OR 97232-2736

Date: January 1, 2019  
To: Metro Council and the Metro Policy Advisory Committee  
From: Martha Bennett, Chief Operating Officer  
Subject: Annual report on amendments to the Title 4 Employment and Industrial Areas Map

---

## **Background**

Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan seeks to improve the region's economy by protecting a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas, Industrial Areas, and Employment Areas. Those areas are depicted on the Employment and Industrial Areas Map.

Title 4 sets forth several avenues for amending the map, either through a Metro Council ordinance or through an executive order, depending on the circumstances. Title 4 requires that, by January 31 of each year, Metro's Chief Operating Officer submit a written report to the Council and MPAC on the cumulative effects on employment land in the region of amendments to the Employment and Industrial Areas Map during the preceding year. This memo constitutes the report for 2018.

## **Title 4 map amendments in 2018**

There were no amendments made to the Title 4 Map in 2018 either by the Council or through executive order.

## **Chief Operating Officer recommendations**

I do not, at this time, recommend changes to Title 4 policies. However, the intended refresh of the 2040 Growth Concept and its work program on changes in the economy may eventually lead to policy and regulatory updates for Metro Council consideration.

## **Conditions of Approval on Land Added to UGB**

### **A. Comprehensive planning in the four UGB expansion areas:**

1. Within four years after the date of this ordinance, the four cities shall complete comprehensive planning consistent with Metro code section 3.07.1120 (Planning for Areas Added to the UGB).
2. The four cities shall allow, at a minimum, single-family attached housing, including townhomes, duplexes, triplexes, and fourplexes, on all lots on which single family housing is allowed in the expansion areas; however, cities may adopt standards that limit housing types on particular lots if necessary due to site constraints or in order to comply with environmental protections under the Metro Code or state law.
3. The four cities shall explore ways to encourage the construction of ADUs in the expansion areas.
4. As the four cities conduct comprehensive planning for the expansion areas, they shall address how their plans implement relevant policies adopted by Metro in the 2014 regional Climate Smart Strategy regarding: (a) concentrating mixed-use and higher density development in existing or planned centers; (b) increasing use of transit; and (c) increasing active transportation options. The cities shall coordinate with the appropriate county and transit provider regarding identification and adoption of transportation strategies.
5. As the four cities conduct comprehensive planning for the expansion areas, they shall regularly consult with Metro Planning and Development staff regarding compliance with these conditions, compliance with the Urban Growth Management Functional Plan, compliance with the state Metropolitan Housing Rule, and use of best practices in planning and development, and community engagement. To those ends, cities shall include Metro staff in advisory groups as appropriate.
6. At the beginning of comprehensive planning, the four cities shall develop – in consultation with Metro – a public engagement plan that encourages broad-based, early and continuing opportunity for public involvement. Throughout the planning process, focused efforts shall be made to engage historically marginalized populations, including people of color, people with limited English proficiency and people with low income, as well as people with disabilities, older adults and youth.

### **B. Citywide requirements (for the four cities):**

1. Within one year after the date this ordinance is acknowledged by LCDC (excluding any subsequent appeals), the four cities shall demonstrate compliance with Metro code

section 3.07.120(g) and ORS 197.312(5) regarding accessory dwelling units. In addition to the specific requirements cited in Metro code and state law, cities shall not require that accessory dwelling units be owner occupied and shall not require off street parking when street parking is available.

2. Within one year after the date this ordinance is acknowledged by LCDC (excluding any subsequent appeals), the four cities shall demonstrate compliance with ORS 197.309 regarding clear and objective standards for affordable housing.
3. Before amending their comprehensive plans to include the expansion areas, the four cities shall amend their codes to ensure that any future homeowners associations will not regulate housing types, including accessory dwelling units, or impose any standards that would have the effect of prohibiting or limiting the type or density of housing that would otherwise be allowable under city zoning.
4. Before amending their comprehensive plans to include the expansion areas, the four cities shall amend their codes to ensure that any future homeowners associations will not require owner occupancy of homes that have accessory dwelling units.
5. The four cities shall continue making progress toward the actions described in Metro Code section 3.07.620 (Actions and Investments in Centers, Corridors, Station Communities, and Main Streets).
6. Cities shall engage with service providers to consider adoption of variable system development charges designed to reduce the costs of building smaller homes in order to make them more affordable to purchasers and renters.
7. For at least six years after this UGB expansion, the four cities shall provide Metro with a written annual update on compliance with these conditions as well as planning and development progress in the expansion areas. These reports will be due to the Metro Chief Operating Officer by December 31 of each year, beginning December 31, 2019.

**C. Beaverton:**

1. Beaverton shall plan for at least 3,760 homes in the Cooper Mountain expansion area.
2. The expansion area shall be designated Neighborhood on the 2040 Growth Concept map.
3. The city may propose the addition of Corridors for depiction on the 2040 Growth Concept map as an outcome of comprehensive planning for the area.

**D. Hillsboro:**

1. Hillsboro shall plan for at least 850 homes in the Witch Hazel Village South expansion area.
2. The expansion area shall be designated Neighborhood on the 2040 Growth Concept map.
3. The city may propose the addition of Corridors for depiction on the 2040 Growth Concept map as an outcome of comprehensive planning for the area.

**E. King City:**

1. King City shall coordinate with Washington County and the City of Tigard as it engages in its work on a Transportation System Plan, other infrastructure planning, and comprehensive planning.
2. Before amending the King City comprehensive plan to include the expansion area, King City shall conduct additional market analysis to better understand the feasibility of creating a new mixed-use town center.
3. Pending the results of the market analysis of a new town center, King City shall plan for at least 3,300 homes in the Beef Bend South expansion area. If the market analysis indicates that this housing target is infeasible, King City shall work with Metro to determine an appropriate housing target for the expansion area.
4. The expansion area shall be designated Neighborhood on the 2040 Growth Concept map.
5. Pending the results of the market analysis of a new town center, Metro will work with King City to make necessary changes to the 2040 Growth Concept map.
6. Prior to amending the King City comprehensive plan to include the expansion area, King City shall complete a Transportation System Plan for the city.
7. Prior to amending the King City comprehensive plan to include the expansion area, King City shall amend its code to remove barriers to the construction of accessory dwelling units, including:
  - a. Remove the requirement that accessory dwelling units can only be built on lots that are at least 7,500 square feet, which effectively prohibits construction of accessory dwelling units in the city.

- b. Remove or increase the requirement that accessory dwelling units be no bigger than 33 percent of the square footage of the primary home so that an accessory dwelling unit of at least 800 square feet would be allowable.
8. The Columbia Land Trust holds a conservation easement over portions of the Bankston property, which King City's concept plan identifies as the intended location for a key transportation facility serving the expansion area. King City shall work with the Columbia Land Trust to protect, to the maximum extent possible, the portion of the Bankston property covered by the conservation easement.
9. To reduce housing costs, King City shall, in its comprehensive planning, explore ways to encourage the use of manufactured housing in the expansion area.

**F. Wilsonville:**

1. Wilsonville shall plan for at least 1,325 homes in the Advance Road expansion area.
2. The expansion area shall be designated Neighborhood on the 2040 Growth Concept map.
3. The city may propose the addition of Corridors for depiction on the 2040 Growth Concept map as an outcome of comprehensive planning for the area.

**G. West Union Village Property:**

1. There shall be no change of use or intensification of individual uses on any portion of the 4.88-acre property until Urban Reserve Area 8F has been brought into the UGB and the City of Hillsboro has adopted comprehensive plan amendments for the surrounding urban reserve land.





**BUILD SMALL COALITION**

# Accessory dwelling unit (ADU) zoning code audit report

September 2018

[oregonmetro.gov/buildsmall](https://oregonmetro.gov/buildsmall)

# Acknowledgements

This report was authored by JET Planning on behalf of Metro and the Build Small Coalition.

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**Front cover photo credit: [accessorydwellings.org](http://accessorydwellings.org)**

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## Executive summary

Accessory Dwelling Units (ADUs) are self-contained homes located on the same property as a larger, principal home and can be detached, attached or internal to the primary home. ADUs have gained interest across the nation as an opportunity to diversify the housing market and use urban land more efficiently, increasing the number of new homes in an area while not changing the look or feel of the existing neighborhood.

They also provide options that can match peoples' needs at different life stages and income levels. For example, young homeowners may rent out their ADU to help pay their new mortgage; a retired senior may rent an ADU to supplement their pension; or an aging parent can live with their child, allowing families to stay connected while still enjoying a degree of independence.

Almost all cities and counties across greater Portland adopted regulations in 1997 to allow one ADU per single-family dwelling in single-family zones, subject to reasonable siting and design standards.

The construction of ADUs, however, has not been widespread. Nearly 2,700 ADUs have been permitted in the City of Portland alone since 1997; only about 250 units have been permitted in all other Metro-area jurisdictions combined. Simply allowing ADUs in the zoning code has not been enough to foster their widespread production.

Emerging best practices from across the country suggest that other factors such as regulations, building requirements, fees and other issues also play a significant role in supporting - or deterring - ADU development.



*Photo credit: accessorydwellings.org*

In 2018, Metro's Build Small Coalition conducted a code audit to better understand the regulatory conditions across the region and their relationship to ADU production.

This audit consisted of three primary efforts:

- a review of zoning codes and public documents related to ADU regulations;
- select stakeholder interviews to gain insight into how those regulations function in practice;
- and collection of data on the number of ADUs in the region.



While regulations and practices varied widely, the coalition found opportunities for every jurisdiction to reduce barriers to ADU production. The most significant regulatory barriers to ADUs identified through the audit were:

- owner-occupancy requirements;
  - design standards;
  - off-street parking requirements; and
  - significant dimensional restrictions such as ADU height limits, size limits or property line setback requirements.
- System Development Charges (SDCs) were also identified as a significant financial barrier, though generally not the sole deterrent in places where ADU production was limited.



Based on these findings, the coalition recommended ADU code provisions and regulations that incorporate observed best practices in the greater Portland region, advice from ADU developers and best practices from across the country.

The findings of this audit and related technical assistance are intended to support jurisdictions as they continue to innovate through subsequent code updates, with the ultimate goal of removing barriers to ADU development across the region.



The audit comes at a time of great opportunity for jurisdictions as many are working to update or have recently updated their regulations to meet specific SB 1051 state requirements.

Metro offered technical assistance to local jurisdictions for reviewing or developing code language, navigating the adoption process and coordinating with the Department of Land Conservation and Development (DLCDD).

These updates are an opportunity to set direction for the next 20 years of ADU regulations - and in doing so, to take a meaningful step in supporting housing choice and affordability for the region.

Photo credit: [accessorydwellings.org](http://accessorydwellings.org)

# Introduction

The Accessory Dwelling Unit (ADU) code audit is an initiative of Metro’s Build Small Coalition intended to understand ADU development trends and the regulatory environment, and to support greater ADU development throughout the greater Portland region.

The Build Small Coalition is a group of public, private and non-profit small home and housing affordability advocates who work together to increase development of and equitable access to smaller housing options across the region.

The coalition was previously led by the Oregon Department of Environmental Quality and was known as the Space-Efficient Housing Work Group. In general, the coalition is working to encourage a greater variety of housing to match people’s needs at different life stages and income levels.

One of the focus areas in the coalition’s work plan for the year is catalyzing ADU development beyond the city of Portland. By understanding existing development ADU regulations and development patterns, this report will support greater ADU development by providing distilled best practices and recommendations to reduce regulatory barriers in Metro jurisdictions.

The work also overlaps with existing Metro code requirements and the broader Equitable Housing Initiative, an effort to work with partners across the region to find opportunities for innovative approaches and policies that result in more people being able to find a home that meets their needs and income levels.

Since 1997, Metro has required jurisdictions to permit one ADU per single-family dwelling in single-family zones subject to reasonable siting and design standards. However, ADU development and interest has varied across the region over the past 20 years, with the majority of ADU activity centered in Portland and little ADU development in most other jurisdictions around the region.

ADU development supports two of the four Equitable Housing Initiative strategies: increasing and diversifying market-rate housing, and stabilizing homeowners and expanding access to home ownership.

## ADU code audit project goals

- Summarize existing ADU regulations across all Metro cities and counties and compare against Metro code requirements, state SB 1051 requirements and emerging best practices.
- Understand how regulations are dynamically applied in practice through discussion with ADU developers, practitioners and regulators.
- Understand ADU development trends in all Metro cities and counties, and any correlations between regulations and development, particularly those that highlight potential regulatory barriers.
- Share regional trends, best practices, and recommendations with Metro jurisdictions to support code updates to catalyze ADU development beyond the City of Portland.

With existing interest and increasing conversations around ADUs and affordable housing, as evidenced by the Equitable Housing Initiative, the coalition wanted to better understand the existing scope of ADU regulations across the region, understand their relationship to resulting ADU production and feasibility and promote innovative practices emerging locally.

The audit scope includes review and analysis of ADU zoning regulations across all 27 Metro cities and counties.

The audit is intended to describe existing regulatory conditions for ADUs both as codified and as applied, in order to generate insight into aspects of ADU regulatory and practical approaches that best support ADU development.

Though zoning and regulatory approaches alone may not catalyze ADU development, understanding regulatory barriers is central to recommending updated regulatory approaches that better support ADU development.

The audit also comes at a time of great opportunity for jurisdictions as many are working to update or have recently updated their regulations to meet specific SB 1051 state requirements and to better support affordable housing development.

The findings and related technical assistance are intended to support jurisdictions as they continue to innovate through subsequent code updates, with the ultimate goal of removing barriers to ADU development across the region.



Photo credit: [accessorydwellings.org](http://accessorydwellings.org)

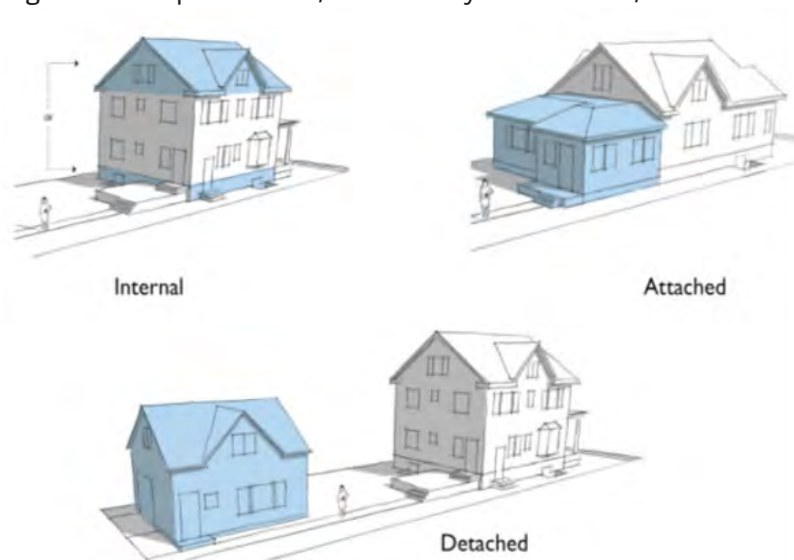


# ADU background

ADUs have existed historically in a variety of forms, dating back at least as far as the late 18th century. ADUs are smaller, secondary dwellings built in a variety of forms, including:

- Detached: New or converted detached structures such as garages.
- Attached: New or converted attached addition to the existing home.
- Internal: Conversion of existing space such as a basement or attic.

Figure 1: Example of ADUs, Source: City of Saint Paul, MN



ADUs are often built by the owners of the primary dwelling as a space for family, friends or caretakers, as a rental unit to generate income, or as a space for the homeowner to live while renting the primary dwelling. A common pattern is for ADU use to change over time, providing particular flexibility to support new homeowners, multigenerational households, and aging in place. For example, an older homeowner may construct an ADU initially for additional rental income to pay the mortgage, may use it to accommodate a live-in caretaker, or may subsequently move into the ADU to downsize while renting the primary house.

## What is an ADU?

Accessory dwelling units (ADUs) are small, self-contained homes located on the same property as a larger, principal home with their own kitchen, bathroom and sleeping area.

ADUs can be attached or detached, can be converted from existing structures or new construction.

They are also known by other names that reflect their various potential uses, including granny flats, in-law units, studio apartments and secondary dwellings.



Photo credit:  
[accessorydwellings.org](http://accessorydwellings.org)

Since 1997, Metro has required jurisdictions to permit one ADU per single-family dwelling in single-family zones subject to reasonable siting and design standards. Almost all cities adopted ADU regulations immediately following, but interest among both jurisdictions and homeowners has varied over the past 20 years. Some codes have remained unchanged and unused, while others have undergone successive rounds of improvement as ADU development has expanded.

Portland is the most notable example in the region, where ADU growth has taken off concurrent with regulatory changes that expand ADU allowances and system development charge (SDC) waivers to reduce up-front costs for homeowner developers.

Other greater Portland cities have not seen similar rates of ADU construction despite adopting some measure of ADU regulations to meet Metro requirements. Since 2000, ADU development in jurisdictions outside of Portland ranges from 0 to 60 total ADUs (see Table 3).

Examples across the West Coast also add to the understanding of ADU regulations and development potential. Vancouver, BC is notable for allowing two ADUs per lot, with approximately 35 percent of existing single-family homes estimated to be ADUs. Research by Sightline Institute mapped ADU regulations across Washington, Oregon and Idaho, concluding that many cities allow ADUs but make it difficult for ADUs to be built at scale.

California passed a new statewide requirement for all cities to permit ADUs in an effort to jumpstart development and ease the housing crisis. These developments highlight increasing national interest in how ADUs can be integrated into communities to expand housing opportunities, strengthen neighborhoods, provide flexibility for homeowners and changing family dynamics and generate financial benefits for homeowners and renters.

In Oregon, Senate Bill (SB) 1051, which passed in 2017, is intended to support more affordable housing development across the state, and includes a requirement for virtually all cities and counties to allow ADUs with all single-family detached dwellings in single-family zones, subject to “reasonable local regulations relating to siting and design.”

The statutory provisions also require that ADU regulations be “clear and objective.” The Oregon Department of Land Conservation and Development (DLCD) has issued guidance on implementing SB 1051 requirements in local jurisdictions.

The DLCD guidance on ADUs supports a number of innovative practices, including permitting two ADUs per lot, removing off-street parking requirements and removing owner-occupancy requirements. This guidance goes beyond what many jurisdictions would have considered in the late 1990s when first drafting their ADU regulations.

Although the actual language of the SB 1051 ADU requirements is remarkably similar to the language from the 1997 Metro requirement, the requirement and deadline come at a time when there is increasing interest in ADUs and in affordable and varied housing options.

There is also 20 years of experience of ADU development to draw upon from the greater Portland region, the state and nationally, reflected in the DLCD implementation guidance and emerging recommendations about best practices for ADUs from think tanks such as Sightline Institute.

Meeting state requirements in 2018 is thus an opportunity for Metro jurisdictions to refresh existing regulations and innovate to better support ADU development.



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## ADU requirements timeline

**1997:** Portland allows ADUs by right

**1997:** Metro code requirement for all cities to permit one ADU per single-family dwelling in single-family residential zones

**2000:** Majority of Metro cities have adopted ADU regulations

**2010:** Portland SDC waiver for ADUs first passed, permits markedly increase

**2017:** State SB 1051 passes, requires majority of cities and counties to permit ADUs subject to “clear and objective” standards

**July 1, 2018:** SB 1051 effective date, deadline for cities to adopt or update ADU regulations

# Project approach and methodology

The code audit combined several layers of analysis of ADU regulations and development patterns to understand regulations as written and as applied. Audit findings across key issue areas are summarized in the *Code Audit Findings* section, incorporating insights from the regulatory code review and stakeholder interviews.

The first step of the code audit examined the published zoning codes, supplemented with review of land use application forms, fee schedules, and any other documents publicly available related to ADUs and SDCs for the 24 Metro cities and three Metro counties.

The code audit is based on regulations current as of March 31, 2018 when the audit was completed, however, many codes were already under review at the time of the audit to meet the SB 1051 effective date of July 1, with rolling adoption of new codes over summer 2018. Rather than making the audit a moving target, the audit matrix reflects the ADU regulations as they existed at the time; future work will include monitoring and evaluating new codes as they are adopted.

The evaluation matrix describes existing regulations across multiple categories for easy comparison between cities, and is intended to be both descriptive of the existing regulations as well as evaluative of whether the regulations support or inhibit ADU development, based on emerging best practices. Audit review categories were based on the requirements of state and Metro ADU mandates, and emerging best regulatory practices to support ADU development.



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Categories were derived from noted regulatory barriers to ADU development including off-street parking requirements, owner-occupancy requirements of the ADU or primary dwelling, total occupancy limits, restrictive dimensional standards including total square footage, and design compatibility requirements with the primary dwelling.

Additional review categories capture non-code related elements such as System Development Charges (SDCs) for ADUs, land use application materials, and availability of information materials for prospective ADU developers.

Basic demographic data including city size, average home price, and prevalence of single-family dwellings, from the 2016 American Community Survey, is provided for a quick snapshot of the conditions in which ADUs may or may not perform well.

The matrix incorporates both descriptive summaries of applicable regulations, as well as an evaluative component using a tri-color-coding system to evaluate the status of each aspect of the regulations, relative to emerging best practices and regulatory requirements, rather than attempting to score or rank jurisdictions. Green indicates compliance with a specific regulatory aspect, yellow indicates mostly in compliance with opportunities to reduce barriers, and orange indicates the greatest opportunities to remove barriers.

For example, any regulation that allows one ADU per lot rather than per single-family detached dwelling was flagged as orange, because of the SB 1051 legal requirement to permit ADUs on a per dwelling rather than per lot basis, but regulations that permit one ADU per dwelling rather than the recommended two per dwelling consistent with DLCDC guidance were flagged as yellow to indicate additional opportunity rather than lack of compliance.

Given the emerging consensus that off-street parking and owner-occupancy requirements are significant barriers to ADU development, both types of regulations were flagged as orange, as were any design standards requiring “similar” materials and character as the primary dwelling, which is contrary to the state requirement for clear and objective standards.

### **Code audit matrix intended to be:**

*Descriptive:* capture the extent of ADU regulations that exist as of March 31, 2018.

*Evaluative:* compare existing regulations against state and Metro ADU requirements, and emerging best practices, in order to highlight opportunities for code updates that better support future ADU development.



*Photo credit:*  
[accessorydwellings.org](http://accessorydwellings.org)

Stakeholder interviews were conducted with selected city and county planners and local ADU development professionals for additional insight into how the regulations function in practice.

The six representative jurisdictions were selected to include a variety of sizes, geographies, demographics, and ADU development trends; the six included City of Beaverton, City of Gresham, City of Lake Oswego, City of Wilsonville, Washington County, and City of Vancouver, WA.

ADU professionals interviewed were selected based on their experience developing or knowledge of ADU development around the greater Portland region beyond Portland, and included Dave Spitzer, with DMS Architects, Joe Robertson of Shelter Solutions, and Kol Peterson, author of “Backdoor Revolution: The Definitive Guide to ADU Development.”

Interviews were used for insight and general understanding, rather than for verbatim quotes.

A quantitative element of the project includes gathering data on ADU construction trends and SDC levels across jurisdictions to better understand the ADU development context and outcomes. Data on permitted ADU construction, estimated unpermitted ADUs and estimated level of interest was collected from multiple sources.

Data compiled by Metro’s Research Center as of February 27, 2018, was used as initial data for permitted ADUs built since 2000, and was supplemented with self-reported data from jurisdictions; individual jurisdictions relied on a range of permit data and other internal tracking metrics to provide estimates.

Results are shown in Table 3; in the event of conflicting totals, the higher figure was used provided it was deemed reliable. Jurisdictional estimates were also gathered for unpermitted ADUs and number of ADU inquiries to understand ADU interest beyond finalized permits; for example, a jurisdiction with a high level of interest but no or few final ADUs might indicate significant regulatory barriers. While anecdotal and impressionistic, the self-reported observations are summarized in Table 2.

Finally, SDC rates applied to ADUs were calculated based on published fee schedules where available, or through inquiries to jurisdictional staff in the planning or engineering departments. Because of the uneven availability of SDC rates, data is provided for a subset of Metro jurisdictions to illustrate the general range of SDC variation rather than fully catalogue SDC rates; see Table 1.

Given the relevance of the ADU code audit findings for jurisdictions currently amending their codes to address housing opportunities generally and the SB 1051 requirements specifically, the audit approach was also expanded midway through the project to incorporate outreach and technical assistance for Metro jurisdictions.

Representatives from nearly half of Metro cities and counties attended a workshop convened April 23, 2018, to share preliminary audit findings, and code audit advice from both the Metro and state perspective intended to inform code update efforts. Metro will offer continuing technical assistance with code amendment and implementation issues over the rest of the year, as detailed in Section 7 on next steps, and monitor ADU code updates to identify emerging trends and issues.

## Code audit findings

Comprehensive ADU regulations have been adopted in nearly every Metro jurisdiction, with limited exceptions, and address a similar suite of issues including dimensional standards, design standards, occupancy standards and permitting requirements.

Adopted regulations and practices are less consistent in addressing infrastructure requirements, including SDCs, and in providing application and informational materials for would-be ADU builders.

The most significant regulatory barriers to ADUs identified through the audit were owner-occupancy requirements, off-street parking requirements, and significant dimensional restrictions such as 20-foot rear-yard setbacks, one-story ADU height limits, or ADU size limits below 600 SF.

SDCs for ADUs were reported to have an outsize effect on discouraging ADU construction, however, even cities with reduced or eliminated SDCs did not report a significant boost in ADU permits, except for Portland. Conditional use review requirements are generally considered a barrier to ADUs, but none were observed in the greater Portland region.

One overarching trend is that cities appear to be learning from and copying each other, with certain code provisions repeated among neighboring cities, or even across the larger metropolitan area. For example, Tigard and Tualatin have similar provisions limiting ADUs to internal and attached ADUs, as do Gresham and Troutdale.

Many cities have nearly identical code language on required design elements. There may be a feeling of “safety in numbers,” with one city feeling more



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comfortable with certain provisions because they are already being used in a neighboring city with few apparent ill effects.

Another takeaway is the diversity of regulatory combinations and the resulting cumulative impact on ADU development feasibility. Codes generally fell along a spectrum from less supportive to more supportive depending on the exact mix of code provisions, rather than a dichotomy of prohibitive and permissive: jurisdictions do not seem to have taken an “all or nothing” approach but rather crafted codes to respond to local priorities.

Many codes excluded some of the most significant barriers but included one or more “poison pills” (such as those listed on page 12) that could nevertheless make it difficult to develop.

For example, West Linn has no owner-occupancy requirement but does have one minimum off-street parking space required and design compatibility standards. King City has no owner occupancy requirement and many sites are exempt from providing off-street parking, but the high minimum lot size to develop an ADU disqualifies many potential ADUs.

## Significant ADU regulatory barriers

- Off-street parking requirements, particularly if separate access is required and tandem parking is not permitted.
- Owner-occupancy requirements.
- Significant dimensional restrictions such as 20-foot rear-yard setbacks, one-story ADU height limits, or ADU size limits below 600 SF.
- Limiting types of ADUs, such as prohibiting detached ADUs.
- Design compatibility requirements with main dwelling.
- System development charges (SDCs).



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[accessorydwellings.org](http://accessorydwellings.org)

Portland is unique for having removed all of the most significant barriers, coupled with the current SDC waiver.

Among the codes outside of Portland, fewer barriers generally seem to support ADU development, such as examples in West Linn, Hillsboro and Wilsonville, compared to jurisdictions with several significant barriers that have seen limited ADU development.

### A. Existence of Regulations

The vast majority of jurisdictions have code provisions to permit some type of ADU development. Of the 27 jurisdictions audited, only two jurisdictions did not have ADU codes: Multnomah County and Johnson City, both of which have unique factors limiting ADU development potential.

Multnomah County staff reports only 600 homes in urban areas of the UGB that could be eligible for ADU development. However, to comply with SB 1051 requirements, the County adopted ADU regulations on June 7, 2018, after the audit was completed, to permit ADUs within those urban areas.

No records were found for ADU regulations in Johnson City, home to approximately 500 residents where 90 percent of dwellings are manufactured homes, which are less likely to have flexibility for addition of an ADU, particularly those within manufactured home parks.

The majority of ADU codes were initially developed around 2000, and many have not been updated since. It seems likely that the frequency of updates and the number of ADUs built are directly related.

That is, the more ADUs are built, the more the code is examined and revised, whereas jurisdictions with no ADU development leave the code unchanged, potentially perpetuating barriers to development.

### B. Number and Type of ADUs

The prevailing code approach is to permit one ADU per residential lot, including all types of ADUs. The majority of codes audited permit one ADU per lot, rather than per single-family dwelling as required by SB 1051.



This likely has a limited impact on actual ADU feasibility, given that most single-family houses are built on individual lots, but such language does not comply with state requirements. Only three jurisdictions clearly permit ADUs on a per dwelling basis rather than per lot. No codes permit more than one ADU per dwelling or per lot, however, several cities, such as Tigard and Portland, are considering whether to permit two ADUs per dwelling.

Most codes permit detached, attached, and internal ADUs, but a notable minority limit detached ADUs, potentially to encourage retention of garages for off-street parking or to minimize impact of ADUs by confining them within the existing dwelling.

Gresham and Rivergrove do not allow any detached ADUs unless over a garage. Tigard does not permit new detached ADUs, and prohibits garage conversions unless the garage is replaced. Troutdale and Tualatin prohibit all new or converted detached ADUs, and Troutdale further prohibits conversion of an attached garage for use as an ADU.

### C. Where Allowed

All codes allow ADUs in all or almost all single-family detached residential districts, and most allow ADUs in all zones where single-family detached residences are permitted even if it is not a primary use.

The limited exceptions tend to be zones with narrow applicability, such as overlay zones or subdistricts, or unique situations such as an overwater zone in Lake Oswego where homes are only allowed on pilings over water and ADUs are not permitted.

Additional borderline situations included ADU limitations in zones where existing homes are explicitly permitted but no new ones are allowed, in mixed-use zones where single-family detached dwellings are permitted as part of a larger mix of uses, and for lots with attached single-family dwellings.

The majority of jurisdictions prohibit ADUs in these situations, which fall outside of state and Metro requirements to allow ADUs in zones where single-family detached dwellings are permitted. A small minority of jurisdictions has explicitly permitted ADUs in such situations to expand ADU development potential.

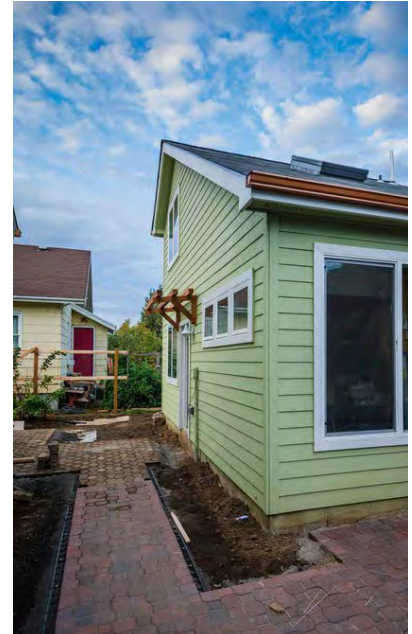


Photo credit:  
[accessorydwellings.org](http://accessorydwellings.org)



Photo credit:  
accessorydwellings.org

For example, Wilsonville, Clackamas County and Hillsboro permit ADUs with attached single-family dwellings as well as detached dwellings. Washington County is unique in permitting ADUs as part of some cottage housing developments.

Caution: Some regulations intentionally or inadvertently disqualify many existing lots from developing ADUs, even if ADUs are a permitted use, through minimum lot size requirements or nonconforming lot limitations, and this may not be fully captured in the code audit matrix in Appendix A.

An example of the former is King City. ADUs are permitted in all zones where single-family detached dwellings are permitted, but ADUs are only permitted on lots 7,500 SF or larger while minimum lot sizes for the residential zones range from 2,400 to 5,000 SF. Thus, few existing lots are likely to meet the minimum lot size requirements for ADUs.

Codes were mostly silent on whether nonconforming lots, that is, legally created lots that are smaller than the minimum lot size under current zoning, could be developed with an ADU. Hillsboro directly addressed the issue by limiting ADUs to lots that meet the minimum lot size, and many other jurisdictions may interpret their nonconforming standards to similarly prohibit ADUs on nonconforming lots.

As a practical matter, smaller lots may not have room to add ADUs regardless of the zoning; Wilsonville noted that many new, master planned developments with intentionally smaller lots and higher lot coverage were not conducive to adding ADUs because of lack of available lot area.

#### **D. Dimensional Standards**

Dimensional standards apply to the size of the ADU and to where on the lot ADUs may be placed. ADU dimensional standards were evaluated for impacts to ADU development feasibility, and compared to dimensions for the primary dwelling and other accessory structures to understand the relative flexibility of ADU standards. Many codes default to the same dimensional standards as the primary dwelling, or to the standards for other detached accessory structures. Though using similar standards may seem reasonable, in practice they can be difficult to interpret or inappropriately scaled for ADU construction.

## Setbacks

Setbacks generally default to those for the primary dwelling or for similarly sized accessory structures. A quarter of jurisdictions has an additional standard requiring detached ADUs to be set back relative to the primary dwelling, measured in a variety of ways including minimum setback from the front property line, from the rear of the primary dwelling, or from the front façade of the primary dwelling.

No jurisdictions differentiate rear and side setbacks for ADUs, instead using standards for primary dwelling or accessory structures. Base zone setbacks were not fully audited as part of this project, but merit further review by individual jurisdictions to ensure they are not overly restrictive for ADU development.

A limited survey of setbacks showed that 20 to 25-foot rear setbacks apply in many single-family dwelling zones, which ADU developers report can be a significant obstacle to fitting a detached ADU on a standard lot. Some cities tie detached ADU setbacks to those for accessory structures, which generally require a greater setback for larger and taller structures; ADUs are typically larger than garden sheds or greenhouses, however, and few would likely qualify for the reduced setbacks.

One unique approach to ensure adequate yard space without a uniform rear setback is a minimum outdoor space standard, used by Washington County and Portland, which requires a yard meeting a minimum total size and minimum dimensions, but with the flexibility to locate the yard anywhere in the side and rear setbacks which frees up portions of the remaining side and rear setbacks for siting an ADU.



Photo credit: [accessorydwellings.org](http://accessorydwellings.org)

## Height

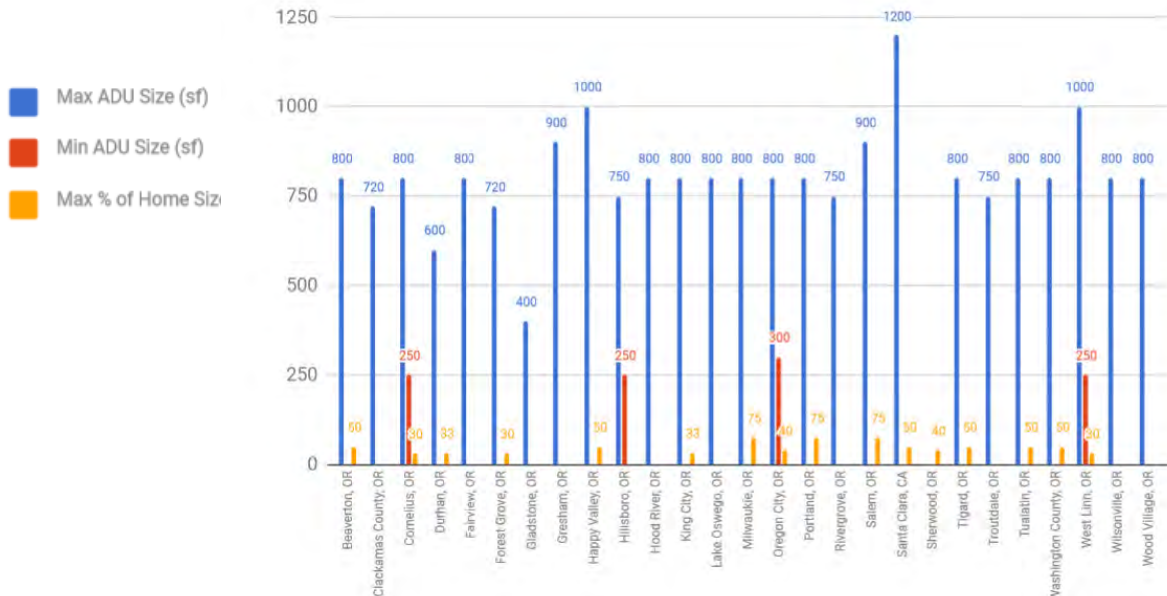
For detached ADUs, the most common height standard is 20 to 25 feet, in line with best practices to permit two-story and over-garage units. There are a few outliers limiting height to 12 to 15 feet or one story, which is not recommended. ADU developers report that two-story ADU construction is a desirable option for some lots in order to minimize the ADU footprint.

A few cities have tiered height standards, with taller heights allowed through a more detailed review process (Milwaukie) or outside of setbacks (Portland). Almost all codes limit height for attached and internal ADUs to the same height as the primary dwelling, typically meaning the maximum height permitted in the underlying zone but a few codes, such as West Linn's, specifically limit ADU height to the height of the existing primary dwelling.

## Unit size

The large majority of jurisdictions uses a maximum building size limit of 720 to 1,000 square feet for ADUs, with 800 square feet the most common maximum size. About half of the jurisdictions also ties the maximum size to a percentage of the primary dwelling's size ranging from 30-75 percent; this is generally intended to keep ADUs in proportion to existing development.

Figure 2: ADU size regulations. Source: Multnomah County Department of Community Services Land Use Planning Division



In practice this limitation has equity implications because it disproportionately limits ADU development on lots with smaller dwellings, typically owned by lower-income households, with no impact on larger homes owned by higher-income households. A few codes included size restrictions by type of ADU (attached or detached) or zone where the ADU is built, or maximum number of bedrooms.

### *Lot Coverage*

All cities default to the maximum lot coverage standards allowed in the base zones, to include the total coverage of the primary dwelling, ADU and any accessory structures, except Portland which specifically limits ADUs and all detached accessory structures to a combined 15 percent lot coverage.

A representative sample of base standards indicated that many jurisdictions limit lot coverage to 30-40 percent, which may be a tight fit for a home and ADU. For example, West Linn limits lots in the R-7 zone to combined 35 percent lot coverage and 0.45 FAR, which would translate to 2,450 SF lot coverage and 3,150 total SF for the primary dwelling and ADU. While not overly restrictive, some sites potentially near these limits could benefit from additional flexibility. For example, Milwaukie permits a 5 percent increase in lot coverage for detached ADUs.

### **E. Occupancy Quotas**

Over two-thirds of jurisdictions have no stated limit on ADU occupants and treat an ADU as a dwelling – similar to any other dwelling such as a house or apartment – that may be occupied by a ‘family’ or ‘household’, typically defined as any number of related individuals or up to five unrelated individuals. While most jurisdictions thus allow two ‘families’ to occupy the lot where the ADU is located, Portland, Sherwood and Wood Village limit occupancy to one family/household quota shared between the ADU and primary dwelling.

This limitation is likely intended to keep total site occupancy at a level comparable to other properties in the neighborhood developed with a single-family dwelling. The remaining handful of jurisdictions use a variety of regulations to limit occupancy, either an overall limit of two to three occupants or an allowed ratio of one occupant per 250 SF.

### **Unique ADU regulations**

- Yurts may be used as an ADU, exempt from design standards. (Milwaukie)
- 15 percent size bonus for ADA-accessible ADUs. (Washington County)
- Six total off-street parking spaces required to serve primary dwelling and ADU, including three covered, enclosed spaces. (Rivergrove)
- 7,500 SF minimum lot size to develop ADUs, when minimum lot sizes for affected zones range from 2,000 to 5,000 SF. (King City)
- Windows must be arranged above ground level when located within 20 feet of the property line. (Milwaukie)

These regulations may have a cascading impact, exemplified by West Linn: occupancy is limited to one person per 250 SF, and a maximum permitted ADU size of 1,000 SF could accommodate four occupants, except that detached ADUs are limited to 30 percent of the primary dwelling size, such that only a 3,333 SF primary dwelling would qualify for a 1,000-SF, four-person ADU. With a maximum of 0.45 FAR permitted, only lots close to 10,000 SF could accommodate the combined dwelling and ADU, and smaller lots would be effectively limited to fewer ADU occupants.

In practice, few cities actively enforce occupancy limits for any type of dwelling, including ADUs, and ADU occupancy rates are not likely to exceed occupancy limits due to their small size. There were no reported code enforcement concerns around occupancy limits among the jurisdictions interviewed.

## **F. Design**

The large majority of codes require some degree of design compatibility between the ADU and the primary dwelling. Most of those list specific elements, from siding materials, eave depth, colors, roof form and materials to window treatments and proportions, that must be compatible; this specificity about elements helps make the code more objective, but many codes still use vague, discretionary language requiring those elements to be consistent with the primary dwelling.



*Photo credit: accessorydwellings.org*

Though the approach is similar, the precise code wording varies across jurisdictions: design elements are required to be “similar,” “consistent,” “same or similar,” “the same or visually similar,” “match,” “generally match,” “match or be the same as,” “compatible,” “same or visually match,” “substantially the same,” “conform to the degree reasonably feasible,” or be “architecturally consistent.”

Only five jurisdictions have no design compatibility standards, and an additional three only apply compatibility standards to attached ADUs. One specific design element required by many codes is to restrict any new street-facing entrances for the ADU, presumably to preserve the single-family ‘character’ of homes.

While design compatibility is generally identified as important for maintaining neighborhood character, both ADU developers and regulators noted that it can limit design options, particularly in cases where the primary dwelling design may not be high quality, and it can be difficult to demonstrate whether a particular design does or does not satisfy the standard. Design standards will be under heightened scrutiny to meet new state requirements for “clear and objective” standards.

### **G. Comparison to ADU alternatives**

To understand the relative complexity of standards and processes for ADUs, the audit reviewed requirements for similar projects including home additions, new detached accessory structures such as garages and guest houses. There is potential concern that non-ADU standards that are significantly more permissive than ADU standards may incentivize construction of illegal ADUs in accessory structures as an easier work-around.

The main points of comparison were dimensional standards, design requirements, permitting requirements, and SDCs. Dimensional standards for accessory structures are largely similar to those for ADUs of comparable size; many accessory structure standards include reduced setbacks proportionate to the size of the structure, such as a 3-foot setback for a 200-SF structure, but no relative reduction for larger accessory structures compared to ADUs.



*Photo credit:  
accessorydwellings.org*

In some instances the ADU standards are more generous, with ADU standards notably allowing detached structures closer to 800 SF and accessory structures often limited to 400-500 SF. However, there are almost no design standards for accessory structures compared to ADUs, and no land use permitting required, which could make the accessory structures relatively easier to construct.

SDCs associated with ADUs were reported as a primary deterrent to submitting a project as an ADU rather than an accessory structure or addition. In interviews, many jurisdictional staff were familiar with this type of project – one called such projects the “everything but” meaning “everything but” a stove and oven, since adding a stove meets the definition of a permanent cooking facility, thus meeting the definition of a dwelling unit and an ADU. Other jurisdictional staff described a surprising number of homeowners submitting permits for pottery studios, complete with a 220V plug needed for the pottery kiln, which coincidentally is the same plug needed for an oven.

Jurisdictions were asked to estimate the number or ratio of unpermitted ADUs to permitted ADUs to better understand the relative temptation of “everything but.” Nearly every jurisdiction had an example of one or two that were addressed through code enforcement, but no jurisdictions reported a wide-spread, prevalent trend of unpermitted ADUs masquerading as accessory structures or home additions.



*Photo credit: accessorydwelling.org*



Several cities also permit guest houses, similar to ADUs but without permanent cooking facilities and sometimes with occupancy time limits. Of the five cities and counties that permit guest houses, the guest houses are typically allowed under similar situations as ADUs, but would be exempt from SDCs.

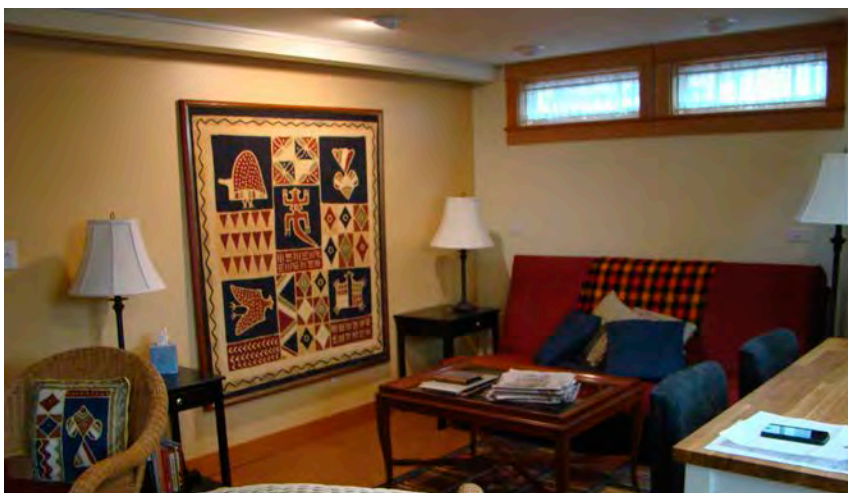
However, none of these jurisdictions reported significant numbers of known guest houses, either because they are less understood or less desirable without a kitchen. Guest house standards are evenly split on whether a guest house is permitted in addition to an ADU or not.

### **H. Occupancy limits**

Just over half of jurisdictions require owner occupancy of either the primary dwelling or the ADU, and half of those jurisdictions require a recorded deed restriction to that effect. No owner-occupancy limits were identified for other types of dwellings.

A few jurisdictions permit minor permutations of the owner-occupancy requirements to permit a family member to occupy the owner unit, or to limit required residency to seven months of the year provided the owner-occupied unit is not rented out during the remainder of the year.

Washington County has a unique provision requiring owner occupancy unless the property is owned by a nonprofit serving persons with a developmental disability; staff explained that the provision was developed for a local nonprofit to facilitate a specific project that has since been built and is operating successfully.



*Photo credit: accessorydwellings.org*



Photo credit:  
buildinganadu.org



Photo credit:  
accessorydwellings.org

Owner-occupancy requirements are unique in that they create an ongoing use restriction rather than a standard that can be evaluated at a single point in time, requiring ongoing monitoring and potential code enforcement actions. Jurisdictions reported that owner occupancy enforcement rarely came up for ADUs, except in individual code enforcement cases.

Owner-occupancy regulations have a mix of potential impacts on ADU development feasibility. In the initial stage, many homeowners may not have any concerns about the owner-occupancy requirements because many do intend to continue living in their homes, though some express reservations or concerns about the limitations or the deed restriction requirements.

More significantly, however, the restrictions can reduce the assessed value of the ADU under many financing and assessment methodologies, making it more difficult to obtain financing for initial ADU construction and limiting property resale value in the long-term.

Owner-occupancy restrictions are often promoted as a tool to limit short-term rentals of ADUs. Only Portland and Milwaukie have developed specific short-term rental regulations to specifically address concerns around short-term rentals, and they regulate ADUs the same as other dwellings.

Concern about ADUs being used a short-term rentals, and desire for ADUs to be reserved for long-term housing, informed the recent Portland measure to permanently waive SDCs for ADUs—provided that homeowners sign a deed restriction prohibiting short-term rentals.

ADU developers report that some of their clients have in fact use their ADUs for short-term rentals for a limited time, primarily as a way to recoup some of costs associated with building the ADU, but that many then transition to long-term rentals or use by family members.

### **I. Off-street parking**

The large majority of jurisdictions require off-street parking for ADUs, with additional parking locational standards that can significantly affect the overall impact of the off-street parking requirements.

The most common requirement is one off-street parking space for an ADU, reported in three-quarters of jurisdictions, though over one-third of those had an option to waive the off-street requirement if on-street parking was available adjacent to the site. Three jurisdictions had no off-street parking requirement for ADUs: Portland, Durham and King City.

When considering the total impact of off-street parking requirements for the site, just over half of jurisdictions require a total of two off-street parking spaces for the ADU and primary dwelling, while nearly a third of jurisdictions require more than two total off-street parking spaces. More than two spaces may have greater impacts on feasibility of ADU development because of the greater site area required for parking.

Rivergrove had the highest total parking requirement, six spaces total for a primary dwelling and for an ADU with one bedroom, including three covered, enclosed parking spaces, and even more parking for larger ADUs.

There is significant diversity and complexity of parking-related regulations, some that lessen and others that increase the impact of off-street requirements. Supportive regulations include allowing the portion of the driveway in the yard setbacks to count towards required parking spaces, allowing tandem parking to count multiple parking spaces in the driveway, and most significantly allowing adjacent on-street parking to fulfill ADU parking requirements, effectively eliminating the off-street parking requirements for many sites.

Problematic regulations include requiring covered, enclosed parking spaces, requiring replacement of any garages converted to an ADU, requiring separate driveway access for the ADU and primary dwelling parking, and prohibiting parking in the first 10 to 20 feet of the driveway. Parking standards that require a range of parking spaces for dwellings are also concerning as they create uncertainty and could be used to effectively block ADU development.

An example is Gresham's requirement for one space for the ADU and two to three spaces for the primary dwelling, or "as many spaces deemed necessary by reviewer to accommodate the actual number of vehicles" for the ADU and primary dwelling.



Photo credit:  
[buildinganadu.org](http://buildinganadu.org)



Photo credit:  
buildinganadu.org

Off-street parking requirements were identified by ADU developers as one of the top barriers to ADU site development feasibility, though jurisdictional staff had mixed reports about the perceived impact of parking requirements for homeowners in their jurisdictions depending on prevalent lot sizes and common expectations of car usage and parking availability.

## J. Other zoning standards

There were a limited number of special concerns outside of the main categories and there was general convergence on the topics included in ADU regulations. The most common issue addressed is privacy and screening between an ADU and neighboring single-family properties, including either minimum 4 to 6-foot tall fencing or landscaping requirements or more discretionary standards for an “appropriate” level of screening, included in regulations in Happy Valley, Lake Oswego and Milwaukie. One-off regulations, addressed in only one or two jurisdictions, included:

- Limiting types of home occupations permitted with ADUs (Portland, Tigard)
- Explicitly permitting simultaneous construction of ADUs and primary dwellings (Sherwood)
- Prohibiting occupation of an ADU before the primary dwelling (Gresham)
- Limiting ADUs to 50 percent of the lots per block face (Fairview)
- Prohibiting land division or separate ownership of ADU and primary dwelling (Sherwood, Tualatin)

Few of these concepts emerged as either critical needs or concerns for jurisdictional staff or ADU developers, and were likely developed in response to specific local issues. ADU developers did identify permitting simultaneous construction and occupation of ADU prior to the primary dwelling as supportive practices, particularly in communities with significant new construction, but acknowledged these as “extra” rather than central requirements.

## K. Application requirements

Three-quarters of jurisdictions require some type of land use review in addition to building permit review; a handful either have a combined land use and building permit review option or simply require building permit review.

Of those requiring land use review, jurisdictions are split nearly evenly between requiring Type I – an administrative review with no discretion applied by the staff reviewer – and Type II land use review, which requires the staff reviewer to apply limited discretion to interpret standards and allows for a written public comment period.

Slightly more than half of jurisdictions required a Type I review, with the other half requiring a Type II or higher level review for some or all ADUs. Some triggers for higher-level review include larger ADUs, taller ADUs, detached ADUs, or ADUs located in specific zoning districts. Cities requiring Type II review generally had more discretionary or onerous ADU regulations, such as design compatibility requirements.

No jurisdictions uniformly require conditional use review, the most onerous review type involving a public hearing and documentation of how the ADU would not impact neighboring properties, though Cornelius requires it in limited circumstances and Rivergrove requires Planning Commission review of all ADU applications.

## L. Infrastructure requirements

The code audit examined jurisdictional regulations on infrastructure improvements required with ADUs including any separate water and sewer connection requirements, stormwater treatment requirements for additional impervious surface, or street improvements if lot frontage is currently substandard.

Over two-thirds of ADU regulations do not specifically address these infrastructure requirements, and those regulations that were identified generally state that infrastructure improvements are required on a case-by-case basis to ensure adequate capacity to serve the site.

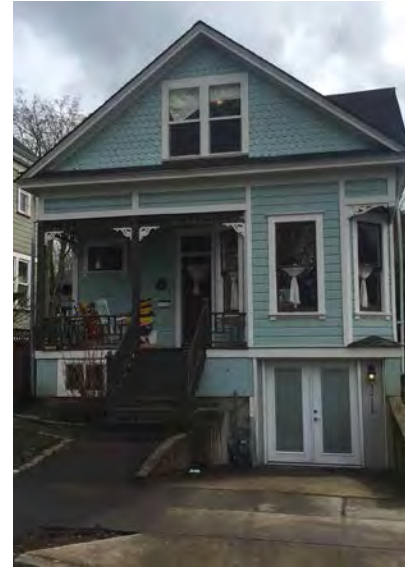


Photo credit:  
[buildinganadu.org](http://buildinganadu.org)



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[buildinganadu.org](http://buildinganadu.org)

In part this highlights the different regulatory approaches for land use and public works issues. Sewer and water capacity, stormwater treatment requirements, and street improvement requirements are generally site-specific, or may be addressed through more general policies rather than ADU-specific policies.

For example, Portland ADU standards include a cross-reference to stormwater treatment requirements for any development creating 500 SF or more of new impervious surface, for all development types not just ADUs.

More commonly, utility requirements and thresholds triggering improvements are included in separate code chapters and not explicitly referenced in ADU standards; those thresholds typically apply to total size or value of new construction, and as such are not ADU-specific, making it more difficult to identify such standards.

For example, Oregon City's code chapter on street and sidewalk improvements requires that new construction or additions to single-family homes that exceed 50 percent of the existing square footage trigger street and sidewalk improvements, if needed; ADUs will likely not trigger such improvements because ADU size is limited to 40 percent of the existing square footage, but the policy does not clearly exempt ADUs. Milwaukie staff noted that new frontage improvements can be triggered by ADU construction, and are a significant obstacle to ADU development.

Another complication in determining infrastructure requirements is that many jurisdictions, particularly smaller suburban districts, are served by a combination of city and district utility providers, such as Clean Water Services which provides sewer and stormwater services to many cities and unincorporated areas in Washington County, so district standards for utility improvements are not regulated at the local level.

Unfortunately, the application of non-ADU specific engineering standards, sometimes administered by utility providers unaware of ADU-specific issues, means that utility improvement requirements for ADUs generally boil down to "it depends," and could not be fully captured in this audit.

## M. System development charges

SDCs are one-time fees assessed on new development intended to support expanded infrastructure capacity needed to serve said development. SDCs or similar one-time development fees for residential development including ADUs are typically assessed for water, sewer, transportation, parks, schools, and sometimes for stormwater. ADU developers and jurisdictional staff repeatedly identified high SDC rates as a barrier to ADU development, citing concern that adding \$10-20,000 in fees to ADU projects overran many project budgets and homeowners' willingness to pay.

**Table 1:** Total SDCs applied to new ADUs for selected Metro jurisdictions

	<b>SDCs</b>	<b>Notes</b>
Hillsboro	\$0	City practice is to not apply SDCs at this time
Portland	\$0	Temporary waivers since 2010, made permanent in 2018 for ADUs not used as short-term rentals
Rivergrove	\$0	No SDCs assessed for individual dwellings, only for subdivisions
Tigard	\$0	City practice is to not apply SDCs at this time
Tualatin	\$0	City practice is to not apply SDCs at this time
Wilsonville	\$0	Permanent waiver since 2010
Wood Village	\$0	For sole permitted ADU to date, a converted space above a garage. SDCs for single-family dwellings would be applied to ADUs in new structures.
Fairview	\$2,417.43	Includes parks and stormwater.
Gresham	\$4,729 - 7,823	Includes parks, transportation and stormwater. Higher fees associated with detached ADU
Happy Valley	\$5,512	Includes transportation and parks.
Beaverton	\$10,823 - 11,831	Higher fees associated with detached ADU
Oregon City	\$14,547	Includes sewer, transportation, and parks. Water may be additional depending on meter size.
Forest Grove	\$15,143 - 22,171	Higher fees assessed for detached ADUs.
Washington County	\$15,600	Average, can range from \$6,000 to 25,000. Estimate includes transportation, parks, and schools. Water and sewer possible but rarely triggered.
Lake Oswego	\$21,324	Includes water, sewer, parks and transportation.

Source: Self-reported by jurisdictions in response to audit inquiry May 2018.



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[accessorydwellings.org](http://accessorydwellings.org)

SDCs are typically due at the time a building permit is issued, meaning that would-be ADU developers must write a check for the full amount before even beginning the project. For infrastructure services, that can be difficult to appreciate, particularly in developed neighborhoods where fees are not immediately translated into additional infrastructure.

SDC price sensitivity is compounded by relative difficulty determining SDC rates. Almost no cities have developed ADU-specific SDC rates, and few offer clarification on which of the existing residential SDC rates apply to an ADU. SDC rates are typically found outside of land use standards, in master fee schedules, info sheets, or fee calculators.

ADU-specific rates or clear explanation of which SDC rates applied to ADUs were identified in the audit for a handful of cities, but the majority of cities did not have clear information available about which category of rates (single-family, multifamily, townhouse or other) to apply to ADUs without specific guidance from jurisdictional staff.

Often planning staff needed to refer to public works departments to provide estimates. There were many variables that may influence the total SDCs for a given ADU even within the same city. Similar to infrastructure improvements noted above, SDCs can be a combination of charges assessed by city and utility service providers, each using different methodologies and adding additional complexity to determining ADU rates.

A representative sample of SDC rates for ADUs reveals a wide range of rates applied to ADUs, from zero to over \$20,000, and the details behind the totals capture a variety of methodologies used to develop those totals.

Only two cities, Portland and Wilsonville, explicitly offer an SDC waiver for ADUs, and an additional five cities reported assessing no SDCs for ADUs as a matter of practice. To add nuance to the common perception that SDCs are a significant barrier to ADU construction, ADU development trends in Portland and Wilsonville under similar SDC waivers have produced differing results. SDC waivers are largely credited with spurring ADU development in Portland: development increased from approximately 50 to 500 ADUs permitted annually after SDCs were waived in 2010.



However in Wilsonville, only seven total ADUs have been permitted since 2000 with no noticeable uptick in permits after the SDC waiver took effect in 2010. In addition to significant real estate market differences between the two cities, another difference that may relate to these divergent outcomes is that Portland’s waiver was heavily publicized and was intended to be temporary – though was in fact extended multiple times – fueling a “beat the deadline” mentality.

In comparison, city practices to not assess SDCs in cities from Hillsboro to Tualatin have not been publicized and were only identified in audit research through discussion with cities, perhaps limiting their efficacy as an ADU development incentive.

#### **N. Information and incentives**

The availability of online information varied greatly between jurisdictions, but generally was minimal. All jurisdictions with adopted ADU regulations made those regulations available online, though some were harder to find than others and all required navigating through the municipal code to locate relevant sections. The audit specifically identified information written for prospective developers explaining the ADU regulations and permitting requirements.

ADU developers cited Portland’s ADU website as the best local example, providing centralized, ADU-specific information including an overview of requirements, worksheets, application forms, and explanation of the permitting and inspection process.

Informational materials available online, specific to ADUs, were identified in slightly less than half of local jurisdictions; the



*Photo credit: accessorydwellings.org*

breadth and depth varied widely from a one-page info sheet summarizing land use code requirements for accessory structures generally with a few lines about ADUs, to a comprehensive packet with diagrams and checklists.

The most comprehensive materials detailed site requirements, ADU regulations, permitting procedures including any necessary application forms, and fees including SDCs. Of the information available, nearly all was specific to land use regulations with little available on engineering or building-related requirements.

## Related issue: CC&Rs' Impact on ADU Feasibility



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[accessorydwellings.org](http://accessorydwellings.org)

Codes, covenants and restrictions (CC&Rs) are a set of rules and limits imposed on a residential development by the Homeowners Association (HOA), in which all homeowners agree to abide by certain standards for the neighborhood. CC&Rs are a private contract between homeowners and HOAs, separate from local zoning regulations, meaning that the jurisdiction cannot override CC&Rs nor can they enforce them. Generally CC&Rs can be more restrictive than local zoning regulations, but not less. Only HOAs have the power to amend CC&Rs.

Existing CC&Rs may prevent ADU development. A small sampling of Metro-area CC&Rs indicated that CC&Rs have moderate variation over time, depending on the era and place when they were recorded, and there was no single format. Generally the sampled CC&Rs included residential use and structure restrictions, which could be interpreted to restrict additional dwelling units such as an ADU, though none addressed ADUs explicitly.

Identified standards included:

- Properties limited to residential use only.
- Structures limited to one residential dwelling and accessory structures, restricted in the most limited version to “One single-family dwelling...designed for occupancy by not more than one family, together with a private garage.” Even without the one family restriction, such structural restrictions would make it difficult to build a detached ADU.
- Garage use limited to vehicle parking only, or other restrictions on parking in driveways or on the street that would compel use of garages for vehicles and effectively prohibiting conversion into an ADU.
- Architectural review required for any site improvements, which is inherently discretionary and could be used by the review board to deny any ADUs. For example, review intended to “assume quality of workmanship and materials and harmony between exterior design and the existing improvements and landscaping.”

There has been significant interest in whether CC&Rs generally prohibit ADUs, whether jurisdictions can override any such restrictions, and how widespread any such limitations on ADUs may be. Jurisdictions could consider an educational effort to engage interested homeowners to amend the CC&Rs for their neighborhood, but it would be an individual rather than comprehensive strategy outside of the jurisdiction's typical activities.

Jurisdictions may have the opportunity to limit any CC&Rs provisions for new development that interfere with ADU development. For example, the City of Medford requires that:

“A development’s Conditions, Covenants, and Restrictions (CC&Rs) or similar legal instrument recorded subsequent to the effective date of this ordinance shall not prohibit or limit the construction and use of ADUs meeting the standards and requirements of the City of Medford.” (MMC 10.821(9).)

There is no simple measurement of the effect of CC&Rs on potential ADU development feasibility. Generally suburban jurisdictions with high growth rates over the past 30 to 40 years fueled by greenfield development of large parcels are estimated to have a higher percentage of homes subject to CC&Rs that might inhibit ADU development compared to older, more urban communities with development limited to smaller infill sites, notably Portland.

The first challenge would be to determine how many single-family detached homes in a jurisdiction, or the Metro UGB more broadly, are subject to CC&Rs, which could be estimated based on the ratio of overall residential permit data and recorded subdivision plats, with the assumption that all subdivisions were subject to CC&Rs.



Photo credit: [accessorydwellings.org](http://accessorydwellings.org)

The second step would be to estimate how many of those CC&Rs might be interpreted to restrict ADUs, possibly by making assumptions about prevailing practices specific to the era in which the CC&Rs were recorded.

A related consideration should be whether there are significant differences between typically development patterns of CC&R-restricted communities, compared to those of non-CC&R-restricted communities that might make it less likely or feasible for an ADU to be built in those communities regardless of any CC&R restrictions.

For example, city staff in Wilsonville reported that they see most ADU permits in the Old Town area because homes were built on lots with enough remaining area capable of accommodating an ADU.

In contrast, many of the homes such as those in the recent 2,700-unit Villebois development, are built on smaller lots with reduced setbacks, such that an ADU could only be added by converting a portion of the existing home rather than adding a detached or attached structure.

## Regional ADU development trends

A comparison of data on permitted ADUs, unpermitted ADUs, and inquiries around ADUs provides additional insight into the ADU development climate, and any potential impacts of ADU regulations to support or restrict development.

**Table 2:** Over-the-counter inquiries related to ADUs for selected jurisdictions

Jurisdiction	Estimated ADU Inquiries	Notes
Beaverton	One per week	Approximately one in 50 inquiries lead to permitted ADUs
Fairview	One per 1-2 months	
Forest Grove	A couple per month	Very few are permitted due to the required SDCs
Gresham	5% of counter inquiries related to ADUs	Approximately 10-20% of inquiries lead to permitted ADUs
Happy Valley	Unknown	One in 10 inquiries may lead to permitted ADUs
Hillsboro	10 inquiries per month	One in three inquiries may submit an ADU application
King City	No interest	
Lake Oswego	Unknown	7 out of 22 projects that completed pre-application conference have resulted in permitted ADUs since 2012.
Milwaukie	High level of interest	Many choose not construct ADUs due to SDCs, owner-occupancy requirements, frontage improvements.
Oregon City	A few per week	Vast majority do not go on to construct ADUs, often choose an accessory structure without a full kitchen instead.
Rivergrove	2-3 in the last year	
Troutdale	Greater interest in tiny homes than ADUs	
West Linn	Increase in the past year, but not a lot	
Wilsonville	Limited interest	
Wood Village	Increased interest over the past two years	
Washington County	1-2 inquiries per day	

Source: Self-reported by jurisdictions in response to audit inquiry May 2018; not all jurisdictions provided estimates.

**Table 3:** Total permitted ADUs by jurisdiction ranked by ADU adoption rates, approximately 2000 to 2018

<b>Jurisdiction</b>	<b>Total Permitted ADUs</b>	<b>Adoption Rate (ADUs per 1,000 population)</b>	<b>Notes</b>
Forest Grove, OR	0	0	Metro data; local permit data does not differentiate ADUs
Gladstone, OR	0	0	
Johnson City, OR	0	0	ADUs are not permitted
King City, OR	0	0	
Maywood Park, OR	0	0	
Rivergrove, OR	0	0	
Tualatin, OR	0	0	
Gresham, OR	7	0.06	
Troutdale, OR	1	0.06	
Cornelius, OR	1	0.08	
Lake Oswego, OR	7	0.18	From 2012-2017
Beaverton, OR	19	0.2	
Sherwood, OR	5	0.26	
Wilsonville, OR	7	0.32	
Milwaukie, OR	9	0.44	
Hillsboro, OR	47	0.47	
Wood Village, OR	2	0.5	
Tigard, OR	26	0.51	
Happy Valley, OR	10	0.57	
West Linn, OR	15	0.57	From 2012 to 2018
Oregon City, OR	23	0.66	
Durham, OR	1	0.71	
Fairview, OR	7	0.76	
Portland, OR	2,686	4.33	
Clackamas County	Not available	0	
Multnomah County	0	0	Not permitted
Washington County	60	Not available; population estimate of non-urban population within Metro limits not available.	Includes 6 guesthouses, similar to ADUs. May include ADUs outside of Metro UGB.

Source: Metro and self-reported by jurisdictions in response to audit inquiry May 2018; in the case of differing estimates, the higher was used. Population data from 2016 American Community Survey.



Jurisdictions self-reported estimated levels of ADU interest described by many as relatively high, though with significant variation, and relatively low rates of permitted ADUs resulting from those inquiries.

Some of the reported interest levels are significantly higher than actual ADU production to date, as shown in Table 3, but should be understood as general estimates intended to capture broader trends.



Total permitted ADUs around the region remains relatively low outside of Portland. Portland ADUs total an estimated 2,686 permitted since 2000, with 247 permitted ADUs in all other Metro-area jurisdictions combined. Though total numbers would be expected to vary based on the different sizes of respective cities, ADU rates relative to population are also proportionally high for Portland compared to all other jurisdictions, with 4.33 ADUs per 1,000 residents in Portland compared to 0 to 0.76 ADUs per 1,000 residents outside of Portland.

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[accessorydwellings.org](http://accessorydwellings.org)



Variation between cities is difficult to parse, and more difficult still to associate with ADU regulatory practices. Conclusions are further limited by potential limits of the self-reported data; though deemed the best available data source, quality varied widely from cities with spreadsheets tracking ADU permits to looser estimates, making significant comparisons between cities on the basis of ADU development rates less reliable.

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[buildinganadu.org](http://buildinganadu.org)

One predominating trend is that one-third of cities have no permitted ADUs at all. It is unclear how much of the variation among non-Portland jurisdictions with at least one permitted ADU since 2000 can be attributed to presence of supporting ADU regulations, or absence of regulatory barriers.

Higher rates of ADU development might be expected for jurisdictions notably lacking in barriers, such as Wilsonville and Hillsboro that do not charge SDCs for ADUs. Both cities report middle-of-the-pack ADU permits and ADUs per 1,000 residents, lending some support to the theory, but the data is simply too limited to draw such conclusions.

West Linn has generally more restrictive ADU regulations on paper, but a higher ADU adoption rate than either city.

In several jurisdictions including Tigard and Oregon City, a relatively high percentage of the total ADUs are attributable to one new development that elected to construct ADUs simultaneously with new homes.

Research also explored the estimated number of unpermitted ADUs in each jurisdiction. Relatively low numbers of reported unpermitted ADUs – those that function as ADUs but were not permitted as such – may indicate limited regulatory barriers to legal ADU development, or lower levels of ADU interest.

Relatively high numbers of unpermitted ADUs might indicate a desire for ADU development but significant regulatory barriers to permitting them; until recently Los Angeles was the best-known example of this, estimated to have up to 50,000 unpermitted ADUs due to byzantine permitting restrictions. However, low numbers of unpermitted ADUs could indicate the permitting process is relatively free of barriers, there is little demand for ADUs, or both.

Jurisdictional estimates of unpermitted ADUs were relatively low, though that is data that jurisdictions explicitly do not track unless they receive a code enforcement complaint. Anecdotally, jurisdictions reported learning of one to two unpermitted ADUs through code enforcement complaints. Alternative data sources or investigation may be needed to fully answer this question, however, it is unlikely that local jurisdictions with such low numbers of permitted ADUs would have a large “black market” for unpermitted ADUs.

A more useful comparison might be to understand how many “everything but” – that is, a home addition with all the same

features as an ADU except for a stove triggering the definition of a “dwelling unit” and the related permitting and fees – are built in place of an ADU. Such home additions would be difficult to track with most cities’ permitting records because they would be undifferentiated from home additions for other purposes, but anecdotal observations from Washington County, for example, estimated as many as three “everything but” for every one ADU.

Generally, the observed rarity of unpermitted ADUs suggests that demand for ADUs is not yet strong enough in many Metro-area jurisdictions to incentivize such development. Future ADU demand may expose regulatory barriers, such as high SDC fees, that could drive more unpermitted ADU or alternative home expansion projects as a work-around.



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## Vancouver, WA Case Study

Vancouver, WA, right across the river from the audited Metro jurisdictions, recently completed a significant ADU regulatory update that provides a lens for understanding the possibilities for liberalizing ADU regulations and some lessons on how to get there.

Although operating outside of Metro and Oregon state requirements to permit ADUs, city planning staff, community advocates, and interested homeowners worked together to significantly overhaul the existing ADU regulations to respond to increasing community interest in ADUs.

The city was experiencing a lot of interest around ADUs, but off-street parking requirements and an ADU size limitation of 40 percent of the existing dwelling were significant deterrents. Simultaneously, a city-led affordable housing task force came out with a recommendation to update the ADU regulations.

Significant changes with the 2017 amendments included:

- Increasing allowed size from 40 percent to 50 percent of the main dwelling, or 800 SF, whichever was less. The 40 percent limitation had emerged as a concern for homeowners converting one story or a basement of a two-story house, and not being able to use the full floor for the ADU.
- Removing off-street parking requirements, which had emerged as a significant obstacle when trying to fit a parking space on a standard 50 by 100-foot lot.
- Removing owner-occupancy requirements for greater use flexibility, though this was the most debated provision among both staff and elected officials.
- Retaining SDC practices of not assessing impact fees or SDCs for ADUs.

The update process benefited from targeted public outreach and positive local stories that illustrated the benefits of ADUs, culminating in a close vote in favor of the update. Planning department staff drafted the updates in-house relying on local experience, comparative research and internal debate to shape the recommendations.

Public outreach included an early open house and presentations to local neighborhood groups.



Staff focused their messaging on familial ADU benefits, such as opportunities to house older relatives or kids returning home after college, as well as messages about how ADUs can add value to single-family homes and help with mortgage costs.

Staff also reported success framing the discussion in terms of the city's own ADU history, pointing at the modest trend of 60 ADUs permitted in the past decade and limited short-term rental usage across the city to calm any fears about future growth.

The mayor, while not the main proponent, was a literal poster child for the ADU update because she had built an ADU herself; a timely newspaper story about an ADU built for a homeowner's adult child with disabilities also helped make ADUs a personal, relatable issue. The vote was close at both the Planning Commission and the City Council, but the council narrowly voted in favor of all the provisions.

ADU development trends are just starting to respond to the regulatory changes. The city permitted a total of 60 ADUs in the previous decade, averaging six per year, and has now seen a modest increase of eight permits in the first nine months under the updated regulations, but it is still too soon to assess impacts of the new regulations or predict future trends with this limited data.

Staff reports a marked increase in interest around ADUs, as well as the number of inquiries that continue moving forward to ADU permitting and development; the most common concerns now voiced by potential ADU developers are problems outside of the city's control related to building costs and financing.



*Photo credit: accessorydwellings.org*

## Recommended ADU regulatory practices



These recommended ADU code provisions and regulations incorporate observed best practices in the greater Portland region, advice from ADU developers and best practices from across the country.

Recommendations are intended to fulfill state and Metro minimum requirements, with the caveat that the interpretation of “reasonable siting and design standards” for ADUs required under SB 1051 is still an open question. These recommendations deliberately avoid any regulations that could be seen as “unreasonable” as a cautionary approach.



Many recommendations are as simple as discouraging any regulation around a particular area, based on audit findings that such regulations were either a barrier to ADU development without a concurrent benefit, or over-regulation in anticipation of negative impacts that were not in fact observed. A code audit checklist incorporating these recommendations is included in Appendix B.

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[buildinganadu.org](http://buildinganadu.org)

**Type and number of ADUs:** At a minimum, permit one ADU per detached single-family dwelling, not per lot, to meet specific SB 1051 requirements. Consider allowing two ADUs per dwelling, possibly one attached and one detached. Permit all types of ADUs: attached or detached, through new construction or conversion of an existing space or garage.

**Where allowed:** Permit ADUs in all zones where single-family detached dwellings are permitted, and consider whether to permit ADUs in special situations such as in mixed-use zones where single-family detached dwellings are allowed on a limited basis, zones where existing dwellings are permitted but new dwellings are not.

Consider whether to permit ADUs with attached dwellings for additional flexibility, even if they are not likely to be as popular given smaller average lots. Address nonconforming situations by allowing ADUs on nonconforming lots that may not meet dimensional standards such as minimum lot size, and in converted, existing nonconforming accessory structures such as a garage that is within setbacks, provided it does not increase the degree of nonconformity.

Consider whether to allow ADUs in nonconforming use situations, where the single-family detached dwelling is located in a zoning district that does not allow the use and is intended for future redevelopment, where the interface between residential and nonresidential uses may be a concern.

**Dimensional standards:** Make clear which dimensional standards apply to ADUs, whether they are ADU-specific standards, accessory structure standards, or primary dwelling standards.

**Size:** Approximately 800 SF size limit provides sufficient space for ADU development at a scale consistent with most single-family dwellings and surrounding neighborhoods.

Decouple size limit from the size of the primary dwelling in favor of a straight square footage limit for all dwellings, to avoid penalizing smaller dwellings that by definition already have a small footprint and visual presence.

Promote equity by utilizing a uniform size limit in lieu of a percentage to avoid disproportionately restricting ADU potential of smaller homes typically owned by lower-income and disadvantaged households. If a percentage limit is desired, allow ADUs to be at least 50 percent and preferably 75 percent of the size of the primary dwelling.

**Setbacks:** Reduce side and rear setbacks for detached ADUs to 5 to 10 feet, either by reducing standards specific for ADUs and accessory structures or reducing setbacks for the base zones.

Consider additional tools to minimize impacts of ADUs on adjoining properties if warranted, such as: height stepbacks that reduce height closer to the property line, landscape buffering within the setback, or minimum outdoor yard space to ensure open space somewhere in the side and rear yards, such as 400 SF minimum area with no dimension less than 10 feet, in lieu of a uniform 20-foot-wide backyard guaranteed by a rear setback.

**Height:** Allow at least 20 to 25-foot maximum height for detached ADUs depending on whether height is measured as the average or the top of a sloped roof, and up to 35 feet or the base zone maximum height for attached ADUs, to permit two-story ADUs for additional flexibility, such as ADUs over a garage.



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**Coverage:** Allow 40 to 50 percent lot coverage, and at least 0.5 FAR if used, preferably higher, to provide greater flexibility for adding ADUs to existing developed lots. Alternatively, consider a small lot coverage and/or FAR bonus for ADUs such as 5-10 percent to mitigate concerns about large primary dwellings.



**Design standards:** Require no or minimal design standards for ADUs, and do not require design compatibility for ADUs and primary dwellings. Homeowners developing ADUs have a vested interest in the design and visual impact of the ADU, at least after accounting for matters of taste.



Standards about compatibility are vague and difficult to apply, many do not meet the state requirements for “clear and objective” standards, and may increase costs associated with custom designing an ADU to match a particular house. In some cases, the primary dwelling’s design may be undesirable and not worthy of repeating.

Absence of discretionary design standards should also simplify the land use review process. If minimum design standards are desired, use clear and objective standards such as minimum window trim requirements, roof pitch, or eave projections.

**Accessory structure standards:** Align dimensional, design and required review standards for accessory structures and ADUs for parity and to reduce incentives for unpermitted residential use of accessory structures.

Focus particularly on dimensional standards for similarly sized structures, such as a detached garage and detached ADU. Review guest house standards, if they exist, to establish parity and to clarify whether both guest houses and ADUs are permitted on the same lot.

Photo credit:  
buildinganadu.org

Consider the need for guest houses separate from ADUs, and potential to consolidate standards.

**Owner occupancy:** Avoid any owner-occupancy requirements for ADUs or primary dwellings, which limit the normalization of ADUs as a mainstream residential option and often create financing limitations for ADUs. Eliminating owner-occupancy requirements also minimizes code enforcement concerns about tenant residency status, which is not regulated for any other type of residence.

**Occupancy quotas:** Define an ADU as a dwelling that may be occupied by a ‘household’ or ‘family,’ same as any other dwelling ranging from studio apartments to detached single-family dwellings, which provides maximum flexibility for ADU use and requires minimum ongoing oversight by code enforcement to monitor number of occupants.

**Parking requirements:** Avoid requirements for off-street parking for ADUs. If parking is a significant political or neighborhood concern, consider a low parking standard of one space per ADU that can be located on-street if available or off-street.

Provide flexible off-street configuration standards including allowing tandem parking in driveways, shared access to parking spaces for both dwellings, and allowing parking within the portion of driveway that crosses required yards.

Also review requirements for off-street parking for the primary dwelling to ensure that primary dwelling parking spaces or garage requirements are limited to one or two spaces maximum and do not take up a significant portion of the site and limit ADU development feasibility.

**Additional regulations:** Consider any community-specific concerns and address through tailored requirements as needed, but generally limit the scope of regulations as tightly as possible to avoid over-regulation.

- If privacy between ADUs and abutting properties is a concern, provide a menu of clear and objective options including window placement, fences or vegetative buffers.
- Consider explicitly permitting simultaneous construction of primary dwellings and ADUs, and permitting occupation of the ADU earlier than the primary dwelling to better support ADU development in communities with significant new construction.

**Application requirements:** Review ADUs through a Type I land use process either in advance of or combined with building permit review, or simply require a building permit application similar to most single-family dwellings.

Optimize internal coordination between planning and building departments to ensure that the permitting process is “one-stop shopping” for applicants.

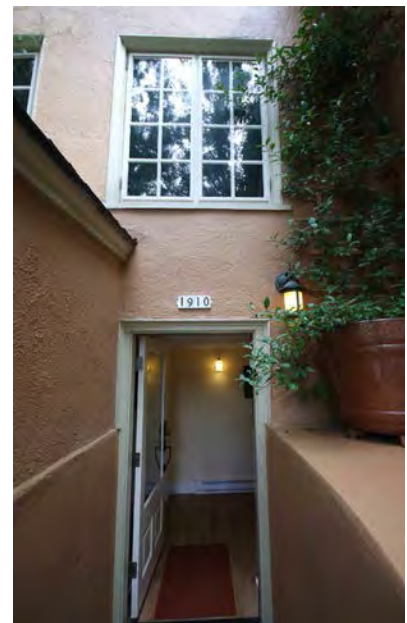


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[buildinganadu.org](http://buildinganadu.org)



Photo credit:  
accessorydwellings.org

Assuming that ADU standards are indeed “clear and objective” as required by state law, a nondiscretionary Type I review should be the appropriate review type and there should not be any need for a discretionary Type II process or conditional use review.

**Infrastructure requirements:** Coordinate with and cross-reference any existing engineering standards about thresholds for public works improvements, specifically separate sewer and water connections for ADUs, stormwater treatment triggered by new impervious surface or street improvements.



If policies can be set locally with buy-in from the Public Works department, specifically exempt ADUs from mandatory sewer and water connections, and from triggering street frontage improvements. Provide as much information on potential infrastructure improvement requirements, including resources translating engineering requirements to ADU projects and options for individualized consultation.

**SDC rates:** Make SDC rates for ADUs clear in a publicly available format, preferably online. List SDC-specific rates or explain which of the existing categories apply to ADUs. Provide a fee waiver or reduction for ADUs, or elect not to assess SDCs for new ADUs.



Photo credit:  
buildinganadu.org

When developing any financial incentives, it is both the total amount of fee reduction and the messaging that matter: Promote any fee reductions, temporary or permanent, even if a full fee waiver is not possible. In future SDC calculations, promote alternative methodologies to calculate SDCs for ADUs that scale to ADU size and impacts.

**Information:** Provide clear supporting materials including info sheets, application forms, fee schedules, permitting procedures and procedural overview from project initiation through final occupancy, coordinating requirements for planning, engineering and building departments.

Consider developing educational materials such as local case studies, promotional videos and more. Ensure department staff can provide consistent information in an accessible manner to potential ADU developers.

## Next Steps

ADU regulatory innovation is well underway around the region as this report is being completed, with jurisdictions around the greater Portland region and the state updating their regulations to meet state SB 1051 requirements and to generally support additional residential development opportunities in the midst of a housing crisis.

SB 1051 is effective as of July 1, 2018, though many jurisdictions are still in the process of updating their requirements. To date we are aware of updates completed, in process or under consideration in: Beaverton, Cornelius, Fairview, Gladstone, Gresham, Hillsboro, Lake Oswego, Maywood Park, Milwaukie, Oregon City, Portland, Sherwood, Tigard, Tualatin, Wilsonville, Multnomah County and Washington County, together nearly two-thirds of area jurisdictions.

Targeted technical assistance will be available through 2018 for jurisdictions interested to update their code, and to implement new code provisions. Assistance could include code audit suggestions, support during the adoption process, recommendations for educational materials to support implementation, or other expert ADU guidance. Please contact Metro staff about available services.

Metro will continue to monitor the outcomes of code update efforts through the end of 2018 to identify key updates, particularly efforts to remove significant barriers including off-street parking requirements, owner-occupancy requirements, significant dimensional limitations and SDC requirements.

Ongoing discussions with jurisdictions will also be valuable to understand the local opportunities and concerns raised around these issues, and early implementation experiences. We look forward to learning from our jurisdictional partners in this dynamic and evolving field, and sharing lessons learned through further workshops or updates as useful.

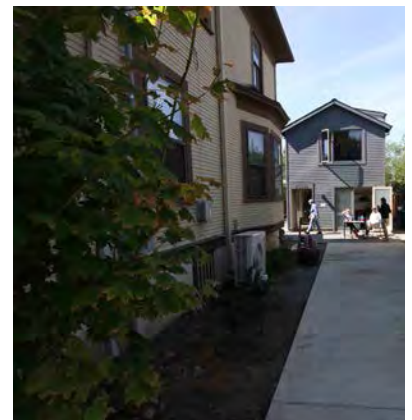


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[buildinganadu.org](http://buildinganadu.org)

# Revised Tualatin Transportation System Plan Update

Prepared for  
**City of Tualatin**

February 2013  
Updated ~~February-April 2014~~ 2019

**CH2MHILL®**

With

Angelo  
planning group

DKS

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public  
involvement



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## Acronyms and Abbreviations

CIO	Citizen Involvement Organization
ESL	English as a Second Language
HDM	ODOT's <i>Highway Design Manual</i>
HOV	High-Occupancy Vehicle
LID	Local Improvement District
MBP	Minor Betterment Program
MSTIP	Major Streets Transportation Improvement Program (Washington County funding source)
NHS	National Highway System
ODOT	Oregon Department of Transportation
OHP	<i>Oregon Highway Plan</i>
OR 99W	Oregon Highway 99W
PNWR	Portland and Western Railroad
RTFP	<i>Metro's Regional Transportation Functional Plan</i>
RTP	<i>Metro's Regional Transportation Plan</i>
SDC	System Development Charges
SMART	South Metro Area Regional Transit
SOV	Single-Occupancy Vehicle
SRTS	Safe Routes to School
STIP	Statewide Transportation Improvement Program
TDC	Tualatin Development Code
TDM	Transportation Demand Management
TDT	Transportation Development Tax
TE	Transportation Enhancement
TMA	Transportation Management Association
TPC	Tualatin Planning Commission
TPARK	Tualatin Parks Advisory Committee
TPR	Transportation Planning Rule
TSM	Transportation System Management
TSMO Plan	<i>Metro's 2035 Transportation System Management and Operations Plan</i>
TSP	<i>Transportation System Plan</i>



## Acronyms and Abbreviations

TTF	Transportation Task Force
UGB	Urban Growth Boundary
WES	Westside Express Service

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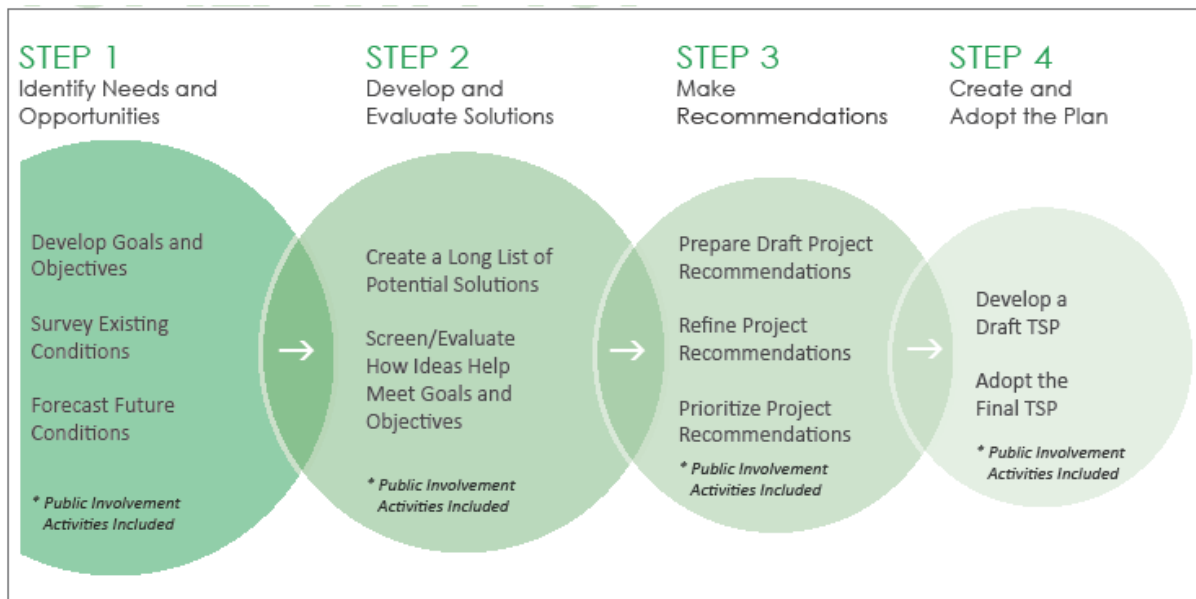
# Chapter 1. Introduction

The Tualatin Transportation System Plan (TSP) establishes a long-range vision for the combination of projects, programs, and policies that will achieve Tualatin’s transportation goals. To do this, the TSP looks at the needs of its residents, businesses, employees, and visitors – now (year 2012), and what is expected for the future (Year 2035). TSPs are required by the state of Oregon for all cities with populations greater than 2,500 people, and this is not Tualatin’s first TSP. However, it serves as a major update. The previous TSP was adopted in 2001, with analyses completed in 2000, necessitating a new evaluation of transportation conditions in Tualatin and an updated vision for its future. The TSP considers the diverse needs of all users of the City’s transportation network, and sets out recommendations that will serve the needs of transit riders, bicyclists, pedestrians, freight traffic, and drivers.

This plan has been prepared in compliance with state, regional, and local plans and policies, including the *Oregon Highway Plan (OHP)*, the state *Transportation Planning Rule (TPR)*, *Metro’s Regional Transportation Plan (RTP)*, *Metro’s Regional Transportation Functional Plan (RTFP)*, Washington and Clackamas Counties Transportation System Plans, and Tualatin’s Comprehensive Plan. The TSP presents a vision specific to the City’s transportation future, while remaining consistent with these state, regional, and local plans. Plan elements will be implemented by the City, private developers, and regional, or state agencies.

## Plan Process

Tualatin began the process to update their TSP in 2011. Staff organized their work into four basic steps, as described here and illustrated in the graphic below. Step 1 identified existing and future needs, opportunities, project goals, and objectives. City staff and the consultant project team assembled existing and collected new data, analyzed the data to identify deficiencies and opportunities, and attended a number of community events to



Vision —————> Reality

### The Adopted Tualatin Transportation System Plan (TSP):

- Creates a vision for Tualatin's future as it relates to transportation
- Establishes our community's priorities so we know what should be done first
- Helps the City of Tualatin get funding and build projects

ask about issues with the transportation system to form an understanding of transportation problems to be addressed in the TSP. Additionally, the project website included an issues map where visitors to the website could identify transportation problems within the City.

Step 2 of the process included creating a long list of potential solutions, then screening and evaluating the potential solutions to see how ideas help meet project goals and objectives. An open house, several Transportation Task Force meetings, and the working group meetings helped create and/or evaluate potential solutions (working groups are described in the next section). Throughout each of these steps, the project team engaged the community to ensure that each element was appropriate for Tualatin. The Public Involvement section presents more information about the public involvement activities.

Step 3 included preparing the draft recommendations for projects to be included into the TSP, refining a number of recommendations for the more complex transportation needs, and prioritizing the project recommendations to help both the City and the community define which projects and programs should be implemented first.

Step 4 included developing the draft and final TSPs for City adoption. This process focused on compiling all recommendations into the TSP document, and coordinating with relevant stakeholders in reviewing the TSP for completeness and consistency. These stakeholders included the community, City Council, Tualatin Planning Commission (TPC), Tualatin Parks Advisory Committee (TPARK), Washington County, Metro, Oregon Department of Transportation (ODOT), Clackamas County, adjacent cities, and the state's Department of Land Conservation and Development (DLCD).

## Study Area

The study area for the Tualatin TSP is comprised of the Tualatin Planning Area Boundary, with two additions - the Basalt Creek planning area between Tualatin and Wilsonville, and the SW Concept Plan area between the Cities of Sherwood and Tualatin. Those areas outside of the City limits, but within the study area, were included because of the transportation impact that they could have on the City's transportation network associated with the potential development of residential and employment areas. The Tualatin River serves as the northerly boundary of the City west of I-5, with SW Cipole Road and SW 124th Avenue as the boundary to the west, and SW Helenius Street and SW Norwood Road to the south. There is a section of the city north and east of the Tualatin River south of SW Peters Road and west of SW Upper Boones Ferry Road. Additionally, the Horizon Christian High School south of SW Norwood Road is within City limits. The eastern study area boundary from the south follows the west side of I-5 until north of I-205. The City then extends east into Clackamas County east of SW 65th Avenue to Halcyon Road. The City also includes a section of the Bridgeport Village shopping center on the west side of I-5. The northern part of the City also extends to the east side of I-5 to the rail line, and north of the Tualatin River to approximately SW Rosewood Street. In addition to the City limits, there are a handful of areas that are surrounded by the City but not officially incorporated. The study area is shown on several of the TSP's figures, including Figure 1 in the following section.

## Public Involvement for the Transportation System Plan

The TSP planning process actively engaged the citizens of Tualatin in the production of its TSP. Residents, business owners, employees, and agency partners were encouraged to participate and were provided with multiple ways to share their thoughts - from initial goal development and issue identification to evaluation and screening. The public involvement plan outlined a thorough outreach process, making it easy and fun for the public to share ideas. The process provided meaningful ways to influence outcomes and took advantage of existing communication networks to reach more people.

## Transportation Task Force

The public involvement plan established a clear decision-making framework for the TSP. The Transportation Task Force (TTF), with input from the Working Groups (described below), advised the TPC. TPC then made a recommendation to the City Council, which will then adopt the final TSP and any changes to the City's Code. In addition, TPARK made recommendations on the bicycle and pedestrian elements to the City Council. Each of these organizations received regular project updates from City staff throughout the process and each had representative members on the TTF. These groups were given the opportunity to provide their recommendation before the TTF decisions were forwarded to TPC and the City Council.

The TTF was formed in November 2011 for the purpose of advising TPC and the City Council about the needs and concerns of the community with regard to transportation. The City Council Citizen Involvement Committee selected TTF members carefully to be representative of neighborhoods, the business community, and the interests of Tualatin's advisory committees. Members and alternates were selected from a pool of applications. Neighboring communities, counties, Tualatin Valley Fire & Rescue, ODOT, Metro, and TriMet also had representatives on the TTF.

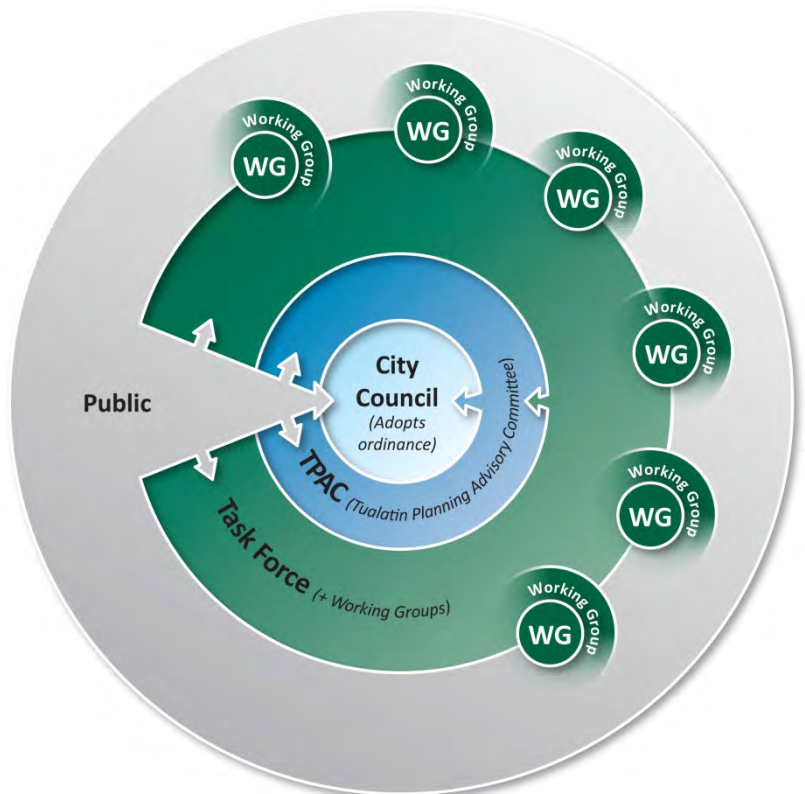
The TTF met 16 times between November 2011 and November 2012. The TSP was discussed at most meetings, though the TTF also helped to prepare Tualatin's companion land use plan for high capacity transit, known as *Linking Tualatin* during the same timeframe. TTF meetings were advertised by the City and open to the public. The TTF agenda included time for public comment at the beginning and end of every meeting.

## Public Open Houses

The TSP process featured two in-person public involvement opportunities as well as a two-month long online open house. The City of Tualatin held the "Tualatin Year of Transportation" kick-off meeting on February 16, 2012, to provide information and an opportunity to comment on various transportation projects in the Tualatin area. The City also sponsored a Transportation Summit on September 20, 2012, to allow the public an opportunity to understand the full picture of how proposed projects work together. The Summit included a presentation by technical staff and provided a "town hall" style forum for comment and discussion of final recommendations before the draft TSP was developed.

## Working Groups

Working Groups were another forum for public engagement in the project. The groups were open to the public and generated ideas and transportation solutions to be considered by the TTF. Six groups were established: Neighborhood Livability, Transit, Downtown, Bike and Pedestrian, Industrial and Freight, and Major Corridors and Intersections. Each working group met at least three times between February and July 2012, and anyone with an interest was encouraged to attend. Between six and thirty-five participants attended each working group meeting.



Because community members are much more likely to get involved if invited by a trusted source, the project made use of established lines of communication within the community. Notifications for events and opportunities to participate were sent through the City's list of interested citizens, the Tualatin Mayor's email list, the Chamber of Commerce email list, and members of City advisory committees. Emails were also sent to major employers and the Portland Hispanic Professionals Network. The City posted fliers and meeting notices in English and Spanish at City offices and the library. Event information was presented in school newsletters. The project produced press releases and submitted articles for the City's sponsored newsletter and the local newspaper, *Tualatin Life*.

## Spanish Language Outreach

According to the 2005–2009 American Community Survey, 17 percent of Tualatin's population speaks Spanish at home. For that reason, attention was placed on reaching out to this important part of the population. Interviews with leaders in the Latino community held early in the process suggested several ways to engage the Spanish-speaking population of Tualatin. Following these suggestions, the project team:

- ◆ Created English and Spanish language materials
- ◆ Visited the bilingual Parent-Teacher Organization at Bridgeport Elementary School
- ◆ Provided materials at the library and especially at Spanish-language events attended by families
- ◆ Shared information at local English as a Second Language (ESL) classes
- ◆ Contacted local churches (Tualatin Spanish Seventh-Day Adventist Church and Esperanza Iglesia)
- ◆ Left materials at local businesses

## Making Involvement Easy and Fun

In addition to the more traditional meetings and events, this TSP process employed many unique tools for making involvement easy and fun.

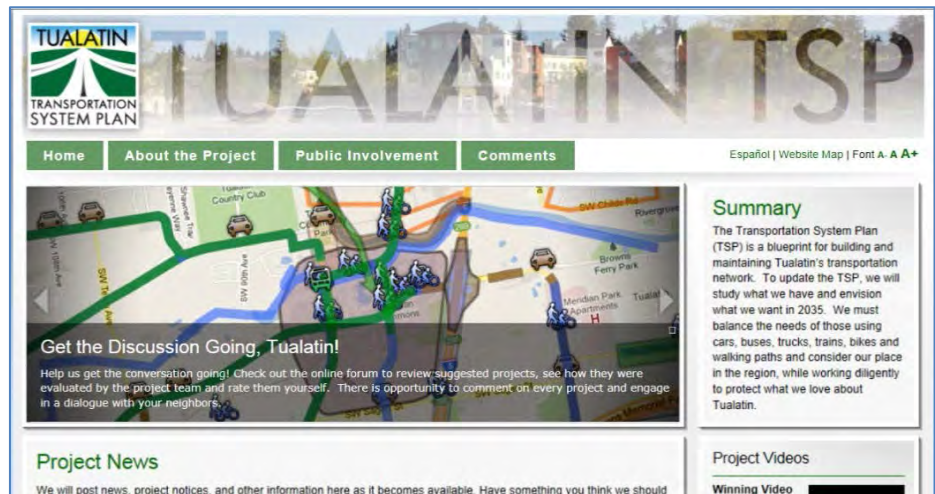
All project information was shared on the website,

[www.tualatintsp.org](http://www.tualatintsp.org), with information available in both English and Spanish. The website was updated weekly throughout the project with new deliverables, upcoming meetings, ways to get involved, questions for the

community, and updates on what the team was doing. Project videos were produced that appeared on the project website that provided fun and unique updates from community members throughout the process. More than 2,240 people accessed the website during the project and more than 460 people submitted comments online on the Comment Map, the TSP Ideas Map, and the general comments section.

All TSP information was posted to the website to maintain an open and transparent process. TTF materials—including agendas, technical material, and meeting summaries—were posted on the City of Tualatin's website at <http://www.tualatinoregon.gov/meetings> and linked through the TSP project site.

Through the summers of 2011 and 2012, City staff attended public events to educate people about the TSP update and seek input on transportation system needs and recommendations. During this time staff attended the Tualatin Farmers Market, Concerts on the Commons, ArtSplash Arts Festival, and the annual Crawfish Festival.



Staff also attended each of the city Advisory Committee meetings, made contact with the Juanita Pohl Senior Center attendees, and made presentations to the Tualatin Chamber and the Tualatin Rotary.

In the summer of 2011 the project team developed an iPhone application and a map-based web tool for the public to suggest project ideas and identify system needs. About 250 people participated, providing more than 360 suggestions. The project also sponsored a video contest and honored two winners in October 2011. The City used its Facebook account to share TSP updates with its 392 followers and the project ran a Facebook ad in August 2012. Finally, the team prepared a short video to encourage input on the TSP's preliminary recommendations in summer 2012; this video was featured in several prominent spots and helped drive traffic to the project website. These non-traditional methods expanded the reach of the outreach program and engaged more Tualatin residents in development of the TSP.

## Project Goals

Over a span of three meetings the TTF prepared a vision for the TSP, conveyed as a set of goals and objectives. In early 2012 they adopted seven principal goals organized into the following goal categories:

1. Access and Mobility
2. Safety
3. Vibrant Community
4. Equity
5. Economy
6. Health and the Environment
7. Ability to be Implemented

These goals and objectives were also discussed by the community at the first open house in February 2012 and by TPC, TPARK, and City Council. The full description of goals and objectives, included as Table 1, served as the basis for the TSP's evaluation framework. This means that all TSP recommendations were tied back to the underlying vision as established by these groups.

## Regulatory Requirements

The TPR, developed by the state DLCD in accordance with state law, requires that local TSPs contain the following elements:

- ◆ A road plan for a network of arterial and collector roads
- ◆ A public transit plan
- ◆ A bicycle and pedestrian plan
- ◆ An air, rail, water, and pipeline plan
- ◆ A transportation financing plan
- ◆ Policies and ordinances for implementing the TSP

The TPR requires that alternate travel modes including cycling, walking, and transit, be given equal consideration with automobile travel and states that reasonable effort must be applied in the development and enhancement of alternate modes in Tualatin's future transportation system. Local jurisdictions must also coordinate their plans with relevant state, regional, and county plans and amend their own ordinances to implement the TSP.



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TABLE 1  
Goals and Objectives of the Tualatin Transportation System Plan

Goal Category	Goal	Objective
<b>Access and Mobility</b>	Maintain and enhance the transportation system to reduce travel times, provide travel-time reliability, provide a functional and smooth transportation system, and promote access for all users.	Improve travel time reliability//provide travel information for all modes including freight and transit.
		Provide efficient and quick travel between points A and B.
		Provide connectivity within the City between popular destinations and residential areas.
		Accommodate future traffic, bicycle, pedestrian, and transit demand.
		Reduce trip length and potential travel times for motor vehicles, freight, transit, bicycles, and walkers.
		Improve comfort and convenience of travel for all modes including bicycles, pedestrians, and transit users.
<b>Safety</b>	Improve safety for all users, all modes, all ages, and all abilities within the City of Tualatin.	Increase access to key destinations for all modes.
		Address known safety locations, including high-crash locations for motor vehicles, bicycles, and pedestrians.
		Address geometric deficiencies that could affect safety including intersection design, location and existence of facilities, and street design.
		Ensure that emergency vehicles are able to provide services throughout the City to support a safe community.
<b>Vibrant Community</b>	Allow for a variety of alternative transportation choices for citizens of and visitors to Tualatin to support a high quality of life and community livability.  Produce a plan that respects and preserves neighborhood values and identity.	Provide a secure transportation system for all modes.
		Create a variety of safe options for transportation needs including bicycles, pedestrians, transit, freight, and motor vehicles.
		Provide complete streets that include universal access through pedestrian facilities, bicycle facilities, and transit on some streets.
		Support a livable community with family-friendly neighborhoods.
<b>Equity</b>	Consider the distribution of benefits and impacts from potential transportation options, and work towards fair access to transportation facilities for all users, all ages, and all abilities.	Maintain a small-town feel.
		Promote a fair distribution of benefits to and burdens on different populations within the City (that is, low-income, transit-dependent, minority, age groups) and different neighborhoods and employment areas within the City.  Consider access to transit for all users.

## Major Arterials

The following roadways are either reclassified as major arterials or are future major arterials:

- ◆ **SW Lower Boones Ferry Road** between SW Boones Ferry Road and SW Bridgeport Road changed from a minor arterial. This section of SW Lower Boones Ferry Road provides the only non-highway north-south connection within the City and carries a large amount of regional traffic from I-5 into Tualatin.
- ◆ **SW Boones Ferry Road between SW Norwood Road and the Basalt Creek Parkway** is classified as a major arterial.
- ◆ **SW 124th Avenue** south of SW Tualatin-Sherwood Road (~~future road~~) to SW Tonquin Road. This connection will allow industrial and manufacturing properties on the west side of Tualatin to access the regional highway system south of the City.
- ◆ **SW Basalt Creek Parkway (future road)** which acts as an extension of SW 124th Avenue as it turns east-west, from SW Tonquin Road to SW Boones Ferry Road. This connection will act as one of three ultimate connectors between Highway 99W and I-5.
- ◆ **SW 65th Avenue** south of SW Sagert Street to the city limits changed from a minor collector. This designation recognizes that south of SW Sagert Street, SW 65th Avenue provides connections to the Stafford area, and changing this designation makes it consistent with the rest of SW 65th Avenue within the City.

## Minor Arterials

The following roadways are reclassified as minor arterials:

- ◆ **SW 108th Avenue** between SW Leveton Drive to SW Herman Road changed from a major arterial. Downgrading this section of roadway recognizes that freight and regional traffic will access SW Leveton Drive due to the existing land uses, but it is not a major freight throughway. A minor arterial will serve the industrial and manufacturing area without attracting additional through traffic to SW Tualatin Road.
- ◆ **SW Leveton Drive** between SW 118th and SW 124th Avenues changed from a minor collector, and SW Leveton Drive between SW 118th and SW 108th Avenues changed from a major arterial. These changes address the freight traffic anticipated on SW Leveton Drive and recognize the importance of connecting to the regional transportation system via SW 124th Avenue and OR 99W.
- ◆ **SW Herman Road** west of SW Teton Avenue to SW 108th Avenue changed from a major arterial, and SW Herman Road between SW 108th Avenue and SW Cipole Road changed from a major collector. These changes make the roadway a consistent minor arterial between SW Cipole Road and SW Teton Avenue, and help support the community's desire to remove some through traffic off of SW Tualatin Road to SW Herman Road.
- ◆ **SW Teton Avenue** between SW Tualatin Road and SW Avery Street changed from a major collector. SW Teton Avenue is recommended as a freight route to reduce pressure on SW Tualatin Road, upgrading to a minor arterial indicates the anticipated traffic.
- ◆ **SW Avery Street** between SW Teton Avenue and SW Tualatin-Sherwood Road changed from a major collector. Upgrading this section of SW Avery Street provides a connection to the minor arterial on SW Teton Avenue and SW Tualatin-Sherwood Road, a major arterial to allow freight and other regional traffic access to I-5 and OR 99W.
- ◆ **SW Sagert Street** from SW Martinazzi Avenue to SW 65th Avenue changed from a major arterial. This change acknowledges that SW Sagert Street is an important connection between SW 65th Avenue and SW Martinazzi

Avenue, but recognizes that the road carries local trips and serves residential land uses. SW Sagert Street carries a mix of through and local traffic.

- ◆ **SW 90th Avenue** from SW Tualatin Road to SW Tualatin-Sherwood Road changed from a major arterial. This change is in response to removing the Hall Street north-south extension over the Tualatin River from the City's TSP. Reducing the classification from a major to a minor collector reflects the reduced importance of SW 90th Avenue without that connection.

## Major Collectors

The following roadways are reclassified as major collectors or are future major collectors:

- ◆ **SW Grahams Ferry Road** between SW Ibach Street and ~~the southern City limits~~ Basalt Creek Parkway as a major ~~changed from a minor~~ collector. This ~~change classification~~ anticipates planned development along SW Graham's Ferry Road both in Tualatin and to the south, recognizing that it is the only route from the neighborhoods to arterial connections and the regional network.
- ◆ **SW Myslony Street Extension** (Future road) to SW 112th Avenue as a future major collector. This is consistent with roadway designations on either side of the future connection.
- ◆ **SW Tualatin Road** between SW 90th Avenue and the curve south at SW Chinook Street changed from a major arterial. This change creates consistency between the segments east and west, which are already major collectors. Originally this was a major arterial because along with SW 90th Avenue, it was to connect to a future Hall Boulevard extension over the river. Since the Hall Boulevard extension was removed from the City's TSP, this roadway was downgraded.
- ◆ **SW Norwood Road** between SW Boones Ferry Road and the eastern City limits changed from a local road. SW Norwood Road is one of the only east-west connections in the south part of the City, and provides a connection over I-5. There are very few local accesses along SW Norwood Road, and the connectivity makes it consistent with a major collector designation.
- ◆ **SW Tonquin Road between SW 124th Ave. and SW Grahams Ferry Road.**

## Minor Collectors

The following roadways are future minor collectors:

- ◆ **New Roads in Urban Renewal Block 2<sup>1</sup>** will be classified as minor collectors since they connect two major arterials, SW Boones Ferry Road and SW Nyberg Street.
- ◆ **New Road** east of SW 65th Avenue and SW Borland Road.

## Regional Coordination

Several roadways within the City of Tualatin are owned by Washington County, Clackamas County, or ODOT. Coordination with these regional partners is key to implement a functional roadway network. Many of the County- and State-owned roadways are major and principal arterials respectively, and serve regional traffic needs. The City of Tualatin will continue to work with regional partners to implement projects on County and State-

<sup>1</sup> Urban Renewal Block 2 is the site of the former Kmart. It is located north of SW Nyberg Road west of I-5 in the northwest quadrant of the interchange.

More information on Urban Renewal in downtown Tualatin is located here:

[www.tualatinoregon.gov/sites/default/files/fileattachments/economicdevelopment/webpage/12237/curp-curr\\_oct\\_2009.pdf](http://www.tualatinoregon.gov/sites/default/files/fileattachments/economicdevelopment/webpage/12237/curp-curr_oct_2009.pdf)

owned roadways in Tualatin. Within the following modal plans, the projects that require regional coordination are called out separately than the projects under the City's sole jurisdiction.

## Street Design Standards

Street functional classification guides the design standards including the number of travel lanes, presence of bicycle lanes, the width of sidewalks, and other design elements. Table 3 shows the design standards by functional classification, and Figure 2 has the minimum and preferred street cross sections.

## Chapter 2. Modal Plans

This chapter outlines the preferred transportation system for the City of Tualatin. It is organized by modal element, though it should be noted that many TSP programs and projects benefit more than one mode of transportation. All attempts have been made to describe multi-modal TSP recommendations under the mode primarily served, with cross references made to other modes benefited by the project.

This chapter consists of a street system plan, a transit plan, a bicycle, pedestrian, and trail plan, a rail plan, a freight plan, a water and pipeline plan, and an air plan. As per TPR requirements this chapter also specifically includes plans for TDM, TSM, and parking.

### Definitions: TDM and TSM

#### *TDM*

Projects designed to manage travel demand, preserving transportation system capacity. Examples include teleworking, carpooling, and a Transportation Management Association.

#### *TSM*

Projects designed to optimize travel on the current network. Examples include traffic calming techniques, signal timing, and signal coordination.

## 1 Functional Classification Plan

A city's functional classification plan defines the intended operations and character of roadways within the overall transportation system including standards for roadway and right-of-way width, access spacing, and pedestrian and bicycle facilities. The City of Tualatin's functional classification system applies to roadways owned by the City, the County, and the State, and includes principal arterials, major arterials, minor arterials, major collectors, minor collectors, connector, and local roads. Figure 1 presents the updated functional classification plan for the City of Tualatin. Table 2 describes the functional classifications and the purpose they are intended to serve.

Tualatin's street system has a well-established network of arterials and collectors serving a variety of land uses throughout the City. The arterial roadways carry a high number of vehicles including transit and freight vehicles, and provide mobility with few opportunities for local access. Collectors assemble traffic from a neighborhood or district and deliver it to the closest arterial street. Collectors serve shorter trip lengths than arterials and have more local access opportunities. Both arterials and collectors within Tualatin are owned by a variety of agencies including the City, ODOT, and Clackamas and Washington Counties. The roadway owners are responsible for maintenance and upkeep on the roadways and they make decisions on upgrades to their facilities. Appendix A, Plan and Policy Review, provides a detailed description of the various policies associated with roadway ownership.

There are a number of existing freight and truck routes through the City designated by the City, the State, and the Federal government. These routes have specific design criteria and mobility standards to ensure that these roadways serve freight traffic.

### Functional Classification Policies

Policies support the City's transportation goals and objectives included in the previous section. Policies help provide direction for roadways and roadway classifications.

- ◆ **Functional Classification Policy 1:** Major and minor arterials will comprise the main backbone of the freight system, ensuring that freight trucks are able to easily move within, in, and out of the City
- ◆ **Functional Classification Policy 2:** Continue to construct existing and future roadways to standard when possible for the applicable functional classification to serve transportation needs within the City

## Functional Classification Changes

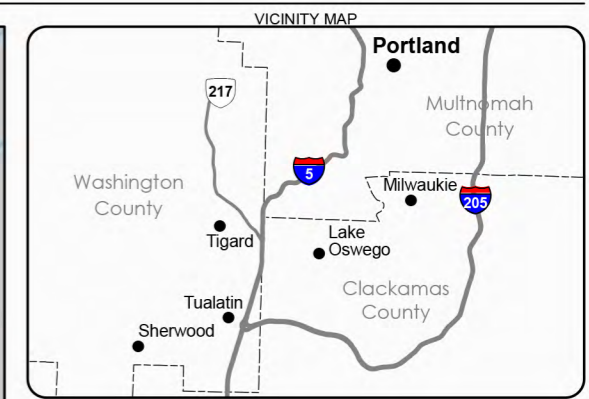
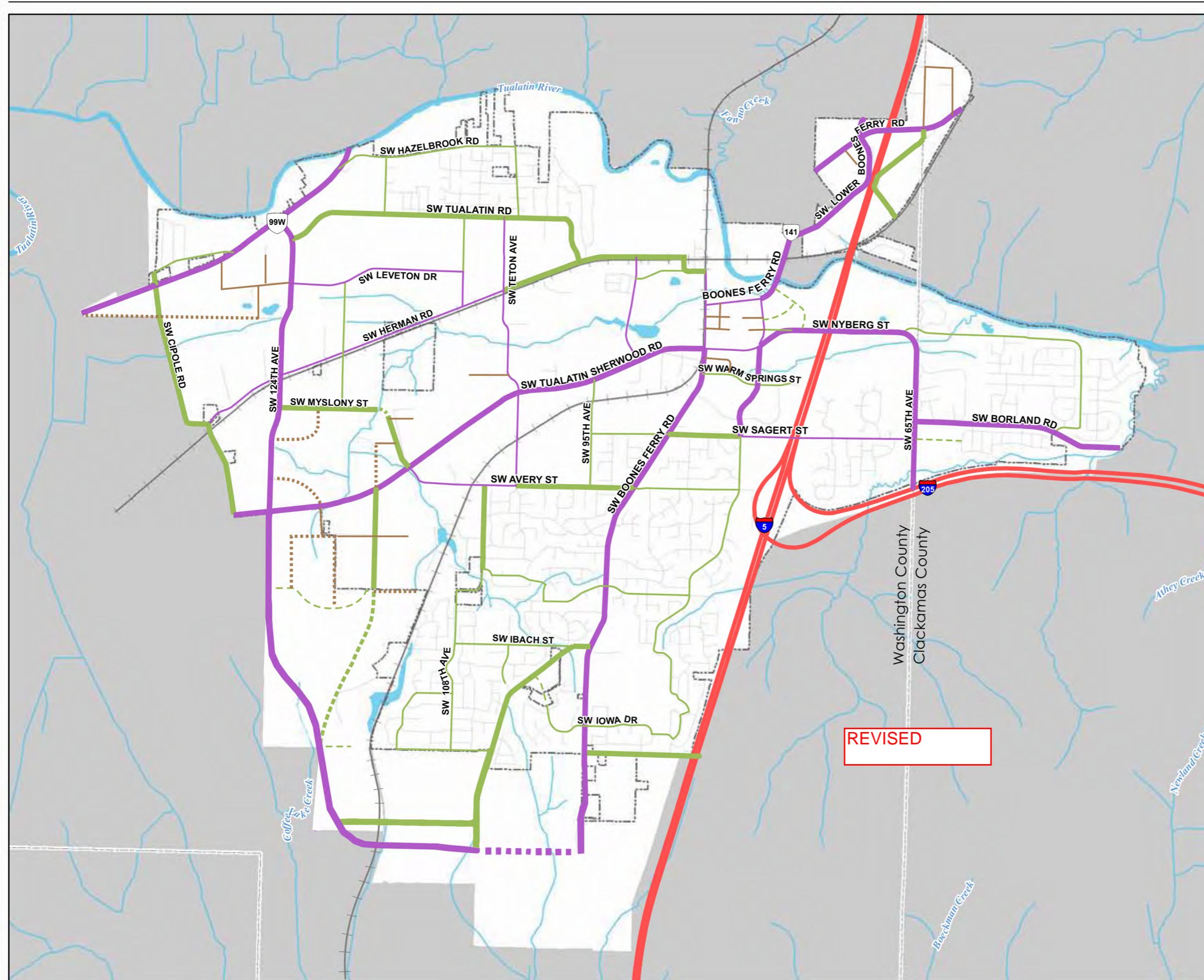
Several changes were made to the City's functional classification system in this TSP update, including a simplification of the classifications themselves (from nine to seven classifications), updates to the descriptions and design standards, and several modifications within the City. Table 2 includes the description of the functional classifications, and Figure 1 includes a map of the updated Functional Classifications in Tualatin.

TABLE 2  
City of Tualatin Functional Classification Description

Functional Classification	Description
Principal Arterial	Primary function is to serve through, intra-city, regional, and interstate travel; connects major cities and states; connects to the major arterial system; serves through and regional freight movements; facilities are fully and partially access controlled; access control through medians, interchanges; no on-street parking, few sidewalks and bicycle facilities; may be used by public transit.
Major Arterial	Primary function is to serve both local and through traffic as it enters and leaves the urban area; connects the minor arterial and collector street system to principal arterials and other major arterials; serves freight movements between Tualatin and the regional system; provides access to other cities and communities; serves major traffic movements; access control through medians and/or channelization; restricted on-street parking; sidewalks and bicycle facilities required; may allow a right-turn pocket if warranted; will be used by public transit.
Minor Arterial	Primary function is to serve local and through traffic between community and regional facilities; distributes traffic from major arterials to collectors and local streets; serves freight movements between Tualatin and the regional system; higher degree of access than major arterials; trip lengths, traffic volumes, and speeds are lower than on major arterials; sidewalks and bicycle lanes required; may allow a right turn pocket if warranted; likely to be used by public transit.
Major Collector	Primary function is to serve local traffic between neighborhoods and community facilities; principal carrier between arterials and local streets; provides some degree of access to adjacent properties, while maintaining circulation and mobility for all users; carries lower traffic volumes at slower speeds than arterials; typically has two to three lanes; typically does not include on-street parking; pedestrian and bicycle facilities are required; may be used by public transit.
Minor Collector	Primary function is to connect neighborhoods with major collector streets to facilitate movement of local traffic; serves as primary routes into residential neighborhoods; has slower speeds to ensure community livability and safety for pedestrians and bicyclists; on-street pedestrian and bicycle facilities are required; bicycle facilities may be exclusive or where street parking is prevalent, shared roadways depending on traffic volumes, speeds, and extent of bicycle travel; may be used by public transit.
Connector	Primary function is to provide direct access to adjacent land uses, specifically in the downtown core* and industrial, commercial, and manufacturing areas; characterized by short roadway distances, slow speeds, and low volumes; offers a high level of accessibility; provides on-street parking, serves passenger cars, pedestrians, bicycles, and trucks for industrial areas. May be used by public transit; pedestrian facilities are required. Does not serve through traffic.
Local Street**	Primary function is to provide direct access to adjacent land uses; characterized by short roadway distances, slow speeds, and low volumes; offers a high level of accessibility; serves passenger cars, pedestrians, and bicycles, but not trucks; pedestrian facilities are required.

\* The downtown core is consistent with the Town Center Plan study area, centered on the Lake of the Commons and includes land south of the Tualatin River and west of I-5, including the Tualatin Community Park. The western Boundary is SW 95<sup>th</sup> Avenue south to SW Tualatin-Sherwood Road, and then east near SW Warm Springs Street.

\*\* Local streets are not address in the TSP as per the TPR Section 660-012-0020(2)(b)



**LEGEND**

- Study Area
- Principal Arterial
- Major Arterial
- Future Major Arterial
- Minor Arterial
- Major Collector
- Future Major Collector
- Minor Collector
- Future Minor Collector
- Connector
- Future Connector
- City Boundaries
- County Boundaries
- Railroad

Note:  
 Future roadway alignments are approximate and subject to additional engineering and design.

0 0.5 1  
 Miles

**FIGURE 1**  
**Functional Classification**  
 Functional Classification Plan  
 City of Tualatin Transportation System Plan



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## Major Arterials

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- ◆ **SW 124th Avenue** south of SW Tualatin-Sherwood Road (future road). This connection will allow industrial and manufacturing properties on the west side of Tualatin to access the regional highway system south of the City.
- ◆ **SW 65th Avenue** south of SW Sagert Street to the city limits changed from a minor collector. This designation recognizes that south of SW Sagert Street, SW 65<sup>th</sup> Avenue provides connections to the Stafford area, and changing this designation makes it consistent with the rest of SW 65<sup>th</sup> Avenue within the City.

## Minor Arterials

The following roadways are reclassified as minor arterials:

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- ◆ **SW Sagert Street** from SW Martinazzi Avenue to SW 65<sup>th</sup> Avenue changed from a major arterial. This change acknowledges that SW Sagert Street is an important connection between SW 65<sup>th</sup> Avenue and SW Martinazzi Avenue, but recognizes that the road carries local trips and serves residential land uses. SW Sagert Street carries a mix of through and local traffic.
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## Major Collectors

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## Regional Coordination

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## Street Design Standards

Street functional classification guides the design standards including the number of travel lanes, presence of bicycle lanes, the width of sidewalks, and other design elements. Table 3 shows the design standards by functional classification, and Figure 2 has the minimum and preferred street cross sections.

<sup>1</sup> Urban Renewal Block 2 is the site of the former Kmart. It is located north of SW Nyberg Road west of I-5 in the northwest quadrant of the interchange.

More information on Urban Renewal in downtown Tualatin is located here:

[www.tualatinoregon.gov/sites/default/files/fileattachments/economicdevelopment/webpage/12237/curp-curr\\_oct\\_2009.pdf](http://www.tualatinoregon.gov/sites/default/files/fileattachments/economicdevelopment/webpage/12237/curp-curr_oct_2009.pdf)



TABLE 3  
Street Design Standards

Functional Classification	Cross-section width	Travel lanes	Center lane or landscaped median <sup>‡</sup>	Bike lanes	Sidewalks*	Multi-use path <sup>†</sup>	On-street Parking	Planter Strip <sup>£</sup>
Major Arterial	70-98'	Two to four lanes at 12' each	14'	5-6' on both sides	5-6' on both sides	12' multi-use path could replace bike lanes and sidewalks on one or both sides	None	6' on both sides
Minor Arterial	56-74'	Two lanes at 12' each	Optional 14'	5-6' on both sides	5-6' on both sides	12' multi-use path could replace bike lanes and sidewalks on one or both sides	None	6' on both sides
Major Collector	54-74'	Two lanes, 11' minimum, 12' maximum	Optional 14'	5-6' on both sides	5-6' on both sides	12' multi-use path could replace bike lanes and sidewalks on one or both sides	None	6' on both sides
Minor Collector	62-76'	Two lanes, 11' minimum, 12' maximum	None	5-6' on both sides	5-6' on both sides	12' multi-use path could replace bike lanes and sidewalks on one or both sides	8' parking strip on one or both sides	6' on both sides
Connector	60'	Two lanes at 12' each	None	None	6' on both sides	None	8' parking strip on both sides	4' on both sides, 5' x 5' tree well for downtown connector streets
Local Street	46-50'	Two lanes, 14' minimum, 16' maximum	None	None	5' on both sides	None	Allowed	4' on both sides

\*All sidewalks shall have a clear zone - minimum unobstructed width of five feet for all City streets, and assume a 6" curb

<sup>†</sup> The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

<sup>‡</sup> Landscaped medians may include pedestrian refuges where appropriate, and where they can be installed by meeting appropriate design standards.

<sup>£</sup> Low Impact Development Approaches (LIDA) are allowed, where appropriate as determined by the City Engineer

For roadways all efforts are made to achieve the preferred cross sections described in Table 3 and illustrated in Figure 2. However it is acknowledged that this preferred width is not always achievable, due to environmental constraints or existing development.

The City Engineer may reduce the requirements of the preferred standard based on specific site conditions, but in no event will the requirement be less than the minimum cross-section. The City Engineer shall take into consideration the following factors when decision whether the site conditions warrant a reduction of the preferred standard:

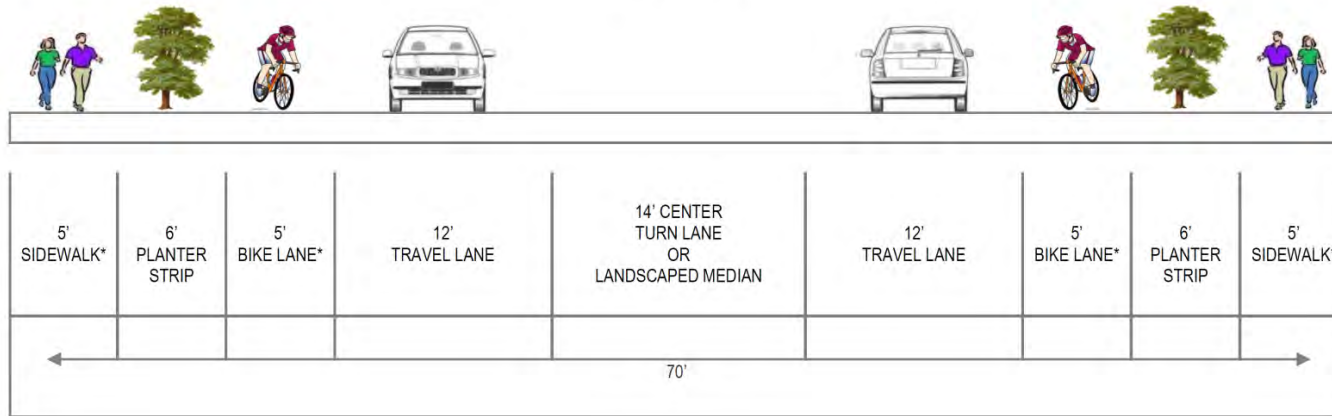
### Arterials

1. Whether adequate right-of-way exists
2. Impacts to properties adjacent to right-of-way
3. Current and future vehicle traffic at the location
4. Amount of heavy vehicles (buses and trucks)

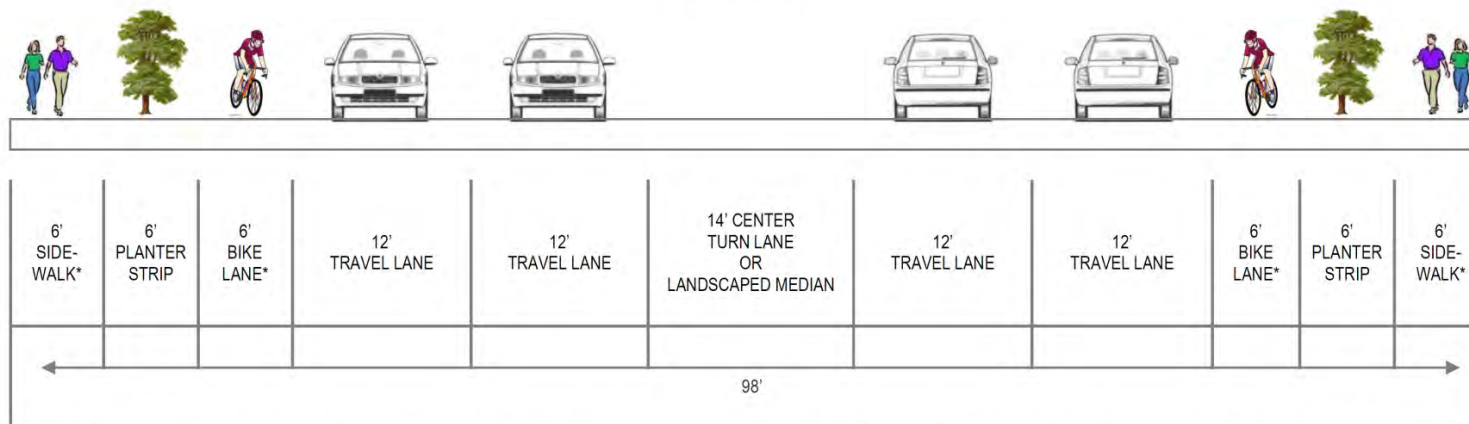
### Collectors

1. Whether adequate right-of-way exists
2. Impacts to properties adjacent to right-of-way
3. Amount of heavy vehicles (buses and trucks)
4. Proximity to property zoned manufacturing or industrial

**Figure 2. Street Design Standards**  
Major Arterial  
Minimum



Preferred

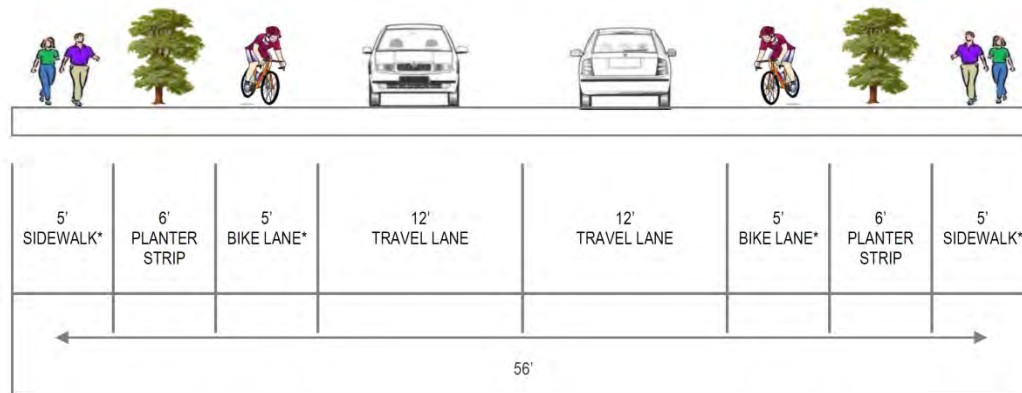


\*The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

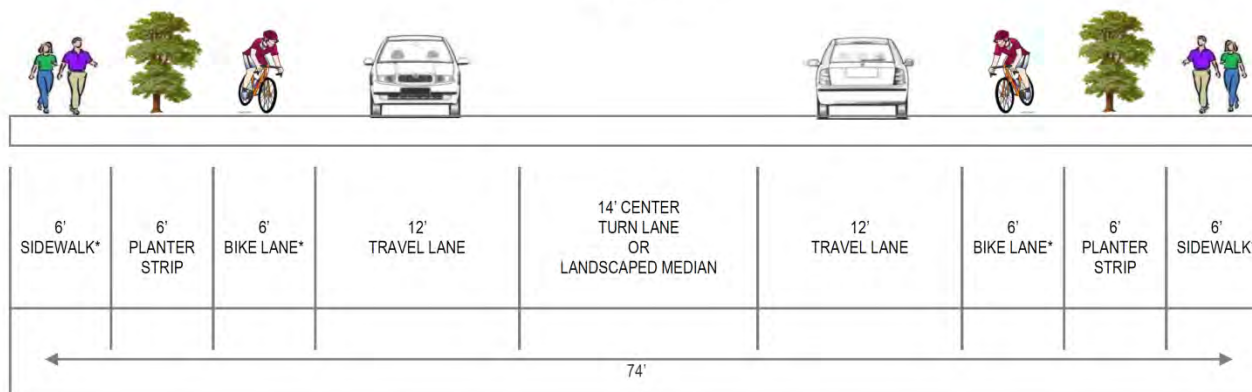
Figure 2. Street Design Standards, cont.

Minor Arterial

Minimum



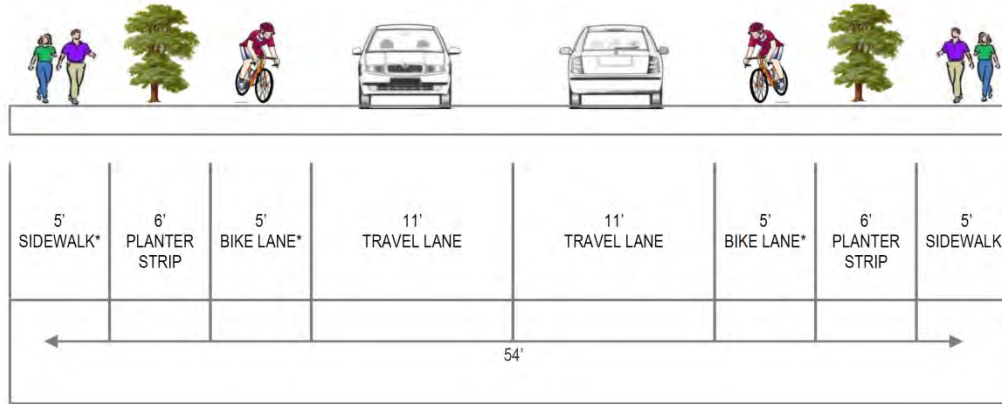
Preferred



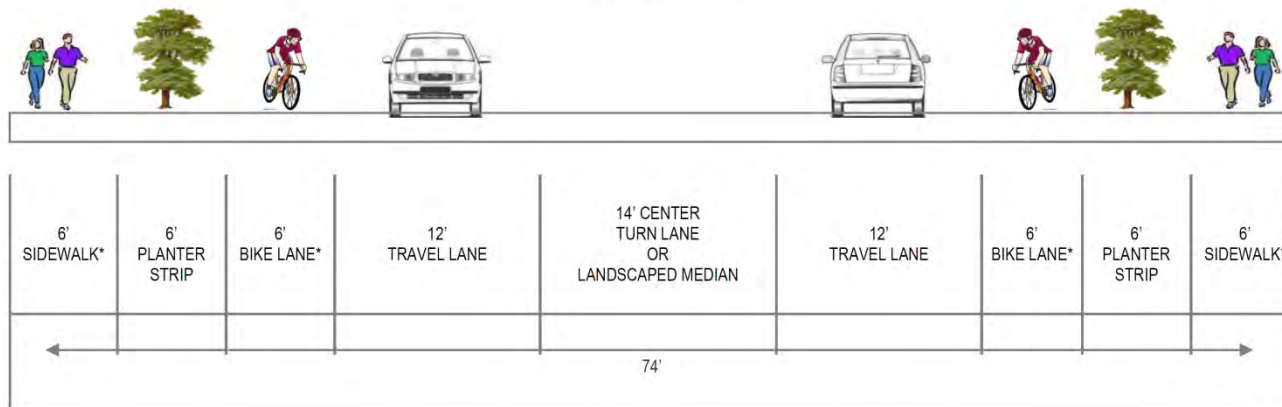
\*The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

**Figure 2. Street Design Standards, cont.**  
Major Collector

Minimum



Preferred

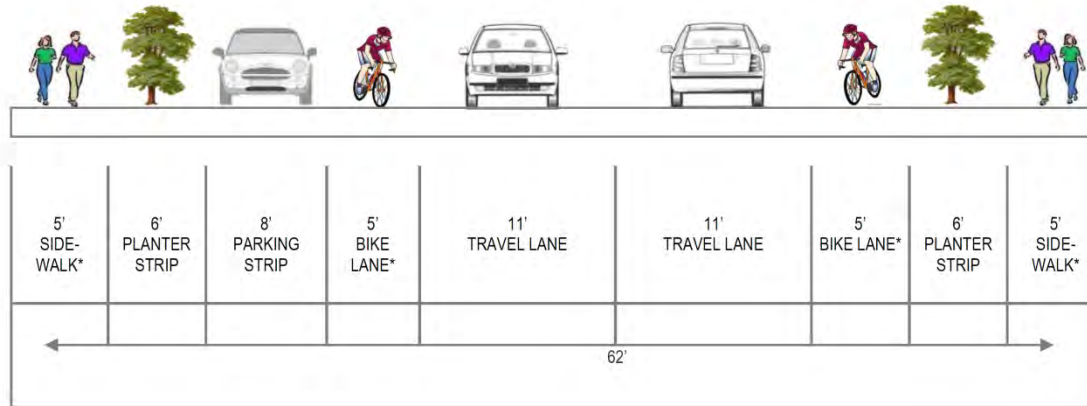


\*The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

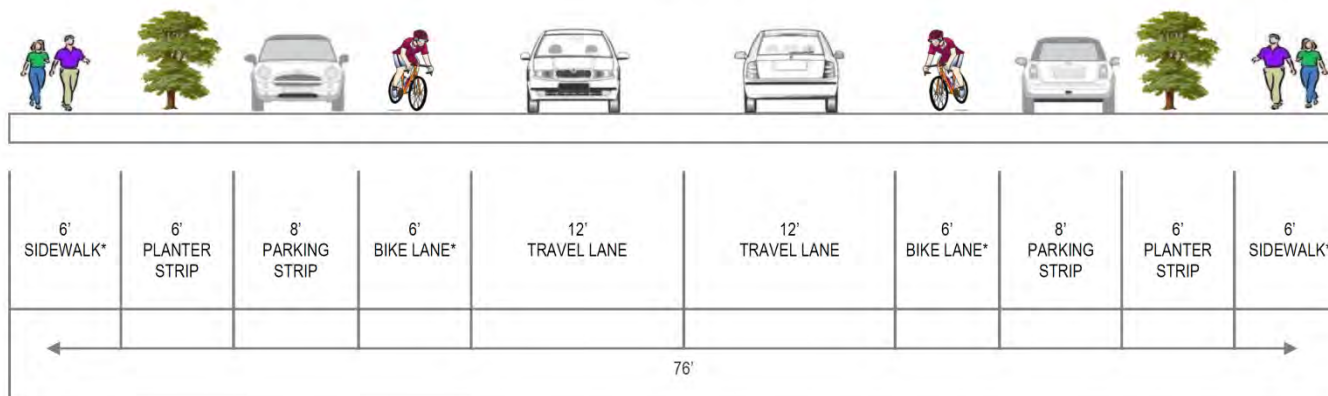


Figure 2. Street Design Standards, cont.  
Minor Collector

Minimum



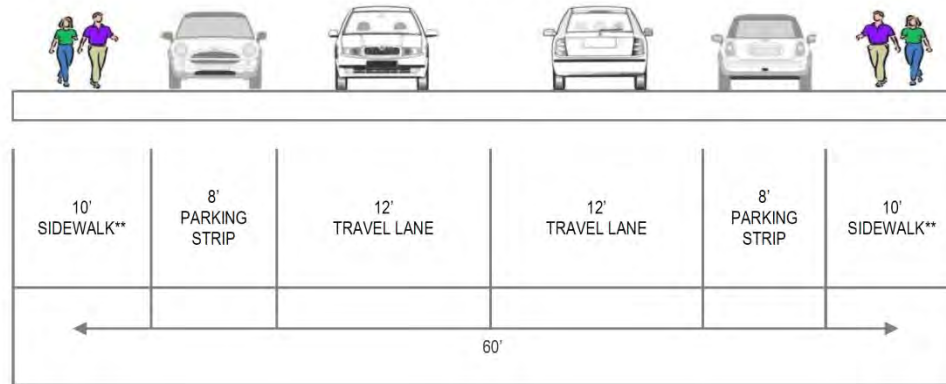
Preferred



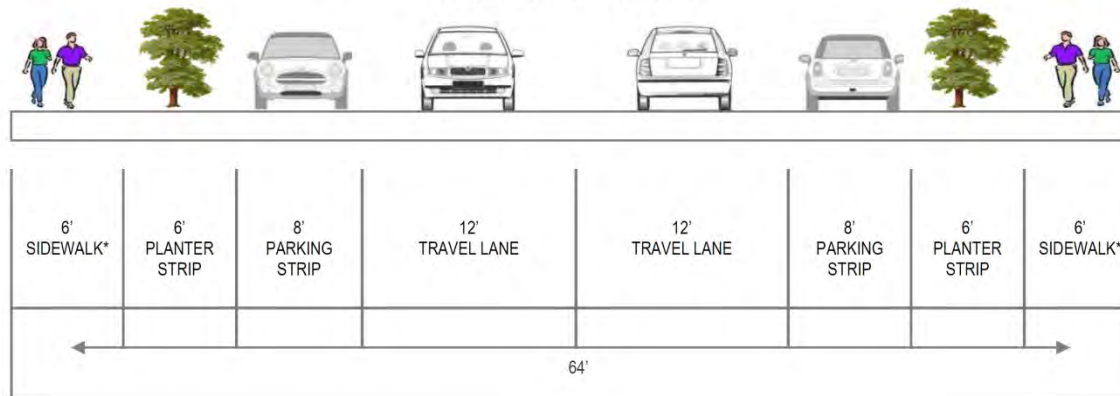
\*The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

**Figure 2. Street Design Standards, cont.**  
Connector

Downtown Core



Commercial/Industrial



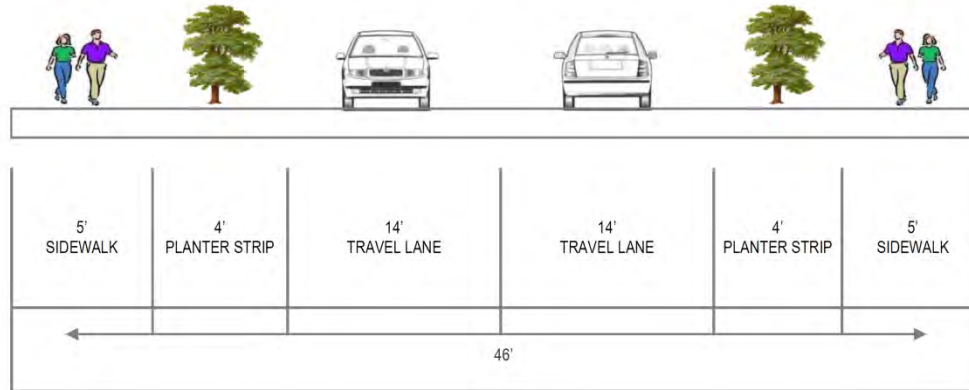
\*The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

\*\*Sidewalks on the downtown connector roads have 4' x 4' tree grates instead of planter strips.

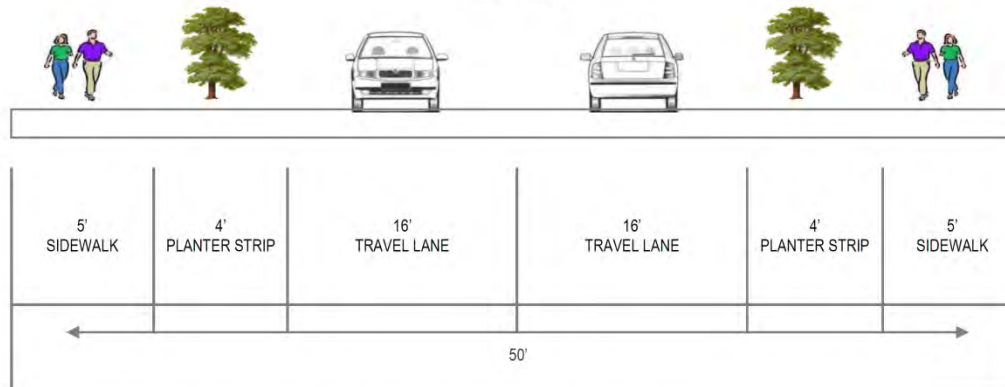
Figure 2. Street Design Standards, cont.

Local

Minimum\*



Preferred



\* The City of Tualatin may consider as low as 28' curb-to-curb pavement widths and as low as 46' right-of-way when needed to address constraints.



## 2 Street System Modal Plan

The street system modal plan consists of several sections: a listing of street urban upgrades and new streets, other intersection-specific or non-capacity streets projects, access management policies, and traffic operation standards.

### Existing and Future Roadway Conditions

Some of the existing roadways do not meet City, County, or State design standards. Further, there are a number of major roadways intersect with other roadways at a skew. This creates sight distance limitations and, thus, safety concerns.

The two most highly-traveled roadways are SW Tualatin-Sherwood Road and SW Nyberg Road with over 20,000 vehicles per day. SW Tualatin Road and SW Boones Ferry Road corridors have 10,000 vehicles daily at multiple locations. Additionally, SW Tualatin-Sherwood Road carries a large amount of heavy vehicles, around 11.5 percent, with SW Boones Ferry Road carrying 8.4 percent heavy vehicles.<sup>2</sup> Appendix B provides a full description of existing (2011) roadway conditions, while Appendix C provides a description of future (2035) forecasted roadway conditions.

In the existing conditions analysis only two intersections - SW Martinazzi Avenue and SW Sagert Street as well as SW Teton Avenue and SW Tualatin Road were found to have greater congestion than mobility standards allow. In the future (2035) the number of intersections not meeting operations standards grew to twelve, as listed below:

- ◆ SW Teton Avenue and SW Tualatin-Sherwood Road
- ◆ SW Boones Ferry Road and SW Tualatin-Sherwood Road
- ◆ SW Martinazzi Avenue and SW Tualatin-Sherwood Road
- ◆ SW 65<sup>th</sup> Avenue and SW Borland Road
- ◆ SW Martinazzi Avenue and SW Boones Ferry Road
- ◆ SW Boones Ferry Road and SW Lower Boones Ferry Road
- ◆ SW Boones Ferry Road and SW Avery Street
- ◆ SW Boones Ferry Road and SW Sagert Street
- ◆ SW Teton Avenue and SW Avery Street
- ◆ SW 65<sup>th</sup> Avenue and SW Sagert Street
- ◆ SW Teton Avenue and SW Tualatin Road
- ◆ SW Nyberg Street and SW 65<sup>th</sup> Avenue

The key needs identified in the existing conditions report include:

- ◆ **Improved Roadway connectivity** - new roadway connections should be explored to improve east-west connectivity south of SW Tualatin-Sherwood Road and north-south regional connectivity. Metro RTP policies related to a complete street system identify one-mile spacing between major arterial streets with collector streets or minor arterials spaced a half-mile apart.

<sup>2</sup> The average road in the Portland Metro area typically carries 2-4 percent heavy vehicles.

- ◆ **Improved travel time along congested corridors** – Focus on reducing vehicle delay on key corridors.
- ◆ **Intersection improvements** - address intersection delay and intersection issues in congested areas.
- ◆ **Upgrading roadway geometries** - City design standards for roadway width, sidewalks, and bicycle facilities should be followed where specific deficiencies have been identified.

Additionally, safety is a concern for the community. Safety issues were identified at the following intersections:

- ◆ SW Tualatin-Sherwood Road and SW Boones Ferry Road
- ◆ SW Nyberg Street and I-5 southbound off ramps.

## Roadway Policies

The following establish the City's policies on roadways.

- ◆ **Roadway Policy 1:** Implement design standards that provide clarity to developers while maintaining flexibility for environmental constraints.
- ◆ **Roadway Policy 2:** Ensure that street designs accommodate all anticipated users including transit, freight, bicyclists and pedestrians, and those with limited mobility.
- ◆ **Roadway Policy 3:** Work with Metro and adjacent jurisdictions when extending roads or multi-use paths from Tualatin to a neighboring City.

## Roadway Projects

### City Street Urban Upgrades

Tualatin's TSP strives to put forward a set of complete streets that minimize delay for trucks and drivers while maintaining Tualatin's community character. The TSP's ultimate goal with its street upgrade program is to provide a safe system for those walking, driving, riding transit, operating a wheelchair, or riding a bicycle.

Several streets in Tualatin do not meet design standards outlined in the previous section, and create a safety risk. These streets are identified here for upgrades as development occurs. Many of these upgrades include adding travel lanes to address congestion, adding a center turn lane or median to help mobility and safety, widening travel lanes, and upgrading the cross section to improve a roadway from a rural two-lane facility to an urban feel with curb, gutters, and bicycle and pedestrian facilities or just adding bicycle and pedestrian facilities. For cost estimating purposes, the project team used the street standards in Figure 2 to estimate the lane and right-of-way width.

Bicycle and pedestrian upgrades are projects where only a sidewalk, bicycle lane, or multi-use path would be added to make the street more attractive to all modes. Table 4 describes a suite of local urban upgrade projects, presenting cost estimates, potential funding sources, and implementation timeframe for these upgrades. Table 5 includes the regional urban upgrades that require coordination with other agencies, including Washington and Clackamas Counties and ODOT. Figure 3 shows the projects geographically, and bicycle and pedestrian urban upgrades are also shown on the bicycle and pedestrian figure (Figure 7). The evaluation process which led to these TSP recommendations is described in Appendix D.

Projects included in the City tables over \$5 million will require the City to find additional funding sources (i.e. potential transportation bonds, regional flex funds, and transportation enhancements) beyond funding currently available to the City. Most of these projects are long-term priorities.

TABLE 4

## City Urban Upgrade Cost Estimates and Prioritization

Project ID	Project Description	Cost Estimate (in 2012 dollars)*	Champion	Funding Source	Priority**
R1	Widen SW Herman Road to a three-lane cross-section between SW 124 <sup>th</sup> Avenue and SW Cipole Road	\$2,574,000	City	TDT, LID, gas tax, Bike/Ped funds	As development occurs
R2	Upgrade SW Hazelbrook Road to roadway standards between 99W and just east of SW Jurgens Avenue	\$3,543,000	City	TDT, LID, gas tax, Bike/Ped funds	As development occurs
R3	Upgrade SW Herman Road as an urban two-lane cross-section between SW Tualatin Road and SW Teton Road	\$2,390,000	City	TDT, LID, gas tax, Bike/Ped funds	As development occurs
R4	Widen SW Teton Avenue between SW Herman Road and SW Tualatin-Sherwood Road to a complete three-lane cross-section including bike lanes for its entire length	\$2,464,000	City	TDT, LID, gas tax, Bike/Ped funds	As development occurs
R5	Upgrade SW Myslony Street to roadway standards for its entire length	\$11,437,000 <sup>3</sup>	City	TDT, LID, gas tax, Bike/Ped funds, Regional flex funds, bonds, TE	Short-term
R6	Widen SW Avery Street to a three lane cross-section between SW Teton Avenue and SW Tualatin-Sherwood Road	\$3,600,000	City	TDT, gas tax, Bike/Ped funds	Long-term
R7	Upgrade SW 105 <sup>th</sup> Avenue/SW Blake Street/SW 108 <sup>th</sup> Avenue to roadway standards between SW Avery Street and SW Willow Street	\$5,086,000	City	TDT, gas tax, Bike/Ped funds	Short-term
R8	Upgrade SW Boones Ferry Road to roadway standards between SW Ibach Road and SW Norwood Road	\$660,000	City	TDT, gas tax, Bike/Ped funds	Long-term
R9	Upgrade SW Helenius Road to roadway standards between SW 109 <sup>th</sup> Terrace and SW Grahams Ferry Road	\$1,403,000	City	TDT, gas tax, Bike/Ped funds	Long-term
R10	Upgrade SW Norwood Road to roadway standards between SW Boones Ferry Road and the eastern City limits.	\$2,824,000	City	TDT, gas tax, Bike/Ped funds	Long-term
R11	Add sidewalks or a multi-use path on SW Sagert Street bridge over I-5 – assume widening on either side of the bridge	\$3,282,000	City, ODOT	TDT, Bike/Ped funds, Travel Options	Long-term
R12	Fill sidewalk gaps on SW Boones Ferry Road between Tualatin High School and the southern City limits	\$315,000	City	TDT, Bike/Ped funds, Travel Options	Short-term

<sup>3</sup> From Metro's *Regional Transportation Plan (RTP) 2007*. Estimate grown to 2012 dollars.

TABLE 4

## City Urban Upgrade Cost Estimates and Prioritization

Project ID	Project Description	Cost Estimate (in 2012 dollars)*	Champion	Funding Source	Priority**
R13	Fill sidewalk gaps on SW Herman Road between SW Tualatin Road and the western City limits	Included in cost estimates for Projects R1 and R3	City	TDT, Bike/Ped funds, Travel Options	As development occurs
R14	Add bicycle lane on SW Martinazzi Avenue between SW Warm Springs Road and SW Boones Ferry Road	\$2,403,000 <sup>4</sup>	City	TDT, Bike/Ped funds, Travel Options, LID	Medium-term
R15	Add bicycle facilities on SW 95 <sup>th</sup> Avenue between SW Avery Street and SW Tualatin-Sherwood Road	\$2,920,000 <sup>5</sup>	City, school	TDT, Bike/Ped funds	Medium-term
R16	Add a multi-use path along SW 65 <sup>th</sup> Avenue from the Tualatin River to I-205	\$9,734,000 <sup>6</sup>	City	TDT, Bike/Ped funds, Travel Options	Long-term
R17	Add sidewalks and bicycle lanes (or a multi-use path) on SW Norwood Road from SW Boones Ferry Road to the eastern City limits	\$305,000	City	TDT, Bike/Ped funds, Travel Options	Medium-term

\* Costs are rounded to the nearest \$1,000

\*\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

LID – Local Improvement District

TDT – Transportation Development Tax

TE – Transportation Enhancement

<sup>4</sup> From the *East Commons Enhancement Plan* 2010. Estimate grown to 2012 dollars.

<sup>5</sup> From Metro's *Regional Transportation Plan (RTP)* 2007. Estimate grown to 2012 dollars.

<sup>6</sup> From Metro's *Regional Transportation Plan (RTP)* 2007. Estimate grown to 2012 dollars.

## Regional Street Urban Upgrades

Regional street upgrades serve regional travel needs, and are more expensive than what the City is anticipated to be able to fund by itself. These projects will rely on regional and State funding sources for implementation.

TABLE 5

Regional Urban Upgrade Cost Estimates and Prioritization

Project ID	Project Description	Cost Estimate (in 2012 dollars)	Champion	Funding Source	Priority*
R18	Upgrade SW Cipole Road to roadway standards between 99W and SW Tualatin-Sherwood Road, include a multi-use path on one side	\$20,030,000 <sup>7</sup>	Washington County, City	Washington County MSTIP, TDT, LID, Bike/Ped funds	As development occurs
R19	Widen SW Boones Ferry Road to 5-lanes north of SW Martinazzi Avenue	\$17,818,000	City, ODOT, Washington County	Washington County MSTIP, TDT, gas tax, STIP	Long-term
R20	Widen SW Tualatin-Sherwood Road to five lanes between SW Teton Avenue and SW Cipole Road†	\$10,883,000	Washington County, City	TDT, Washington County MSTIP, gas tax	Medium-term
R21	Upgrade SW Borland Road to roadway standards between SW 65 <sup>th</sup> Ave. and the eastern City limits	\$9,646,000	Clackamas County, City	TDT, gas tax, Clackamas County	Medium-term
R22	Upgrade SW Grahams Ferry Road to roadway standards between SW Ibach Road and SW Helenius Road	\$3,300,000	Washington County	TDT, gas tax, Washington County MSTIP,	Long-term
R23	Upgrade SW Tonquin Road to roadway standards between SW Waldo Way and SW Grahams Ferry Road	\$11,193,000 <sup>8</sup>	Washington County	TDT, gas tax, Washington County MSTIP	Medium-term
R24	Fill sidewalk gap and add a colored bicycle lane at SW Boones Ferry Road and SW Lower Boones Ferry Road Intersection	\$10,000	City, ODOT, Washington County, City of Durham	Bike/Ped funds, Travel Options	Short-term
R25	Fill sidewalk gaps on SW Grahams Ferry Road between SW Ibach Road and southern City limits	\$1,680,000 <sup>9</sup>	Washington County	TDT, Bike/Ped funds, Travel Options, MBP	Short-term
R26	Fill sidewalk gaps on SW Borland Road from SW 65 <sup>th</sup> Avenue to the eastern City limits	\$2,603,000	Clackamas County, City	TDT, Bike/Ped funds, Travel Options	Short-term

<sup>7</sup> From Metro's *Regional Transportation Plan (RTP) 2007*. Estimate grown to 2012 dollars.

<sup>8</sup> From the *SW Tualatin Concept Plan 2010*. Estimate grown to 2012 dollars.

<sup>9</sup> From the *Tualatin Bikeway Plan 1993*. Estimate grown to 2012 dollars.



TABLE 5

**Regional Urban Upgrade Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate (in 2012 dollars)	Champion	Funding Source	Priority*
R27	Add bicycle lanes on SW Boones Ferry Road from SW Norwood Road south to SW Day Road. Project will realign horizontal curves, add an intermittent center turn lane, pedestrian facilities on the west side of the road.	\$10,000,000 <sup>10</sup>	Washington County	Washington County MSTIP	Short-term (underway)

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

† Metro's *Regional Transportation Plan (RTP)* includes SW Tualatin-Sherwood Road as a 5 lane cross section west of the City limits to 99W

LID – Local Improvement District

MBP – Minor Betterment Program (Washington County)

MSTIP – Major Streets Transportation Improvement Program

STIP – Statewide Transportation Improvement Program

TDT – Transportation Development Tax

<sup>10</sup> From Washington County's ongoing Boones Ferry Road improvement project.

## New City Street Extensions

Tualatin's residential areas are largely established; most of the recommended new streets occur as extensions in the industrial and manufacturing areas and in conjunction with other planning processes. The extension of SW 124<sup>th</sup> Avenue and ~~the east-west connection south of the City SW Basalt Creek Parkway~~ addresses the need for additional access to the regional transportation network including the OR 99W and I-5 corridors. The adopted Basalt Creek Concept planning Plan area ~~anticipates~~ identified future additional residential, industrial and commercial development, creating more demand, and future industrial and manufacturing development in the western part of the City ~~will need additional access~~. Table 6 presents cost estimates and priorities for the City street extensions, and Table 7 presents cost estimates for the regional street extensions.

TABLE 6

**City Street Extension Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
R28	Build a bridge over Hedges Creek and extend SW Myslony Street to connect with SW 112 <sup>th</sup> Avenue	\$2,593,000	City	TDT, LID, bonds, gas tax	Medium-term
R29	Build the Roadways from the SW Concept Plan: Extend SW 115 <sup>th</sup> Avenue south to connect with the SW 124 <sup>th</sup> Avenue, create an east-west connection between SW 115 <sup>th</sup> and SW 124 <sup>th</sup> Avenues.	\$31,446,000 <sup>11</sup>	City	TDT, LID, gas tax, Oregon Immediate Opportunity Fund	Long-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

LID – local improvement district

TDT – Transportation Development Tax

<sup>11</sup> From the *SW Tualatin Concept Plan* 2010. Estimate grown to 2012 dollars.

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## New City Street Extensions

Tualatin's residential areas are largely established; most of the recommended new streets occur as extensions in the industrial and manufacturing areas and in conjunction with other planning processes. The extension of SW 124<sup>th</sup> Avenue and the east-west connection south of the City addresses the need for additional access to the regional transportation network including the OR 99W and I-5 corridors. The Basalt Creek planning area anticipates additional residential and commercial development, creating more demand, and future industrial and manufacturing development in the western part of the City will need additional access. Table 6 presents cost estimates and priorities for the City street extensions, and Table 7 presents cost estimates for the regional street extensions.

TABLE 6  
City Street Extension Cost Estimates and Prioritization

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
R28	Build a bridge over Hedges Creek and extend SW Myslony Street to connect with SW 112 <sup>th</sup> Avenue	\$2,593,000	City	TDT, LID, bonds, gas tax	Medium-term
R29	Build the Roadways from the SW Concept Plan: Extend SW 115 <sup>th</sup> Avenue south to connect with the SW 124 <sup>th</sup> Avenue, create an east-west connection between SW 115 <sup>th</sup> and SW 124 <sup>th</sup> Avenues.	\$31,446,000 <sup>11</sup>	City	TDT, LID, gas tax, Oregon Immediate Opportunity Fund	Long-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more  
LID – local improvement district  
TDT – Transportation Development Tax

<sup>11</sup> From the *SW Tualatin Concept Plan* 2010. Estimate grown to 2012 dollars.

## Regional Street Extensions

TABLE 7

**Regional Street Extension Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
R30	Extend SW 124 <sup>th</sup> Avenue south – include a multi-use path on one or both sides per street standards	\$15,000,000 <sup>12</sup>	City, City of Wilsonville, Washington County	Washington County MSTIP, TDT, LID	Short-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

LID – local improvement district

MSTIP – Major Streets Transportation Improvement Program

TDT – Transportation Development Tax

Please note: the City considered possible north-south crossings of the Tualatin River both east and west of I-5 in its TSP development. In the end, the City decided that the impacts of these crossings to Tualatin and/or to its neighboring communities outweighed the forecasted benefits and therefore no new river crossings are recommended in this TSP.

## Additional City Roadway Projects

Table 8 presents cost estimates and priorities for City roadway projects designed to address transportation deficiencies. Table 9 presents cost estimates for Regional roadway projects. These deficiencies include safety, congestion, and other community concerns. These projects are focused on improving localized issues, and intersection-specific upgrades to address safety and congestion concerns. Where traffic signals are recommended, traffic signal warrants would be conducted and the intersection would need to meet warrants before a signal is installed. Traffic warrant requirements are based on traffic volumes, pedestrian volumes, safety, and operation analyses. Figure 4 shows the projects geographically.

TABLE 8

**City Roadway Project Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
R31	Add a traffic signal at SW Tualatin Road and SW 115 <sup>th</sup> Avenue	\$609,000 <sup>13</sup>	City	TDT, LID, gas tax	Medium-term
R32	Remove some trees in the southwest corner of the intersection of SW Tualatin Road and SW 108 <sup>th</sup> Avenue to improve sight distance	\$8,000	City	TDT, LID, gas tax	Short-term
R33	Add a traffic signal at SW Tualatin Road and SW Teton Avenue	\$609,000 <sup>14</sup>	City	TDT, LID, gas tax	Short-term
R34	Eliminate the free right turn at SW Tualatin Road at the intersection with SW Herman Road, and consider a roundabout at this location. (cost estimate is for roundabout as assumed to	\$1,631,000	City	TDT, LID, gas tax	Long-term

<sup>12</sup> From Washington County's ongoing 124<sup>th</sup> Avenue extension project.

<sup>13</sup> See Project R33 for the cost estimate to a similar project.

<sup>14</sup> See Project R33 for the cost estimate to a similar project.

TABLE 8  
**City Roadway Project Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
	be higher cost of the two options)				
R35	Add a traffic signal or roundabout at SW Sagert Street and SW Martinazzi Avenue	\$2,069,000 <sup>15</sup>	City	TDT, LID, gas tax	Medium-term
R36	Add a southbound turn pocket from SW Teton Avenue to Avery Street	\$274,000	City	TDT, LID, gas tax	Medium-term
R37	Add a traffic signal at SW Avery Street and SW Teton Avenue	\$609,000	City	TDT, LID, gas tax	Medium-term
R38	Add signage to indicate that SW Tualatin Road is for local traffic, both along SW Tualatin Road and at either end (SW 124 <sup>th</sup> Avenue and SW Boones Ferry Road)	\$20,000	City	TDT, LID, gas tax	Short-term
R39	Add truck information signs along SW 105 <sup>th</sup> and 108 <sup>th</sup> Avenues. Install signs for no through trucks on SW 105 <sup>th</sup> and SW 108 <sup>th</sup> Avenues. Also places signs on SW Avery Street east and west of SW 105 <sup>th</sup> .	\$12,000	City	TDT, gas tax	Short-term
R40	Create a local street grid system on Urban Renewal Block 2 upon redevelopment with a connection opposite SW Seneca Street	\$2,307,000	City	TDT, gas tax, LID	Short-term
R41	Add bus pullouts on SW Boones Ferry Road at existing bus stops– 10 assumed at \$20,000 each	\$20,000 each	City	TDT, LID, gas tax, Travel Options	Medium-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

LID – local improvement district

TDT – Transportation Development Tax

<sup>15</sup> From Metro's *Regional Transportation Plan (RTP) 2007*. Estimate grown to 2012 dollars.

## Regional Roadway Projects

TABLE 9

Regional Roadway Project Cost Estimates and Prioritization

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
R42	Add an eastbound right-turn lane on SW Tualatin-Sherwood Road at SW Boones Ferry Road	\$792,000	City	TDT, gas tax	Medium-term
R43	Restripe the turn lanes to extend the southbound left turn pocket on SW Boones Ferry Road at SW Tualatin-Sherwood Road to accommodate more vehicles	\$8,000	City	TDT, LID, gas tax	Short-term
R44	Move the guardrail directly east of the I-5 southbound off-ramp to the north to improve sight distance for vehicles turning west off of I-5.	\$32,000	City, ODOT	TDT, gas tax	Short-term
R45	Add an additional on-ramp lane for vehicles traveling westbound on SW Nyberg Street to I-5 northbound (northeast quadrant of the Nyberg Interchange). Reduce the pedestrian island and improve illumination to enhance safety	\$1,071,000	City, ODOT	STIP: TE, TDT	Medium-term
R46	Add signage on the northbound off-ramp at Nyberg Interchange to discourage traffic getting off and then right back onto I-5	\$2,000	City, ODOT	STIP: TE, TDT	Medium-term
R47	Redesign SW Nyberg Street and Fred Meyer intersection and improve pedestrian crossing. Add pedestrian warning signs, and a concrete z-crossing on SW Nyberg Street with a pedestrian island. Optimize signal timing so it allows adequate time for pedestrian crossing while minimizing impacts on auto traffic.	\$156,000	City, ODOT, Washington County	TDT, LID, STIP: TE, Bicycle and Pedestrian Program	Medium-term
R48	Add a dedicated right-turn lane on SW Teton Avenue southbound onto SW Tualatin-Sherwood Road westbound	\$890,000	City, Washington County	TDT, LID, gas tax	Medium-term
R49	Add a right turn lane from westbound SW Tualatin-Sherwood Road to northbound SW 124 <sup>th</sup> Avenue	\$320,000	City, Washington County	Washington County MSTIP, TDT, LID	Medium-term
R50	Improve lane signage on SW Tualatin Sherwood Road west of the Nyberg interchange to help vehicles be in the correct lane before entering the interchange area	\$345,000	City, Washington County, ODOT	TDT, gas tax, STIP: TE	Short-term
R51	Add a signal at SW 65 <sup>th</sup> Avenue and SW Sagert Street	\$681,000	City, Washington County	TDT, LID, gas tax	Medium-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

LID – local improvement district

MSTIP – Major Streets Transportation Improvement Program

STIP – Statewide Transportation Improvement Program

TDT – Transportation Development Tax

TE – Transportation Enhancement

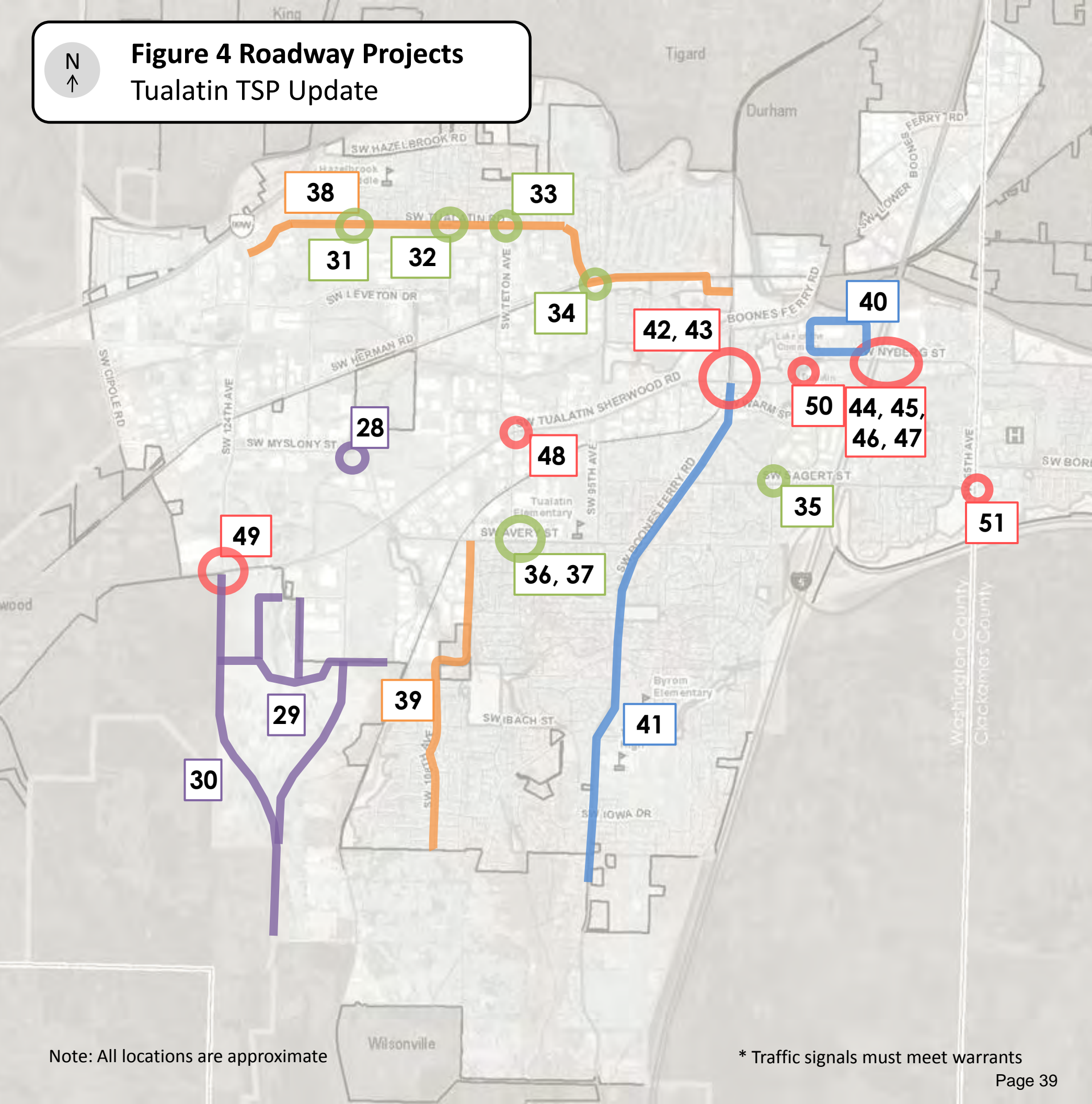


Tualatin/I-5 Nyberg Interchange: I-5 Northbound Off-ramp At the Tualatin/I-5 Nyberg Interchange Northbound off-ramp, future traffic growth (2035) indicates a potential for backups into the deceleration portion of the ramp due to lack of storage space. The existing off-ramp structure has a horizontal curve which limits the ability to modify striping on the ramp in an effort to extend the deceleration section, especially in light of exiting freight vehicles. In addition, the off-ramp is adjacent to the I-205 interchange which limits the ability to extend the off-ramp length for additional storage. It is likely that a solution to this issue would require widening of the existing structure to provide safe and sufficient vehicle storage. This project is not included in the TSP at this time, However, ODOT will coordinate with the City of Tualatin to explore this project and the City will consider adding it to the TSP at a future date.



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**Figure 4 Roadway Projects**  
Tualatin TSP Update



- New Streets and Street Extensions**
- 28 Connect SW Myslony Street to SW 112<sup>th</sup> Avenue
  - 29 Build the roadways from the SW Concept Plan
  - 30 Extend SW 124<sup>th</sup> Avenue south (Regional Project)

- City Intersection Improvements**
- 31 Add signal\* at SW Tualatin Road and SW 115<sup>th</sup> Avenue
  - 32 Remove some trees at intersection of SW Tualatin Road and SW 108<sup>th</sup> Avenue to improve sight distance
  - 33 Add signal\* at SW Tualatin Road and SW Teton Avenue
  - 34 Remove the free right turn at SW Tualatin Road at the intersection of SW Herman Road, consider a roundabout
  - 35 Add a signal\* or roundabout at SW Sagert St and SW Martinazzi Ave
  - 36 Add a southbound turn pocket from SW Teton Avenue to Avery Street
  - 37 Add a signal\* at SW Avery Street and SW Teton Avenue

- City Roadway Signs**
- 38 Add signage indicating that Tualatin Road is for local traffic
  - 39 Add truck info signs along 108<sup>th</sup>/105<sup>th</sup> Avenues to indicate that these roads are for local traffic

- City Roadway Changes**
- 40 Create a local street grid system on Urban Renewal Block 2 upon redevelopment with a connection to SW Seneca Street
  - 41 Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible (this project is also shown on the transit figure)

- Regional Intersection Improvements**
- 42 Add an eastbound right turn lane on SW Tualatin-Sherwood Road at SW Boones Ferry Road
  - 43 Extend the southbound left turn pocket on SW Boones Ferry Road at SW Tualatin-Sherwood Road
  - 44 Move guardrail on southbound off ramp to improve sight distance
  - 45 Northbound I-5 on-ramp: reduce pedestrian island, add an additional lane
  - 46 Add signage at the northbound off ramp to discourage traffic getting off and then back onto I-5
  - 47 Redesign SW Nyberg Street and Fred Meyer intersection and improve pedestrian crossing, add striping and a pedestrian island
  - 48 Add a dedicated right turn lane on southbound SW Teton Avenue and SW Tualatin-Sherwood Road
  - 49 Add a right turn lane from westbound SW Tualatin-Sherwood Road to northbound SW 124<sup>th</sup> Avenue
  - 50 Improve lane signage west of the Nyberg interchange to indicate lanes passing through the interchange area
  - 51 Add signal\* at SW 65<sup>th</sup> Avenue and SW Sagert Street

Note: All locations are approximate

\* Traffic signals must meet warrants

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## Access Management

Access management is important to maintain traffic flow and ensure safety on the City's arterial street network, including SW Tualatin-Sherwood Road, Oregon Highway 99W (OR 99W), and other high-traffic routes. Limiting the number of points where traffic can enter and exit reduces potential conflict points, improves roadway performance, and reduces the need for capacity expansion. The City manages access through Chapter 75 of the Tualatin Development Code (TDC); that chapter details where access is permitted on arterial and collector roads within the City. Tualatin must coordinate with Washington and Clackamas Counties and ODOT to manage access on roads the City does not own, including SW Tualatin-Sherwood Road, SW Cipole Road, SW 65<sup>th</sup> Avenue, SW Borland Road, and sections of SW Boones Ferry Road.

Access management policies are:

- ◆ **Access Management Policy 1:** No new driveways or streets on arterial roadways within the City, except where noted in the TDC, Chapter 75, usually when no alternative access is available
- ◆ **Access Management Policy 2:** Where a property abuts an arterial and another roadway, the access for the property shall be located on the other roadway, not the arterial
- ◆ **Access Management Policy 3:** Adhere to intersection spacing included in Chapter 75 of the TDC
- ◆ **Access Management Policy 4:** Limit driveways to right-in, right-out (where appropriate) through raised medians or other barriers to restrict left turns
- ◆ **Access Management Policy 5:** Look for opportunities to create joint accesses for multiple properties, where possible, to reduce the number of driveways on arterials
- ◆ **Access Management Policy 6:** No new single-family home, duplex or triplex driveways on major collector roadways within the City, unless no alternative access is available
- ◆ **Access Management Policy 7:** On collector roadways, residential, commercial and industrial driveways where the frontage is greater or equal to 70 feet are permitted. Minimum spacing at 100 feet. Uses with less than 50 feet of frontage shall use a common (joint) access where available

Chapter 75 of the TDC, most recently updated in 2012, has specific access standards for each arterial road within Tualatin. It provides recommendations for future changes on specific roads, as well as potential solutions for access issues. Generally, all new intersections with arterials must have a minimum spacing of 0.5 mile. On Washington County roads, the access spacing on arterials is 600 feet from any intersection or other access. The City Engineer is responsible for reviewing all requests for access to arterial streets, and will be consistent with County and ODOT standards on facilities owned by those agencies. Exceptions to these standards may be allowed, but only under special circumstances and with conditions.

## Traffic Operations Standards

This section includes a discussion of standards included in the OHP, ODOT's *Highway Design Manual* (HDM), and the TPR and City documents for local roadways. Based on the preferred system for operational analysis, there are four intersections that do not meet jurisdictional standards after mitigation strategies are included. These intersections that experience operational constraints are in the SW Lower Boones Ferry Road/I-5 interchange area, and are due to the additional motor vehicle trips associated with the widening of SW Boones Ferry Road from SW Martinazzi Avenue to SW Lower Boones Ferry Road. The results of the traffic operations for the 2035 PM peak with the preferred system are shown in Table 10.

The first mitigation strategies explored transportation system management techniques (maximizing operations at intersections through signal timing adjustments and/or phasing adjustments). If system management techniques did not achieve acceptable jurisdictional operations, localized capacity improvements were explored (for example, a new turn pocket). Generally these improvements allowed for adequate signal operations under a mitigated scenario.

TABLE 10  
2035 PM Peak Hour Preferred System Intersection Operations

Intersection	Jurisdiction	Minimum Standard	Preferred System
<b>Signalized Intersections</b>			
SW 124th Ave/Hwy 99W	ODOT	0.99	D 0.97
SW 124th Ave/SW Tualatin Rd	Tualatin	D	C 0.88
SW 124th Ave/SW Herman Rd	Tualatin	D	C 0.77
SW 124th Ave/SW Tualatin-Sherwood Rd	Washington County	0.99	C 0.92
SW Avery St/SW Tualatin-Sherwood Rd	Washington County	0.99	D 0.98
SW Teton Ave/SW Tualatin-Sherwood Rd	Washington County	0.99	E 0.92
SW 90th Ave/SW Tualatin-Sherwood Rd	Washington County	0.99	C 0.80
SW Boones Ferry Rd/SW Tualatin-Sherwood Rd	Washington County	0.99	E <b>1.00</b>
SW Martinazzi Ave/SW Tualatin-Sherwood Rd	Washington County	0.99	F <b>1.08</b>
I-5 SB Ramps/SW Nyberg Rd	ODOT	0.99	D 0.86
I-5 NB Ramps/SW Nyberg Rd	ODOT	0.99	C 0.85
SW 65th Ave/SW Borland Rd	Washington County	0.99	D 0.99
SW Teton Ave/SW Herman Rd	Tualatin	D	C 0.67
SW Tualatin Rd/SW Herman Rd	Tualatin	D	B 0.77
SW 90th Ave/SW Tualatin Rd	Tualatin	D	C 0.94
SW Tualatin Rd/SW Boones Ferry Rd	Washington County	0.99	C 0.89
SW Martinazzi Ave/SW Boones Ferry Rd	Tualatin	D	E <b>1.08</b>
SW Boones Ferry Rd/SW Lower Boones Ferry Rd	ODOT	0.99	D <b>1.02</b>
SW 72nd Ave/SW Lower Boones Ferry Rd/SW Bridgeport Rd	Washington County	0.99	D 0.89
I-5 SB Ramps/SW Lower Boones Ferry Rd	ODOT	0.99	D 0.98
I-5 NB Ramps/SW Lower Boones Ferry Rd	ODOT	0.99	D 0.96
SW Boones Ferry Rd/SW Avery St	Washington County	0.99	D 0.94
SW Boones Ferry Rd/SW Sagert St	Washington County	0.99	D 0.93
SW Boones Ferry Rd/SW Ibach St	Washington County	0.99	D 0.98
SW 105th Ave/SW Avery St <sup>16</sup>	Tualatin	E	C 0.94
SW Martinazzi Ave/SW Sagert St <sup>17</sup>	Tualatin	E	D 0.92

<sup>16</sup> Operations evaluated with minor street stop control.

TABLE 10  
2035 PM Peak Hour Preferred System Intersection Operations

Intersection	Jurisdiction	Minimum Standard	Preferred System	
SW 65 <sup>th</sup> Ave & SW Nyberg Rd	Washington County	0.99	C	0.92
<b>Unsignalized Intersections</b>				
SW Martinazzi Ave & SW Avery St*	Tualatin	E	D	0.83
SW Teton Ave & SW Avery St*	Tualatin	E	B**	0.62**
SW 65th Ave & SW Sagert St* <sup>18</sup>	Washington County	0.99	D**	0.97**
SW Teton Ave & SW Tualatin Rd	Tualatin	E	B**	0.70**

\* LOS and V/C reported for the highest delay movement

\*\* Evaluated as a traffic signal. Assumes construction of traffic signal

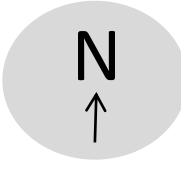
There were some intersections located in the downtown core area that were not able to meet jurisdictional standards without the implementation of significant capacity and/or roadway widening improvements. These types of major infrastructure improvements were deemed to be too impactful to the downtown core and were not included in the final preferred system improvements. The downtown Tualatin area is designated a Town Center by Metro, and using that designation, Town Centers are allowed to not meet jurisdictional standards. Alternate standards for Town Centers in the RTP are based on a two-hour peak hour. The standard v/c for the first peak hour is 1.1, and for the second peak hour is 0.99. These intersections meet the RTP standards, and there is no need for additional alternate mobility standards.

<sup>17</sup> Operations evaluated with minor street stop control. HCM Methodology does not account for a three-lane approach for an all way stop (as exists for the southbound approach.) To estimate LOS and V/C for the intersection the three lanes (one dedicated to each movement) are combined into two: through-right and through-left lanes. Because of this approximation, actual performance may be slightly better than reported above.

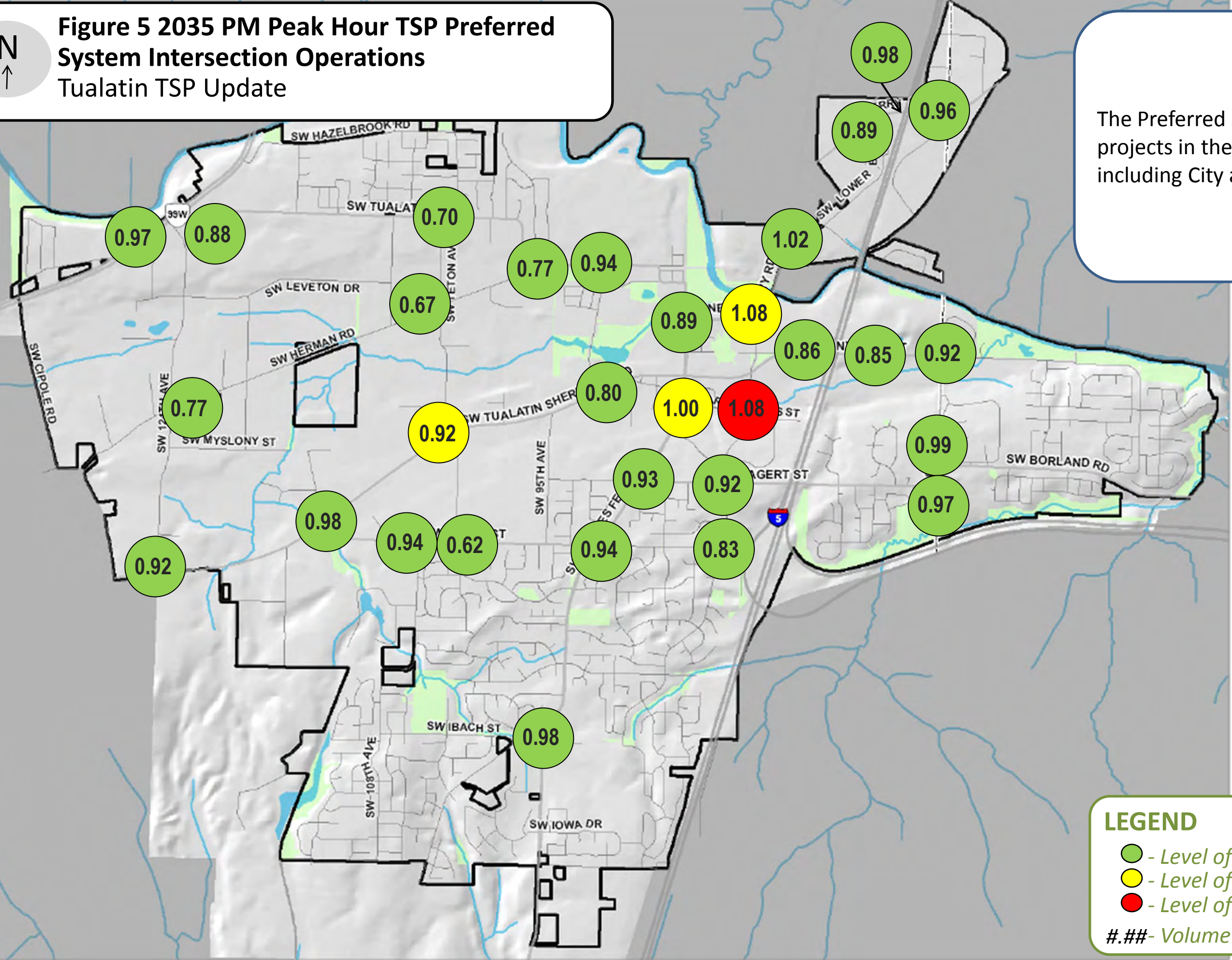
<sup>18</sup> HCM Methodology does not account for a three-lane approach for an all way stop (as exists for the southbound approach.) To estimate LOS and V/C for the intersection the dedicated southbound left turn lane and through lane are combined, due to the relatively small volume on the left turn movement. Because of this approximation, actual performance may be slightly better than reported above.

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**Figure 5 2035 PM Peak Hour TSP Preferred System Intersection Operations**  
Tualatin TSP Update



The Preferred System includes all projects in the Street Modal Plan including City and regional projects.



**LEGEND**

- - Level of Service A through D
- - Level of Service E
- - Level of Service F

### - Volume to Capacity Ratio



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## 3 Transit Modal Plan

This chapter describes the City of Tualatin's public transit modal plan. Public transit in Tualatin is envisioned to be multi-faceted by including local and express bus service, commuter rail, potential high capacity transit, and local transit shuttle services. In addition, the community's vision for public transit includes improvements in the quality of transit service, as well as land uses that better complement and encourage use of transit in downtown Tualatin. This section provides a brief overview of existing conditions and needs for public transit, provides a list of policies relating to transit that will guide the City's implementation of this plan, and provides a list of key projects identified by the community that would improve public transit. This chapter concludes by providing cost estimates for each project and a description of each project's relative priority.



*Tualatin WES Station*

## Existing Conditions for Public Transit

### Transit Service

Public transit in Tualatin currently consists of TriMet bus lines, one South Metro Area Regional Transit district (SMART) bus line, Westside Express Service (WES) commuter rail, LIFT paratransit service, and the Tualatin Shuttle.

Five TriMet bus lines currently serve Tualatin:

- ◆ Line 36 (South Shore) connecting Lake Oswego to Tualatin and downtown Portland
- ◆ Line 37 (Lake Grove) connecting Lake Oswego to Tualatin
- ◆ Line 38 (Boones Ferry Road) connecting Tualatin to Portland City center
- ◆ Line 76 (Beaverton/Tualatin) connecting Beaverton and Tualatin
- ◆ Line 96 (Tualatin/I-5) express route from Tualatin to downtown Portland via I-5

WES commuter rail service connects Beaverton to Wilsonville via Tualatin. LIFT paratransit service is available for qualified persons with disabilities within Tualatin and the greater Portland metropolitan region. SMART serves Tualatin with its bus line No. 2X service, connecting Wilsonville to the Barbur Transit Center. The Tualatin Shuttle operates on weekdays in the morning and afternoon rush hours, connecting passengers from TriMet bus stops, WES, and downtown Portland to businesses in Tualatin.

### Park-and-Rides

There are four park-and-ride lots within the City of Tualatin, all of which are served by TriMet:

- ◆ The Tualatin Park-and-Ride is the largest park-and-ride lot within the City of Tualatin. It is located at SW 72nd Avenue and SW Bridgeport Road in the northern part of the City, north of the Tualatin River and downtown. It has 466 total vehicle spaces and is open all days. It is a major transfer station with five separate bus lines stopping at this location.

- ◆ The Mohawk Park-and-Ride is located at SW Mohawk Street and SW Martinazzi Avenue about 0.5 miles south of the Tualatin Commons and downtown Tualatin. It has 232 total vehicle spaces and is open all days. Two bus lines stop at this park and ride, providing an opportunity to transfer.
- ◆ The Tualatin South Park-and-Ride is the newest park-and-ride in the City. It is located at 18955 SW Boones Ferry Road just west of the Tualatin Commons and downtown. It is open all days and provides bike parking with lockers and covered racks. It has 147 total vehicle spaces. This park and ride is the only transfer station between the WES commuter rail and a bus line.
- ◆ The Boones Ferry Community Church Park-and-Ride is the smallest park-and-ride in the City of Tualatin and is located at 20500 SW Boones Ferry Road. It is open Monday through Friday only, and provides 20 vehicle spaces. This park and ride only serves one bus line, and is not a transfer station.



Bus stop for TriMet line Nos. 76 and 96

More information on existing transit service, transit amenities, fares, and ridership is provided in Appendix B, Existing Conditions and Deficiencies.

## Summary of Limitations and Needs for Transit

It is likely that most residents of Tualatin do not currently rely solely on transit service to meet their transportation needs. One reason may be because most residents do not live within walking distance (0.25 mile) of a transit stop, and because transit is not provided at frequent intervals during all hours of the day. In addition, only 8 percent of households in the city of Tualatin do not have access to a vehicle.<sup>19</sup> According to the *Conceptual Linking Tualatin Plan*, over 11,000 workers and over 5,000 households (over half of the people living and working in the city) lack regular transit service within a quarter mile of where they live or work.<sup>20</sup>

TriMet does not provide transit service within all areas of the City or on all major corridors. No transit service is provided on SW Tualatin-Sherwood Road or SW Tualatin Road, and many residents in the western portion of the City live more than a mile from the nearest transit line. Many residents who do live near a bus line are not served by transit at regular intervals during the day. Because of the limitations of service during off-peak hours, noncommuting trips may be more difficult to complete using transit in Tualatin. Community feedback indicated the following specific needs for transit:

- ◆ Service connecting the west side of Tualatin to the downtown core
- ◆ Park-and-rides in the west and south areas of Tualatin
- ◆ Extended service hours, including weekend service
- ◆ More direct connections to places other than downtown Portland

Additional needs for transit stops include direct and safe access to transit stops and bicyclist and pedestrian amenities at stops, especially where transit riders are able to transfer lines or modes.

<sup>19</sup> U.S. Census Bureau, 2009-2011 American Community Survey, Table B08201

<sup>20</sup> *Conceptual Linking Tualatin Plan Draft*, 2012.



## Transit Policies

The City of Tualatin's policies on public transit are as follows:

- ◆ **Transit Policy 1:** Partner with TriMet to jointly develop and implement a strategy to improve existing transit service in Tualatin.
- ◆ **Transit Policy 2:** Partner with the Tualatin Chamber of Commerce to support grant requests that would expand the Tualatin Shuttle services.
- ◆ **Transit Policy 3:** Partner with TriMet, Metro, and neighboring communities to plan the development of high-capacity transit in the Southwest Corridor, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 4:** Partner with TriMet, Metro, and neighboring communities to plan development of high-capacity transit connecting Tualatin and Oregon City, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 5:** Coordinate with ODOT and neighboring communities on conversations related to Oregon Passenger Rail between Portland and Eugene.
- ◆ **Transit Policy 6:** Develop and improve pedestrian and bicycle connections and access to transit stops.
- ◆ **Transit Policy 7:** Encourage higher-density development near high-capacity transit service.
- ◆ **Transit Policy 8:** Metro in the RTP calls for increased WES service frequency. The City will coordinate with TriMet, Metro, and ODOT to explore service frequency improvements and the possible inclusion of a second WES station in south Tualatin.

In addition to the transit policies included here, there is also a bicycle and pedestrian policy applicable to transit:

- ◆ **Bicycle and Pedestrian Policy 7:** Implement bicycle and pedestrian projects to provide pedestrian and bicycle access to transit and essential destinations for all mobility levels, including direct, comfortable, and safe pedestrian and bicycle routes
- ◆ **Bicycle and Pedestrian Policy 8:** Ensure that there are bicycle and pedestrian facilities at transit stations

## Regional Coordination

The City of Tualatin will participate fully in the development of regional transit projects through partnering with other agencies. Regional projects currently under development include the following:

- ◆ **Southwest Corridor Project.** The purpose of the Southwest Corridor project is to extend high-capacity transit from downtown Portland into the southwest part of the region. Doing so will help to fulfill the vision of the Metro *High Capacity Transit System Plan*. The City of Tualatin is partnering with Metro and TriMet to bring regional high-capacity transit to Tualatin and neighboring communities.
- ◆ **Linking Tualatin Project.** The purpose of the Linking Tualatin project is to better link people to the places they need to go via transit, particularly linking employees to their jobs, and creating linkages between Tualatin and the rest of the region. It addresses one of the community's biggest concerns, which is the lack of east-west transit connections. The Linking Tualatin Plan presents the community's vision, developed through working groups and an intensive workshop, of land use and transportation options for the city's major employment areas intended to improve local and regional transit service. These options include suggested changes to future land uses, bicycle and pedestrian connections, road connections, and transit facilities to make Tualatin more "transit ready." It is a work in progress, and will continue to be reviewed by the community and refined through early 2013 to incorporate property owner and employer input and address future high capacity transit options being studied in the Southwest Corridor Project. The project goal is to complete the planning process by June 2013.

The community's vision for "transit ready places" in the Linking Tualatin Plan includes potential transit and other transportation improvements to increase access to and use of transit. Public and private projects focus on improved bicycle and pedestrian connections and road crossings, new local street connections, and new transit services or facilities. Some public projects are unique to the Linking Tualatin Plan and will be studied further through that planning process. These projects include:

1. Bridgeport Village Area: **Provide a new pedestrian crossing** on SW Lower Boones Ferry Road at entrance to the south lot of the Tualatin Park-and-Ride.
2. Bridgeport Village Area: **Provide new local street connections** north of the proposed Bridgeport Apartments development, west, and north of the Grand Hotel.
3. Downtown Area: **Improve pedestrian crossing** on SW Boones Ferry Road at SW Nyberg Street near the WES station.
4. Meridian Park/Nyberg Woods Area: **Provide a new pedestrian crossing** on SW 65<sup>th</sup> Avenue near the north entrance to Meridian Park Hospital.
5. Leveton Area: **Provide a new pedestrian crossing** on SW Herman Road west of SW 108<sup>th</sup> Avenue to access a future bus stop and improve bicycle/pedestrian connectivity.
6. Teton Area: **Provide a new WES stop** near SW Tualatin-Sherwood Road, west of the intersection of SW Avery Street and SW 105<sup>th</sup> Avenue.
7. Teton Area: **Improve pedestrian crossing** at the SW Teton Avenue and SW Tualatin-Sherwood Road intersection.
8. Southwest Industrial Area: **Consider providing parkway treatment** along SW Tualatin-Sherwood Road between SW 124<sup>th</sup> Avenue and SW Avery Street.
9. Pacific Financial/SW 124<sup>th</sup> Avenue Area: **Provide new trails** parallel to OR 99W between SW Hazelbrook Road and the north side of the Tualatin River to connect with the Tualatin River Greenway Trail.
10. Pacific Financial/SW 124<sup>th</sup> Avenue Area: **Connect the Tualatin River Greenway trail** under the OR 99W bridge on both side of the river.

Other public projects in the Linking Tualatin Plan are included in the Transit Modal Plan of this Transportation System Plan. The focus of these projects is on providing east-west connectivity between OR 99W and downtown Tualatin via local bus transit, anchored by park-and-ride facilities in west, east and south Tualatin, and a transit hub at the downtown Tualatin WES station. These projects are shown in Figure 4 and more detail is provided later in this section.

- ◆ **Oregon Passenger Rail.** The purpose of the Oregon Passenger Rail project is to improve passenger rail service between Portland and Eugene. Along the way, the rail service is expected to serve the south Metro area via an alignment either east or west of the Willamette River. The City of Tualatin intends to coordinate with ODOT to help determine an appropriate corridor that would improve intercity passenger rail service in Oregon.
- ◆ **WES Extension.** TriMet and ODOT may consider the feasibility of extending WES commuter rail from Wilsonville to Salem. The City of Tualatin is supportive of the WES extension and intends to partner with ODOT and TriMet in facilitating this project.

## Transit Projects

The following proposed projects represent the community's desires for future improvements to transit service. Figure 4 depicts the projects geographically. These projects can be grouped into the following categories: fixed-route bus service, shuttle service, WES, and park-and-rides.



## Expansions of Fixed-route Bus Transit Service

1. **Provide transit service on SW Herman Road.** SW Herman Road connects to several centers of employment. Bus transit service along SW Herman Road would allow workers to travel more easily from the center of Tualatin to their work sites.
2. **Provide transit service on SW 124<sup>th</sup> Avenue.** SW 124<sup>th</sup> Avenue is a key north-south connection on the west side of Tualatin, connecting OR 99W with SW Tualatin-Sherwood Road. Adding transit service on SW 124<sup>th</sup> Avenue would improve access to the frequent transit service already provided on OR 99W.
3. **Provide transit service on SW Avery Street.** SW Avery Street connects SW Tualatin-Sherwood Road to the City's central residential areas. Providing bus transit service along SW Avery Street would provide an important connection to residential areas in the central part of Tualatin and provide an opportunity to connect with the existing transit service on SW Boones Ferry Road.
4. **Provide transit service on SW Tualatin Road between downtown and OR 99W.** SW Tualatin Road is an important connection to both residential areas in northwest Tualatin and to employment between SW Tualatin Road and SW Herman Road.
5. **Provide transit service on Tualatin-Sherwood Road.** Tualatin-Sherwood Road is Tualatin's major east-west roadway, connecting it to 99W and Sherwood to the west and to Boones Ferry Road and I-5 on the east. It serves the greatest number of people in Tualatin and major activity centers including the WES station, retail shopping, and businesses are located along it. Transit service along Tualatin-Sherwood Road would provide an alternative to driving for Tualatin's residents as well as its employees and visitors.
6. **Extend transit service to the east in Tualatin.** The area of Tualatin east of I-5 is served only by TriMet's No. 76 bus line, which extends to Meridian Park Hospital at SW 65th Avenue and SW Borland Road. East of the hospital are several residential developments, as well as the Rolling Hills Community Church, which houses the Tualatin Food Pantry, and two schools.
7. **Extend service hours for transit.** Most of the bus service provided in Tualatin operates primarily during commuting hours on weekdays. WES also operates only on weekdays during peak hours. TriMet's line No. 76 operates with limited frequency on Saturday and Sunday. Extending service hours for transit lines would allow citizens to use transit as a viable transportation option for more of their needs.
8. **Explore a shuttle or trolley service between Bridgeport Village and the Tualatin Commons area, especially on weekends.** Both Bridgeport Village and the Tualatin commons near the City-owned parking lots are destinations for local and regional residents. Providing a shuttle service between the two areas would potentially reduce traffic in central Tualatin and would help foster activity in downtown Tualatin. Residents would be able to park at the Commons and take the Shuttle into Bridgeport Village.
9. **Expand the Tualatin Shuttle and Consider a Deviated Fixed Route.** The Tualatin Shuttle currently operates during a.m. and p.m. peak hours only. There are two vehicles, a larger van and a smaller van. Both currently operate on a demand-responsive basis and do not have fixed routes. The City should partner with the Chamber of Commerce to explore a deviated fixed route for the larger van that would serve as a city-wide transit circulator serving existing and future major employment markets in Tualatin. The route would connect to the Tualatin Park and Ride and travel south via SW Lower Boones Ferry Road and SW Boones Ferry Road. It would then connect three major employment districts in the city in this order:
  - ✓ **Southwest and near west of downtown Tualatin** via SW Boones Ferry Road, SW Avery Street, and SW Teton Ave
  - ✓ **West Tualatin** via SW Tualatin-Sherwood Road, SW 124<sup>th</sup> Ave, and SW Herman Road

- ✓ **Northwest Tualatin** via SW Cipole Road, OR 99W, and SW 115<sup>th</sup> and SW 118<sup>th</sup> Aves
  - The route would complete by returning east on SW Herman Road and SW Tualatin Road.
  - In the future, the route could be extended to include a fourth major employment district as demand is created with future development:
- ✓ **East Tualatin** via SW Nyberg Street, SW 65<sup>th</sup> Ave, and SW Sagert Street

The smaller van that currently operates as the Tualatin Chamber of Commerce Shuttle would continue to be run on a demand-responsive basis and would serve key residential areas throughout the city. In addition, expanding the service hours of the Tualatin Chamber of Commerce Shuttle would allow more employees to use it. Funding for these service expansions should be sought, and used for the following purposes, in order of priority:

- ✓ Additional van for the afternoon peak
- ✓ Broader service hours (still within an AM and PM peak period)
- ✓ Provision of mid-day service

## WES

- 10. Make the WES station a central focus of downtown and the main transit center.** The WES station is located in central Tualatin and three actions would make it more of a central focus of downtown: (1) Transit-oriented development that over time would refocus activity towards the train station; (2) Improving pedestrian activity and connectivity to both these future transit-oriented uses but also to existing uses, including Haggen's and development east of Boones Ferry Road and south of Tualatin-Sherwood Road; and (3) Add local transit connections to the WES station over time, including the Routes 96 and the 38, as well as potential future fixed-route service.

## Expansions of the Park-and-Ride System

- 11. Improve transit service on OR 99W and look for potential shared use park-and-ride locations in west Tualatin.** There are few park-and-ride options on or near OR 99W for Tualatin residents. The closest are in Sherwood (shared use with Regal cinemas) to the south or Tigard to the north (shared use with Christ the King Lutheran Church). Further, the Route 12 discontinued service in 2012 to Sherwood, terminating at the Tigard Transit Center to the north. The one route along OR 99W through Tualatin is the Route 94 which does not stop between Sherwood and Tigard. This limits the ability of Tualatin residents to access transit along OR 99W. Add a transit stop in the vicinity of Tualatin Road for the 94 and future fixed route transit, and look for potential shared use park-and-ride locations in this vicinity that would serve Tualatin residents.



*Mohawk Park-and-Ride*

- 12. Look for potential, shared use park-and-ride locations in south Tualatin.** Bus line No. 96 travels through south Tualatin via SW Boones Ferry Road. However, there is no park-and-ride currently serving this area south of the Boones Ferry Community Church Park-and-Ride. Adding a park-and-ride in the south part of Tualatin or south of Tualatin near the terminus of bus No. 96 would improve access to transit for residents of that area.

- 13. Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible.** The streets modal plan describes a preferred cross section on SW Boones Ferry Road that retains one travel lane in each direction with a center-turn lane, bicycle lanes and sidewalks throughout. This cross section was selected over a wider, five-lane cross section for reasons of neighborhood livability, however it means that buses traveling on SW Boones Ferry Road can create congestion by blocking the travel lane when stopping to pick up or drop off passengers. This project constructs bus pullouts where buses could pull out of the travel lane at existing stops.

## Cost Estimates and Prioritization

Table 11 provides cost estimates and priorities for each of these proposed transit projects.

TABLE 11  
Transit Project Cost Estimates and Prioritization

Project ID	Project Description	Cost Estimate		Champion	Funding Source	Priority*
		Capital	Operating			
T1	Provide transit service on SW Herman Road	\$466,000	\$168,000	TriMet, City	TriMet	Medium-term
T2	Provide transit service on SW 124 <sup>th</sup> Avenue	\$462,000	\$114,000	TriMet, City	TriMet	Medium-term
T3	Provide transit service on SW Avery Street	\$460,000	\$97,000	TriMet, City	TriMet	Medium-term
T4	Provide transit service on SW Tualatin Road between downtown and OR 99W	\$471,000	\$184,000	TriMet, City	TriMet	Short-term
T5	Provide transit service on SW Tualatin-Sherwood Road	\$473,000	\$218,000	TriMet, City	TriMet	Medium-term
T6	Extend transit service to east Tualatin	\$466,000	\$97,000	TriMet, City	TriMet	Medium-term
T7	Extend service hours for all transit, with a focus on the No. 96 bus line	N/A	\$1,083,000	TriMet, City	TriMet	Medium-term
T8	Trolley service between Bridgeport Village and the Tualatin Commons	\$50,000	\$308,000	Chamber of Commerce, City, Metro	Fares, Chamber of Commerce	Medium-term
T9	Expand the Tualatin Shuttle for industrial and manufacturing workers during the day	N/A	\$58,000	Chamber of Commerce, City, Metro	Chamber of Commerce, Metro (JARC)	Short-term
T10	Make the WES station a central focus of downtown and the main transit center; improve pedestrian connectivity, transit-oriented development opportunities, and local transit connections	N/A	N/A	City	TriMet, City	Long-term
T11	Look for potential shared use park-and-ride locations in west Tualatin	N/A	\$51,000	City, TriMet	TriMet, City	Medium-term
T12	Look for potential shared use park-and-ride locations in south Tualatin	N/A	\$51,000	City, TriMet	TriMet, City	Medium-term

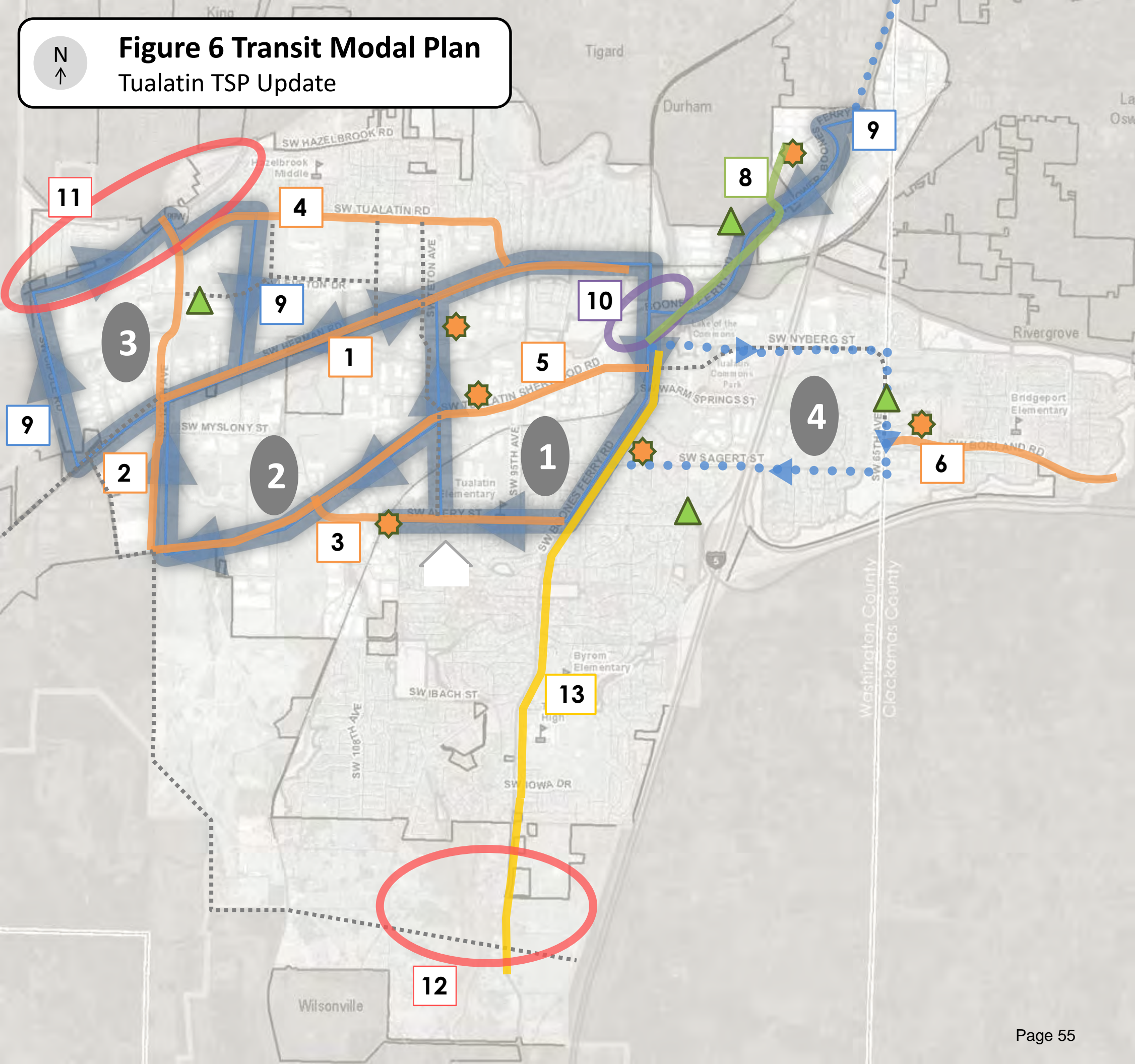
\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more  
JARC – Jobs Access Reverse Commute





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**Figure 6 Transit Modal Plan**  
Tualatin TSP Update



**Expansions of Fixed-Route Bus Transit Service**

- 1 Provide bus transit service on Herman Rd
- 2 Provide bus transit service on 124<sup>th</sup> St
- 3 Provide bus transit service on Avery St
- 4 Provide bus transit service on Tualatin Rd between downtown Tualatin and 99W
- 5 Provide transit service on Tualatin-Sherwood Rd
- 6 Extend bus service further east in Tualatin
- 7 Throughout – quality of service improvements (not shown on map)

**Expansions of the Shuttle Service**

- 8 Provide a trolley service between Bridgeport Village and Commons area
- 9 Create an on-call shuttle for industrial & manufacturing workers during the day:

- Partial fixed route for Van 1
- Potential future route as demand grows
- Employment centers served by shuttle (existing, potential)
- Residential centers served by shuttle
- Directional for partial fixed routes

Note: Shuttle Van 2 would retain a flexible, on-call route connecting residential areas with employment

**WES**

- 10 Make the WES station a central focus of downtown and the main transit center. Improve pedestrian connectivity, transit-oriented development opportunities, and local transit connections

**Park-and-ride System Expansion**

- 11 Look for potential park-and-ride locations in west Tualatin
- 12 Look for potential park-and-ride locations south of Bridgeport Village (Wilsonville area)

**Bus Pull-outs**

- Note: this project is also included on the Roadway improvements figure
- 13 Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible

**Additional Transit Route Recommendations from Linking Tualatin**

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## 4 Pedestrian, Bicycle, and Multi-Use Path Modal Plan

This chapter describes the pedestrian and bicycle improvement projects to comfortably and safely accommodate bicyclists and pedestrians within the City. These projects include multi-use paths, specific bicycle and pedestrian improvements, and street upgrades. There is a stand-alone bicycle and pedestrian plan in Appendix H.

### Existing Conditions for Bicyclists and Pedestrians

#### Existing On-Street Bicycle Facilities

Tualatin streets provide a variety of bicycle facilities, including bike lanes, shared roadways, and multi-use paths. There are a few facility gaps for both bicyclists and pedestrians throughout the City, generally on roadways that are planned for urban upgrades.

The bicycle network in Tualatin consists of on-street bike lanes ranging in width from 4 to 6 feet. There are buffered bike lanes<sup>21</sup> along SW Tualatin-Sherwood Road between Sherwood and SW Teton Avenue. Additionally, there are a number of shared roadway facilities, usually on lower volume streets within and around residential neighborhoods.

Traffic counts collected in October 2011 did not reflect a high degree of bicycle usage. The intersections with the most bicyclists were located along SW Tualatin-Sherwood Road in the core of downtown Tualatin, near SW Martinazzi Avenue and SW Boones Ferry Road.

There appears to be adequate bicycle parking at transit centers and park-and-rides to accommodate the bicycle demand. The TDC includes language requiring developments that are zoned multi-family, commercial, or industrial to provide for bicycle parking when developing land.

#### Existing Pedestrian Facilities

Pedestrian facilities include sidewalks, multi-use paths, crosswalks, and pedestrian signals. The most prevalent pedestrian facility in the City is the sidewalk. All City street standards include a sidewalk requirement, with a minimum width of 5 feet. Most of the collector and arterial streets in Tualatin have sidewalks, and many neighborhoods and local streets include pedestrian sidewalks. A few locations throughout the City lack sidewalks—mainly areas with narrow roadways, some older neighborhoods, and sections on larger roads, especially towards the City limits where the roadway character transitions from urban to rural.



*Example of a bike lane on SW Martinazzi Avenue*



*Concrete path in Tualatin Community Park*

<sup>21</sup> Buffered bike lanes are bike lanes with extra striping allowing for a buffer between the travel lane and the bike lane. The striping provides extra separation between vehicles and bicyclists.

There are a number of high-pedestrian-use areas, including near Tualatin High School at SW Boones Ferry Road and SW Ibach Street, and at two intersections near the Tualatin Commons: (1) SW Martinazzi Avenue and SW Boones Ferry Road and (2) SW Martinazzi Avenue and SW Tualatin-Sherwood Road.

## Existing Multi-use Paths

The City has a number of multi-use paths<sup>22</sup>, including paths that run through City-owned parks and identified greenways and extend into residential areas. Multi-use paths in Tualatin are built from a variety of materials, including pavement, concrete, gravel, or—in the case of the Tualatin River greenway boardwalk—wood. Most multi-use path users walk or bicycle along the paths for recreation or exercise<sup>23</sup>; some use them for commuting or running errands. The City has a comprehensive planned multi-use path network, though about only half of the multi-use path system has been built.

## Summary of Limitations and Needs for Bicycle and Pedestrian Facilities

### Bicycle Facility Needs

Existing bicycle facilities in Tualatin have a few gaps and challenging connections:

- ◆ Difficult left-turn maneuvers
- ◆ Constrained environment
- ◆ Difficult areas with low bike visibility
- ◆ Bike lanes outside of turn lanes
- ◆ Obstacles within the bike lanes
- ◆ Gaps in the network



*Unsignalized crosswalk on SW 108th Avenue*

In addition to these needs, there are a number of high-crash locations. Most crashes result in an injury to the bicyclist, and most occur on a dry roadway surface in daylight conditions. High-crash locations include SW Boones Ferry Road and SW Tualatin-Sherwood Road, as well as the SW Nyberg Road interchange ramps at I-5.

### Pedestrian Facility Needs

The community and the existing conditions report identified a number of pedestrian facility needs:

- ◆ Fill sidewalk gaps on arterials and collector streets
  - Sections of SW Herman Road
  - Sections of SW Grahams Ferry Road
  - Sections of SW Boones Ferry Road
  - SW Blake Street between SW 105<sup>th</sup> and SW 108<sup>th</sup> Avenues

<sup>22</sup> A multi-use path is a shared-use trail or other path, physically separated from motorized vehicular traffic by an open space or barrier, either within a roadway right-of-way or within an independent right-of-way, and usable for transportation purposes. Shared use paths may be used by pedestrians, bicyclists, skaters, equestrians, and other nonmotorized users. Definition from FHWA: [www.fhwa.dot.gov/environment/bicycle\\_pedestrian/guidance/design\\_guidance/freeways.cfm](http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_guidance/freeways.cfm)

<sup>23</sup> According to the Intertwine Trail Use Snapshot: An Analysis of National Bicycle and Pedestrian Documentation Data from 2008 to 2010 (available at [http://library.oregonmetro.gov/files/intertwine\\_trail\\_use\\_snapshot\\_2008-2010.pdf](http://library.oregonmetro.gov/files/intertwine_trail_use_snapshot_2008-2010.pdf), last accessed December 26, 2012), page 181, only 20 percent of bicyclists use the Tualatin River Greenway multi-use path to commute to work or school. This was the only multi-use trail in Tualatin for which these usage numbers were available.

## 5 Freight Plan

Efficient truck movement plays a critical role in the economic well-being and development of Tualatin. Trucks must be able to access commercial, industrial, manufacturing, distribution, and other employment areas both in Tualatin and connecting to the regional system. Future commercial/industrial uses are expected to be located consistent with the land uses identified in the Comprehensive Plan, which matches the current zoning designations, as codified in the TDC.

The freight network described in this plan and illustrated in Figure 6 is largely consistent with the functional classification plan, which strives to connect industrial and manufacturing uses to the regional and state transportation network via a series of major and minor arterial roadways. The movement of raw materials and finished products via designated truck routes provides for efficient movement of goods while maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system. Federally and state designated truck routes, part of the National Highway System (NHS), have been identified on I-5 and OR 99W. Metro identifies “road connectors” in the RTP freight network on SW 124<sup>th</sup> Avenue, SW Tualatin-Sherwood Road, SW Lower Boones Ferry Road, and SW Boones Ferry Road. The City of Tualatin designates additional truck routes on roadway facilities that connect commercial/industrial districts within the City to major arterials and, ultimately, to OR 99W, I-5, and I-205. The following facilities are currently identified as City of Tualatin truck routes:

- ◆ I-5 (north to south City limits)
- ◆ I-205 (east to west City Limits)
- ◆ OR 99W (west to north City limits)
- ◆ SW Tualatin-Sherwood Road (west City limits to the Nyberg Street Interchange)
- ◆ SW 124<sup>th</sup> Avenue (OR 99W to SW Tualatin-Sherwood Road)
- ◆ SW Boones Ferry Road (south City Limits to SW Lower Boones Ferry Road)
- ◆ SW Lower Boones Ferry Road (SW Boones Ferry Road to the northeast City limits)
- ◆ SW Herman Road (SW 90<sup>th</sup> Avenue to SW Cipole Road)
- ◆ SW 108<sup>th</sup> Avenue (SW Tualatin Road to SW Herman Road)
- ◆ SW Teton Avenue (SW Tualatin Road to SW Avery Street)
- ◆ SW Cipole Road (OR 99W to SW Tualatin-Sherwood Road)
- ◆ SW Avery Street (SW Tualatin-Sherwood Road to SW 95<sup>th</sup> Avenue)
- ◆ SW Leveton Drive (SW 124<sup>th</sup> Avenue to SW 108<sup>th</sup> Avenue)
- ◆ SW 105<sup>th</sup> Avenue (SW Avery Street to SW Moratoc Drive)
- ◆ [Basalt Creek Parkway \(within City limits\)](#)

One existing truck route (SW Tualatin Road – SW 124<sup>th</sup> Avenue to SW Teton Avenue) was removed as a recommendation from the truck network based on discussions with the team, City Staff, the TTF and policy makers feedback. This change is consistent with the low volume of trucks currently using the road.

Updated truck route designations have been identified for existing roadways to match major arterial and minor arterial functional classifications. In addition, new roadway (or roadway extension) projects are recognized as truck routes when they provide connections to future commercial/industrial land uses. New truck route designations will include the following:

- ◆ SW 124<sup>th</sup> Avenue Extension (SW Tualatin-Sherwood Road to south City limits)
- ◆ SW 65<sup>th</sup> Avenue
- ◆ SW Bridgeport Road
- ◆ SW Borland Road

## Bicycle and Pedestrian Projects

The following projects were developed by the project team in concert with the community, Working Groups, TPARK, and Transportation Task Force to improve the facilities and networks for bicyclists and pedestrians. These projects can be grouped into the following categories: bicycle and pedestrian projects, multi-use path projects, urban upgrades. Figure 5 shows the projects geographically, and Table 12 lists the projects, cost estimates, champion, potential funding source, and priority for each project. Figure 5 shows all bicycle and pedestrian projects geographically.

Bicycle and pedestrian specific urban upgrades (sidewalk gaps, adding bicycle lanes and sidewalks) are included in section 2 Street System Modal Plan (Tables 4 and 5). They are shown on the bicycle and pedestrian modal plan map but the tables are not in this section.

TABLE 12  
Bicycle and Pedestrian Project Cost Estimate and Prioritization

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
BP1	Provide wayfinding signs for Safe Routes to School	\$73,000	City, School District	Bike/Ped Funds	Short-term
BP2	Add a colored bicycle lane on SW Bridgeport Road and SW 72 <sup>nd</sup> Avenue near Bridgeport Village to make the bicycle lane more visible	\$10,000	City, Washington County	TDT, Bike/Ped funds, Washington County MSTIP	Medium/Long-term
BP3	Add a crosswalk at Tualatin View Apartments on SW Boones Ferry Road north of the Tualatin River	\$59,000 <sup>†</sup>	City, ODOT	Bike/Ped Funds	Medium-term
BP4	Add new signs and re-stripe crosswalk at SW Siletz Drive and SW Boones Ferry Road	\$24,000	City	Bike/Ped Funds	Short-term
BP5	Add dedicated bike lane through the intersection of SW Avery Street and SW Boones Ferry Road	\$117,000	City	Bike/Ped funds, Travel Options	Short-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

<sup>†</sup> This cost estimate is based on the conceptual layout from a 2008 study and does not include railroad crossing or signal upgrades.

Estimate may increase based on ODOT rail requirements for additional study.

MSTIP – Major Streets Transportation Improvement Program

TDT – Transportation Development Tax

## Multi-Use Path Projects

Multi-use paths are paths set back from a roadway that are reserved exclusively for bicyclists and pedestrians. The majority of TSP recommendations are multi-use paths, as they provide the greatest potential for safe and enjoyable travel to and from homes, businesses, and services throughout the community.

City standards for multi-use paths are 12 feet with a minimum of 1 foot shoulders. All cost assumptions include this width.

Table 13 presents cost estimates and priorities for these projects.

TABLE 13  
Multi-Use Path Project Cost Estimates and Prioritization

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
BP6	Upgrade bridge surface along the path behind the Haggens shopping center to make it less slippery for pedestrians	\$100,000	City	Parks SDC, Bike/Ped funds	Short-term
BP7	Build multi-use paths from the previously adopted Tualatin Pedestrian, Bikeway, and Greenway Plans	\$24,445,000 <sup>24</sup>	City	Parks SDC or bond, Bike/Ped funds, Travel Options, ODOT Bike/Ped grants	Long-term
	Tualatin River Greenway from west UGB to east UGB	\$6,641,000			
	Connections to the Tualatin River Greenway	\$1,810,000			
	I-5 Path: Bridgeport Village to SW Nyberg Street to SW Sagert Street to SW Avery Street, and SW 80 <sup>th</sup> Avenue to SW Blake Street to SW Norwood Road	\$3,245,000			
	Connections to the I-5 Path: SW Martinazzi Avenue to I-5 path	\$209,000			
	Saum Creek Greenway: SW Sagert Street to SW Delaware Circle to SW 65 <sup>th</sup> Avenue to Tualatin River	\$2,135,000			
	Norwood Road Path: SW Boones Ferry Road to I-5	\$3,757,000			
	Connections to the Saum Creek Greenway: SW Sagert Street to Saum Creek Greenway	\$30,000			
	Hedges Creek Greenway Connections: SW Myslony to SW Tualatin-Sherwood Road to SW 105 <sup>th</sup> Avenue	\$199,000			
	Helenius Greenway Trail Porous Concrete Trail Aggregate (Gravel) Surface Trail	\$236,000 \$179,000			
BP8	Build the section of the Tualatin River Greenway from SW Boones Ferry Road along the Tualatin River, extend to existing Tualatin River Greenway east of I-5	\$2,135,000 <sup>25</sup>	City	Parks SDC or bond, Bike/Ped funds, Travel Options	Short-term
BP9	Fill gaps in the multi-use path as part of the Tualatin River Greenway on the east side of the City	\$123,000 <sup>26</sup>	City	Parks SDC or bond, Bike/Ped funds, Travel Options	Long-term

<sup>24</sup> Cost estimates for all BP7 projects are from the *Tualatin Bikeway Plan* 1993. Estimates grown to 2012 dollars.

<sup>25</sup> From the *Tualatin Bikeway Plan* 1993. Estimate grown to 2012 dollars.

<sup>26</sup> From the *Tualatin Bikeway Plan* 1993. Estimate grown to 2012 dollars.



TABLE 13  
Multi-Use Path Project Cost Estimates and Prioritization

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
BP10	Add trail on the east side of SW 105 <sup>th</sup> Avenue, SW Blake Street, and SW 108 <sup>th</sup> Avenue through Ibach Park to accommodate bicyclists and pedestrians	\$810,000	City, Ibach CIO	Parks SDC or bond, Bike/Ped funds, Travel Options	Medium-term
BP11	Add a multi-use path undercrossing of I-5 near Fred Meyer as part of the Nyberg Creek Greenway—connect to planned and existing multi-use paths	\$1,947,000 <sup>27</sup>	City	Bike/Ped funds, Travel Options, ODOT Bike/Ped grants	Medium-term
BP12	Not Used				

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

CIO – Citizen Involvement Organization

ODOT – Oregon Department of Transportation

SDC – System Development Charges

## Regional Coordination

A number of bicycle and pedestrian projects will require coordination with regional agencies such as Washington and Clackamas Counties, Metro, or ODOT. The City of Tualatin will participate fully in the development of regional multi-use trail projects through partnering with neighboring cities and lead agencies. Regional projects currently under development include intersection and bike lane projects on facilities owned by Washington or Clackamas Counties, or ODOT these projects are included in Tables 14 and 15.

<sup>27</sup> From Metro's *Regional Transportation Plan (RTP)* 2007. Estimate grown to 2012 dollars.



## Regional Bicycle and Pedestrian Projects

TABLE 14

Regional Bicycle and Pedestrian Project Cost Estimates and Prioritization

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
BP13	Add a colored bike lane through Nyberg Interchange to make the bicycle lane more visible and distinct from travel lanes	\$24,000	City, ODOT	Bike/Ped funds, Travel Options	Short-term
BP14	Add skip striping for the bicycle lane across the I-5 southbound off-ramp on the west end of the interchange	\$2,000	City, ODOT	Bike/Ped funds, Travel Options	Short-term
BP15	Redesign bike lane on the east side of the Nyberg interchange by modifying where bicyclists cross the northbound on ramps and creating a 90 degree angle	\$62,000	City, ODOT	Bike/Ped funds, Travel Options	Medium-term
BP16	Improve the condition of bicycle and pedestrian railroad crossing panels on SW Boones Ferry Road and SW Lower Boones Ferry Road by adding new panels	\$310,000	City, ODOT Rail, Portland and Western Railroad	STIP: TE, Bike/Ped funds	Medium-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

STIP – Statewide Transportation Improvement Program

TE – Transportation Enhancement

## Regional Multi-Use Path Projects

TABLE 15

**Regional Multi-Use Path Project Cost Estimate and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
BP17	Build pedestrian and bicycle bridges over the Tualatin River: North of SW Cipole Road in conjunction with the Westside Trail Near SW 108 <sup>th</sup> Avenue	\$2,434,000 <sup>28</sup> \$2,434,000 <sup>29</sup>	City, Metro	Parks SDC or bond, Bike/Ped funds, Travel Options	Long-term
BP18	Not Used				

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more  
SDC – System Development Charges

<sup>28</sup> From Metro's *Regional Transportation Plan (RTP)* 2007. Estimate grown to 2012 dollars.

<sup>29</sup> From Metro's *Regional Transportation Plan (RTP)* 2007. Estimate grown to 2012 dollars.

<sup>30</sup> Not used.

<sup>31</sup> Not used.

**Figure 7 Bicycle and Pedestrian Element**  
Tualatin TSP Update

**City Safety Improvements**

- 1 Add wayfinding signs for Safe Routes to School at all public schools
- 2 Add colored bike lanes on Bridgeport Road near Bridgeport Village
- 3 Improve visibility and illumination at crosswalk at Siletz Dr & Boones Ferry Rd

**Bicycle and Pedestrian Facilities**

- 4 Add a crosswalk at Tualatin View Apartments on SW Boones Ferry Rd
- 5 Add a dedicated bike lane through intersection at Avery St & Boones Ferry Rd

**Multi-Use Trails**

- 6 Upgrade bridge surface along the path behind the Haggan shopping center
- 7 Build multi-use paths from the previously adopted Tualatin Pedestrian, Bikeway, and Greenway Plans (indicated by - - - -)
- 8 Build trail along Tualatin River from the Community Park, extend to Tualatin River Greenway
- 9 Fill gaps in the multi-use path as part of the Tualatin River Greenway
- 10 Add a trail on the east side of SW 105<sup>th</sup> Avenue, SW Blake Street, and SW 108<sup>th</sup> Avenue through Ibach Park to accommodate bicyclists and pedestrians
- 11 Add I-5 multi-use undercrossing - connect to existing multi-use paths
- 12 Not Used

**Regional Bicycle & Pedestrian Projects**

- 13 Add a colored bike lane through the ramps at Nyberg Interchange
- 14 Add striping for the bicycle lane across the I-5 southbound off-ramp
- 15 Redesign bike lane on the east side of the Nyberg Interchange
- 16 Make bicycle and pedestrian crossing facility improvements at railroad crossings, including SW Boones Ferry Rd and SW Lower Boones Ferry Rd
- 17 Build bridges for pedestrian and bicycle access over the Tualatin River near Cipole Road and 108<sup>th</sup> Avenue
- 18 Not Used

**Bicycle & Pedestrian Urban Upgrades**

- These projects are also included on the Urban Upgrades and Street Extensions Roadway Figure:
- 19 Fill sidewalk gaps and add colored bicycle lanes at SW Boones Ferry and SW Lower Boones Ferry Roads
  - 20 Add sidewalks to the SW Sagert Street bridge
  - 21 Fill sidewalk gaps on SW Boones Ferry Road, SW Borland Road, SW Grahams Ferry Road, and SW Herman Road
  - 22 Add bicycle lanes on Martinazzi Avenue
  - 23 Add bicycle lanes on SW 95<sup>th</sup> Avenue
  - 24 Add a multi-use path along SW 65<sup>th</sup> Ave between Atfalati Park & the Tualatin River
  - 25 Add a multi-use path (or sidewalks and bicycle lanes) on SW Norwood Road
  - 26 Add bicycle lanes on Boones Ferry Rd from Norwood to Day Rd
  - 27 Bicycle Boulevards (indicated by →)

**Existing Facilities**

- Existing multi-use paths
- Existing pedestrian paths
- Existing bicycle lanes

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## Bicycle Boulevards

Currently, there are no existing bicycle boulevards in the City, though the city of Portland<sup>32</sup>, the City of Tigard, and Washington County have bicycle boulevard policies and design standards.

Bicycle boulevards are roadways that use a variety of design treatments to reduce vehicle speeds so that motorists and bicyclists generally travel at the same speed, to create a safer and more-comfortable environment for all users. Bicycle boulevards may include a variety of applications ranging from minor street signing enhancements (such as shared lane markings) to larger scale projects (for example, bike-only access at intersections, traffic diverters). Boulevards also incorporate treatments to facilitate safe and convenient crossings where bicyclists must traverse major streets. Traffic controls along a boulevard may assign priority to through cyclists while encouraging through vehicle traffic to use alternate parallel routes.

There are five different types of treatments for bicycle boulevards; the lowest cost and least impactful are wayfinding and warning signs, and shared lane markings and directional markings. Other types of treatments with higher capital investment include adding medians/islands and bicycle signals, curb extensions, and mini traffic circles, and restricting and diverting traffic at intersections. The basic bicycle boulevard uses the lower cost elements such as signage and lane markings, and is recommended as the first step to creating and maintaining bicycle boulevards in the City.

Bicycle boulevards work best in well-connected street grids, where riders can follow intuitive and reasonably direct routes. Boulevards also work best when higher-order parallel streets exist to serve through vehicle traffic. Hilly areas and twisting locations where speed or visibility can create safety issues should be avoided. Bicycle boulevards are generally located on streets with lower traffic volumes and vehicle speeds, such as Minor Collectors or Local Streets passing through residential neighborhoods. Typically a bicycle boulevard would be located on a street where vehicles travel less than 30 miles per hour and average daily traffic volume is less than 3,000 vehicles (in both directions). Additionally, the recommended bicycle boulevards for the City include consideration of topography—where possible, areas with steep hills were not recommended for bicycle boulevards.

Proposed bicycle boulevards in Tualatin are shown on Figure 7. These are all low volume, low speed streets that connect neighborhoods with roadways and trails where bicycle infrastructure investments have been made. As a short-term action, the City should consider signing these roadways as bicycle routes, and monitor usage on an annual basis. As bicycle usage increases, and bicyclists and drivers become more used to sharing travel lanes, further investments could be considered as described in the paragraphs above to enhance safety for bicyclists.

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<sup>32</sup> The City of Portland refers to its bicycle boulevards as “Neighborhood Greenways”

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## 5 Freight Plan

Efficient truck movement plays a critical role in the economic well-being and development of Tualatin. Trucks must be able to access commercial, industrial, manufacturing, distribution, and other employment areas both in Tualatin and connecting to the regional system. Future commercial/industrial uses are expected to be located consistent with the land uses identified in the Comprehensive Plan, which matches the current zoning designations, as codified in the TDC.

The freight network described in this plan and illustrated in Figure 6 is largely consistent with the functional classification plan, which strives to connect industrial and manufacturing uses to the regional and state transportation network via a series of major and minor arterial roadways. The movement of raw materials and finished products via designated truck routes provides for efficient movement of goods while maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system. Federally and state designated truck routes, part of the National Highway System (NHS), have been identified on I-5 and OR 99W. Metro identifies “road connectors” in the RTP freight network on SW 124<sup>th</sup> Avenue, SW Tualatin-Sherwood Road, SW Lower Boones Ferry Road, and SW Boones Ferry Road. The City of Tualatin designates additional truck routes on roadway facilities that connect commercial/industrial districts within the City to major arterials and, ultimately, to OR 99W, I-5, and I-205. The following facilities are currently identified as City of Tualatin truck routes:

- ◆ I-5 (north to south City limits)
- ◆ I-205 (east to west City Limits)
- ◆ OR 99W (west to north City limits)
- ◆ SW Tualatin-Sherwood Road (west City limits to the Nyberg Street Interchange)
- ◆ SW 124<sup>th</sup> Avenue (OR 99W to SW Tualatin-Sherwood Road)
- ◆ SW Boones Ferry Road (south City Limits to SW Lower Boones Ferry Road)
- ◆ SW Lower Boones Ferry Road (SW Boones Ferry Road to the northeast City limits)
- ◆ SW Herman Road (SW 90<sup>th</sup> Avenue to SW Cipole Road)
- ◆ SW 108<sup>th</sup> Avenue (SW Tualatin Road to SW Herman Road)
- ◆ SW Teton Avenue (SW Tualatin Road to SW Avery Street)
- ◆ SW Cipole Road (OR 99W to SW Tualatin-Sherwood Road)
- ◆ SW Avery Street (SW Tualatin-Sherwood Road to SW 95<sup>th</sup> Avenue)
- ◆ SW Leveton Drive (SW 124<sup>th</sup> Avenue to SW 108<sup>th</sup> Avenue)
- ◆ SW 105<sup>th</sup> Avenue (SW Avery Street to SW Moratoc Drive)

One existing truck route (SW Tualatin Road – SW 124<sup>th</sup> Avenue to SW Teton Avenue) was removed as a recommendation from the truck network based on discussions with the team, City Staff, the TTF and policy makers feedback. This change is consistent with the low volume of trucks currently using the road.

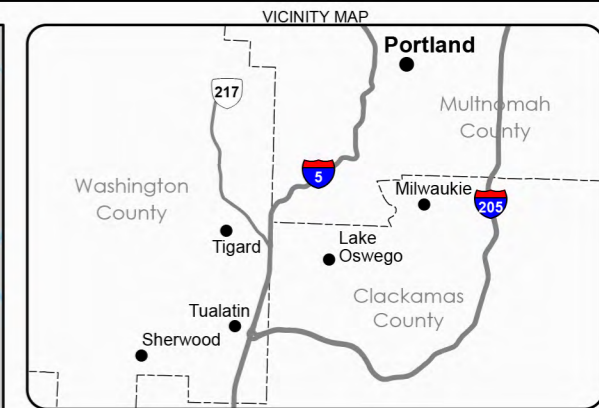
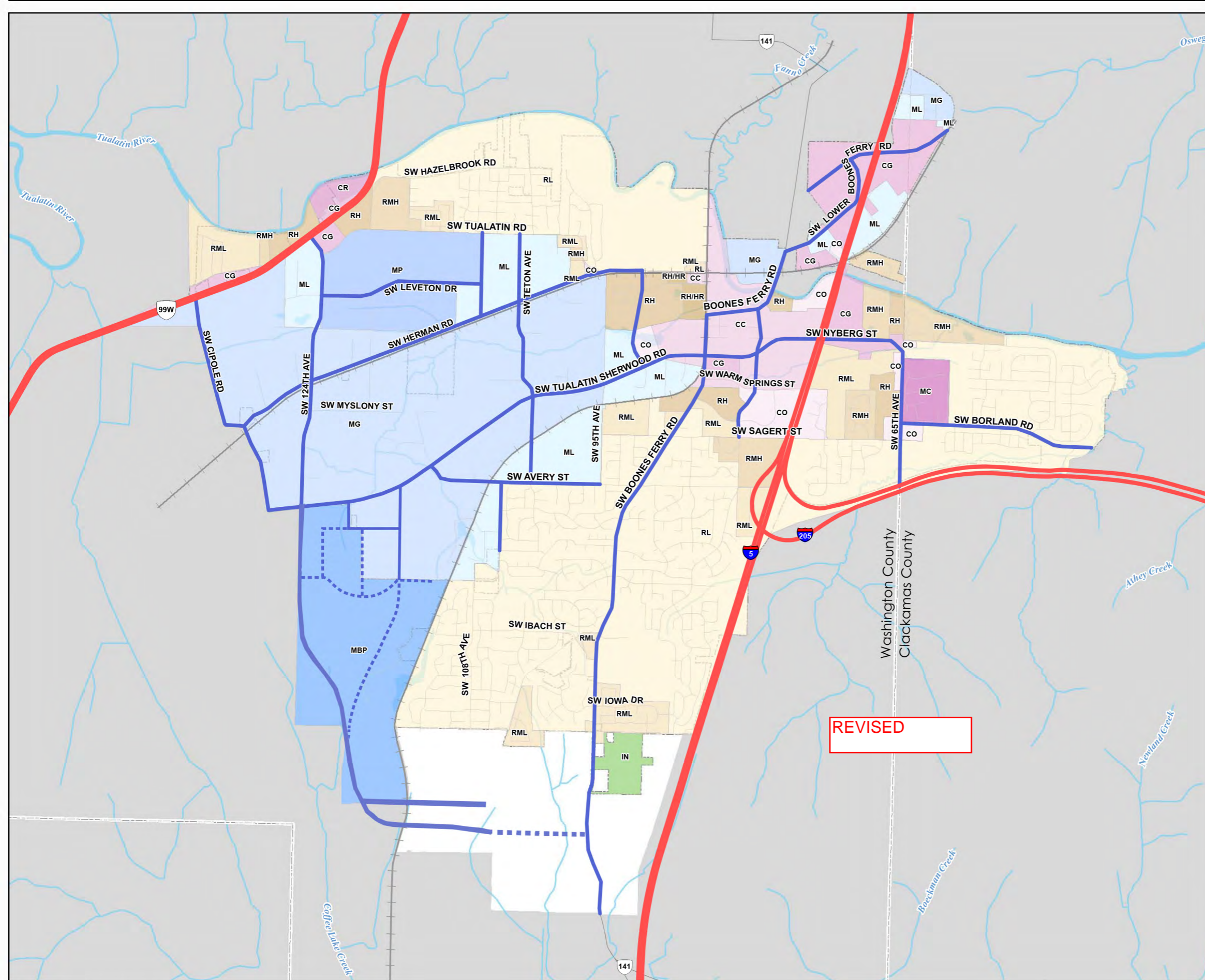
Updated truck route designations have been identified for existing roadways to match major arterial and minor arterial functional classifications. In addition, new roadway (or roadway extension) projects are recognized as truck routes when they provide connections to future commercial/industrial land uses. New truck route designations will include the following:

- ◆ SW 124<sup>th</sup> Avenue Extension (SW Tualatin-Sherwood Road to south City limits)
- ◆ SW 65<sup>th</sup> Avenue
- ◆ SW Bridgeport Road
- ◆ SW Borland Road



- ◆ SW Martinazzi Avenue (SW Sagert Street to SW Boones Ferry Road)
- ◆ SW 90th Avenue
- ◆ SW Nyberg Street (SW 65<sup>th</sup> Avenue to SW Martinazzi Avenue)

The needs of the freight system are consistent with those identified in the Street System Plan for the truck routes listed above. Projects that address needs related to truck routes, either directly or by providing alternate routes that improve traffic operations along truck routes, serve the needs of the freight system. All new roadways should be built to current City design standards to meet the operational needs of trucks on designated truck routes. Existing geometric deficiencies are identified in Appendix B.



**LEGEND**

Study Area

0 0.5 1 Miles

- Regional Transportation System  
State and Federal Truck Routes
- Local Freight Routes**
  - Existing Roadways
  - Future Roadways
- City Boundaries
- County Boundaries
- Railroad
- Institutional**
  - IN - Institutional
- Commercial**
  - CO - Office
  - CC - Central
  - CG - General
  - CR - Recreational
  - MC - Medical
- Manufacturing**
  - ML - Light
  - MG - General
  - MP - Park
  - MBP - Business Park
- Residential**
  - RL - Low Density
  - RML - Medium Low Density
  - RMH - Medium High Density
  - RH - High Density
  - RH/HR - High Density High Rise

**FIGURE 8**  
**Freight Routes**  
 Street Element  
 City of Tualatin Transportation System Plan

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## 6 Rail Plan

Portland and Western Railroad (PNWR) owns and operates two freight rail lines within the City. One track (running north-south) accommodates both freight and the WES commuter rail, and an east-west line runs along the south side of SW Herman Road. As of November 2012 the east-west line carries one train daily in each direction, and the north south has two freight trains daily in addition to the WES trains described in the Transit section.

There are 13 gated public railroad crossings in Tualatin and a number of additional driveways or private roads that cross the railroad. The private crossings are stop controlled, but not signalized. Freight trains have the right of way at all intersections. The low number of trains does not present a large safety concern in the City, and recent Quiet Zone work done in conjunction with the north-south WES rail line opening added gates at all public crossings.

PNWR has no current plans to increase freight service through Tualatin. Although the east-west track runs adjacent to manufacturing areas, no rail sidings or other access to businesses are planned.

### Freight Rail Policies

- ◆ **Freight Policy 1:** Continue to coordinate with PNWR and TriMet to ensure that railroad crossings are safe and have few noise impacts on adjacent neighborhoods
- ◆ **Freight Policy 2:** Look for opportunities to shift goods shipments to rail to help reduce the demand for freight on Tualatin's roads.
- ◆ **Freight Policy 3:** Look for opportunities to create multi-modal hubs to take advantage of the freight rail lines

### Freight Rail Projects

Only one freight rail project was identified for the Tualatin TSP to support freight traffic within the City. The project would add a rail station with easy offload and access for industrial and manufacturing businesses in the west part of town. This project would need a high degree of coordination between PNWR and the City to ensure it is located appropriately for both the railroad and potential facility users.

### Passenger Rail Policies

The City of Tualatin's policies on public transit are described more fully in the Transit Modal Plan, but some policies apply to rail and are pulled from that section here. Policies that may relate to the existing heavy rail lines in Tualatin include:

- ◆ **Transit Policy 3:** Partner with TriMet, Metro, and neighboring communities to plan the development of high-capacity transit in the Southwest Corridor, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 4:** Partner with TriMet, Metro, and neighboring communities to plan development of high-capacity transit connecting Tualatin and Oregon City, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 5:** Coordinate with ODOT and neighboring communities on conversations related to Oregon Passenger Rail between Portland and Eugene.
- ◆ **Transit Policy 8:** Metro in the RTP calls for increased WES service frequency. The City will coordinate with TriMet, Metro, and ODOT to explore service frequency improvements and the possible inclusion of a second WES station in south Tualatin.

## Regional Coordination

The City of Tualatin will participate fully in the development of regional transit projects through partnering with lead agencies. Regional projects currently under development include the following:

- ◆ **The Southwest Corridor Project.** The purpose of the Southwest Corridor Project is to extend high-capacity transit from downtown Portland into the southwest part of the region. Doing so will help to fulfill the vision of the Metro *High Capacity Transit System Plan*. The City of Tualatin is partnering with Metro and TriMet to bring high-capacity regional transit to Tualatin and neighboring communities.
- ◆ **Oregon Passenger Rail.** The purpose of the Oregon Passenger Rail project is to improve intercity passenger rail service along the Oregon section of the Pacific Northwest high speed rail corridor between Portland and Eugene. Along the way, the rail service is expected to serve the south Metro area via an alignment either east or west of the Willamette River. The City of Tualatin intends to coordinate with ODOT and to explore an appropriate corridor that would best improve intercity passenger rail service in the Willamette Valley.
- ◆ **WES Extension.** TriMet and ODOT will study the feasibility of extending WES commuter rail from Wilsonville to Salem. The City of Tualatin is supportive of the WES extension and intends to partner with ODOT and TriMet in facilitating this project.
- ◆ **WES Service Enhancements.** Metro in the RTP calls for increased WES service frequency. The conceptual Linking Tualatin study recommended adding an additional WES station in the south part of Tualatin. The City will coordinate with TriMet, Metro, and ODOT to explore service frequency improvements and the possible inclusion of a second WES station in south Tualatin.



## 7 Water, Pipeline, and Air Plan

### Water

The Tualatin River is the only large waterway within the City of Tualatin. The river is not navigable from the Willamette River due to impassable areas and a diversion dam downstream. The river is used primarily for recreation and is open for canoeing and kayaking. Therefore, the TSP does not include any specific policies, programs, or projects for the Tualatin River as part of the transportation network. However, several projects are proposed in other sections of this chapter to increase access to the river for recreation purposes.

### Pipeline

A natural gas transmission pipeline and a gasoline pipeline cross through the City. There is no anticipated need to increase pipeline capacity or construct new pipelines through the City, and therefore no such improvements are proposed in the TSP.

### Air

There are no airports within the City of Tualatin, although several airports are located within 30 miles of the City: the Aurora State Airport, Hillsboro Municipal Airport, and Portland International Airport. These airports meet the commercial, freight, and business aviation needs of Tualatin residents. No plans are proposed to construct airport facilities within the City of Tualatin; existing airports are anticipated to continue serving the citizens of Tualatin adequately.

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## 8 Transportation Demand Management

The TPR requires all cities with populations greater than 25,000 people to develop a TDM Plan. The RTP also requires that TDM strategies be used to encourage alternative transportation modes and achieve higher vehicle occupancy targets. TDM measures are designed to change travel behavior in order to reduce the need for more road capacity and improve performance of the road system. Typical TDM projects include encouraging use of travel modes other than the auto, ride sharing, and measures to reduce the need for travel—such as telecommuting policies.

TDM policies and projects can be cost-effective ways to reduce congestion by encouraging the use of other modes, reducing the need for travel or reducing the number of vehicle-miles driven. The City of Tualatin can implement a range of TDM measures to manage travel demand, in conjunction with partner organizations in many cases. Providing bicycle, pedestrian, and transit infrastructure can be effective means to encourage drivers to switch to other modes. Many of the pedestrian, bicycle, and transit improvements proposed in other sections of the TSP can be considered TDM measures as they encourage use of travel modes other than the auto. In addition to these infrastructure projects, a number of strategies are applicable to Tualatin, as discussed in the following subsections.

### Transportation Demand Management Policies

The following policies support other modal plans in the TSP and help Tualatin meet its mode-share targets, as required by the RTP and presented in Table 16:

- ◆ **TDM Policy 1:** Support demand reduction strategies, such as ride sharing, preferential parking, and flextime programs<sup>33</sup>
- ◆ **TDM Policy 2:** Partner with the Tualatin Chamber of Commerce, the Westside Transportation Alliance, major employers, and business groups to implement TDM programs
- ◆ **TDM Policy 3:** Explore the use of new TDM strategies to realize more efficient use of the City's transportation system
- ◆ **TDM Policy 4:** Support Washington County's regional TDM programs and policies to reduce the number of single-occupancy vehicle (SOV) trips
- ◆ **TDM Policy 5:** Promote the use and expansion of the Tualatin Shuttle program

Metro in its RTP established modal targets for how residents in the region will make trips in 2040. These are separated out by regional designations. Tualatin has a number of designations within the City limits:

- ◆ **Town Center** – this designation is consistent with the Town Center Plan study area, centered on the Lake of the Commons and includes land south of the Tualatin River and west of I-5, including the Tualatin Community Park. The western boundary is SW 95<sup>th</sup> Avenue south to SW Tualatin-Sherwood Road, and then east near SW Warm Springs Street.
- ◆ **Corridors** – there are a number of corridors in Tualatin: SW Tualatin-Sherwood Road is a regional street, along with 99W, SW 124<sup>th</sup> Avenue, and SW Tualatin Road. SW Boones Ferry Road is a community street, and SW Tualatin-Sherwood Road/SW Nyberg Street in downtown are community boulevards. Regional arterials

<sup>33</sup> Ride sharing is defined as carpools and vanpools that increase the number of occupants in a vehicle. Preferential parking is for carpools and vanpools, and is closer than regular parking to a building or office. It provides an incentive to carpool by providing designated parking closer to destinations. Flextime programs allow employees to work hours other than a typical 8 am- 5 pm workday, and can include four 10-hour days with Fridays off, a two-week rotation of nine 9-hour days with every other Friday off, etc.



include 99W, SW 124<sup>th</sup> Avenue, SW Boones Ferry Road, SW Tualatin-Sherwood Road, SW Herman Road, SW Nyberg Street, SW Sagert Street, SW Borland Road, and SW 65<sup>th</sup> Avenue.

- ◆ Employment Land – most of western Tualatin is employment land south of SW Tualatin Road and west of the railroad tracks.
- ◆ Parks and Natural Areas – Hedges Creek is designated a park and natural area, along with many of the other greenway areas including Nyberg Creek Greenway, Saum Creek, and other City parks.
- ◆ Neighborhoods – neighborhood areas include southern Tualatin near SW Boones Ferry Road, northern Tualatin north of SW Tualatin Road, and eastern Tualatin excluding the hospital area and the greenways and parks.

These designations have modal targets associated with them, as seen in Table 16 below, and the non-drive-alone modal target for Tualatin is 45-55 percent in the Town Center and Station Community, and 40-45 percent for the employment land, parks and natural areas, and neighborhoods.

TABLE 16  
**Metro Modal Targets**

2040 Regional Designation	Non-drive-alone Modal Target
Regional Centers	
Town Centers	
Main Streets	
Station Communities	<b>45–55%</b>
Corridors	
Passenger Intermodal Facilities	
Industrial Areas	
Freight Intermodal Facilities	
Employment Areas	<b>40–45%</b>
Inner Neighborhoods	
Outer Neighborhoods	

Source: Metro’s RTP

## TDM Programs

Constructing bicycle lanes, sidewalks, and other facilities greatly increases the ability of people to get around by walking and biking. These efforts are made even more effective when education and encouragement programs are developed. These programs help address barriers to walking and biking, such as where and how to ride safely.

### Individualized Marketing

Individualized marketing programs offer customized packets of information about transit, car/vanpool, bicycling, and walking options to target populations at events and through various venues. Such a program in Tualatin would build on and support both new and existing TDM strategies by providing a tailored framework that consisted of the following: (1) information about resources, such as transit maps and schedules, local walking and bicycling maps, safety information, discounts at local shops, and other locally available material; (2) encouragement events, such as employment fairs, guided walks and rides, guided transit trips, personalized trip planning assistance, and trainings; and (3) encouraging communications through social media, virtual or physical bulletin boards, and newsletters. Individualized marketing programs could be implemented by the City directly, or by a Transportation Management Association (TMA). A TMA is an independent entity dedicated to solving transportation problems in a particular geographic area through actively managing transportation demand and encouraging alternate travel modes. Currently, the Westside



Transportation Alliance provides TMA services to the Tualatin Chamber of Commerce, and the Cities of Hillsboro, Beaverton, and Tigard.

## Bicycle and Pedestrian Education and Encouragement Programs

Constructing bicycle lanes, sidewalks, and other facilities greatly increases the ability of people to get around by walking and biking. These efforts are made even more effective when education and encouragement programs are developed. These programs help address barriers to walking and biking, such as where and how to ride safely. It should be noted that all programs listed below can be implemented in coordination with an individualized marketing program, as described above.

### Employer Bicycle and Pedestrian Programs

Employers, especially larger employers, should implement a number of low-cost measures to encourage walking and biking to and from work. Example incentives include giving gift cards or discounts at local restaurants to those who choose to walk or bike. Parking “cash outs” are another incentive: If workers have free or subsidized parking, employers offer employees a choice to keep a parking space at work, or to accept a cash payment and give up the parking space.

### Improve “End of Trip” Facilities

Workers often cite a lack of secure bike storage areas and showering and changing facilities as reasons they do not bike to work. If providing these amenities is cost prohibitive, employers could direct employees to nearby gyms or community centers where these facilities already exist and subsidize membership to them.

### Safe Routes to School Programs (SRTS)

Nationally, the number of children walking and biking to school has declined greatly over the last several decades. SRTS programs currently existing in Tualatin. They are designed to educate parents and schoolchildren about safe walking and biking and encourage students to walk or bike to school. Typical measures include distributing safety information to parents and kids, prizes for kids who walk and bike to school, month-long walk-and-bike challenges, and bicycle rodeos. Bicycle and pedestrian infrastructure improvements, such as improving crosswalks or striping bike lanes, are usually done in conjunction with these efforts.

### Community Bicycle Education, Encouragement, and Commuter Challenges

Many cities in Oregon participate in sponsored commuter challenge events, such as the national bike to work day in May and the month-long bike commute challenge in September. The month-long event is a friendly competition among employers. Awards and local bike shop discounts are offered throughout the month. Participants log their daily travel by bike on a website, track others’ progress, and access free commuting resources.

### Bicycle Route Maps

One of the major reasons many people do not bike to their destinations is a lack of knowledge about where to safely ride. The Washington County Visitors Association currently produces a countywide cycling map that includes major routes in Tualatin. A link to this map should be placed prominently on the City of Tualatin’s webpage, and paper copies of the map made available at City Hall and other civic locations. However, the

Visitors Association's map does not include the portions of Tualatin that are north of the Tualatin River or east of I-5. The City should consider developing a comprehensive bicycle map for Tualatin that includes current and planned bicycle facilities. A locally produced map can be updated more frequently as bicycle infrastructure projects in the Pedestrian and Bicycle Plan are constructed.

## Transit Strategies

Transit projects in the Transit Plan can be supplemented with other programs that make using transit easier for residents and provide incentives for its use. It should be noted that all programs listed below are most effectively implemented in coordination with a TMA and individualized marketing programs as described above.

### Employee Shuttle Service

The Tualatin Chamber of Commerce operates a free shuttle service from TriMet bus stops, the WES station, and downtown Portland to employers within Tualatin. This free service enhances transit by bridging the final distance between transit stops and the work site, which can often be too far to walk or bike.

### Employer-Subsidized Transit Pass Programs

Transit passes increase ridership because they are simple and easier to use than single ticket purchases. However, annual transit passes can be prohibitively expensive (as of September 2012 the annual TriMet pass is \$1,100) and out of line with driving costs such as gasoline and parking where purchases are made on a more incremental basis (weekly, monthly). To encourage more transit ridership, and in coordination with implementation of transit service recommendations outlined in the Transit Modal Plan, employers could subsidize the cost of transit passes either: (a) directly through bearing some of the cost of the pass as an employer-provided benefit; (b) indirectly through being a pass-through purchasing the annual passes from TriMet and allowing employees to pay on a monthly basis; or (c) indirectly through taking advantage of pre-tax transportation fringe benefits under Title 26 section 132(f) of the US tax code. This program allows employers to offer a tax-free benefit to employees that commute to work by transit and allow employees to purchase transit passes on a pre-tax basis through payroll deduction.

## Other Strategies

### Rental or Car-share Services

The ability to make midday trips with personal vehicles is cited as an important reason that employees drive to work. By providing car-sharing or rental service, such as Zipcar ([www.zipcar.com](http://www.zipcar.com)) and Car2Go ([www.car2go.com](http://www.car2go.com)), workers can make short trips at low cost during the workday and leave their personal vehicles at home. Zipcar and Car2Go are not currently available in Tualatin. The City could partner with Metro to discuss expanding these services to the suburbs and for major employers to explore maintaining a small fleet of bicycles and/or vehicles for midday trips.

### Ride Sharing

Carpooling and vanpooling can be very cost effective by filling empty seats in vehicles that would otherwise be unoccupied. Ride-sharing strategies are most effective for trips with predictable schedules, like commuting or special events. Ride sharing is accomplished through ride matching, or matching commuters with carpools and vanpools that meet their travel needs. Matching is accomplished through websites like Oregon's "Drive Less. Connect" program ([www.drivelessconnect.com/](http://www.drivelessconnect.com/)) or through bulletin boards and employer-organized services.



## Telecommuting and Flexible Work Schedules

Telecommuting (working from home instead of traveling to the workplace every day) reduces the need for travel and can have beneficial effects on traffic congestion. Many employers in Tualatin have employees who travel to work from outside the City, and many Tualatin residents travel outside the City to go to work. Supporting telecommuting could reduce peak-hour congestion on roadways in Tualatin. Support for telecommuting includes providing information to employers within the City and providing resources for citizens who commute out of Tualatin.

Employers can also allow employees to adopt work schedules different from the typical 8 to 5 schedule, or allow employees to compress regularly scheduled hours into fewer workdays per week (four 10-hour shifts, for instance). Allowing work schedule flexibility shifts travel out of the peak morning and evening travel hours, reducing congestion.

## Location-specific TDM Programs

Throughout the TSP development a few programmatic ideas arose that were specific to locations within Tualatin. These programs are listed here, separate from the city-wide ideas, though implementation could be accomplished through many of the programs listed above.

### Encourage Off-peak Use of SW Herman and SW Tualatin-Sherwood Roads

SW Tualatin-Sherwood Road is congested during peak hours, and freight vehicles use both SW Herman and SW Tualatin-Sherwood Roads to access regional transportation facilities (OR 99W and I-5). Policies encouraging drivers and freight haulers to use these routes outside of peak hours would help alleviate peak-hour congestion.

### Reduce Congestion near Tualatin High School

Tualatin High School generates a significant number of trips just before the school day starts and when classes let out in the afternoon. Projects and policies that discourage the use of personal automobiles to get to and from the high school could be effective at reducing congestion in the vicinity of the school. SRTS projects, such as adding wayfinding signage for pedestrians and bicycles, encouraging cycling and walking, and improving the walking and cycling environment in the vicinity of the school can be very effective at encouraging students to use alternative modes of travel. A number of pedestrian and bicycle improvement projects are proposed near the high school; refer to the Pedestrian and Bicycle Plan earlier in this chapter for a complete list of projects.

### Provide Wayfinding Signs to Encourage Walking and Bicycling

Providing wayfinding signage near popular destinations such as schools, commercial areas, parks, and city services allows residents to use non-motorized modes. Wayfinding signs will also allow users on multi-use paths to determine their location and how to get to various destinations. Providing wayfinding signs can improve user comfort with different modes and may encourage travelers to switch transportation modes as they become as comfortable with these modes as with driving.

## Metro Transportation Demand Management Projects

Metro's 2035 Regional Transportation System Management and Operations Plan (TSMO Plan) also includes TDM projects and policies within Tualatin. These relatively low-cost projects (Table 17) will be implemented by a variety of local and regional organizations and with a variety of funding sources.

TABLE 17

**Planned Metro TDM Projects in Tualatin**

Project or Policy	Description
Individualized Marketing for Tualatin Transit Center and adjacent neighborhoods	Implement outreach to targeted neighborhoods that encourages use of travel options through delivery of local travel options information and services to interested residents
Location-efficient Living	Support programs and strategies that promote location-efficient living strategies in industrial employment and residential areas west of I-5. The goal of location efficient living is to provide affordable housing near employment centers to reduce travel distances for employees. Location-efficient living strategies also market employment opportunities to nearby residents.
Transportation Management Associations	Support the activities of organizations, such as the Tualatin Chamber of Commerce, that help employees and/or residents increase use of non-single-occupant vehicle travel options

Source: Metro’s TSMO Plan



## 9 Transportation System Management

Transportation System Management (TSM) measures are designed to increase the efficiency, safety, capacity, and level of service of the transportation system without physically increasing roadway capacity. Typical TSM projects include traffic light synchronization, traffic calming, travel information systems, access management, and parking management strategies. Many of the projects listed in the other modal plans—including the Transit, Pedestrian and Bicycle, and Access Management plans—qualify as TSM measures.

Many TSM tools can be implemented inexpensively to help make the existing system work more efficiently. A wide range of TSM strategies are applicable to Tualatin.

### Signal Timing and Optimization

Traffic congestion is caused in part by poorly timed traffic signals, especially on longer arterial corridors with many signalized intersections. The City will continue to review and update signal timing on streets in order to maximize signal efficiency. Many strategies can be implemented to improve coordination of signals and optimize signal timing. Advanced signal systems can detect vehicles approaching intersections, reducing the number of stops vehicles make and reducing delay. With good traffic data, signal timing can be adjusted throughout the day to reflect traffic patterns. Adaptive signal controls actively change signal timing based on real-time traffic information, further optimizing traffic flow.

Adding bicycle detector loops or sensor cameras are effective methods for optimizing signal timing for cyclists, who often must wait long periods before crossing an intersection if they are not detected by the signal system. Adding bike detection loops or sensor cameras would eliminate this problem, ensuring cyclists can get through major intersections without delay and without having to activate pedestrian crossing signals. ODOT recently put in a bike detection loop at the SW 72<sup>nd</sup> Avenue, SW Bridgeport Road, and SW Lower Boones Ferry Road intersection for the northbound bike lane.



*Example of a Bicycle Detector Loop*

### Real-time Traveler Information Systems

Real-time travel information on traffic congestion, roadway incidents, road hazards, weather conditions and construction delays can help drivers make better travel decisions. This information can be provided through electronic signs, or websites and applications available on computers and mobile devices, to help travelers avoid delay by changing their route, starting their trip at another time, or changing which mode they use to get to their destinations.

### Traffic Calming

Traffic-calming measures can improve neighborhood livability, slow traffic, and reduce undesirable cut-through traffic on local streets. Typical traffic-calming measures include speed humps, medians, street trees, narrower streets, traffic circles, and speed reader boards that display vehicle speeds to drivers. These strategies are effective at encouraging vehicle traffic to make their through trips on more appropriate collector and arterial

streets, and help calm traffic in neighborhoods where slow speeds and low traffic volumes are desirable. Table 18 summarizes common traffic-calming strategies.

TABLE 18  
**Potential Traffic-Calming Strategies**

Traffic-calming Strategy	Goal	Description
Speed Tables	Speed reduction	Speed tables are flat-topped speed humps constructed from asphalt, brick, or other materials. They allow higher speed travel than speed bumps. Speed tables are effective at reducing vehicle speeds, and are most applicable on residential streets or other streets where a smooth ride is needed for larger vehicles.
Roundabouts and Traffic Circles	Speed reduction, reduce through traffic	These force drivers to slow at intersections and may encourage through traffic to use other routes. They are typically constructed of concrete, brick or other materials and often have center landscaping that additionally improves street aesthetics.
Chicanes, Curb Extensions	Speed reduction, improve walking environment	Chicanes are bulb-outs that physically narrow the roadway. Chicanes create S-shaped curves that force drivers to slow and can also be designed so that drivers have to yield to oncoming traffic. Curb extensions at intersections physically narrow the roadway and reduce vehicle speed, but they also reduce intersection crossing distance for pedestrians.
Median Barriers	Reduce through traffic	Median barriers prevent vehicle traffic from turning into or out of streets in a certain direction, reducing through traffic.
Road Diets	Speed reduction, reduce through traffic, improve walking & biking environment	Road diets reduce the number of automobile travel lanes, freeing road space for bicycle lanes, sidewalks, paths, or landscaping. A typical road diet may reduce a four-lane road to three lanes (two travel lanes and a center turn lane) and add bicycle lanes or parking.
Street Trees	Speed reduction, improve walking & biking environment	Street trees visually narrow streets, forcing drivers to slow down. Trees placed between sidewalks and the street improves street aesthetics and provides a buffer between pedestrians and traffic.
Pavement Treatments	Speed reduction	Pavement treatments include colored and textured paving materials, rumble strips and other pavement markings. These treatments provide visual and auditory cues to drivers that they should be more alert, causing drivers to slow. Typical application includes paving a residential intersection with bricks, or adding rumble strips to an intersection approach.
Tighten Corner Radii	Improve walking and biking environment, speed reduction	Large intersection corner radii allow vehicles to make higher speed turns, increasing risk for pedestrians. Reducing curb radii forces traffic to slow when making turns and reduces crossing distance for pedestrians.
Roadway Striping	Speed reduction	Adding roadway striping, especially on unstriped residential streets, can visually narrow the street and causes drivers to slow down. Roadway edge lines, striped medians, etc., can all help achieve speed reductions at relatively low cost.

Source: Metro’s *Transportation System Management and Operations (TSMO) Plan*

Metro’s *Transportation System Management and Operations (TSMO) Plan* includes projects on regionally significant routes within Tualatin. It also includes arterial corridor management strategies and other improvements to facilities within Tualatin (Table 19). Most of these projects are currently underway or are planned to start within the next 5 to 10 years and will be funded through a combination of regional and local sources.



TABLE 19  
Planned Metro TSMO Projects in Tualatin

Facility Name	TSM Strategy	Description
SW Boones Ferry Road, SW Upper Boones Ferry Road, SW 65 <sup>th</sup> Avenue, and SW Borland Road	Arterial Corridor Management	Improve arterial corridor operations by expanding traveler information and upgrading traffic signal equipment and timings. Install upgraded traffic signal controllers, establish communications to the central traffic signal system, provide arterial detection (including bicycle detection where appropriate), and routinely update signal timings. Provide real-time and forecasted traveler information, including current roadway conditions and weather conditions, on arterial roadways.
OR 99W, from SW 124 <sup>th</sup> Avenue to SW Tualatin-Sherwood Road	Real-time Traveler Information	Provide real-time and forecasted traveler information on arterial roadways, including current roadway conditions, congestion information, travel times, incident information, construction work zones, current weather conditions, and other events that may affect traffic conditions.
SW Tualatin-Sherwood Road	Arterial Corridor Management with Adaptive Signal Timing	Signal systems that automatically adapt to current roadway conditions, in addition to arterial corridor management strategies listed above.



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## 10 Parking Plan

The City owns several public parking lots in downtown Tualatin to support denser development in the City's core area. A separate taxing district has been created to support ongoing maintenance and operations of these parking lots. The city completed a study in 2011 which identified that the existing parking supply is sufficient to meet the parking demand in downtown Tualatin.

The RTP requires parking policies and a parking plan in a TSP or other planning document. The current TDC includes parking minimums and is compliant with this requirement.

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## Chapter 3. Implementation

Implementation of TSP projects will depend on funding and community priorities. There are a variety of funding sources available at the City, County, Region, and State level, and each project table includes recommendations for applicable funding sources. Additionally, the relative importance of TSP projects are identified in the project tables, based on community goals, the magnitude of the deficiency or issue that the project addresses, and the ability to secure funding, conduct engineering, and build a project. Appendix E provides a detailed description of transportation funding and improvement costs for all of the TSP's recommendations.

### Funding Sources

#### Established Funding Sources for Future Projects

A variety of established federal, state and local funding sources are available to fund future transportation projects in the Tualatin TSP, depending on the eligibility requirements.

#### Federal Funding Sources

Federal funding currently accounts for approximately 20 percent of total funding for transportation projects in Oregon. Allocation of federal funds is managed through Metro, Tualatin's Metropolitan Planning Organization (MPO). Metro generally programs federal funding for regional and local projects that affect the state transportation system, though some funds are made available directly for local projects. All projects utilizing federal funds must be programmed through Metro's 20-year RTP and the Metropolitan Transportation Improvement Program (MTIP), as well as the STIP.

Most federal funding is available through the federal surface transportation program, supported by tax revenue to the Highway Trust Fund.

#### ***Federal Highway Trust Fund (HTF)***

Revenues to the HTF are comprised of motor vehicle fuel taxes, sales taxes on heavy trucks and trailers, tire taxes, and annual heavy truck use fees. The fund is split into two accounts – the highway account and transit account. Funds are appropriated to individual states on an annual basis. The 2005 legislation for the federal surface transportation program (Safe, Accountable, Flexible and Efficient Transportation Equity Act – A Legacy for Users, referred to as SAFETEA-LU) was replaced with Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), effective October 1<sup>st</sup>, 2012. This new 2-year program keeps total federal funding at the SAFETEA-LU rate, consolidates the 90 current programs under SAFETEA-LU into 30, eliminates transportation earmarks, and increases funding for the Transportation Infrastructure Finance and Innovation Program (TIFIA). The TIFIA program provides loans to finance transportation projects of regional or national significance, and seeks to leverage federal transportation dollars with local funds and private investment. Tualatin may be eligible to receive funding under the expanded TIFIA program.

Most federal funds must be matched with state or local funds; the current matching ratio for most projects is 10.27 percent.

#### ***Federal Transit Administration grants***

The Federal Transit Administration (FTA) manages a number of grants available to transit agencies nationwide. The City of Tualatin could work with TriMet to fund transit projects serving the City.

### ***Transit Expansion and Livable Communities Grants***

Approximately \$2.4 billion in funds was appropriated for this program in the current budget year (2012). The goal of this initiative from the FTA is to advocate for and support projects and programs that improve the link between public transit and communities. Several formula and competitive grant programs are available through this initiative. Policy goals include better integrating transportation and land use planning, fostering multimodal systems, providing transportation options and improving access, reducing emissions, and increasing public participation in transportation decision-making. Tualatin and TriMet may be eligible for grant funding under this program.

### ***Transportation for Elderly Persons and Persons with Disabilities (MAP-21 §20009, former SAFETEA-LU §5310)***

This formula grant program is managed by the state, with funds provided for capital projects that enhance the accessibility of older adults and those with disabilities.

### ***Job Access Reserve Commute (JARC) program (MAP-21 §20010, former SAFETEA-LU §5316)***

Activities funded by the JARC program (formerly Section 5316 of SAFETEA-LU) have been preserved in MAP-21. The JARC program was established to address the transportation needs of welfare recipients and other low-income persons seeking to obtain or maintain employment. This program helps provide mobility to those whose work hours may fall outside traditional transit service hours and service areas. Under MAP-21, JARC activities have been integrated into the urban and rural formula grant programs. Financial assistance will be available for capital, planning and operations projects. In addition to local government and transit operators, private non-profits are eligible to receive funds. In 2012, as in past years, the Chamber of Commerce received JARC monies that funded the Tualatin Shuttle service. The Chamber of Commerce is an ongoing recipient of JARC funds, and annually re-completes for funds.

TriMet is the current recipient of all JARC funds which are distributed to regional agencies through a competitive application process. Under MAP-21, the competitive application requirement has been removed. TriMet is currently developing its new JARC program in response to MAP-21; it is presently unclear how much funding will be available, or how agencies will apply for funding from the program. Approximately \$600,000 has been available regionally under the program in recent funding cycles.

## **Other Federal Sources**

### ***Section 319 Non-Point Source Implementation Grants***

Transportation projects that integrate stormwater treatment may be eligible to receive federal funding through Section 319 grants. This program, administered by the Oregon Department of Environmental Quality (DEQ), provides federal funds to address non-point pollution, including stormwater improvement projects. Funding is very competitive, with less than \$500,000 available statewide in the most recent grant cycle. Projects that could be eligible for funding include applications of pervious pavements, stormwater detention and retention, and other low impact stormwater development tactics. Funds can be used for all or a portion of a project, but require a minimum 40 percent match. The Tualatin River and several of its tributaries are on the Clean Water Act 303(d) list for a number of pollutants, and projects within the river basin may be attractive for funding.

## **State Funding Sources**

State funds are distributed via the Oregon Transportation Commission (OTC). The State Highway Fund is the most significant source of funding for the programs described below. To be eligible for funding, projects must be programmed through the STIP.

### ***State Highway Fund***

State Highway Fund Revenues are received from a combination of fuel taxes, vehicle registration and title fees, driver's license fees, the truck weight-mile tax and federal monies. Fund revenues may only be used for construction and maintenance of state and local highways, bridges, and roadside rest areas. State law (ORS 366.514) specifies that a reasonable amount of highway funds must be spent on walkways and bikeways, and that in any given fiscal year, a minimum of 1 percent of State Highway Funds must be spent on these projects by funding recipients. However, cities and counties receiving may allocate these funds to a reserve fund, which they must expend within a period not to exceed 10 years. All funds must be expended on projects within road, street, or highway rights-of-way.

State Highway Funds are appropriated by the OTC on an annual basis. Sixty percent of fund revenues are kept at the state level, 24 percent is distributed to counties based on the number of vehicles registered in each county, and 16 percent is distributed to cities based on population.

### ***Statewide Transportation Improvement Program (STIP)***

The STIP is the 4-year capital improvement program for the state of Oregon. It provides a schedule and identifies funding for projects throughout the state. Projects included in the STIP are generally "regionally significant" and have been given a high priority through planning efforts and by the relevant area commission on transportation (ACT) or MPO. For Tualatin, the relevant MPO is Metro.

All regionally significant state and local projects, as well as all federally-funded projects and programs, must be included in the STIP. The 2010-2013 STIP includes projects totaling \$1.25 billion and covers the period from October 2009 to the end of September 2013. The 2012-2015 STIP was recently approved. About 80 percent of projects are expected to use federal funds. Federal funding levels projected for the 2010-2013 and draft 2012-2015 STIP are assumed to be at the same annual level distributed under SAFETEA-LU from 2005 to 2009.

ODOT has started the planning process for the 2015-2018 STIP. The STIP will be reorganized into two broad categories: "Fix-it" and "Enhance" that encompass the previous funding categories detailed in the 2012-2015 STIP. "Fix-it" projects are those that fix or preserve the current transportation system; "Enhance" projects are those that enhance, expand or improve the transportation system. The main purpose of this reorganization is to allow maximum flexibility to fund projects that reflect community and state values, rather than those that fit best into prescriptive programs.

#### **"Fix-it" activities will include:**

- ◆ Bicycle and pedestrian facilities on state routes only
- ◆ Bridges (state owned)
- ◆ Culverts
- ◆ High Risk Rural Roads
- ◆ Illumination, signs and signals
- ◆ Landslides and Rockfalls
- ◆ Operations (includes ITS)
- ◆ Pavement Preservation
- ◆ Rail-Highway Crossings
- ◆ Safety

- ◆ Salmon (Fish Passage)
- ◆ Site Mitigation and Repair
- ◆ Stormwater Retrofit
- ◆ Transportation Demand Management (part of Operations)
- ◆ Work zone Safety (Project specific)

**“Enhance” activities will include:**

- ◆ Bicycle and/or Pedestrian facilities on or off the highway right-of-way
- ◆ Development STIP (D-STIP) projects (development work for projects that will not be ready for construction or implementation within the four years of the STIP)
- ◆ Modernization (projects that add capacity to the system, in accordance with ORS 366.507)
- ◆ Most projects previously eligible for Transportation Enhancement funds
- ◆ Projects eligible for Flex Funds (the Flexible Funds program funded Bicycle, Pedestrian, Transit and Transportation Demand Management (TDM) projects, plans, programs, and services)
- ◆ Protective Right-of-Way purchases
- ◆ Public Transportation (capital projects only, not operations)
- ◆ Safe Routes to School (infrastructure projects)
- ◆ Scenic Byways (construction projects)
- ◆ Transportation Alternatives (new with MAP-21, the federal transportation authorization)
- ◆ Transportation Demand Management

Under this new STIP organization, there will be one application for all projects eligible under the “Enhance” program. Communities will apply for the “Enhance” projects that best serve their community and ODOT will determine the appropriate funding mechanism. “Fix-it” projects will be selected through a collaborative process between ODOT and MPOs. This new organization is primarily intended to increase funding flexibility and does not represent a fundamental change in the type of projects that will be funded through the STIP. The current “Enhance” application process for the 2015-2018 STIP will close at the end of November, 2012.

- **ConnectOregon:** *ConnectOregon* funds are lottery-backed bonds distributed to air, marine, rail, transit and other multimodal projects statewide. No less than 10 percent of *ConnectOregon* IV funds must be distributed to each of the five regions of the state, provided that there are qualified projects in the region. The objective is to improve the connections between the highway system and other modes of transportation.

***Oregon Parks and Recreation Local Government Grants***

The Oregon Parks and Recreation Department (OPRD) administers this program using Oregon Lottery revenues. These grants can fund acquisition, development and major rehabilitation of public outdoor parks and recreation facilities. OPRD has distributed \$4 million annually under this program through a competitive grant process. A match of at least 20 percent is required.

***Oregon Transportation Infrastructure Bank (OTIB)***

The OTIB is a statewide revolving loan fund available to local governments for many transportation infrastructure improvements, including highway, transit and non-motorized projects. Most funds made available through this program are federal, and roads must be functionally classified as a major collector or higher to be eligible for loan funding.

***Oregon Parks and Recreation Department: Recreational Trails Grant<sup>34</sup>***

These grants from the Oregon Parks and Recreation Department provide funding for recreational trail projects to build new recreation trails, including trail bridges and installing wayfinding signs, restoring existing trails, developing and rehabilitating trailhead facilities, and acquiring land and permanent easements for trails. Cities are eligible to apply, and must provide at least a 20 percent match of total project cost. Recent grants (2011) ranged from \$10,000 to \$130,000.

***Oregon Immediate Opportunity Fund***

The Oregon immediate opportunity fund supports primary economic development in Oregon through construction and improvements of streets and roads. Funds are discretionary and may only be used when other sources of financial support are unavailable or insufficient. The objectives of the Opportunity Fund are providing street or road improvements to influence the location, relocation, or retention of a firm in Oregon, providing procedures and funds for the OTC to respond quickly to economic development opportunities, and providing criteria and procedures for the Oregon Economic and Community Development Department (OECDD), other agencies, local government and the private sector to work with ODOT in providing road improvements needed to ensure specific job development opportunities for Oregon, or to revitalize business or industrial centers.

**Regional Funding Sources**

Metro coordinates two transportation grant programs relevant to Tualatin. As the regional government and MPO, Metro is responsible for distributing federal monies in a variety of programs.

***Flexible Funds***

Metro manages the allocation of regional federal flexible funds. These funds come from two federal funding sources: the Surface Transportation program (STP) and the Congestion Mitigation/Air Quality program (CMAQ). These funds can be spent on a wide variety of projects. In the most recent funding round, \$24 million was made available to Metro jurisdictions for various projects, including transit oriented development, high capacity transit, transportation system management, and regional planning projects. Funding is allocated through a competitive process.

***Regional Travel Options grants***

Metro also manages this federal grant source, distributing over \$500,000 to several projects in the Metro region in the most recent round of funding. Projects are selected through a competitive process. Projects that improve air quality, address community health, reduce auto traffic or create more opportunities for walking and biking are all eligible for funding.

***Nature in Neighborhoods Grants***

Metro provides funds to communities to add vegetation and natural features in neighborhoods. Funds for Nature in Neighborhoods come from the voter-approved 2007 natural areas bond measure. Projects awarded grants

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<sup>34</sup> From [www.oregon.gov/oprd/GRANTS/Pages/index.aspx](http://www.oregon.gov/oprd/GRANTS/Pages/index.aspx)



involve the community, foster diverse partnerships and innovate, leading to bigger social and economic benefits, from jobs and economic development to livable neighborhoods and clean air. Metro has awarded \$6.6 million to 23 projects. Up to \$2.25 million is available annually, with \$15 million available through the life of the program.

## County Funding Sources

### ***Washington County Gas Tax***

Tualatin receives approximately \$90,000 per year currently in county gas tax revenue. These funds can be spent on a wide variety of transportation projects, though are currently only spent on construction and maintenance of City streets.

### ***Washington County Major Streets Transportation Improvement Program (MSTIP)***

Washington County's MSTIP program provides funding for major transportation improvements on roads throughout the county. The program is funded through property taxes with approximately \$35 million available each year. MSTIP has funded a wide variety of projects, including expansion of Highway 26, Intelligent Transportation System (ITS) and signal upgrades to Tualatin-Sherwood Road and numerous bicycle and pedestrian improvements. Only roads classified in the Washington County Functional Classification system are eligible for funding from MSTIP. Roads that would be eligible under this program include Tualatin-Sherwood Road, Boones Ferry Road, Nyberg Road, 65<sup>th</sup> Avenue, Sagert Street, and several others. Tualatin does not have any projects identified for funding in the current 5 year MSTIP program (MSTIP 3d), but several projects just outside the city, including the extension of 124<sup>th</sup> Avenue south to Tonquin Road, are funded. The city can continue to pursue funding for major improvements on these streets through this dedicated funding source.

### ***Washington County Minor Betterment Program***

Washington County administers the Minor Betterment Program (MBP), funded by an allocation from the County Road Fund (County Gas Tax). The Program funds small-scale interim improvements beyond routine maintenance but not large enough to be programmed as capital improvements. MBP projects are site-specific enhancements to the county's transportation system, projects are typically interim and intended to supplement routine maintenance and capital improvements. Eligible projects need to be on a county road, improve or resolve a specific situation, and address safety, capacity, environmental and/or connectivity issues. In fiscal year 2013/14 the County is funding sidewalk completing along SW Grahams Ferry Road with this funding source.

## Local Funding Sources

Major local funding sources include general fund revenues, road utility fees, system development charges, and the City's share of State Highway Fund revenue.

### **Road Utility Fees**

This fee is assessed to all residential and non-residential properties in the city of Tualatin to fund upkeep of the City's road system. Approximately \$650,000 in fee revenue was forecast for FY 2011. These revenues are made available exclusively for road maintenance. These fees represent a significant source of funding for maintenance of existing roads. Per city code (TMC 3-4), these funds may be spent on pavement rehabilitation, sidewalk maintenance, landscaping enhancements, replacing street trees and street lighting.

### **Transportation Development Taxes (TDT)**

Transportation Development Taxes (TDT) are one-time fees on new development that compensate for the increased traffic associated with new development, and are system development charges or impact fees for transportation. The City has authorized the collection of transportation system development charges since 1991. The former county-managed Transportation Impact Fee (TIF) program has been replaced with the Transportation Development Tax (TDT), approved by voters in 2008. TDTs cannot be expended on transportation operations or maintenance projects, and may be used exclusively for capital improvement projects. These taxes are payable to the City when a building or other development permit is issued. The outlook for TDT revenue is very uncertain, given limited development during the current economic downturn.

### **Potential Other Funding Sources for Future Projects**

The following funding sources and strategies may be available to the City in addition to the established programs listed above.

#### **Department of Energy: Energy Efficiency and Conservation Block Grants (EECBG)**

This program was initially funded through the American Recovery and Reinvestment Act of 2009. The current funding authorization expired in April 2012. Future funding for this program is currently uncertain. The program provided formula grants to states and competitive grants for projects that reduce fossil fuel emissions, reduce total energy use of eligible grantees, and improve energy efficiency of transportation and other sectors. Tualatin may be eligible for competitive grants if this program is funded in future federal budgets.

#### **Local Improvement Districts (LID)**

LIDs are created by property owners within a district of a city to raise revenues for constructing improvements within the district boundaries. LIDs may be used to assess property owners for improvements that benefit properties and are secured by property liens. Property owners typically enter into LIDs because of the economic or personal advantages of the improvements. The City would work with property owners to acquire financing at lower interest rates than under typical financing methods. The formation of LIDs is governed by state law and local jurisdictional development codes. LID revenues can only be used on capital projects. LID revenues can be combined with other revenue sources to fully fund projects.

#### **Transit Utility Fee**

A number of jurisdictions in Oregon have implemented transportation utility fees that fund road system maintenance, transportation improvements, and transit service. The city of Corvallis, Oregon recently enacted a Transit Utility Fee in 2011 to support transit operations. These fees are typically collected on monthly residential and business utility bills and assessed on a per-housing unit basis, with businesses and industry charged rates based on the type of business or number of employees. A modest monthly transit utility fee could fund capital improvements and transit operations in Tualatin. Fee revenue can also be used to support or improve existing transit services in Tualatin, like the Tualatin Chamber of Commerce Shuttle service. A transit utility fee would provide dedicated and reliable funding for transit projects identified in the Transit Plan.

## Urban Renewal Areas

The City of Tualatin has successfully implemented two urban renewal areas over the past 25 years in the central area and Leveton. Both Urban renewal areas have expired and are no longer collecting revenue. Urban Renewal Areas (URA) remain an option for the City in the future whereby tax increment financing (TIF) can be used for a variety of improvements within the URA. With TIF, the county assessor “freezes” the assessed value of properties within the URA and the property taxes collected above those that were collected when the property values were frozen are used to pay for improvements within the URA. This financing method assumes that property values within the urban renewal area will increase over time. URA designations are primarily used as an economic development tool, but may be useful for targeting areas in the City with serious improvement needs.

## Revenue and General Obligation Bonds

Bonding allows municipal and county government to finance construction projects by borrowing money and paying it back over time, with interest. Financing requires smaller regular payments over time compared to paying the full cost at once, but financing increases the total cost of the project by adding interest. General Obligation Bonds are often used to pay for construction of large capital improvements and must be approved by a vote of the public. These bonds add the cost of the improvement to property taxes over a period of time. Tualatin could consider issuing a General Obligation Bond to pay for significant transportation improvement projects identified within the City.

## Parking Fees

The City does not currently charge for parking, but does charge an annual fee to business owners in the “core area parking district” that funds parking maintenance in the immediate core area. Income generated by charging parking fees could be used to implement a variety of transportation projects. The collection system would require purchase of parking meter infrastructure, careful study of where to install meters, and analysis of the appropriate fee amount to charge drivers.

## Prioritization

Prioritization of projects within this TSP is separated into three categories: short-term, medium-term, and long-term. Short term projects are expected to be built within 0-5 years, while medium-term are 5-10 years, and long-term projects are expected to be built in the 10-20 year time frame. Prioritization is determined based on a combination of the most important projects to implement first, the ease of implementation, and the potential cost – some projects will take a number of years to identify and secure funding. Some projects will also need regional coordination and support, which may take time to secure an agreement. Prioritization is an estimate: long-term projects may be implemented sooner than 10-20 years due to funding becoming available, a high degree of community support or other factors. The suggested priority for projects in this TSP is a general guide, and not a required timeframe.

## Fiscally Constrained TSP Project List

Based on an analysis of existing and likely future funding sources, the Project Team assumed the City of Tualatin will have around \$16 million in funds for transportation over the next 20 years. All projects currently labeled short and medium-term projects fall within this constrained list, with the exception of upgrading SW Myslony Street (R5). The fiscally constrained list represents the likely projects that the City will be able to fund before the next TSP update. The long-term priorities (and the project on SW Myslony Street) that are more expensive and complex are the preferred transportation system in Tualatin, and the City will need to look for additional funding such as grants and potential borrowing strategies to implement these projects. These projects will also likely require a suite of funding strategies to implement.

## Policy and Code Language

In preparing implementation measures for the TSP, the project team evaluated the City's TSP and development code for compliance with the TPR and the RTFP. These state and regional regulations are intended to increase the amount of coordination between public agencies, protect transportation investments, support efficient urban development, and promote the use of modes other than single-occupancy vehicles. The project team found that the TSP and development code were largely in compliance with the TPR and RTFP, but that some updates to policy and code would be needed for full compliance. The evaluation findings are included in the TSP as Appendix F.

There were limited compliance issues and needed amendments identified through the process of evaluating the City's development code against TPR and RTFP requirements. The proposed code amendments represent refinements to the code, and in most cases they are minor or administrative. The following represent the types of amendments proposed to implement the TSP and comply with state and regional regulations:

- ◆ Supporting more communication between the City and transportation-related agencies on applications for architectural review and proposed plan amendments
- ◆ Extending requirements for short and direct pedestrian and bicycle routes to general multi-family housing, commercial, industrial, public, and semi-public development
- ◆ Treating long and wide driveways more like streets in terms of lining up and connecting with other streets
- ◆ Setting up conditions when crossings on transit streets need to be provided
- ◆ Allowing on-street parking to count toward off-street parking requirements
- ◆ Differentiating existing bicycle parking requirements into long-term and short-term bicycle parking
- ◆ Permitting on-street freight loading under certain conditions

These proposed amendments will be carried through the hearings and adoption process concurrently with the TSP document itself. Language for proposed code changes can be requested from City Staff.

## Tualatin TSP Policies

The following TSP policies were included in each of the modal plans, and repeated here for quick reference.

### Functional Classification

- ◆ **Functional Classification Policy 1:** Major and minor arterials will comprise the main backbone of the freight system, ensuring that freight trucks are able to easily move within, in, and out of the City
- ◆ **Functional Classification Policy 2:** Continue to construct existing and future roadways to standard when possible for the applicable functional classification to serve transportation needs within the City

## Roadway

- ◆ **Roadway Policy 1:** Implement design standards that provide clarity to developers while maintaining flexibility for environmental constraints.
- ◆ **Roadway Policy 2:** Ensure that street designs accommodate all anticipated users including transit, freight, bicyclists and pedestrians, and those with limited mobility.
- ◆ **Roadway Policy 3:** Work with Metro and adjacent jurisdictions when extending roads or multi-use paths from Tualatin to a neighboring City.

## Access Management

- ◆ **Access Management Policy 1:** No new driveways or streets on arterial roadways within the City, except where noted in the TDC, Chapter 75, usually when no alternative access is available
- ◆ **Access Management Policy 2:** Where a property abuts an arterial and another roadway, the access for the property shall be located on the other roadway, not the arterial
- ◆ **Access Management Policy 3:** Adhere to intersection spacing included in Chapter 75 of the TDC
- ◆ **Access Management Policy 4:** Limit driveways to right-in, right-out (where appropriate) through raised medians or other barriers to restrict left turns
- ◆ **Access Management Policy 5:** Look for opportunities to create joint accesses for multiple properties, where possible, to reduce the number of driveways on arterials
- ◆ **Access Management Policy 6:** No new single-family home, duplex or triplex driveways on major collector roadways within the City, unless no alternative access is available
- ◆ **Access Management Policy 7:** On collector roadways, residential, commercial and industrial driveways where the frontage is greater or equal to 70 feet are permitted. Minimum spacing at 100 feet. Uses with less than 50 feet of frontage shall use a common (joint) access where available

## Transit

- ◆ **Transit Policy 1:** Partner with TriMet to jointly develop and implement a strategy to improve existing transit service in Tualatin.
- ◆ **Transit Policy 2:** Partner with the Tualatin Chamber of Commerce to support grant requests that would expand the Tualatin Shuttle services.
- ◆ **Transit Policy 3:** Partner with TriMet, Metro, and neighboring communities to plan the development of high-capacity transit in the Southwest Corridor, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 4:** Partner with TriMet, Metro, and neighboring communities to plan development of high-capacity transit connecting Tualatin and Oregon City, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 5:** Coordinate with ODOT and neighboring communities on conversations related to Oregon Passenger Rail between Portland and Eugene.

- ◆ **Transit Policy 6:** Develop and improve pedestrian and bicycle connections and access to transit stops.
- ◆ **Transit Policy 7:** Encourage higher-densities near high-capacity transit service.
- ◆ **Transit Policy 8:** Metro in the RTP calls for increased WES service frequency. The City will coordinate with TriMet, Metro, and ODOT to explore service frequency improvements and the possible inclusion of a second WES station in south Tualatin.

## Bicycle and Pedestrian

- ◆ **Bicycle and Pedestrian Policy 1:** Support Safe Routes to Schools (SRTS) for all Tualatin schools
- ◆ **Bicycle and Pedestrian Policy 2:** Work with partner agencies to support and build trails
- ◆ **Bicycle and Pedestrian Policy 3:** Allow wider sidewalks downtown for strolling and outdoor cafes
- ◆ **Bicycle and Pedestrian Policy 4:** Add benches along multi-use paths for walkers throughout the City (especially in the downtown core)
- ◆ **Bicycle and Pedestrian Policy 5:** Develop and implement a toolbox, consistent with Washington County, for mid-block pedestrian crossings
- ◆ **Bicycle and Pedestrian Policy 6:** Implement bicycle and pedestrian projects to help the City achieve the regional non-single-occupancy vehicle modal targets in Table 16 (earlier in this chapter; its source is the RTFP)
- ◆ **Bicycle and Pedestrian Policy 7:** Implement bicycle and pedestrian projects to provide pedestrian and bicycle access to transit and essential destinations for all mobility levels, including direct, comfortable, and safe pedestrian and bicycle routes
- ◆ **Bicycle and Pedestrian Policy 8:** Ensure that there are bicycle and pedestrian facilities at transit stations
- ◆ **Bicycle and Pedestrian Policy 9:** Create on- and off-street bicycle and pedestrian facilities connecting residential, commercial, industrial, and public facilities such as parks, the library, and school
- ◆ **Bicycle and Pedestrian Policy 10:** Create obvious and easy to use connections between on- and off-street bicycle and pedestrian facilities, and integrate off-street paths with on-street facilities

## Freight

- ◆ **Freight Policy 1:** Continue to coordinate with PNWR and TriMet to ensure that railroad crossings are safe and have few noise impacts on adjacent neighborhoods
- ◆ **Freight Policy 2:** Look for opportunities to shift goods shipments to rail to help reduce the demand for freight on Tualatin's roads.
- ◆ **Freight Policy 3:** Look for opportunities to create multi-modal hubs to take advantage of the freight rail lines

## Transportation Demand Management

- ◆ **TDM Policy 1:** Support demand reduction strategies, such as ride sharing, preferential parking, and flextime programs
- ◆ **TDM Policy 2:** Partner with the Chamber of Commerce, the Westside Transportation Alliance, major employers, and business groups to implement TDM programs
- ◆ **TDM Policy 3:** Explore the use of new TDM strategies to realize more efficient use of the City's transportation system

- ◆ **TDM Policy 4:** Support Washington County’s regional TDM programs and policies to reduce the number of single-occupancy vehicle (SOV) trips
- ◆ **TDM Policy 5:** Promote the use and expansion of the Tualatin Shuttle program



## Performance Measures

Metro’s *Regional Transportation Plan* requires the following performance measures in a City’s TSP: safety, vehicle miles traveled per capita, freight reliability, congestion, and walking, bicycling and transit mode shares to evaluate and monitor performance of the TSP. The Table below includes the measure categories, the specific performance measures for the Tualatin TSP, the applicable system deficiencies, and the associated TSP projects that help address the deficiencies, and thus, help meet the performance measures.

Category	Metro’s 2035 Performance Metrics	Tualatin TSP Performance Measure	Tualatin System Deficiencies	Tualatin TSP projects that address the deficiencies
Safety	By 2035, reduce the number of pedestrian, bicyclist, and motor vehicle occupant fatalities plus serious injuries each by 50% compared to 2005.	<p>Reduce fatalities for drivers, walkers, and bikers from existing conditions</p> <p>Address known deficiencies and high-accident areas as high-priority projects</p> <p>Reduce the number of County and State SPIS sites within the City.</p>	<p>The three high crash locations in Tualatin are Tualatin-Sherwood Road/ Boones Ferry, Tualatin-Sherwood Road/ Martinazzi, and SW Nyberg Street/I-5 Southbound ramps.</p> <p>The first two of these roads are also on the Washington County’s SPIS list along with the Lower Boones Ferry and Bridgeport intersection. ODOT’s nearby SPIS locations are limited to I-5 and OR 99W.</p>	<p>Projects at the Nyberg interchange and I-5 will improve safety for bicyclists and pedestrians. The suite of intersection upgrades at Tualatin-Sherwood Road/ Boones Ferry and Tualatin-Sherwood Road/Martinazzi will address both congestion and safety. Completing the multi-use path network and bicycle improvements near Lower Boones Ferry and Bridgeport will reduce conflicts between vehicles and bicyclists and improve safety for all users.</p>



Category	Metro's 2035 Performance Metrics	Tualatin TSP Performance Measure	Tualatin System Deficiencies	Tualatin TSP projects that address the deficiencies
Congestion	By 2035, reduce vehicle hours of delay (VHD) per person by 10 percent compared to 2005	<p>On Washington County and ODOT owned roads the v/c is less than or equal to 0.99</p> <p>On City roads, LOS D or E depending on the road</p> <p>In downtown Tualatin (a Metro designated Town Center) – 2-hour peak hour standards:</p> <ul style="list-style-type: none"> <li>• First peak hour the v/c is less than or equal to 1.1</li> <li>• Second peak hour the v/c is less than or equal to 0.99</li> </ul>	Analysis shows two intersections not meeting standards (SW Teton Ave/SW Tualatin Road, and SW Martinazzi Ave/SW Sagert) which increased to 11 intersections in the future conditions analysis	<p>Roadway capacity and intersection optimization projects improve traffic flow and help maintain future congestion within the existing standards. Additionally, the TDM/TSM programs, increased transit, and more complete bicycle and pedestrian network will help reduce vehicle demand on roads within Tualatin.</p> <p>The preferred system of transportation improvements meets the relevant requirements for Town Centers.</p>

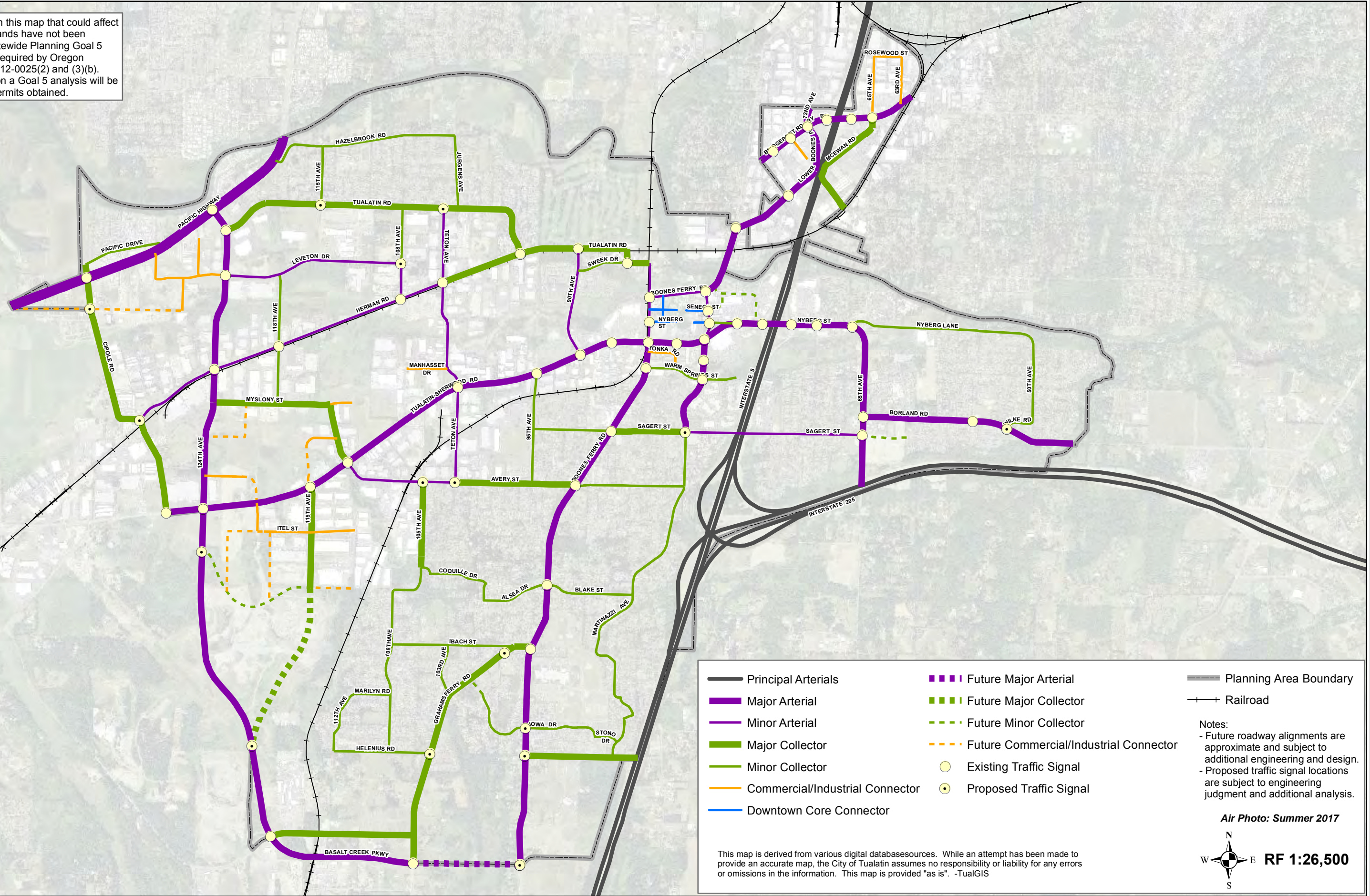
Category	Metro’s 2035 Performance Metrics	Tualatin TSP Performance Measure	Tualatin System Deficiencies	Tualatin TSP projects that address the deficiencies
Freight Reliability	By 2035, reduce vehicle hours of delay truck trip by 10 percent compared to 2005	<p>Reduce vehicle delay for truck trips on identified truck routes</p> <p>Improve reliability for truck trips on identified truck routes</p>	<p>A number of freight routes within the City experience delay currently, including the roads around the downtown core (SW Tualatin-Sherwood Road, SW Boones Ferry Road, and SW Martinazzi Avenue). Travel times during the afternoon peak hour are not predictable, and delay can vary from day to day, increasing transportation costs for businesses that rely on shipping.</p>	<p>Optimizing signal timing on regional roadways, encouraging off-peak travel on both SW Herman Road, and SW Tualatin-Sherwood Road help reduce truck delay. Capacity projects on Tualatin-Sherwood Road, sections of Avery, Teton, Herman, Myslony, and others, as well as turn lane, intersection configurations, and coordinated signals at specific locations help reduce vehicle hours of delay.</p>

Category	Metro's 2035 Performance Metrics	Tualatin TSP Performance Measure	Tualatin System Deficiencies	Tualatin TSP projects that address the deficiencies
Walking, Biking, Transit, and Non-SOV	<p>By 2035, triple walking, biking, and transit mode share compared to 2005.</p> <p>Town Center mode share is 45-55% non-drive alone modal target for Downtown Tualatin and 40-45 percent for other areas of the City.</p>	<p>Implement policies and projects to move towards the regional non-SOV mode share for the appropriate areas in the City</p> <p>Work toward achieving the Metro non-SOV mode share targets of 45 to 55 percent for Downtown Tualatin and 40 to 45 percent for other areas of the City.</p>	<p>There are a number of gaps in the sidewalk, bike lane, and multi-use path network in Tualatin. There are also few wayfinding signs to direct pedestrians and bicyclists to the existing multi-use paths. Current mode share for those traveling to work who live in Tualatin is 77.6 percent drive to work alone, 7.4 percent carpool, 4.2 percent take transit, 2.9 percent walk, and 0.4 percent bicycle.</p>	<p>The TDM/TSM programs, increased transit, and more complete bicycle and pedestrian network will help increase the percentage of residents in Tualatin who walk, bicycle, take transit, and carpool in the downtown core and other areas of the City.</p>
Climate Change	<p>By 2035 reduce transportation related carbon dioxide emissions by 40 percent below 1990 levels</p>	<p>Strive to reduce VMT per capita by 10 percent compared to 2010</p>	<p>There are more jobs in Tualatin than there are workers to fill those jobs in the City, additionally, 75 percent of residents in Tualatin work outside of the City, which increases VMT per capita.</p>	<p>The TDM/TSM programs, increased transit, and more complete bicycle and pedestrian network will help decrease per capita VMT and the associated transportation-related emissions to meet this performance measure.</p>

The projects and policies included in the Tualatin TSP meaningfully contribute towards Metro achieving its performance metrics by addressing safety concerns, reducing congestion, improving freight reliability, and providing non-driving options that help affect mode split and VMT per capita. Combined with other metropolitan area cities Tualatin's TSP will help Metro reach its 2035 Performance Targets.

# Figure 11-1: Functional Classification and Traffic Signal Plan

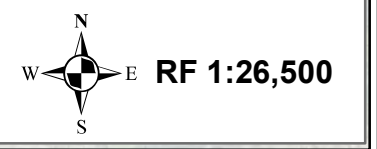
The projects embodied in this map that could affect rivers, streams and wetlands have not been analyzed in terms of Statewide Planning Goal 5 (Natural Resources) as required by Oregon Administrative Rule 660-12-0025(2) and (3)(b). Thus, prior to construction a Goal 5 analysis will be completed and proper permits obtained.



Principal Arterials	Future Major Arterial	Planning Area Boundary
Major Arterial	Future Major Collector	Railroad
Minor Arterial	Future Minor Collector	
Major Collector	Future Commercial/Industrial Connector	
Minor Collector	Existing Traffic Signal	
Commercial/Industrial Connector	Proposed Traffic Signal	
Downtown Core Connector		

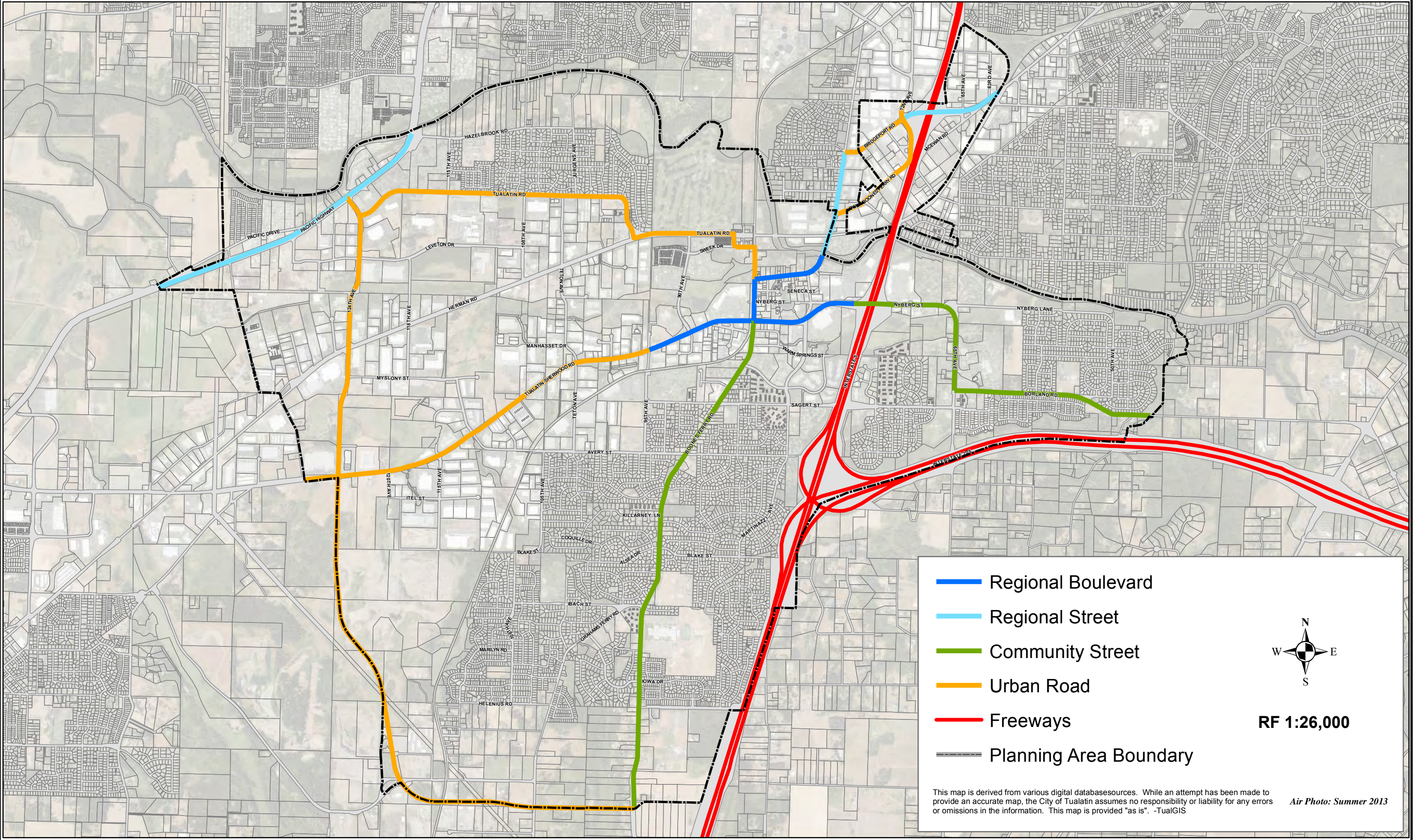
Notes:  
 - Future roadway alignments are approximate and subject to additional engineering and design.  
 - Proposed traffic signal locations are subject to engineering judgment and additional analysis.

Air Photo: Summer 2017



This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS

**Figure 11-2: Metro Regional Street Design System**





- Regional Boulevard** (Blue line)
- Regional Street** (Light blue line)
- Community Street** (Green line)
- Urban Road** (Orange line)
- Freeways** (Red line)
- Planning Area Boundary** (Dashed black line)



RF 1:26,000

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS *Air Photo: Summer 2013*

**Figure 11-3: Local Street Plan**

-  Local Street Connection
-  Planning Area Boundary

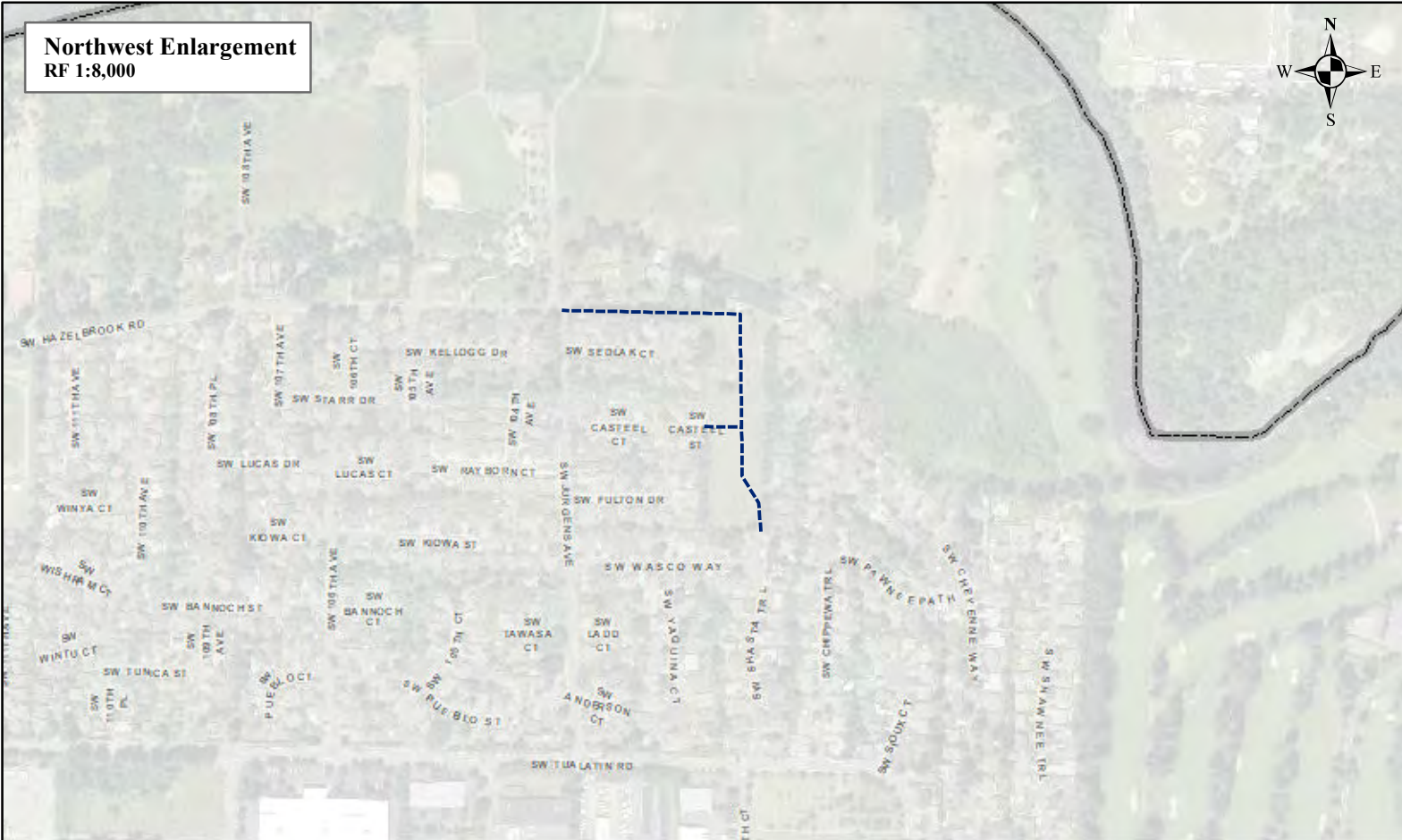
Air Photo: Summer 2017

Note:  
Future roadway alignments are approximate and subject to additional engineering and design.

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS  
Printed TBD



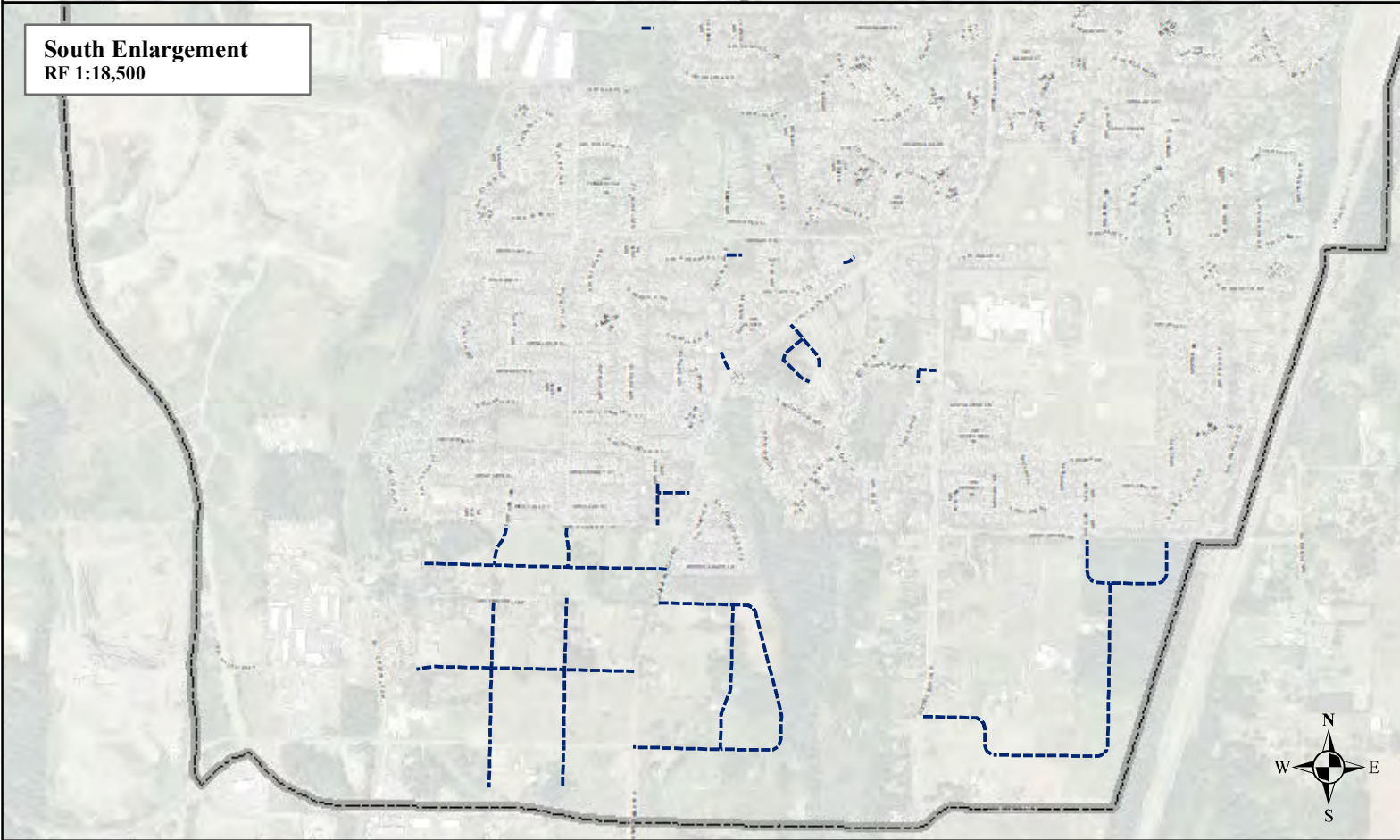
**Northwest Enlargement**  
RF 1:8,000



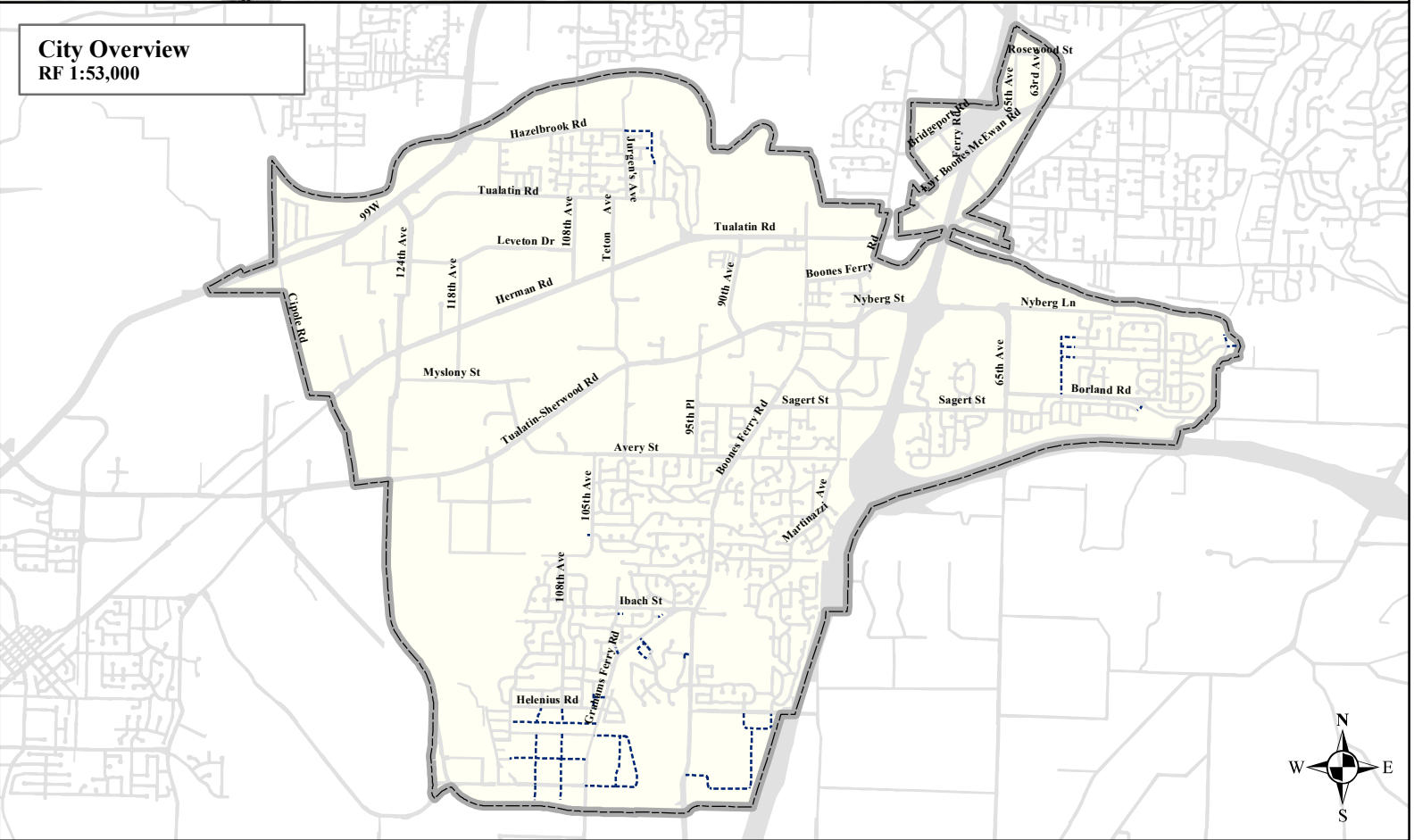
**East Enlargement**  
RF 1:9,000



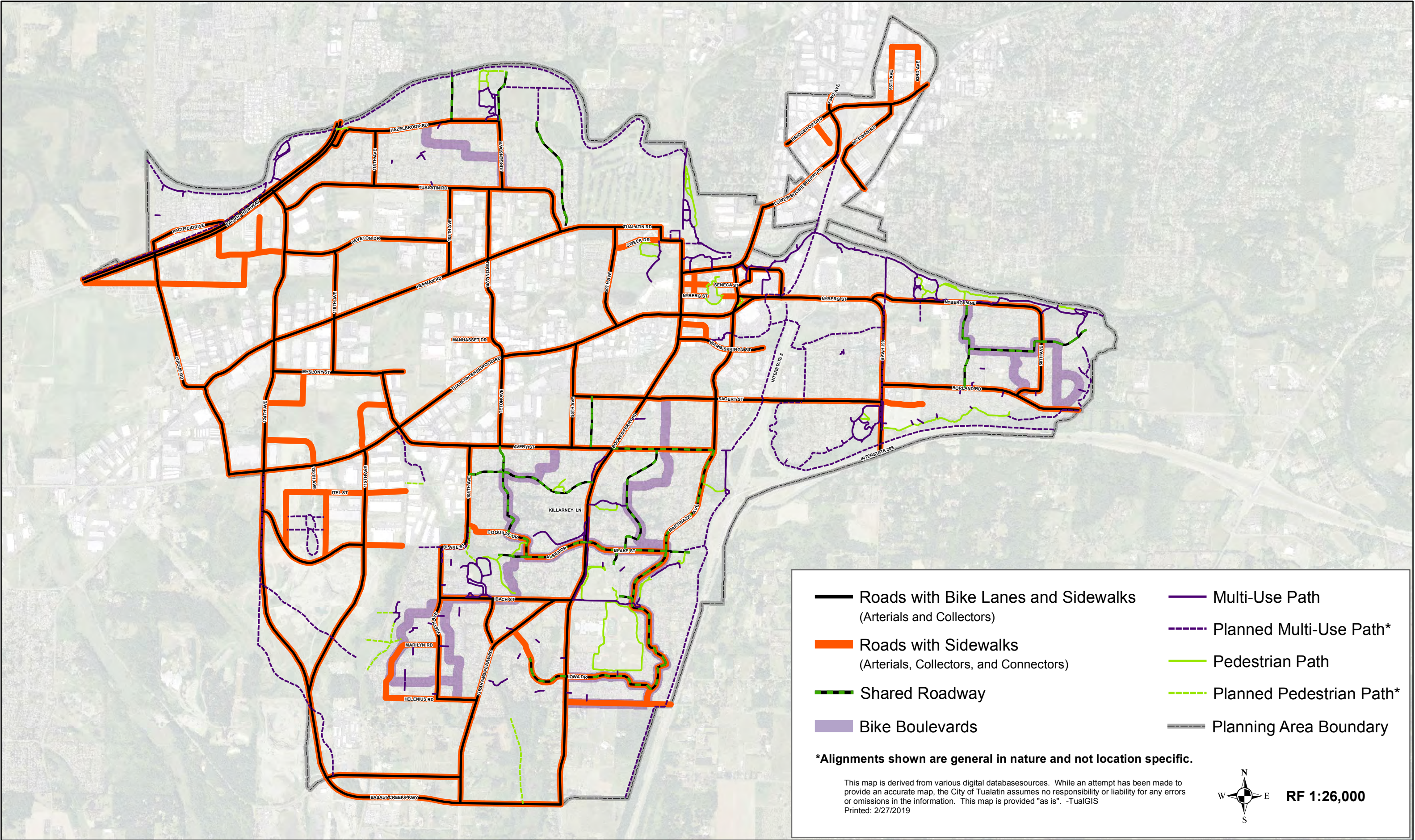
**South Enlargement**  
RF 1:18,500












**City Overview**  
RF 1:53,000




**Figure 11-4: Bicycle and Pedestrian Plan**



 Roads with Bike Lanes and Sidewalks (Arterials and Collectors)	 Multi-Use Path
 Roads with Sidewalks (Arterials, Collectors, and Connectors)	 Planned Multi-Use Path*
 Shared Roadway	 Pedestrian Path
 Bike Boulevards	 Planned Pedestrian Path*
	 Planning Area Boundary

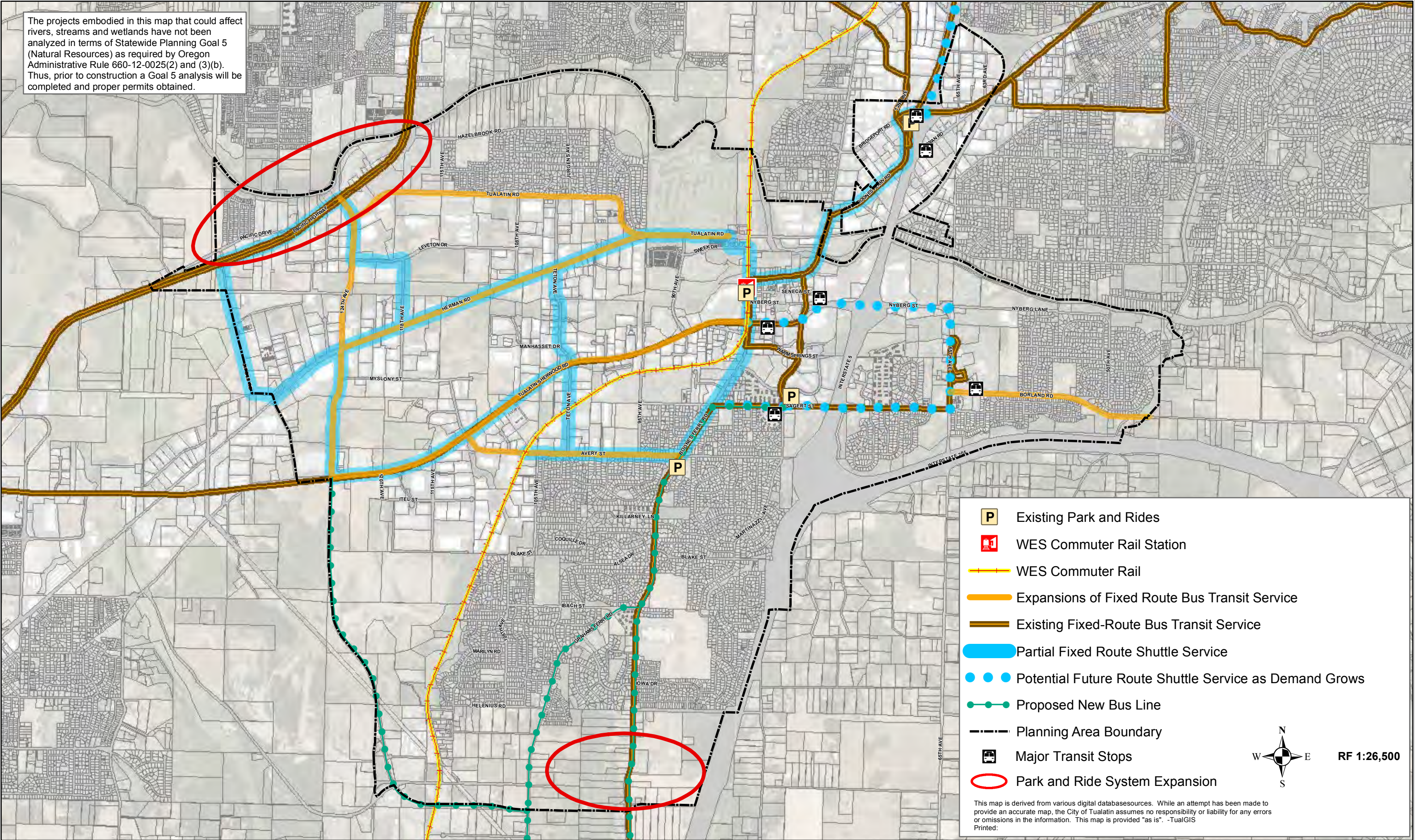
**\*Alignments shown are general in nature and not location specific.**

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS  
Printed: 2/27/2019


**RF 1:26,000**

# Figure 11-5: Tualatin Transit Plan

The projects embodied in this map that could affect rivers, streams and wetlands have not been analyzed in terms of Statewide Planning Goal 5 (Natural Resources) as required by Oregon Administrative Rule 660-12-0025(2) and (3)(b). Thus, prior to construction a Goal 5 analysis will be completed and proper permits obtained.



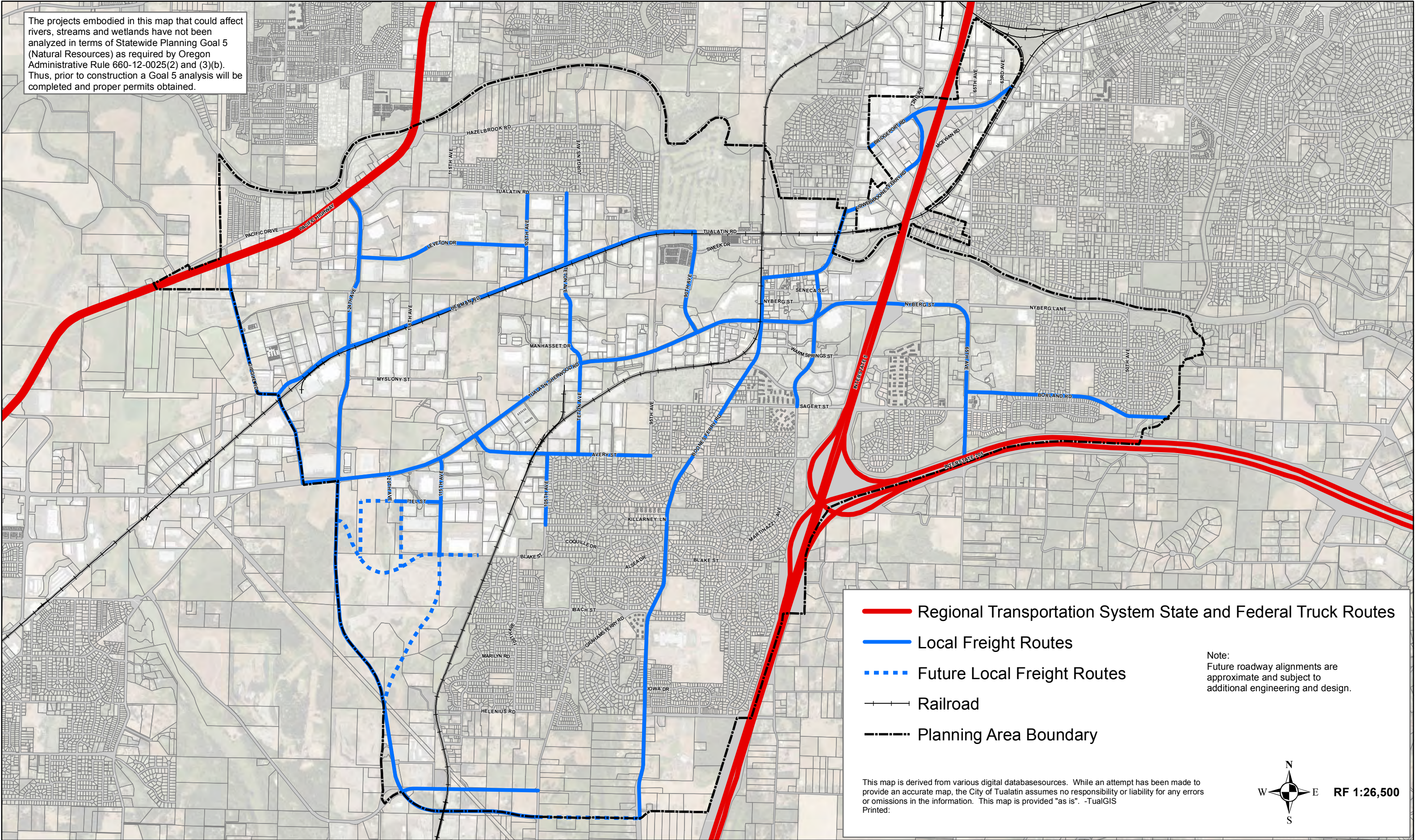
- Existing Park and Rides
- WES Commuter Rail Station
- WES Commuter Rail
- Expansions of Fixed Route Bus Transit Service
- Existing Fixed-Route Bus Transit Service
- Partial Fixed Route Shuttle Service
- Potential Future Route Shuttle Service as Demand Grows
- Proposed New Bus Line
- Planning Area Boundary
- Major Transit Stops
- Park and Ride System Expansion

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS  
Printed:



# Figure 11-6: Freight Routes

The projects embodied in this map that could affect rivers, streams and wetlands have not been analyzed in terms of Statewide Planning Goal 5 (Natural Resources) as required by Oregon Administrative Rule 660-12-0025(2) and (3)(b). Thus, prior to construction a Goal 5 analysis will be completed and proper permits obtained.

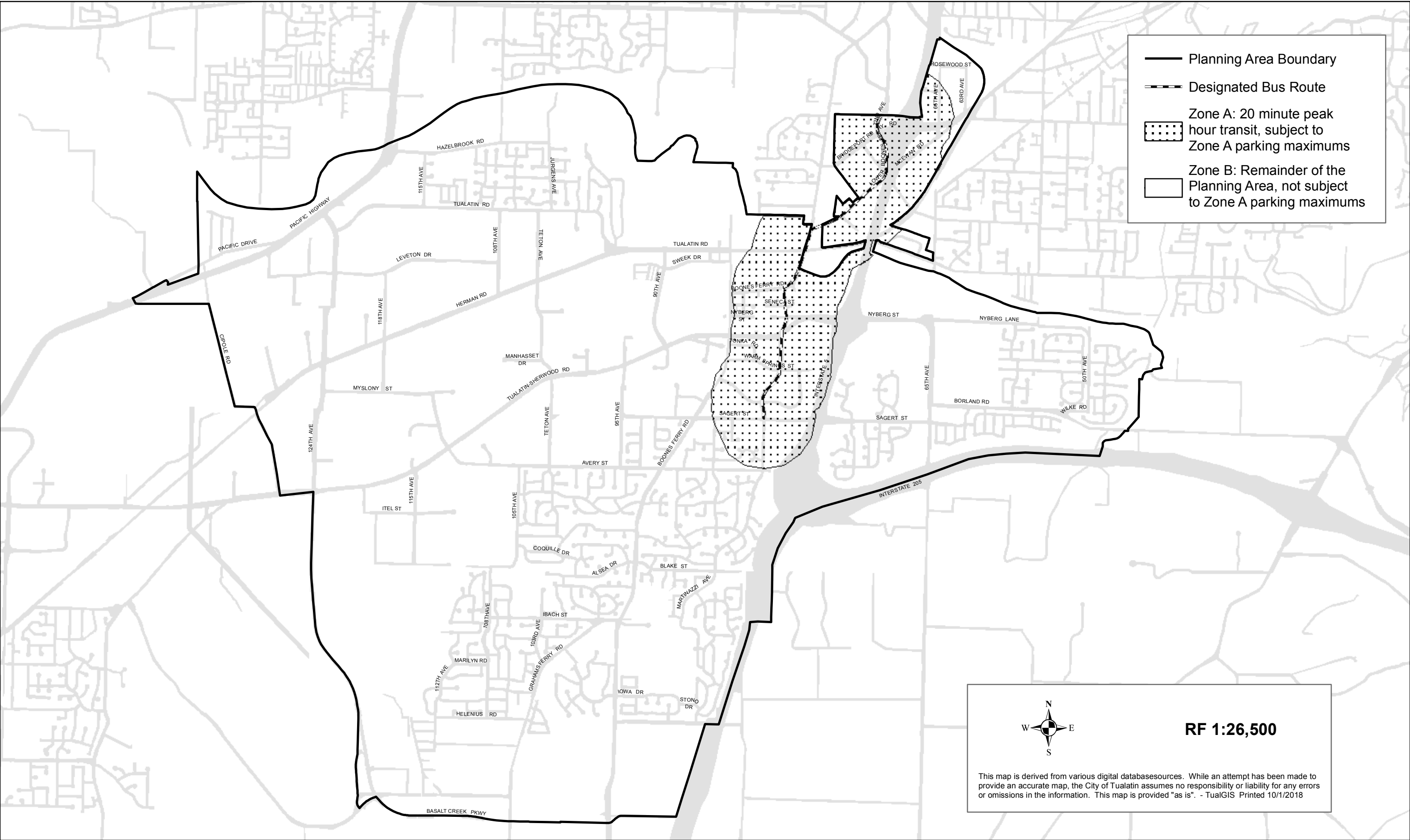


- Regional Transportation System State and Federal Truck Routes
- Local Freight Routes
- Future Local Freight Routes
- Railroad
- Planning Area Boundary

Note:  
Future roadway alignments are approximate and subject to additional engineering and design.

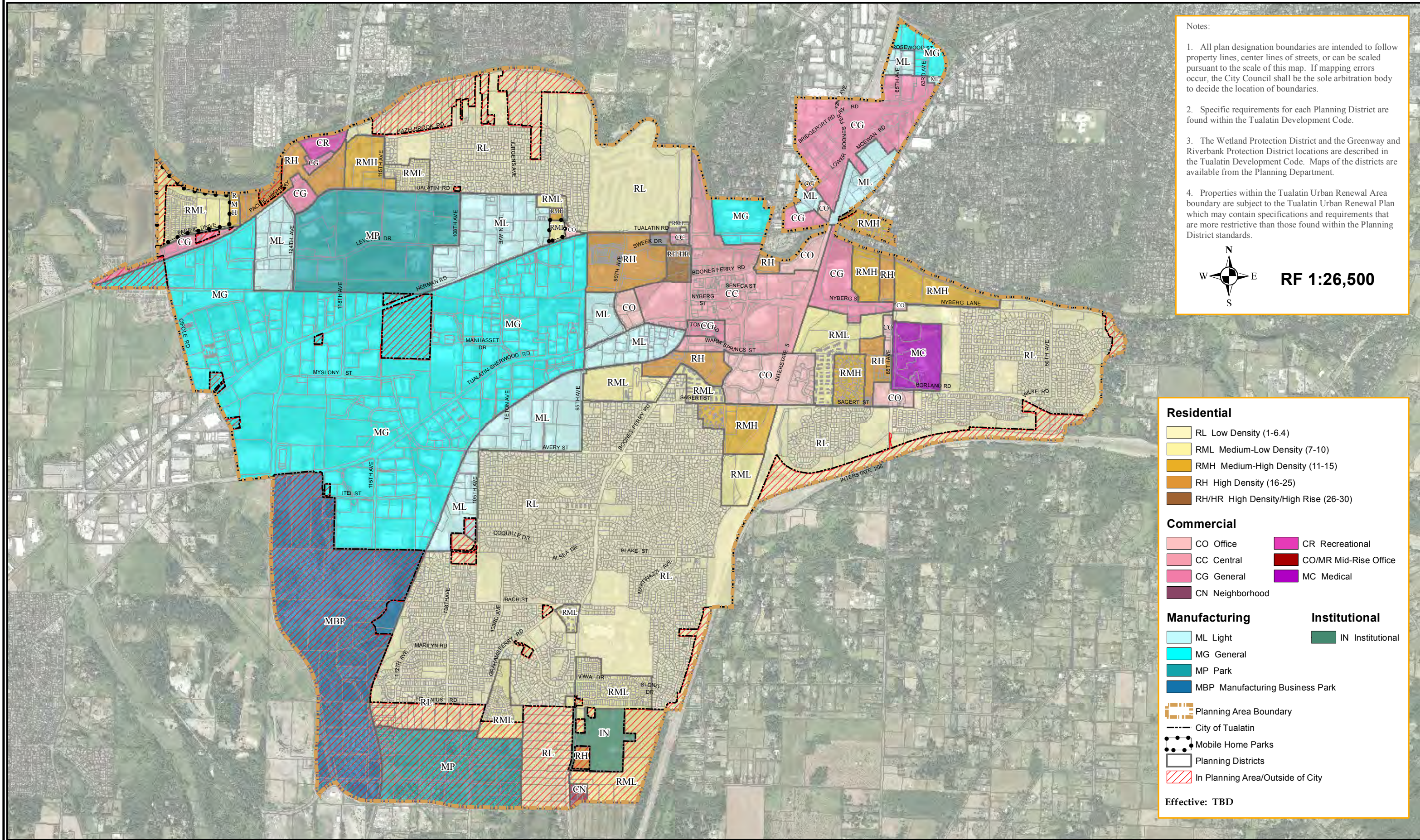
This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS  
Printed:

**Figure 73-3: Parking Maximum Map**

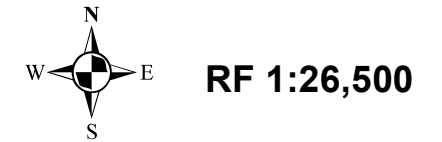


# Map 9-1 Community Plan Map

Exhibit 11



- Notes:
1. All plan designation boundaries are intended to follow property lines, center lines of streets, or can be scaled pursuant to the scale of this map. If mapping errors occur, the City Council shall be the sole arbitration body to decide the location of boundaries.
  2. Specific requirements for each Planning District are found within the Tualatin Development Code.
  3. The Wetland Protection District and the Greenway and Riverbank Protection District locations are described in the Tualatin Development Code. Maps of the districts are available from the Planning Department.
  4. Properties within the Tualatin Urban Renewal Area boundary are subject to the Tualatin Urban Renewal Plan which may contain specifications and requirements that are more restrictive than those found within the Planning District standards.



**Residential**

- RL Low Density (1-6.4)
- RML Medium-Low Density (7-10)
- RMH Medium-High Density (11-15)
- RH High Density (16-25)
- RH/HR High Density/High Rise (26-30)

**Commercial**

- CO Office
- CC Central
- CG General
- CN Neighborhood
- CR Recreational
- CO/MR Mid-Rise Office
- MC Medical

**Manufacturing**

- ML Light
- MG General
- MP Park
- MBP Manufacturing Business Park

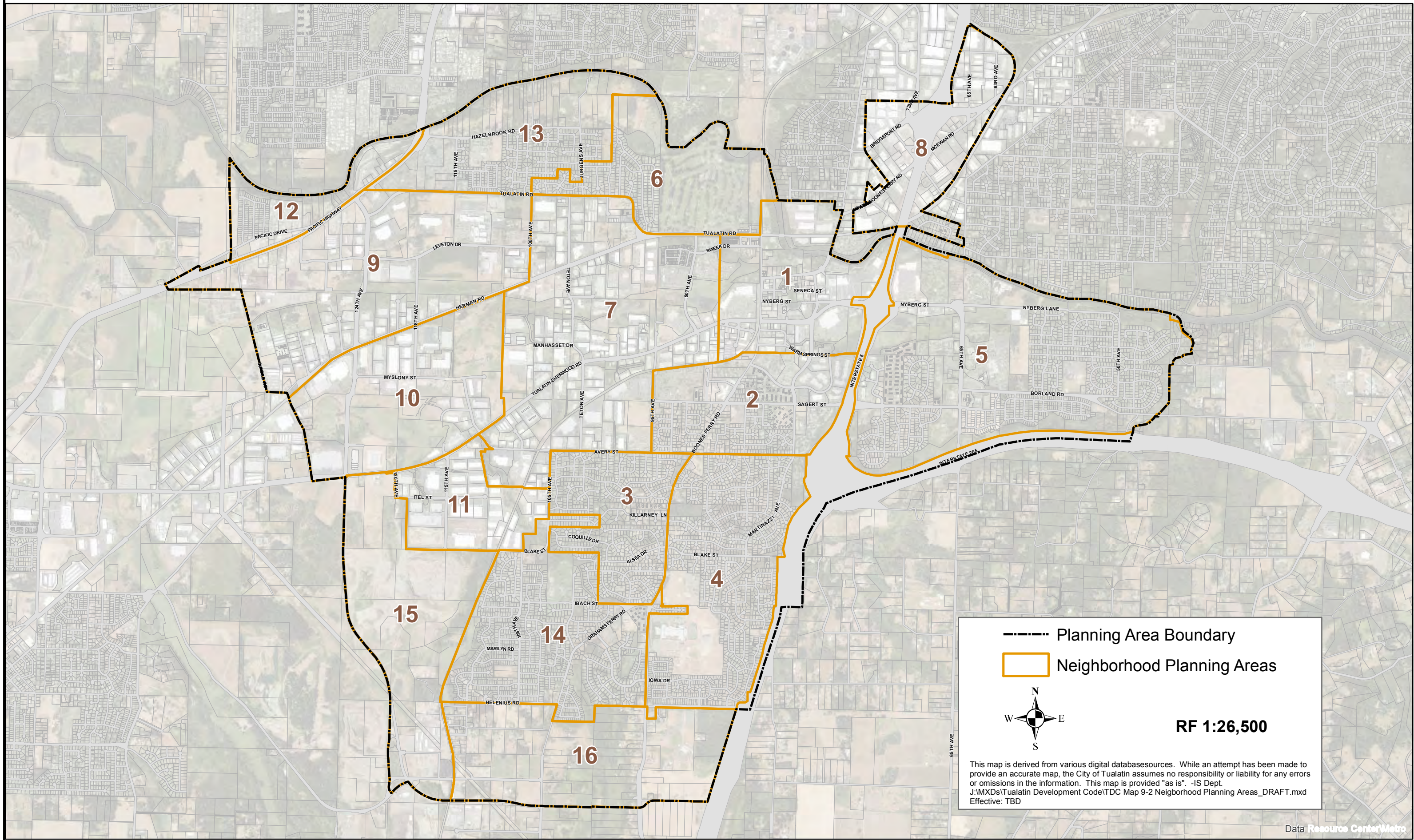
**Institutional**

- IN Institutional

Planning Area Boundary  
 City of Tualatin  
 Mobile Home Parks  
 Planning Districts  
 In Planning Area/Outside of City

Effective: TBD

# Map 9-2: Neighborhood Planning Areas - DRAFT



--- Planning Area Boundary

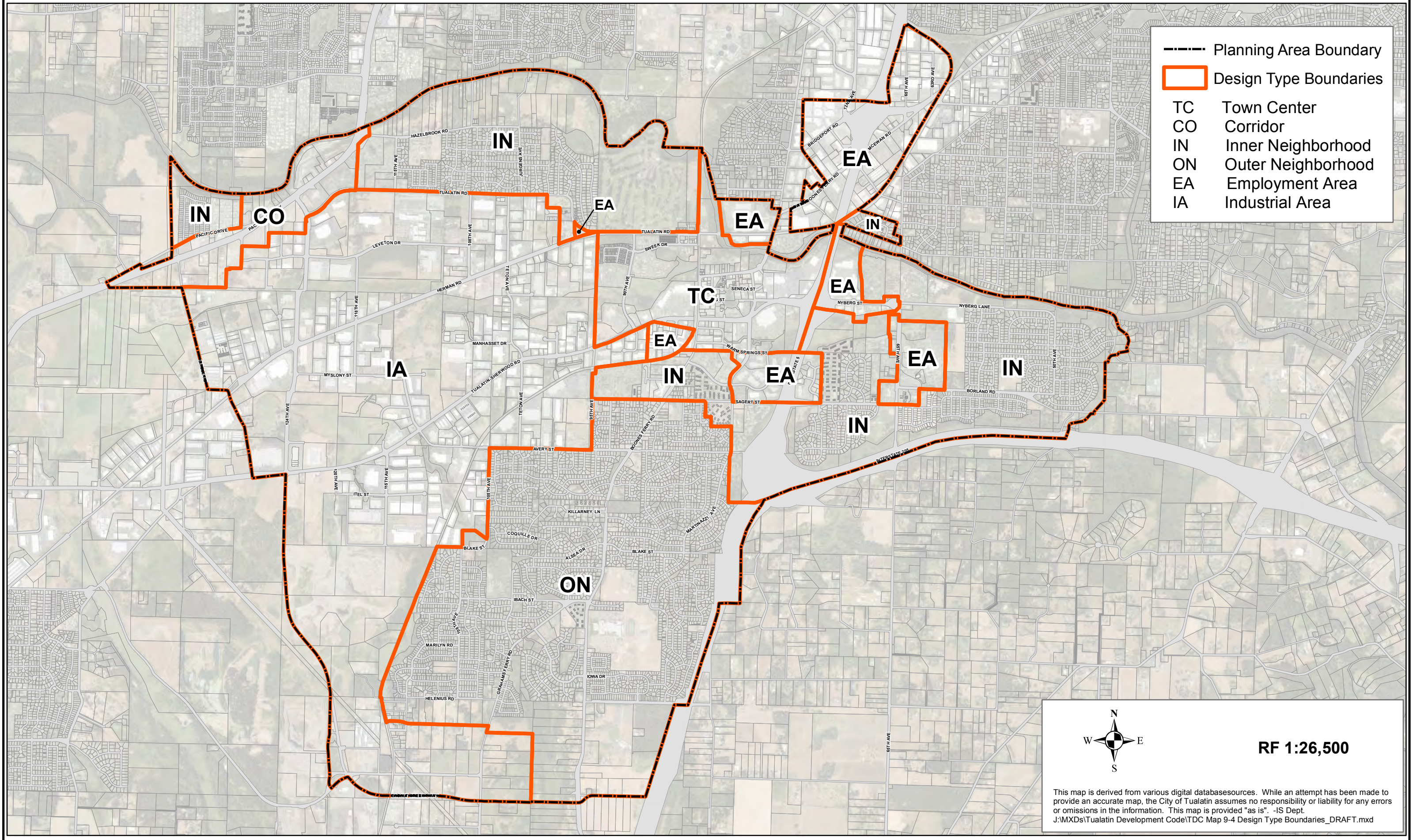
▭ Neighborhood Planning Areas

N  
W E  
S

**RF 1:26,500**

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -IS Dept.  
J:\MXDs\Tualatin Development Code\TDC Map 9-2 Neighborhood Planning Areas\_DRAFT.mxd  
Effective: TBD

# Map 9-4: Design Type Boundaries



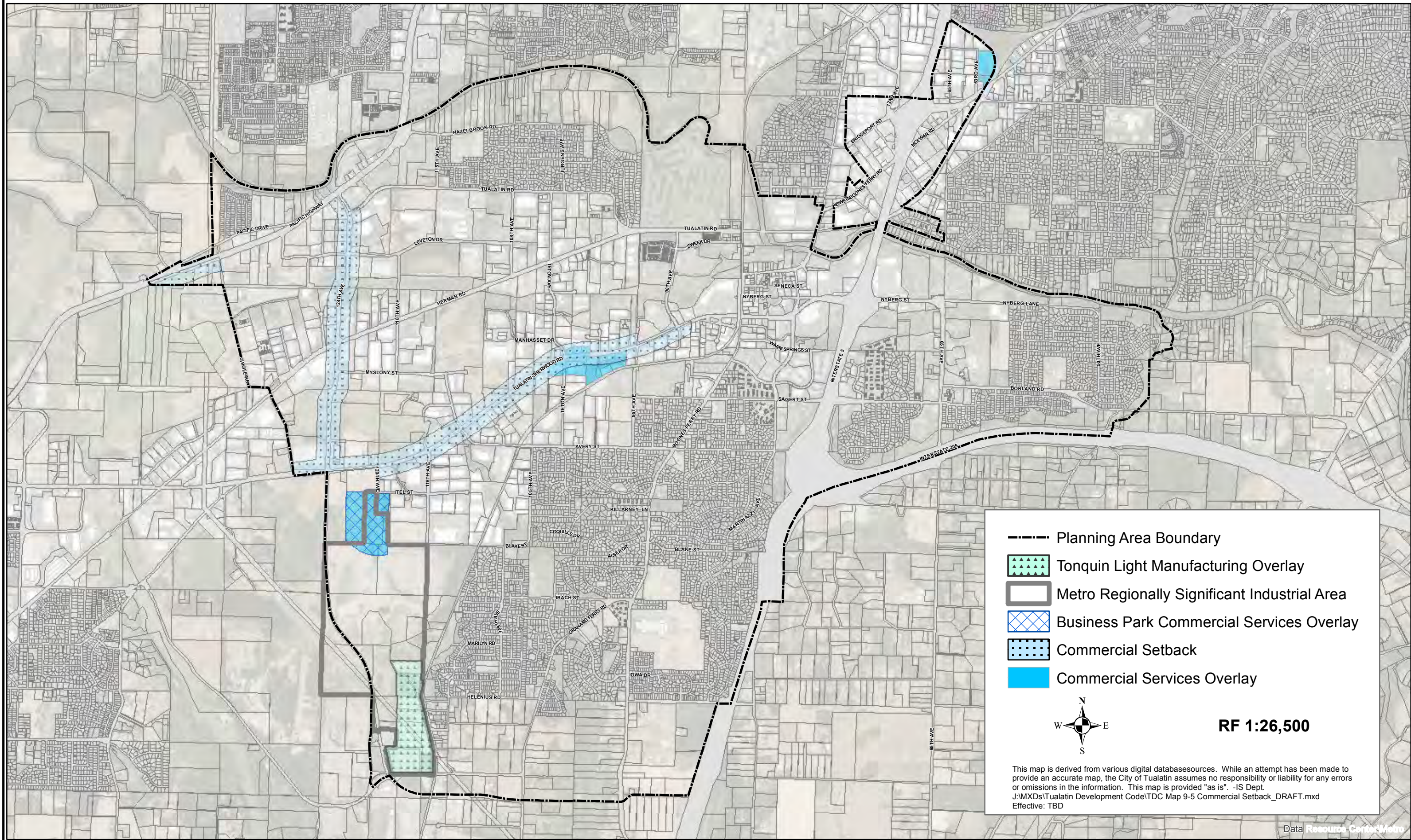
	Planning Area Boundary
	Design Type Boundaries
TC	Town Center
CO	Corridor
IN	Inner Neighborhood
ON	Outer Neighborhood
EA	Employment Area
IA	Industrial Area



**RF 1:26,500**

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 J:\MXDs\Tualatin Development Code\TDC Map 9-4 Design Type Boundaries\_DRAFT.mxd

# Map 9-5: Special Commercial Setback & Commercial Services Overlay

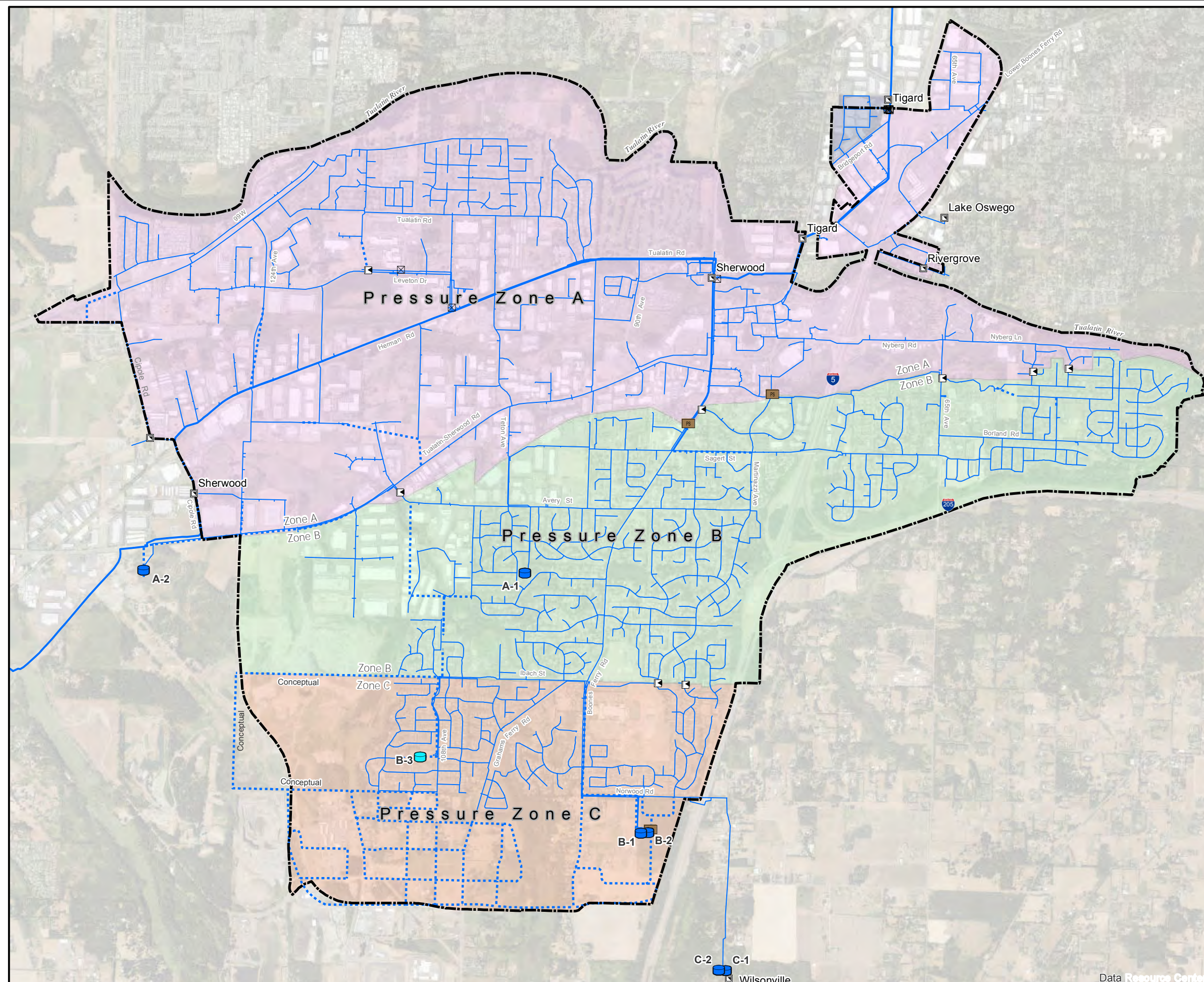
















Planning Area Boundary  
 Tonquin Light Manufacturing Overlay  
 Metro Regionally Significant Industrial Area  
 Business Park Commercial Services Overlay  
 Commercial Setback  
 Commercial Services Overlay

**RF 1:26,500**

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 J:\MXDs\Tualatin Development Code\TDC Map 9-5 Commercial Setback\_DRAFT.mxd  
 Effective: TBD

City of Tualatin  
Water System Master Plan  
Map 12-1










-  Pump Stations
-  Pressure Reducing Valve
-  Pressure Reducing-Sustaining Valve
-  Existing Reservoirs
-  Future Reservoirs
-  Water System Interties
-  Transmission Lines
-  Distribution System
-  Future System Improvements
-  A-Level
-  B-Level
-  C-Level
-  Bridgeport
-  Planning Area Boundary



RF 1:26,500

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City of Tualatin  
Sewer System Master Plan  
Map 13-1

-  Gravity Pipe
-  Force Main
-  Lift Station
-  Conceptual Gravity Pipe
-  Conceptual Force Main
-  Conceptual Lift Station
-  Planning Area Boundary



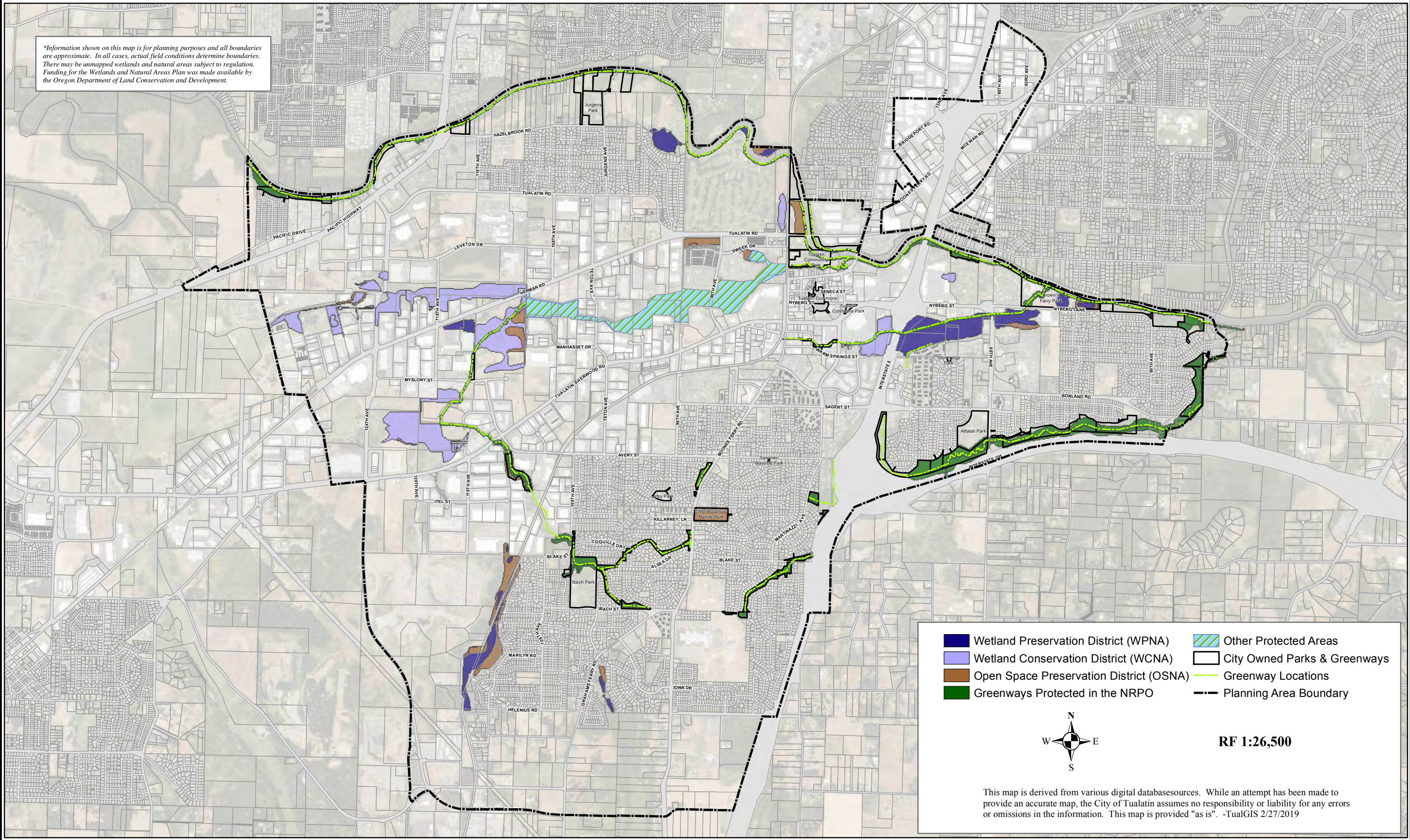
RF 1:26,500

This map is derived from various digital database sources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -IS Dept. Effective: TBD



# Map 72-1: Natural Resources Protection Overlay District (NRPO) and Greenway Locations

\*Information shown on this map is for planning purposes and all boundaries are approximate. In all cases, actual field conditions determine boundaries. There may be unmapped wetlands and natural areas subject to regulation. Funding for the Wetlands and Natural Areas Plan was made available by the Oregon Department of Land Conservation and Development.

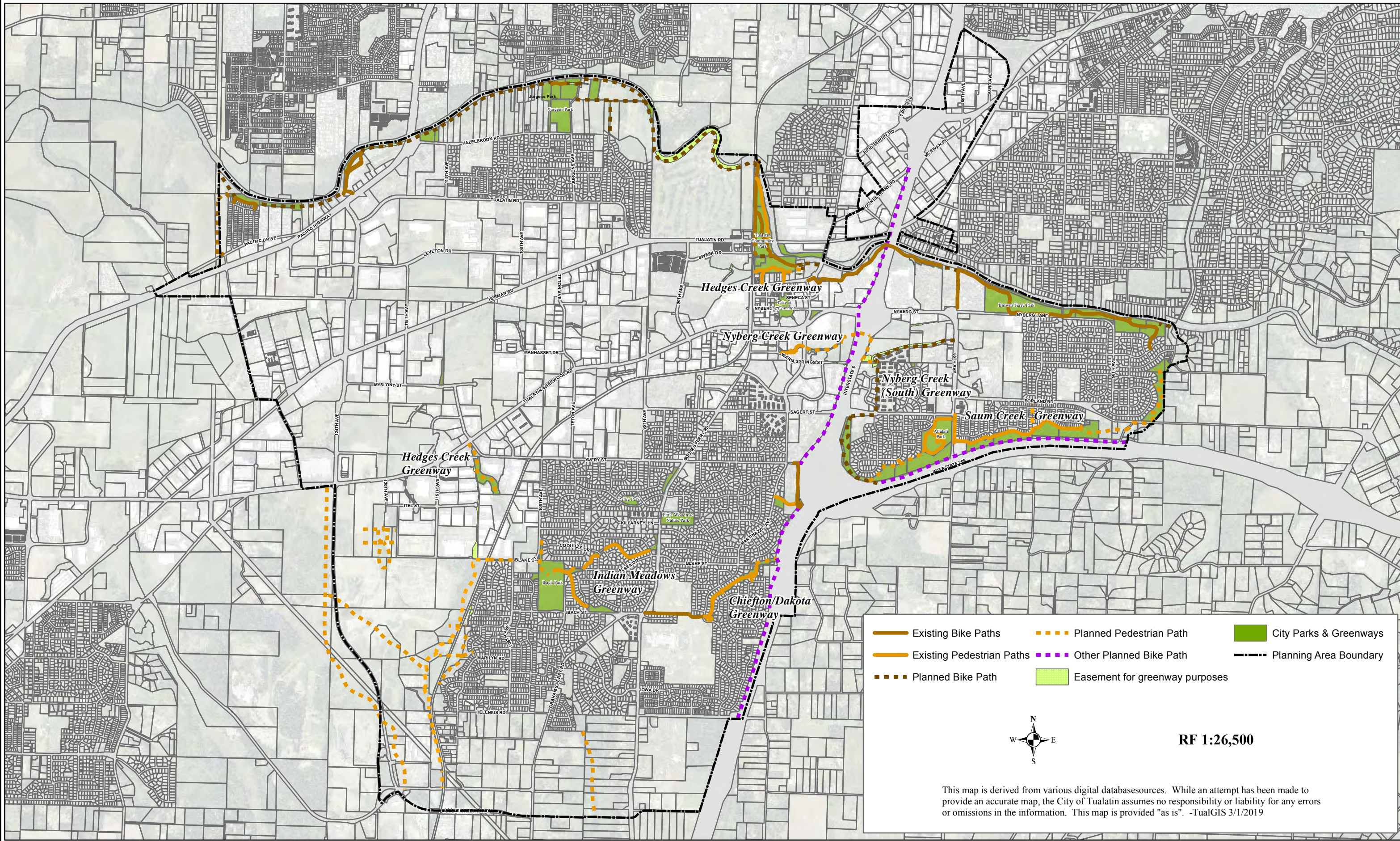


Wetland Preservation District (WPNA)	Other Protected Areas
Wetland Conservation District (WCNA)	City Owned Parks & Greenways
Open Space Preservation District (OSNA)	Greenway Locations
Greenways Protected in the NRPO	Planning Area Boundary



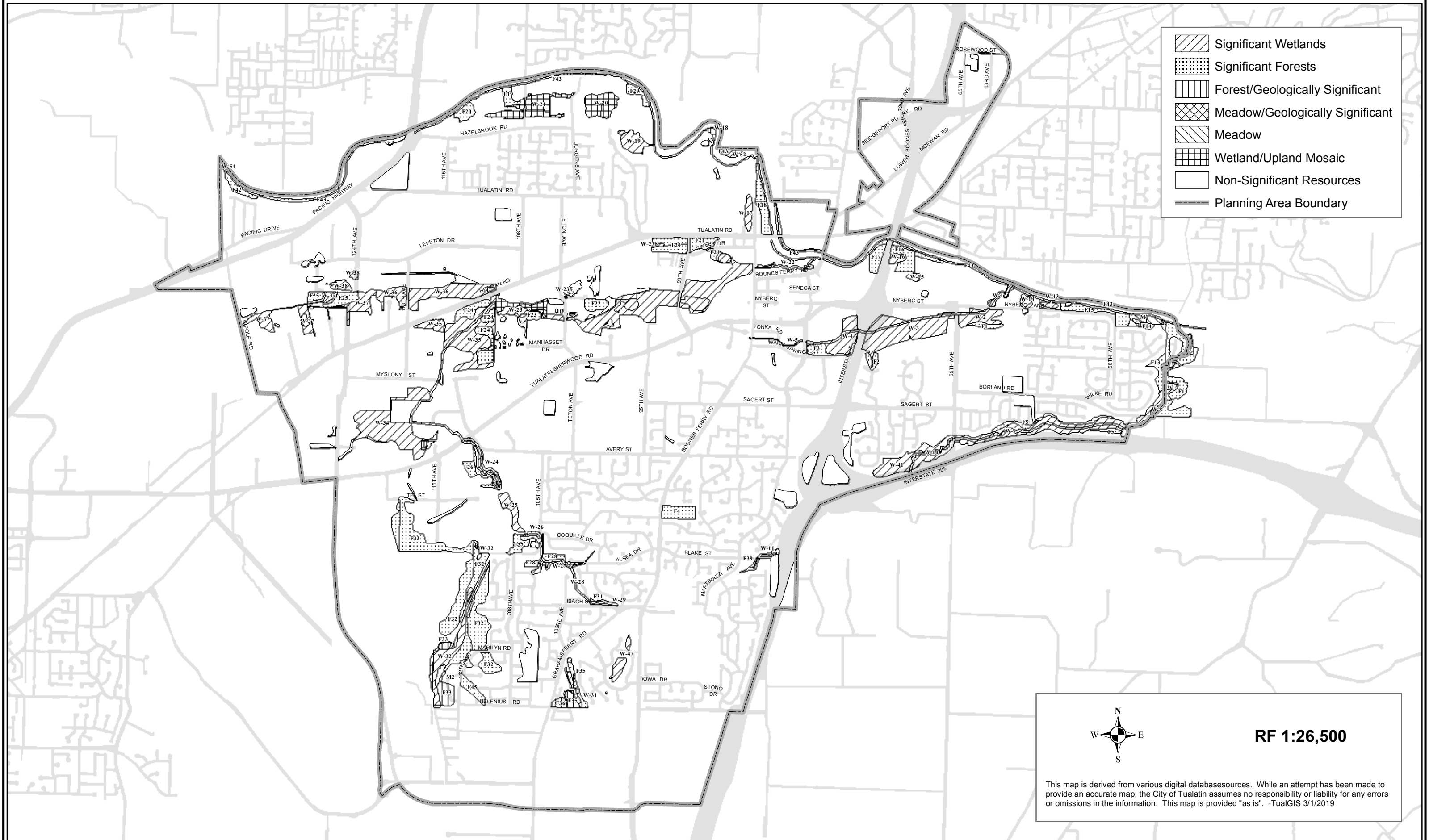
RF 1:26,500

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This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS 3/1/2019

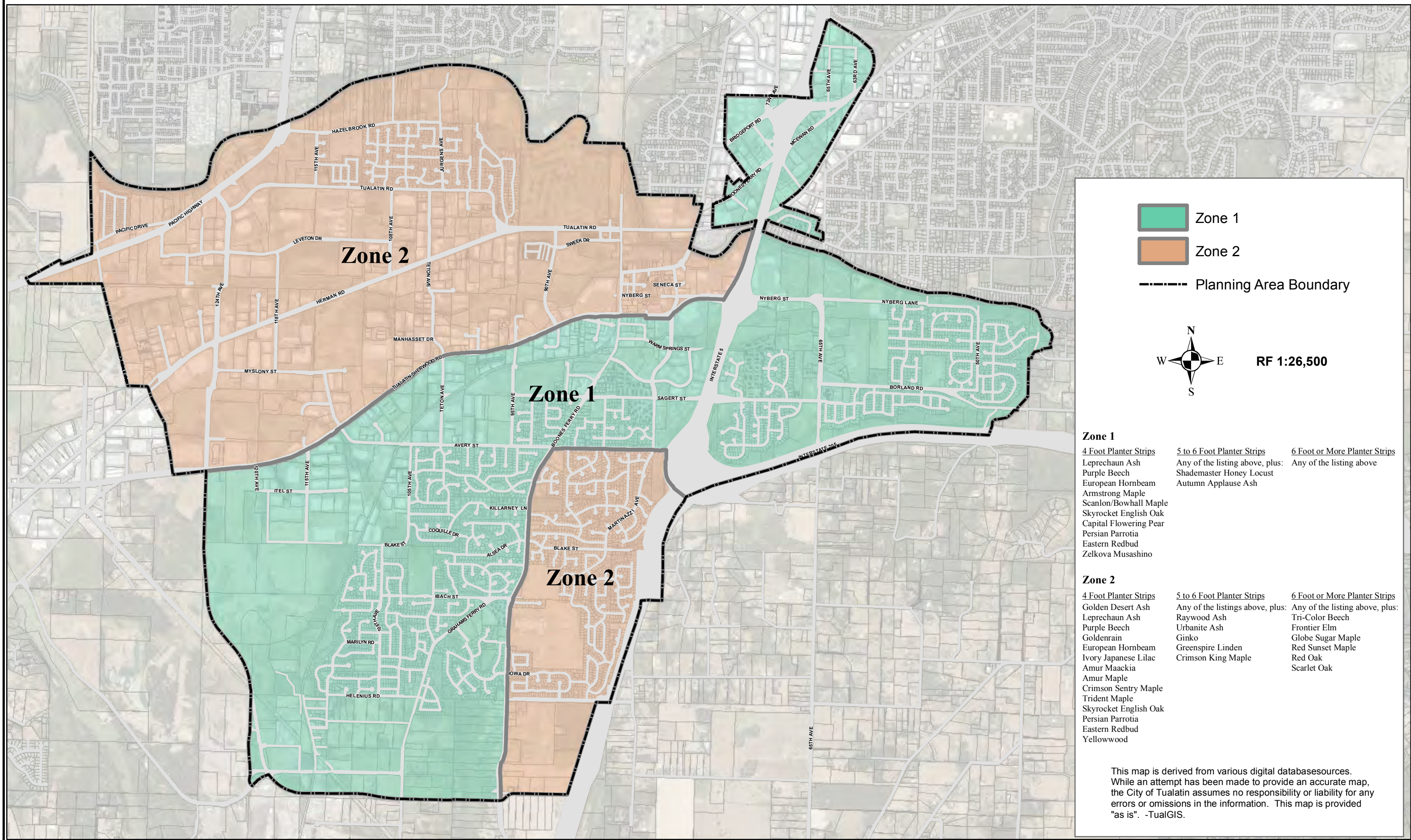
# Map 72-3: Significant Natural Resources



**RF 1:26,500**

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS 3/1/2019

# Map 74-1: Street Tree Plantings



Zone 1  
 Zone 2  
 Planning Area Boundary

**RF 1:26,500**

<b>Zone 1</b>	<b>4 Foot Planter Strips</b>	<b>5 to 6 Foot Planter Strips</b>	<b>6 Foot or More Planter Strips</b>
	Leprechaun Ash	Any of the listing above, plus:	Any of the listing above
	Purple Beech	Shademaster Honey Locust	
	European Hornbeam	Autumn Applause Ash	
	Armstrong Maple		
	Scanlon/Bowhall Maple		
	Skyrocket English Oak		
	Capital Flowering Pear		
	Persian Parrotia		
	Eastern Redbud		
	Zelkova Musashino		
<b>Zone 2</b>	<b>4 Foot Planter Strips</b>	<b>5 to 6 Foot Planter Strips</b>	<b>6 Foot or More Planter Strips</b>
	Golden Desert Ash	Any of the listings above, plus:	Any of the listing above, plus:
	Leprechaun Ash	Raywood Ash	Tri-Color Beech
	Purple Beech	Urbanite Ash	Frontier Elm
	Goldenrain	Ginko	Globe Sugar Maple
	European Hornbeam	Greenspire Linden	Red Sunset Maple
	Ivory Japanese Lilac	Crimson King Maple	Red Oak
	Amur Maackia		Scarlet Oak
	Amur Maple		
	Crimson Sentry Maple		
	Trident Maple		
	Skyrocket English Oak		
	Persian Parrotia		
	Eastern Redbud		
	Yellowwood		

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS.

# TDC Chapter 04: Community Growth

## Section 4.010 Background.

(1) It is the purpose of this chapter to portray the reasons for Tualatin's rapid economic growth; to generally define the need and proportion of specific types of land use; to define public service and natural environmental constraints to development; to describe specific growth assumptions and objectives; and to define a specific growth boundary for the City. Overall, this chapter provides a guide to how much land the City needs in what proportion, where, why and how fast.

(2) The process used to answer these questions revolves around the data developed in the Technical Memoranda. The available market data was analyzed to determine how much land for each use would be required by the year 2000 and this demand balanced against specific assumptions of land use density and proportion. At the same time, this demand was compared to natural development constraints such as agricultural soil suitability, flood plains and weak foundation soils, and to public service constraints such as the ease of serving particular parcels of land with water, sewer and road services. Also reviewed was the distribution and relationship of specific land uses to the growth assumptions and objectives described in this chapter and TDC Chapters [5](#), [6](#), [7](#) and [8](#). The analysis and balancing of all these factors, after review and revision by the citizen advisory committees, resulted in the Plan Map contained in [TDC Chapter 9](#).

## Section 4.020 The Demand for Land.

(1) Population movement to the suburbs was very strong during the 1960's and early 1970's, especially in the Tualatin area. During the period between 1960 to 1975, the average annual growth rate here was 50.2 percent, compared to 7.6 percent in the surrounding areas. Tualatin's rapid growth is attributable to several major factors:

- (a) Moratoriums and restrictive growth policies in surrounding, larger jurisdictions;
- (b) Availability of land for development in a rural area at less than normal market rates;
- (c) A build-up of industry and a need for housing; and
- (d) A municipal attitude supporting development. Though land prices are now reaching market level, the other factors are still very much in effect. In addition, new industries, the popularity of Westside living, availability of large parcels of land, and other factors further reinforce the desirability of Tualatin for development. This resulting great demand for new residential, commercial and industrial land is causing a rapid transition from rural to urban land uses in Tualatin today.

(2) Specific information regarding projected community growth was developed in the Technical Memoranda. The Memoranda made two population projections, one based on market growth and another based on an adopted growth policy. The projections show the City's expected population growth, under the two assumptions, to the year 2000 and are

shown on [Table 4-1](#) and [Figure 4-1](#). The first assumption uses a growth policy of 7.8 percent population growth annually, while the second assumption uses the economic land market to determine the expected growth within the Tualatin area.

(3) It should be noted that the City's growth will exceed the market growth predicted for 1980 based on the City's current rate of residential building permits issued. The City's December 1978 population is estimated to be 6,000 people. It should also be noted that interest groups such as the Oregon Homebuilders Association and the 1000 Friends of Oregon may oppose any type of growth restrictions on the basis of the effect of those restrictions on housing costs. The Land Conservation and Development Commission has also expressed extreme interest in any move by the City toward adoption of growth controls.

(4) Tualatin, Washington County, and regional population growth relates directly to the demand for residential, commercial and industrial land within the City's planning area. Residential land demand, in average terms, is dependent on assumed housing densities as well as population growth. Housing densities are discussed in [TDC Chapter 5](#). Commercial and industrial land needs are less dependent on density assumptions and were estimated in the Technical Memoranda as follows:

(a) Demand for commercial land:

Growth policy - 17.2 acres in year 2000

Market growth - 30.4 acres in year 2000

(b) Demand for industrial land:

9 to 11 acres per year

210 to 250 total acres in year 2000

(c) If the demand for the three major land use types is compared to the existing land available (see [Table 3-3](#)), it becomes apparent that there is sufficient land for commercial and industrial uses, but insufficient land for residential uses within the City limits.

**Table 4-1**  
**Projected Growth Assumptions**

		GROWTH POLICY		MARKET TREND		
Year	Number	Average Annual Percent Growth	Average Annual Population Growth	Number	Average Annual Percent Growth	Average Annual Population Growth
1970	750	-	-	750	-	-
1975	3,241	55.4%	415	3,241	55.4%	415

1980	4,760	7.8%	253	6,390	16.2%	525
1985	7,000	7.8%	373	10,990	12.0%	767
1990	10,280	7.8%	547	16,270	8.0%	880
1995	15,100	7.8%	803	22,615	6.5%	1,058
2000	22,180	7.8%	1,180	28,721	4.5%	1,018

**Section 4.030 Buildable Lands - Development Constraints.**

(1) This section describes those areas of the planning area vacant and available for new development that are easily served by public services and are not adversely affected by natural hazards. This information is depicted on the Buildable Lands - Development Constraints Map, which summarizes the following overlays that were developed for the Phase I - Technical Memoranda Buildable Land Inventory.

- (a) Slopes Analysis
- (b) Water Areas and Wetlands
- (c) Existing Land Use
- (d) Water Service Areas
- (e) Sewer Service Areas

Table 4-2 of this Plan describes the actual acreage figures derived from the Buildable Land Inventory.

(2) One development constraint not easily portrayed graphically is traffic congestion. The Tualatin area will likely be dependent upon the automobile as its major form of transportation in the year 2000. A traffic analysis of various growth alternatives was conducted as a part of the planning process, and the analysis indicated that the City could not accommodate all the traffic generated by full development of the planning area, particularly in the Nyberg Street Corridor connecting to the interstate freeways.

**Table 4-2  
Buildable Land Inventory**

Item	Approximate Acreage		
	Within City	Outside City Within Study Area	Total

A. Present Urbanized Land	1,027.08	431.98	1,459.06
B. Non-Urbanized Land	1,214.02	2,3471.31	3,555.33
C. Total Acreage	2,241.10	2,773.29	5,014.39
D. Non-buildable Land			
1. Areas with slopes greater than 20%	47.54	123.99	171.53
2. Areas in 100-year flood plain	221.20	146.28	367.48
3. Areas in wetlands (not included above)	80.29	56.51	136.80
4. Areas not served without sewer line extensions in excess of 10,000 feet (not included in above)	.00	721.77	721.77
5. Areas not served without water main extension of 5,2000 feet (not included in above)	.00	417.04	417.04
6. Soils - does not apply	-	-	-
7. Geology - does not apply	-	-	-
8. Elevation - does not apply	-	-	-
9. Public Lands - included in 40% non-residential land	-	-	-
10. Private Institutional Lands - included in 40% non-residential land	-	-	-
11. Other Private Lands - included in 40% non-residential land	-	-	-



12. Passed-Over Land - does not apply	-	-	-
13. Zoning - does not apply	-	-	-
<b>Total</b>	349.03	1,465.59	1,814.62
E. Buildable Land (B minus D)	864.99	875.72	1,740.71
F. Assumed Land for Non-Residential Purposes @ 40% (.40 times E)	345.99	350.29	696.28
G. Buildable Land for Residential Purposes (E minus F)	519.00	525.43	1,044.43

#### Section 4.040 General Growth Assumptions.

To begin the composition of a planning map, certain assumptions must be made, based on available data. The following are the general growth assumptions used to develop this Plan, based on the data generated in the Phase I - Technical Memoranda:

- (1) The approximate proportion of residential land to commercial and industrial land should be 60 percent residential and 40 percent commercial and industrial.
- (2) A portion of buildable land within the City will be unavailable for development (i.e., not available for sale). In 1985, 25 percent of the land will not be available for development because of owners' holdings, but this is estimated to decrease to 10 per-cent by the year 2000.
- (3) A portion of the planning area will not be available for development because of natural hazards such as flooding and the need to preserve natural areas such as wetlands, river and streambanks.
- (4) A portion of the planning area will not be available for development because of the need to provide corridors for roads and utilities.
- (5) Traffic congestion and the ease of providing water and sewer services will constrain the amount and direction of growth within the planning area.
- (6) There is a need for land in the planning area to provide for a population in the year 2000 of between 22,000 and 29,000 people, depending on the adoption of a controlled growth program and future density assumptions made in subsequent Plan revisions. Adoption of a controlled growth program will be difficult to achieve because of interest groups and state agency opposition.
- (7) There will be a solution to Tualatin's flood problem that will create additional buildable land at an indefinite time before the year 2000.

(8) Existing land use will necessarily be a strong locational influence on the land use map to avoid future land use conflicts.

(9) There is no need to expand the City's area to provide additional land for new commercial and industrial development.

(10) The amount and location of additional residential development will be based on the objectives and density assumptions described by [TDC Chapter 5](#).

#### **Section 4.050 General Growth Objectives.**

The following are general objectives used as a guide to formulate the Plan. The objectives are positive statements to de-cribe the Plan's intent to:

(1) Provide a plan that will accommodate a population range of 22,000 to 29,000 people.

(2) Cooperate with the Metropolitan Service District to reach regional consensus on population growth projections within the Tualatin area.

(3) Conform to Metropolitan Service District (Metro) procedures for initiating amendments to the Metro Urban Growth Boundary.

(4) Provide a plan that will create an environment for the orderly and efficient transition from rural to urban land uses.

(5) Convert agricultural land only if needed for urban uses.

(6) Arrange the various land uses so as to minimize land use conflicts and maximize the use of public facilities as growth occurs.

(7) Prepare a balanced plan meeting, as closely as possible, the specific objectives and assumptions of each individual plan element.

(8) Define the urban growth boundary.

(9) Prepare a plan providing a variety of living and working environments.

(10) Encourage the highest quality physical design for future development.

(11) Coordinate development plans with regional, state, and federal agencies to as-sure consistency with statutes, rules, and standards concerning air, noise, water quality, and solid waste. Cooperate with the U.S. Fish and Wildlife Service to minimize adverse impacts to the Tualatin River National Wildlife Refuge from development in adjacent areas of Tualatin.

(12) Adopt measures protecting life and property from natural hazards such as flooding, high groundwater, weak foundation soils and steep slopes.

(13) Develop regulations to control sedimentation of creeks and streams caused by erosion during development of property.

(14) Develop a separate growth program that controls the rate of community growth and is acceptable to the Land Conservation and Development Commission.

(15) Arrange the various land uses in a manner that is energy efficient.

(16) Encourage energy conservation by arranging land uses in a manner compatible with public transportation objectives.

(17) Maintain for as long a period as possible a physical separation of non-urban land around the City so as to maintain its physical and emotional identity within urban areas of the region.

(18) Fully develop the industrial area located in Washington County west of the City only when adequate transportation facilities are available and the area has been annexed to the City and served with water and sewer services.

(19) Cooperate with Washington County to study the methods available for providing transportation, water and sewer service to the industrial area west of the City, designating this area as a special study area.

(20) Initiate annexation of property within the Urban Growth Boundary planned for residential development only when petitioned to do so by owners of the affected property, including cases involving unincorporated "islands" of property surrounded by land annexed previously.

(21) Territories to be annexed shall be in the Metro Urban Growth Boundary.

(22) Address [Metro's Urban Growth Management Functional Plan, Title 13](#), Nature in Neighborhoods, through the conservation, protection and restoration of fish and wildlife habitat, including Metro's Regionally Significant Fish and Wildlife Habitat, through the Tualatin Basin Natural Resource Coordinating Committee and the Tualatin Basin Program.

(a) Support and implement the elements of the Tualatin Basin Program to:

(i) Develop and adopt local policies and regulations to implement the provisions of the Tualatin Basin Program.

(ii) Adopt low impact development (LID) provisions to reduce environmental impacts of new development and remove barriers to their utilization.

(iii) Coordinate with Clean Water Services (CWS) to implement their Healthy Streams Action Plan and other programs such as their Stormwater Management Plan and Design and Construction Standards.

(iv) Coordinate with CWS, Metro and others to develop and support the funding, voluntary and educational components of the Tualatin Basin Program.

(v) Coordinate with CWS, Metro and others to develop and support the monitoring and adaptive management components of the Tualatin Basin Program.

(b) Continue active participation in the Tualatin Basin Natural Resources Coordinating Committee and the Steering Committee to support and implement the Tualatin Basin Program.

(c) Coordinate with CWS and Metro to update Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map. Changes to the Inventory Map will be on-going as on-site inventories are conducted as part of private and public construction projects.

(d) Support and implement provisions allowing public access to planned public facilities. [Ord. 610-83, 11/15/83; Ord. 937-95, §2, 1/9/95; Ord. 1146-03, 7/28/03; Ord. 1224-06, 11/13/06]

#### **Section 4.060 Urban Growth Boundary.**

(1) A long-range growth boundary is necessary to predict the amount and location of urban land needed in the future. The establishment of this boundary provides a framework for the orderly conversion of rural land to urban uses. The growth boundary establishes the City's intent to annex and provide urban services to specific properties over a specific period of time. Thus, the growth boundary establishes the basis of a City annexation policy and provides landowners with some assurance as to the City's intent for the future uses of their land.

(2) This boundary was first established through a cooperative intergovernmental process established by the Columbia Region Association of Governments in 1976. The boundary is a line establishing the limits of urban and agricultural use within the metropolitan Portland area.

(3) The Urban Growth Boundary is defined by applying the following criteria to the data developed by the Phase I - Technical Memoranda.

(a) Land needed to accommodate urban growth to the year 2000 using the assumption of this Plan:

(i) Urban land needs criteria.

(b) Agricultural land as defined by Statewide Goal 3 must conform to one of the following categories:

(i) Land developed for nonagricultural purposes.

(ii) Land irrevocably committed to nonfarm use.

(iii) Land justified under exception procedures of Statewide Goal 2.

(c) Urban Growth Boundary feature determinants are as follows and shall be used whenever possible:

- (i) Creeks with narrow flood plains, due to their barrier effect and definability.
- (ii) The edge of a wide flood plain, due to its limiting effect on urban land use. This criterion may be unsuitable if the flood plain is in agricultural use.
- (iii) Railroad tracks, due to their barrier effect, especially where road or highway crossings are involved.
- (iv) Power lines or easements due to their definability.
- (v) Roads due to their definability and barrier effect, but unsuitable with respect to service provision.
- (vi) Rear property lines, due to their definability and service provision.

#### **Section 4.065 Requirements.**

(1) Metro Code Urban Growth Management Functional Plan (MUGMFP) Section 3.07.1120 requires the City to adopt comprehensive plan provisions and land use regulations for areas added to the Urban Growth Boundary (UGB) that are identified as the responsibility of the City. The adopted plan provisions and regulations are to address the requirements of Section 3.07.1120(c).

(2) In December, 2002 (Metro Ordinances No. 02-969B & 02-990A (and June, 2004 (Metro No. 04-1040B) Metro expanded the UGB to include 382 acres of land in the southwestern corner of Tualatin. Of this area, 302 acres were designated as Regionally Significant Industrial Area (RSIA) and the remaining acreage was designated as Industrial. Specific conditions were placed by Metro relating to compliance with MUGMFP Titles 3, 4, & 11, lot sizes, and commercial restrictions. The Southwest Tualatin Concept Plan (SWCP) area was accepted by the City in October, 2010, encompassed the 382 acres added to the UGB in 2002 and 2004, a 50 acre property within the Tualatin Planning Area, 117 acres identified in Metro's 2010 Urban Reserve process as the "Knife River Area" and 66 acres south of Tonquin Road east of the railroad brought into the UGB in 2004.

(3) In March 2011, Plan Amendments implementing the SWCP for the 431 acre Southwest and Regionally Significant Industrial Area portion of the SWCP Area were approved by the City Council. The amendments were not applied to the 117.5 acre "Urban Reserve" designated by Metro and the 65.5 acre "Basalt Creek" area to be considered in the Basalt Creek Concept Plan.

**(4) In April 2019, Plan Amendments implementing the Basalt Creek Concept Plan were adopted by the City Council. The Concept plan included a 330-acre buildable area south of Tualatin (the entire Concept Plan is 330 buildable acres, 194.23 buildable acres of which are within the Tualatin UGB).**

**Section 4.070 Urban Reserve Plans.**

(1) The Metropolitan Service District (Metro) Code requires the Urban Reserve Plans for Urban Reserve Areas to be adopted as a component of the comprehensive plan of the city to which the Urban Reserve Area will be annexed.

(2) The Urban Reserve Plan for Urban Reserve Area 43 (SE corner of Grahams Ferry Road and Helenius Road; 23000 Block of Grahams Ferry Road; 2S1 35CB, Tax Lot 100) prepared by Matrix Development and dated October 27, 1998, is incorporated as a separate document into the Tualatin Development Code. Although the Urban Reserve Plan was developed in 1998 to meet the Metro Code requirements for Urban Reserve Plans and it was known the property was considered a site for residential development, the specific type of development was not known. Development of the property need not be in conformance with the Urban Reserve Plan. The property can be used for any of the permitted out-right or conditional uses allowed in the planning district applied to it. Once annexed to the City of Tualatin, development of the property shall be in conformance with the applicable City standards, and other applicable standards, for the type of development proposed. [Ord. 1051-00 §1, 3/13/00]

## TDC Chapter 07: Manufacturing Planning Districts

### Section 7.010 Background.

(1) Tualatin's relationship to road and rail access has provided a favorable environment for industrial development. The City's industrial area is bisected by two rail-roads, the Burlington Northern and the Southern Pacific, and is served by the Interstate 5 Freeway which, in turn, provides access to the Interstate 205 Freeway and the State Highway 217 Expressway. These transportation facilities provide good multi-mode access to the whole of the Portland Metropolitan Area, the Willamette Valley, and to national markets. Because the area has good access to the transportation system, large areas of land have been zoned for industrial use, both in the City and west of the City in Washington County.

(2) Most of the existing industrial land use in the Tualatin area is located between or adjacent to the Burlington Northern and Southern Pacific rail lines. Smaller pockets of industrial land occur immediately north of downtown Tualatin and in the vicinity of the Lower Boones Ferry Road/Interstate 5 Freeway interchange. The amount of land zoned for industrial use is substantial. The amount actually used is small. Data developed in the Phase I - Technical Memoranda, together with supplementary information developed by the City's economic consultants, indicate that the Portland region annually absorbs 240 acres and Tualatin can be expected to utilize 9 to 15 acres of industrial land per year. There are 1,975 acres of industrially zoned land within the Tualatin Study Area, and 304 acres are currently being used. The City contains 650 acres of industrially zoned land, with 577 of those acres now vacant. While some of Tualatin's industrially zoned land is poorly drained or has weak foundation soils, the majority of the industrially zoned land is either buildable or can be made buildable. Subtracting existing industrial uses and the worst-drained areas, the City has approximately 450 acres of vacant industrial land within its City limits. While this industrial land supply exceeds that needed to meet the City's needs for the year 2000, few land parcels that were originally planned for industrial use were converted to other uses in the Plan. This was because industries that owned the land were committed to future development of their particular sites, and because most of the area is impacted by existing scattered industrial development. Additionally, the City wishes to maximize industrial development within the City to produce revenue for public amenities in the City. A surplus of additional industrial land will help to maintain Tualatin's competitiveness in the industrial land market.

(3) The existing scattered distribution of industrial uses is a problem because it restricts choice of land use alternatives and makes it expensive to provide appropriate urban services such as public water and sewer service and fire protection. Consequently, this Plan emphasizes the short-term concentration of industrial development within the City limits.

(4) Industrial development in Washington County will affect Tualatin's industrial future. This area west of the City now contains scattered industrial development with-out public water or sewer services and minimum fire protection. While current County zoning allows only uses that have a mini-mum capital equipment investment and are not labor-

intensive, the amount of industrially zoned land exceeds 1,000 acres, and the aggregate effect on traffic could impact the development of industrial land within the City. This is because most traffic traveling to and from this outlying industrial area must pass through the City's Nyberg Street/Tualatin-Sherwood Road corridor to reach the region's freeway system. As stated in the Transportation Plan, additional transportation access must be developed to minimize the effect of industrial development west of Tualatin. The proposed I-5/Norwood Road interchange would help to alleviate a portion of this problem. Additionally, it is anticipated that, because land values for land without standard urban public services are approximately 1/2 those values inside the City, there will be pressure to develop inexpensive County land before land in the City. More industrial growth west of the City could eventually place the City's roadway system at capacity before it has developed its proportionate share of industrial land, thus making it difficult to develop the remainder of the City's industrial land. In other words, the continued availability of inexpensive County industrial land could place City industrial land at a competitive disadvantage in the industrial land marketplace.

(5) Despite the problems described above, it is expected that lower-intensity industrial growth will continue to occur in Washington County west of the City, and that there will be increasing pressure to convert this land to full industrial development. Consequently, this area is eventually expected to become a part of the City of Tualatin, if the problems of transportation access can be solved. Consequently, it is an objective of this Plan to study methods of eventually accommodating, within the City, the industrial growth that is expected to occur in this area.

(6) Specific problems related to the development of land inside the City include poor drainage, poor north/south roadway access, lack of sewer and water services, and noise and other environmental problems. The central portion of the industrial area between Herman and Tualatin/Sherwood Roads is poorly drained and contains the Hedges Creek Marsh, the largest wetland area in Washington County. The Plan proposes the preservation of a portion of this approximately 80-acre natural area and anticipates the definition of an area surrounding the Marsh in which industrial development would be allowed. Currently, industrial traffic in Tualatin's central industrial area must travel long distances through downtown or on Cipole Road to travel from southern to northern industrial areas. As many local industries utilize each others' services, it is inconvenient and uneconomic to continue this arrangement of roadways. Consequently, the Transportation Plan proposes a new north-south roadway through the central industrial area in the 102nd - 104th corridor. Lack of sewer services in the northwestern portion of the City's main industrial area also has been a handicap to industrial development. Two newly formed local improvement districts, one for new roadway, sewer and water improvements in the 102nd - 104th corridor, and one for a major interceptor sewer paralleling Tualatin and Herman Roads, have been implemented to solve the major utility and traffic circulation problems in the industrial area. Industrial noise and odors have already begun to affect adjacent residential areas. One of the objectives of this Plan element and other elements is to develop specific and enforceable design standards that minimize future environmental conflicts between industrial, commercial and residential land uses.



(7) One of the most efficient methods of minimizing industrial impacts on commercial and residential uses is to restrict the types and location of uses that are allowed in the City's industrial districts. The types of industrial uses contemplated by the Plan eliminate those uses which are considered most obnoxious, such as creosote treatment of products, manufacture of harmful chemicals, forge plants, and auto wrecking. Uses that are allowed will be in the medium-to-light intensity range, although they will be specifically referred to as "light" and "general" for ease of understanding. The light industrial uses are arranged in the Plan to be adjacent to residential areas to minimize environmental conflicts as much as possible. Because industrial processes change rapidly due to new technology, it is also intended that some industrial uses proposed in the general use category may be appropriate in a lighter use area, if properly designed to mitigate adverse environmental impacts.

(8) While most of Tualatin's industrial land is located between Tualatin Road and Avery Street in the western portion of the City, there are small amounts of industrial land located in the northern portion of the City and lying on either side of the Lower Boones Ferry Road/ Interstate 5 Freeway interchange. The Plan has maintained, as industrial use, those areas that are now committed to industrial development. However, some land previously zoned industrial has been converted to a commercial designation because of the residential character of the area and proximity to the freeway. The industrial land in this area is designated on the Plan as light industrial because of the area's proximity to commercial and residential areas.

(9) In December 2002 METRO expanded the Urban Growth Boundary adding land west of Cipole Road and south of the north right-of-way line of SW Pacific High-way for industrial development to assist in meeting the overall regional need for a 20-year supply of industrial land.

(10) In December 2002 and June 2004 Metro expanded the Urban Growth Boundary to include 382 acres of land south of SW Tualatin Sherwood Road in the area east of a future 124th Avenue. 302 acres of this area were designated by Metro as Regionally Significant Industrial Area (RSIA) and the remaining acreage was designated Industrial. The area was addressed in the Southwest Tualatin Concept Plan and was accepted by the City in October 2010. [Ord. 1191-05; 6/27/05; Ord. 1321-11 §5, 4/25/11]

**(11) In 2004, METRO expanded the Urban Growth Boundary to include the Basalt Creek Planning Area. The portion of this area within the City Urban Planning Area is generally south of SW Norwood Road and SW Helenius Street, east of 124<sup>th</sup> Avenue, west of I-5, and north of Basalt Creek Parkway. This area was addressed in the Basalt Creek Concept Plan and was accepted by the City in August 2018.**

### **Section 7.015 Manufacturing Planning Area Overview.**

This section describes the history and nature of the Manufacturing Planning Area.

(1) The Industrial Planning Area is located in the southeastern portion of Washington County and immediately west of the developed portion of the City of Tualatin. It is within

the Urban Growth Boundary and was annexed to Tualatin in November, 1982, except for a few individual parcels.

(2) The Industrial Planning Area is served by Pacific Highway (Highway 99W) as a direct route to Portland. It also is tied directly by Tualatin-Sherwood Road, and indirectly by Tualatin Road and Herman Road, to Interstate 5 with direct ties to the east via Interstate 205. It is crossed by Southern Pacific and Burlington Northern railroad lines.

(3) The area lies in the relatively flat lowlands of the Tualatin Valley, with farmland scattered throughout. Although the area is currently rural and suburban in nature, increasing pressure for development is occurring. This is noted by the construction of several new industrial uses within the planning area during the last 10 years and the rapid growth of industrial use in the western portions of the City.

(4) The first settlement in the area was established in the mid-1800's. By the 1850's, all the land along the Tualatin River bank had been claimed and settlement began in earnest. The Technical Memoranda of The Tualatin Development Code provides a more detailed history of the City and its surrounding area.

(5) The Industrial Planning Area encompasses approximately 1,096 acres. Coupled with the industrial land that was already in the western portion of the City, the total Western Industrial District has 1,775 acres of land.

(6) The Tualatin area has experienced tremendous growth in the last decade. Population increased rapidly due to several factors, including land availability and buildup of employment opportunities through industrial development.

(7) The economy of the planning area is tied directly to that of Washington County and the Portland metropolitan area. At this time only 12 percent of Tualatin residents work in the City, while approximately 75 percent of the employees within the community live outside. Again, the City has determined that it is a community goal to expand as a regional employment center, increasing its percentage of total jobs in the region, and at the same time, providing additional residential and commercial opportunities so that more people can both live and work in Tualatin. [Ord. 592-83, §29, 6/13/83. Ord. 1026-99, §6, 8/9/99]

### **Section 7.016 Planning Context.**

This section describes the legal and political context for the planning work leading to the adoption of the Industrial Planning Area Plan Amendment.

(1) Introduction. The preparation of the West Tualatin Industrial Planning Area Plan Amendment is not an isolated planning effort. There are many other policies on the local, regional and state level that provide the framework for this planning effort.

(2) Local Plans. Of primary importance is the City's comprehensive plan, the Tualatin Community Plan. This plan amendment must be set in a direction that complies with and helps to implement the goals, policies and objectives of that document. Since the plan was adopted on October 22, 1979, the City has continued to experience a high rate of growth

and has maintained an aggressive posture toward economic development. The addition of these industrial lands to the City is a direct result of the Goals and Objectives of the Plan. This amendment is designed to continue the advances that the Plan charted and the City has followed.

(3) Regional Plans.

(a) The Industrial Planning Area and the entire City are part of the Metropolitan Service District (METRO), a regional government with jurisdiction for the urban portion of the tri-county metropolitan area. METRO is authorized by state law (ORS 197) to: 1) establish regional planning goals; 2) develop various functional plans for the district concerning housing, transportation, solid waste, drainage, and other region-wide issues; and 3) ensure that member jurisdictions conform to any regional planning elements which have been adopted by the METRO Council.

(b) METRO is responsible, specifically, for regional transportation planning and for defining and maintaining a regional Urban Growth Boundary (UGB). The UGB essentially delineates urban lands from rural and natural resource lands. Designed to include those lands needed to accommodate growth to the year 2000, the UGB must be respected and supported by METRO counties and cities in order for their comprehensive plans to achieve compliance with LCDC Goal 14 - Urbanization. The UGB forms the southwest boundary of the Industrial Planning Area.

(c) Another regional planning effort that helps define this plan amendment is the work of Washington County embodied in the Comprehensive Framework Plan. This plan "allocates" the growth anticipated within the County to various geographic areas. This growth, in terms of both resident population and employment, was "assigned" on the basis of land availability, opportunities for economic development, transportation and utility availability, and other locational factors. The City will use these allocations as one of the bases for developing this plan amendment.

(d) In order to require and maintain effective coordination between Washington County and its various cities, including Tualatin, Urban Planning Area Agreements (UPAAs) have been drawn up. These identify areas of mutual planning interest and establish procedures allowing the cities and the County to exchange information and comments on development and to coordinate planning for development in these areas.

(4) Statewide Planning Goals. Finally, at the State level, are the Statewide Planning Goals and Guidelines adopted by the Land Conservation and Development Commission (LCDC). The comprehensive plans of all cities and counties in the state must be directed towards meeting the goals. This amendment will address each of these goals as appropriate. However, it is not organized goal by goal, rather, it follows the format of the existing Community Plan and will deal with each goal in that framework. The Goals include:

- (a) Citizen Involvement
- (b) Land Use Planning
- (c) Agricultural Lands
- (d) Forest Lands
- (e) Open Spaces, Scenic and Historic Areas, and Natural Resources
- (f) Air, Land and Water Resources Quality
- (g) Areas Subject to Natural Disasters and Hazards
- (h) Recreation
- (i) Economy of the State
- (j) Housing
- (k) Public Facilities & Services
- (l) Transportation
- (m) Energy Conservation
- (n) Urbanization [Ord. 592-83, §30, 6/13/83]

**Section 7.017 Planning Concept for the Manufacturing Planning Area.**

This section describes the general intentions or concept for the Manufacturing Planning Area Plan:

(1) Land Use Pattern.

(a) Washington County has been working for many years in determining appropriate locations and configurations for various land uses throughout the County. The basic concept decisions have involved the major delineation between rural and urban land uses, and the appropriate locations for the various urban uses. These concepts, which are included in the Comprehensive Framework Plan, are based on professional analysis and input from a series of public hearings held in the fall of 1981. The conclusions for the basic concept all indicated that industrial development was and continues to be the most appropriate land use for the study area.

(b) With the annexation of the Industrial Planning Area to the City of Tualatin, the responsibility for determining this planning concept has shifted from the County to the City. However, Tualatin has determined that the County's basic analysis and conclusions are sound, and will continue to support and plan for future industrial use in this area. This is recognized as being totally in compliance with the City's goal of

becoming a major employment center, and forms a natural extension of the existing industrial areas bordering the western edge of the former City limits.

(2) Housing and Employment Allocations

(a) Allocations of new housing units and employment opportunities in terms of residential, commercial and industrial acreage have been made for each community planning area within the entire METRO UGB by METRO with the cooperation of each local government. This distribution of potential growth is necessary to show how future growth can be made compatible with the development concept and consistent with state, regional, and local plans and regulations.

(b) These area allocations together reflect the total County's share of the regional growth estimated for the year 2000 and beyond. For the existing unincorporated area of the County within the UGB (i.e., all land inside the UGB but outside the City limits of all cities in the county) approximately 90,000 additional people, 39,500 new homes, and 38,800 new jobs are expected by the year 2000. This allocation applies to the incorporated study area as it was prepared prior to the annexation.

(c) The Tualatin Development Code contains population projections that formed a basis of that planning effort and are also used in this process.

Those projections indicated that, if market trends are followed, the City of Tualatin will have a population of 28,721 by the year 2000, or an increase of 22,331 from the year 1980. This indicates that the City, meaning all lands within the total planning area, will absorb 24.8% of the growth that is projected for the unincorporated portions of the County within the UGB.

(d) The growth allocations are basically intended to be a planning tool that assures that the projected growth is accommodated in a manner that provides for adequate housing, public facilities and services and employment opportunities, "spreading" the need to absorb this growth fairly throughout the metropolitan area. Every jurisdiction has a legal responsibility to allocate enough land to meet the projected needs. Each community is to designate land in various use categories to accommodate the acreage totals assigned to it by METRO for a variety of housing densities and employment opportunities.

(e) In order to help assure that the rapidly changing needs for housing options were being met, the LCDC adopted an administrative rule setting certain "standards" for planning for new housing within the Portland metropolitan area, (known as the Metro Housing Rule). The City must provide the opportunity for a new residential construction mix of 50% detached units to 50% attached units. In addition, the housing rule established an average residential density target for new construction of at least 8 units per net buildable [acre].

(f) The County draft of the plan for the study area included an allocation of 8,372 new employees. This is distributed mostly at a density of five employees per acre. The City finds that this density projection is extremely low based on the

current pattern in the area which is approximately 15 employees per acre. With the acreage available, the transportation and utility facilities available, and the very supportive attitude of the City, industrial land uses are anticipated that will generate three or more times the number of employees within the industrial planning area within the planning period.

(g) Therefore, the City recognizes the employment allocations of the County, but, finding them too small, will not be bound by them in planning for the industrial area or in encouraging and fostering economic development. [Ord. 592-83, §31, 6/13/83; Ord. 1026-99, §7, 8/9/99]

### **Section 7.020 Assumptions.**

The following are general assumptions used to formulate the Plan:

- (1) The City can be expected to use a minimum of 25 acres of industrial land annually.
- (2) Traffic access and sewer and water service problems associated with the Western Industrial District will be remedied as the area is developed. [Ord. 592-83, §32, 6/13/83]

### **Section 7.030 Objectives.**

The following are general objectives used to guide development of the Plan and that should guide implementation of the Plan's recommendations:

- (1) Encourage new industrial development.
- (2) Provide increased local employment opportunity, moving from 12 percent local employment to 25 percent, while at the same time making the City, and in particular the Western Industrial District, a major regional employment center.
- (3) Improve the financial capability of the City, through an increase in the tax base and the use of creative financing tools.
- (4) Preserve and protect, with limited exceptions, the City's existing industrial land.
- (5) Cooperate with Washington County, METRO, and the State of Oregon to study the methods available for providing transportation, water, and sewer services to the Western Industrial District.
- (6) Fully develop the Western Industrial District and the Southwest Tualatin Concept Plan Area (SWCP), providing full transportation, sewer, and water services prior to or as development occurs.
- (7) Improve traffic access to the Western Industrial District and SWCP area from the Interstate 5 freeway and State Highway 99W through regional improvements identified in the 2035 Regional Transportation Plan.
- (8) Cooperate with the Department of Environmental Quality and METRO to meet applicable air quality standards by 1987.

- (9) Construct a north/south major arterial street between Tualatin Road and Tualatin-Sherwood Road and SW Tonquin Road in the 124th Avenue alignment to serve the industrial area.
- (10) Rebuild the Tualatin Road/Pacific Highway intersection to allow for substantially greater traffic flows.
- (11) Provide truck routes for industrial traffic that provide for efficient movement of goods while protecting the quality of residential areas.
- (12) Protect residential, commercial, and sensitive industrial uses from the adverse environmental impacts of industrial use.
- (13) Protect adjacent land uses from noise impacts by adopting industrial noise standards.
- (14) Continue to protect the Hedges Creek Wetland and Tonquin Scablands from adverse impacts of adjacent development.
- (15) Continue to administer specific and enforceable architectural and landscape design standards for industrial development.
- (16) Encourage industrial firms to use co-generation as a means to utilize waste heat from industrial processes and consider solar access when designing industrial facilities.
- (17) Protect wooded areas identified on the Natural Features Map found in the Technical Memorandum by requiring their preservation in a natural state or by integrating the major trees into the design of the parking lots, buildings, or more formal landscaping areas of an industrial development. If it is necessary to remove a portion or all of the trees, the replacement landscape features shall be subject to approval through the Architectural Review process. [Ord. 592-83, 6/13/83; Ord. 1212-06, 6/26/06; Ord. 1321-11 §6, 04/25/11]

#### **Section 7.040 Manufacturing Planning District Objectives.**

This section describes the purpose of each manufacturing planning district.

- (1) Manufacturing Park Planning District (MP).
  - (a) The purpose of this district is to provide an environment exclusively for and conducive to the development and protection of modern, large-scale specialized manufacturing and related uses and research facilities. Such permitted uses shall not cause objectionable noise, smoke, odor, dust, noxious gases, vibration, glare, heat, fire hazard or other wastes emanating from the property. The district is to provide for an esthetically attractive working environment with park or campus-like grounds, attractive buildings, ample employee parking and other amenities appropriate to an employee oriented activity.
  - (b) It also is to protect existing and future sites for such uses by maintaining large lot configurations and limiting uses to those that are of a nature to not conflict with other industrial uses or surrounding residential areas.

(c) It also is intended to provide for a limited amount of commercial uses designed for the employees of the primary uses and to provide for a limited amount of retail selling of products manufactured, assembled, packaged or wholesaled on the site provided the retail sale area, including the showroom area, is no more than 5% of the gross floor area of the building not to exceed 1,500 square feet.

(2) Light Manufacturing Planning District (ML).

(a) Suitable for warehousing, wholesaling and light manufacturing processes that are not hazardous and that do not create undue amounts of noise, dust, odor, vibration, or smoke. Also suitable, with appropriate restrictions, are the retail sale of products not allowed for sale in General Commercial areas, subject to the Special Commercial Setback from arterial streets and Commercial Services Overlay as generally illustrated in [Map 9-5](#) and specifically set forth in [TDC 60.035](#), and office commercial uses where any portion of a legally created lot is within 60 feet of a CO Planning District boundary. Also suitable is the retail sale of products manufactured, assembled, packaged or wholesaled on the site provided the retail sale area, including the showroom area, is no more than 5% of the gross floor area of the building not to exceed 1,500 square feet. Also suitable for the retail sale of home improvement materials and supplies provided it is not greater than 60,000 square feet of gross floor area per building or business and subject to the Special Commercial Setback from arterial streets as generally illustrated in [Map 9-5](#) and specifically set forth in [TDC 60.035](#). Rail access and screened open storage allowed in these areas will conform to defined architectural, landscape and environmental design standards.

(b) The following uses within the Light Manufacturing District shall comply with the following size limits established by Metro. Retail sale, retail service and professional service uses shall be no greater than 5,000 square feet of sales or service area per outlet, or not greater than 20,000 square feet of sales or service area for multiple outlets in a single building or in multiple buildings that are part of the same development project, with the following exceptions.

(i) Application of the Industrial Business Park Overlay District ([TDC Chapter 69](#)).

(ii) The retail sale of products manufactured, assembled, packaged or wholesaled on the site is allowed provided the retail sale area, including the showroom area, is no more than 5% of the gross floor area of the building not to exceed 1,500 square feet.

(iii) Within the Special Commercial Setback from arterial streets ([TDC 60.035](#)) the retail sale of home improvement materials and supplies is allowed provided it is not greater than 60,000 square feet of gross floor area per building or business and subject to the Special Commercial Setback from arterial streets as generally illustrated in [Map 9-5](#) and specifically set forth in [TDC 60.035](#). Rail Access and screened open storage allowed in these areas



will conform to defined architectural, landscape and environmental design standards.

(c) The purpose of this district is to provide sites for manufacturing uses that are more compatible with adjacent commercial and residential uses and would serve to buffer heavy manufacturing uses. The purpose is also to allow the retail sale of products manufactured, assembled, packaged or wholesaled on the site provided the retail sale area, including the showroom area, is no more than 5% of the gross floor area of the building not to exceed 1,500 square feet. Certain heavier manufacturing uses may be allowed as conditional uses.

(d) In accordance with the Industrial Business Park Overlay District, [TDC Chapter 69](#), selected office and retail uses are allowed to provide services to businesses and employees. The purpose is also to allow certain commercial service uses in the Commercial Services Overlay shown in the specific areas illustrated on [Map 9-5](#) and selected commercial uses subject to distance restrictions from residential areas and subject to the Special Commercial Setback from arterial streets as generally illustrated in [Map 9-5](#) and specifically set forth in [TDC 60.035](#).

(3) General Manufacturing Planning District (MG).

(a) Suitable for light manufacturing uses and also for a wide range of heavier manufacturing and processing activities. Such areas could be expected to be more unsightly and to have more adverse environmental effects. Rail access and screened open storage would be allowed in this area, conforming to defined architectural, landscape and environmental design standards. Also suitable is the retail sale of products manufactured, assembled, packaged or wholesaled on the site provided the retail sale area, including the showroom area, is no more than 5% of the gross floor area of the building not to exceed 1,500 square feet. Also suitable for the retail sale of home improvement materials and supplies provided it is not greater than 60,000 square feet of gross floor area per building or business and subject to the Special Commercial Setback from arterial streets as generally illustrated in [Map 9-5](#) and specifically set forth in [TDC 61.035](#).

(b) The following uses within the General Manufacturing District shall comply with the following size limits established by Metro. Retail sale, retail service and professional service uses shall be no greater than 5,000 square feet of sales or service area per outlet, or not greater than 20,000 square feet of sales or service area for multiple outlets in a single building or in multiple buildings that are part of the same development project, with the following exceptions.

(i) Application of the Industrial Business Park Overlay District ([TDC Chapter 69](#)).

(ii) The retail sale of products manufactured, assembled, packaged or wholesaled on the site provided the retail sale area, including the showroom area, shall be no more than 5% of the gross floor area of the building not to exceed 1,500 square feet.

(iii) Within the Special Setbacks for Commercial Uses Area ([TDC 61.035](#)) the retail sale of home improvement materials and supplies is allowed provided it is not greater than 60,000 square feet of gross floor area per building or business and subject to the Special Commercial Setback from arterial streets as generally illustrated in [Map 9-5](#) and specifically set forth in [TDC 61.035](#).

(c) In accordance with the Industrial Business Park Overlay District, [TDC Chapter 69](#), selected office and retail uses are allowed to provide services to businesses and employees. The purpose is also to allow certain commercial service uses in the Commercial Services Overlay shown in the specific areas illustrated on [Map 9-5](#) and allow selected commercial uses subject to distance restrictions from residential areas and subject to the Special Commercial Setback from arterial streets as generally illustrated in [Map 9-5](#) and specifically set forth in [TDC 61.035](#).

(d) The heaviest manufacturing uses that are environmentally adverse or pose a hazard to life and safety will not be allowed.

(4) Manufacturing Business Park Planning District (MBP).

(a) The purpose of the MBP Planning District is to provide an environment for industrial development consistent with the Southwest Tualatin Concept Plan (accepted by the City in October 2010) and as a Metro-designated Regionally Significant Industrial Area (RSIA) consistent with Metro's Urban Growth Boundary expansion decisions of 2002 and 2004.

(b) The MBP Planning District will be a mix of light industrial and high-tech uses in a corporate campus setting, consistent with MBP Planning District development standards. The RSIA-designated area requires at least one 100-acre parcel and one 50-acre parcel for large industrial users. The remainder of the area is likely to include light industrial uses with some limited, local-serving commercial services.

(c) The district is intended to provide for an esthetically attractive working environment with campus-like grounds, attractive buildings, ample employee parking and other amenities appropriate to an employee oriented activity. It also is intended to protect existing and future sites for such uses by maintaining large lot configurations, a cohesive planned-development design and limiting uses to those that are of a nature that will not conflict with other industrial uses or nearby residential areas of the City. [Ord. 592-83 §34, 6/13/83; Ord. 942-95, 3/27/95; Ord. 1003-98, 4/27/98; Ord. 1026-99, 8/9/99; Ord. 1046-00, 2/14/00; Ord. 1133-03, 3/24/03; Ord. 1212-06; 6/26/06; Ord. 1321-11 §7, 4/25/11]

# TDC Chapter 09: Plan Map

## Section 9.010 Background.

This Plan section includes the Plan Map, ([Map 9-1](#)) classification of planning district boundaries, and brief descriptions of the land uses in each Plan area. The Plan Map is a synthesis of the objectives contained in each Plan element that can be portrayed graphically in map form. The Map is based on an analysis of data contained in the Phase I - Technical Memoranda, Northwest Tualatin Concept Plan 2005 and an analysis of Plan objectives and the Statewide Planning Goals of the Land Conservation and Development Commission. [Ord. 635-84, §4, 6/11/84; Ord. 1191-05, 6/27/05]

## Section 9.020 Planning District Boundaries.

The boundaries between planning districts, as portrayed on the Plan Map, are intended to follow property lines (or extensions thereof), roadways, or natural features such as creeks. Where such definition was not possible, the Map is drawn to scale and district boundaries can be determined by using this scale. It should be noted that property lines shown on the Plan Map were derived from County Assessor's Maps and are therefore relatively accurate. Consequently, the planning districts shown on the Plan shall be considered zoning districts, as normally termed. This eliminates the need for two sets of maps and simplifies the understanding of what land uses may be allowed on an individual property.

## Section 9.025 Tualatin Design Type Boundaries.

(1) [Map 9-4](#), Tualatin Design Type Boundaries, shows the City's final location of the Metropolitan Service District's Growth Concept Design Types. Metro adopted the general location of the Design Types as part of adopting the Urban Growth Management Functional Plan (UGMFP) (Metro Code, Chapter 3.07). The UGMFP, Title 1, says, "For each of the following 2040 Growth Concept design types, city and county comprehensive plans shall be amended to include the boundaries of each area, determined by the city or county consistent with the general locations shown on the 2040 Growth Concept Map: " [Map 9-4](#) shows the location of the applicable Design Types consistent with the general locations shown on the 2040 Growth Concept Map. The boundaries are intended to follow the Planning District Boundaries, property lines, rights-of-way centerlines and water features.

(2) Rural Reserves and Green Corridors. The City recognizes that green corridors, as described in the 2040 Growth Concept, are critical to interurban connectivity. If the City, at some future date, annexes an area that includes a green corridor, it will be the City's policy to do the following:

(a) Allow access, in a controlled manner, to the green corridor to maintain the function, capacity and level of service of the transportation facility and to enhance safety and minimize development pressures on rural reserve areas; and

(b) Provide appropriate vegetative screening and buffering of adjacent development and limit signage in such a way as to maintain the rural character of the green corridor. [Ord. 1026-99, §9, 8/9/99]

## Section 9.030 Area Descriptions.

To clarify the Plan Map, the Map has been divided into 14 plan areas, and the following describes, in narrative form, the permitted uses for each plan area. All Plan Areas with the exception of those

comprising commercial and industrial lands, provide the framework for neighborhood organizations. It was with this in mind that the plan areas were drawn. Each area, with the exception stated above, was viewed as a potential neighborhood unit, having its own area of interest, comprising a population of 3,000 to 5,000 persons and served, as much as possible, by common facilities such as schools or parks. [Ord. 635-84, §5, 6/11/84]

#### **Section 9.031 Area 1.**

This portion of the Plan comprises the City's central area and is described in the City's adopted Central Urban Renewal Plan. The Central Urban Renewal Plan is a separate plan, but considered an element of this Plan. This Plan has been drafted to minimize any land use conflicts between uses on the periphery of the Central Urban Renewal Area. [Map 9-3](#), "Central Tualatin Urban Renewal Area Planning Districts," shows the Central Urban Renewal boundary, the Core Area Parking District boundary, land use blocks within the Central Urban Renewal Area, minimum lot sizes for blocks within the Central Urban Renewal Area, and the designation of which blocks require a Master Plan to be submitted for development. [Ord. 694-86, §1, 5/27/86; Ord. 1109-02, 4/22/02]

#### **Section 9.032 Area 2.**

Located directly south of the Urban Renewal Area and west of the Interstate 5 Freeway (I-5), this area comprises most of the City's residential land west of I-5 and north of Avery Street. Being close to downtown, the area has a higher proportion of multi-family dwellings than other areas, with the northern and eastern portions of the area comprising medium-low, medium-high and high density multi-family residential development. The southern portion of the area is predominantly low density residential. The Tualatin Elementary School is located in the center of the area at the intersection of Boones Ferry Road and Sagert Streets. The northeasterly portion of the area includes large-scale commercial uses that are included in the Schnitzer Investment Corporation Planned Unit Development (PUD). The commercial uses in this section of the PUD are proposed to include primarily headquarters office space for major firms and supporting commercial services such as restaurants. The western side of this area is bordered by a Light Industrial Plan designation, while a portion of the area's northern boundary is bordered by the Burlington Northern Railway tracks and mixed industrial and commercial designations.

#### **Section 9.033 Area 3.**

This area is characterized by low density residential development. Part of the City's greenway loop system traverses the area. A new neighborhood park is pro-posed for this area. The area's northwestern corner is bordered by a Light Manufacturing Planning District, while the western and southwestern boundaries are bordered by land outside the Urban Growth Boundary.

#### **Section 9.034 Area 4.**

This area lies south of Avery Street, between the Interstate 5 Freeway and Boones Ferry Road. The predominant land use is low density residential. A new elementary school located east of Boones Ferry Road, between Blake and Ibach Streets, is currently being constructed and will serve students from the south Tualatin area. A large greenway loop passes through this area to connect with the remainder of the loop in Area 3. The area is bordered on the east by the Interstate 5 Freeway and on the south by land outside the Urban Growth Boundary.

#### **Section 9.035 Area 5.**

Located east of the Interstate 5 Freeway, this area is primarily designated for low density residential uses, but contains substantial multi-family and commercial use north of Sagert Street and west of SW 65th Avenue. Meridian Park Hospital is located in this area on the northeast corner of SW 65th

Avenue and Borland Road. Commercial land uses are located along the Interstate 5 Freeway, and on Nyberg Street from I-5 to SW 65th Avenue. A major greenway loop surrounds a majority of the area's perimeter, including a greenway shown along the Tualatin River frontage. A new neighborhood park is proposed. The eastern and southern boundaries of this area are adjacent to land outside the Urban Growth Boundary.

#### **Section 9.036 Area 6.**

Encompassing the northwestern quadrant of the City, this area's land uses are predominantly low density residential. An area designated medium-low density residential paralleling SW 108th Avenue is shown as appropriate for mobile residential unit parks. A greenway extends along the Tualatin River, and a new neighborhood park is proposed. Lands north of Hazelbrook Road are within the 100-year and 10-year flood plain area and thus have restricted development potential.

#### **Section 9.037 Area 7.**

This area comprises the majority of the City's industrial land. The edges of this area are designated light industrial where the area abuts residential use. The central portion of this area is designated heavy industrial and surrounds a portion of the Hedges Creek Marsh, which is proposed for preservation. The eastern portion abuts the Urban Renewal Area.

#### **Section 9.038 Area 8.**

This area includes the portion of the City and study area located north of the Tualatin River. Interstate 5 bisects the area and crosses SW Lower Boones Ferry Road at one of the City's two interchanges. The area is characterized by mixed land uses, with commercial and industrial uses being the predominant types of development. Automobile-oriented uses such as motels, restaurants and automobile service stations are concentrated adjacent to the interchange, together with some commercial office buildings. Industrial uses are located further away from the interchange. Except for two mobile home parks, a duplex subdivision (Pipers Run) and mixed residential uses in the Mixed Use Commercial Overlay District on the Durham Quarry Site in the Durham Quarry Area, no new residential development is planned for Area 8. The Plan proposes additional general commercial and light manufacturing uses south of Jean Road, and general commercial, light manufacturing and heavy manufacturing uses north of Jean Road. [Ord. 849-91, §7, 11/25/91; Ord. 1062.00, §4, 12/11/00; Ord. 1062-00, 1/03/01]

#### **Section 9.039 Area 9 Leveton Industrial Area.**

The Leveton area is marked by a great diversity of land uses and opportunities. Much of the frontage along Highway 99W has been developed for many years. The largest single undeveloped parcel within the Industrial Planning Area, and, at 217 acres, one of the largest in the entire Portland metropolitan region, is here. There is a great deal of vacant land available in a variety of acreage. The area includes approximately 522 acres of land of which approximately 33 are developed. In 2002 an additional 23 acres were added to the area. A detailed discussion of the existing land uses, and planning issues and considerations is given in the Technical Memorandum and Northwest Tualatin Concept Plan 2005. There are three sub-areas in this area. Each has a different character and is described separately below:

- (1) The Highway 99W Frontage - This area is marked by industrial uses as listed in the planning district standards and includes the Quarry Sector subarea and Northwest Tualatin Concept Plan 2005 area. It is important to recognize the character of these properties as industrial, but to assure that the land use does not conflict with or discourage development on nearby properties. The properties are designated General Manufacturing (MG) and Light

Manufacturing (ML) on the plan map. The right-of-way area of Highway 99W west of Cipole Road is not developable and is designated as General Manufacturing (CG) on the plan map.

(2) Herman Road Frontage - This area is largely undeveloped with industrial activities. The General Manufacturing (MG) Planning District is assigned here since this area is well separated from the residential areas. The MG designation will give the area maximum flexibility for development.

(3) Leveton Property - The Leveton property presents unique planning opportunities that must be protected in order to assure the greatest benefit to the community from development of the property. Neither the ML nor the MG planning districts are appropriate for the property as they include uses that are not compatible with a campus industrial setting. Also, the ML and MG districts have development standards that neither encourage nor mandate the campus environment. It is clear that a special district needs to be created for this property. This plan amendment includes the creation of the Manufacturing Park (MP) Planning District and applies it to the Leveton property as a way to encourage a campus industrial environment. [Ord. 592-83, §35, 6/13/83. Ord. 1023-99, §1, 6/28/99; Ord. 1191-05, 6/27/05]

#### **Section 9.040 Area 10 Walgraeve Industrial Area.**

The Walgraeve area has excellent development potential. This is described in detail in the Technical Memorandum. It contains a very high percentage of large lots of over 10 acres and is largely undeveloped. It contains approximately 380 acres with approximately 86 acres developed. Some of the largest industrial users within the community are in this area. The General Manufacturing (MG) Planning District is to be used in this area, as it reflects many of the existing land uses and gives maximum development flexibility. There are no residential areas adjacent to the Walgraeve area. [Ord. 592-83, §36, 6/13/83].

#### **Section 9.041 Area 11 Koch Industrial Area.**

The Koch Industrial Area has some of the most intense industrial development of the Industrial Planning Area, and at the same time, some of the most significant land in natural states. A detailed analysis of the area is given in the Technical Memorandum. The area is oriented on a north/south basis generally lying between the Burlington Northern Railroad on the east and the Metro UGB on the west. There are approximately 198 acres of which 54 are developed. The Tri-County Industrial Park, which straddles the rail line, makes up all of the developed property. There are two major sub-areas that are described below:

(1) The northern half of the property will probably continue to develop in a pattern similar to that found within the industrial park. With proper street and utility improvements, this will form a solid land use foundation for the total industrial planning area. On the western side of the railroad tracks, the existing development has taken place under the provisions of the more intensive County zoning designation. Since the vacant properties in this area are buffered from the residential area, the General Manufacturing (MG) Planning District is used. On the eastern side of the tracks, the Light Manufacturing (ML) Planning District is applied, reflecting the existing land uses and the immediate proximity to residential areas.

(2) In March 2011, the industrial land located south of SW Blake Street was re-moved from the Area 11 Koch Industrial Area and added to the Area 15 Southwest Manufacturing Business Park Area in accordance with the Southwest Tualatin Concept Plan accepted in October 2010. [Ord. 592-83, §37, 6/13/83; Ord. 1321-11 §8, 4/25/11]

### **Section 9.042 Area 12 Roamer's Rest.**

This planning area has two distinct portions, the residential area to the west and the commercial area to the east.

(1) The residential area is identified as an ideal and critical location for higher density housing. The flat land, relationship to the river, proximity to major employment centers, and excellent transportation access all lend themselves to a higher density development pattern. As it is necessary for the City to create the opportunity to develop a city-wide average, on vacant, buildable land, of at least eight dwelling units per acre and with a 50:50 ratio of attached to detached units, these properties are critical in meeting this goal. Their higher density pattern offsets lower density patterns for vacant lands in other parts of the community. [Table 9-1](#) shows how the three Residential Planning Areas from the 1983 plan amendment work with the existing density pattern of the City to reach the standards. A "density gradient" approach is used in the Roamer's Rest area, with RML used on the west adjacent to the agricultural lands, RMH in the center portion, and RH in the west adjacent to the commercial area. This pattern allows for a transition from light to intense land uses on the north side of the Highway. Mobile homes are allowed in this RML area.

(2) It has been documented else-where in this Plan that the commercial portion of the Roamer's Rest Planning Area is an important community resource. It is important to protect it and encourage its continued use as an area that provides commercial activities relating to the Tualatin River and the Highway. The Commercial Recreation (CR) Planning District is used in this area. [Ord. 592-83, §38, 6/13/83].

### **Section 9.043 Area 13 Hazelbrook Planning Area.**

The Hazelbrook area has three main components: the higher density residential area, the single family area, and the commercial facilities.

(1) The higher density residential area is located along the north side of Tualatin Road extending from the commercial area at the highway intersection to approximately the east end of the manufacturing park area to the south. This area is designated for higher residential densities due to its proximity to the major employment center and its excellent transportation access. A density gradient approach is used with the RMH and RML Planning Districts in order to provide for a transition from the commercial uses to the single family areas. This area works well to help meet the City's overall housing objectives, as can be seen in [\[Table 9-1\]](#).

(2) North and east of the higher density development is a large area slated for the RL district. Much of the land north of Hazelbrook Road is in the 100-year floodplain. Development will be limited due to this physical limitation and the regulations of the City's Floodplain District. Along and south of the road, however, the lands will be available for low density residential development involving traditional single family subdivisions, and, through the conditional use process, clustered housing styles.

(3) A Neighborhood Commercial node is planned for the northeast corner of 115th Avenue and Tualatin Road. This two acre parcel is ideally suited for this type of convenience commercial use. It is on the intersection of an arterial and a collector. It has a relatively square shape and flat topography. Most importantly, it is located at the center of the proposed higher density area and immediately across from a major employment center. [Ord. 592-83, §39, 6/13/83]

### **Section 9.044 Area 14 Graham's Ferry Planning Area.**

The Graham's Ferry area contains three basic components: the higher density area around the Norwood/Boones Ferry intersection, the higher density area on the east side of SW Grahams Ferry Road at SW Helenius Road, and the lower density residential balance of the area.

(1) An area with the RML Planning District is planned north of the Norwood Expressway in the vicinity of Boones Ferry Road and on the east side of SW Grahams Ferry Road at SW Helenius Road. This land lends itself to a slightly higher density than traditional single-family due to the excellent transportation access and the close relationship to the employment centers in Wilsonville. It is the determination of this Plan that it is appropriate to "spread" the higher density areas throughout the community, rather than concentrating them, such as in the Roamer's Rest and Hazelbrook Planning Areas. The use of the RML District in this area provides for the needed higher densities with a District that will allow development that is similar in character and density to the RL lands.

(2) The Tonquin Scablands area has three special provisions. First is the Wet-land Protection District. It prohibits building in the defined wetland area and provides a setback from that area. Second is the Greenway and Riverbank Protection (GRP) District. It covers the steep cliff immediately east of the wetlands. The GRP District will allow residential density transfer to developable portions of an affected property. The third provision impacting the Scablands involves the various steep sided channels between 108th Avenue and Boones Ferry Road. It is the policy of this Plan to protect these areas on a case by case basis as development occurs by prohibiting building within the channels and allowing residential density transfer to other portions of the affected properties.

(3) The balance of the Graham's Ferry Planning Area is designated in the Residential Low Density (RL) Planning District. This land will develop either in the traditional single-family subdivision pattern, or, through the conditional use process, in mobile homes or clustered housing patterns. [Ord. 592-83, §40, 6/13/83; Ord. 1051-00 §2. 3/13/00]

### **Section 9.045 Area 15 Southwest Manufacturing Business Park Planning Area.**

The Southwest Manufacturing Business Park Planning Area is 4431 acres of land for industrial development located in the Tonquin quarry areas west of the Portland & Western Railroad, south of SW Blake Street as far west as a future SW 124th Avenue extension and south to Tonquin Road and includes the land north of SW Blake Street and west of SW 120th Avenue to SW 124th Avenue, extending north to SW Tualatin-Sherwood Road (Shown on [Map 9-2](#)). The are was established and is consistent with the Southwest Tualatin Concept Plan (accepted by the City in October, 2010) and as a Metro-designated Regionally Significant Industrial Area (RSIA) consistent with Metro's Urban Growth Boundary expansion decisions of December 2002 and June 2004.

The SWCP area will be designated as the Manufacturing Business Park (MBP) Planning District and will be a mix of light industrial and high-technology uses in a corporate campus setting, consistent with MBP Planning District development standards. There are three major sub-areas which are described below:

(1) The 302 acre RSIA-designated are (Shown on [Map 9-5](#)) requires development as Industrial consistent with Metro Urban Growth Management Functional Plan (MUGMFP) Title IV and must provide at least one 100-acre parcel and one 50-acre parcel for large industrial users within the RSIA.



(2) The properties in the SWCP are located north of SW Blake to SW Tualatin-Sherwood Road will include light industrial uses consistent with the MBP Planning District with some limited, local-serving commercial services in a specific area on both the east and west sides of SW 120th Avenue south of SW Itel Street.

(3) The 50 acre Tigard Sand & Gravel property located south of SW Blake Street already within the Tualatin's Planning Area. [Ord. 1321-11, §9, 4/25/11]

**Section 9.046 Area 16 Basalt Creek Planning Area.**

**The Basalt Creek Planning Area is generally located north of Basalt Creek Parkway, south of Helenius Road and Norwood Road, east of 124th Avenue, and west of I-5. The Basalt Creek Planning Area includes a mix of residential zones at various densities, a small neighborhood commercial node, and employment lands, as further described below.**

**(1) An area with the RL (Low Density Residential) Zone is planned west of Boones Ferry Road in the approximate area of the Basalt Creek Canyon. An area with the RL Zone is also planned north of Tonquin Loop, south of Helenius Road, west of Grahams Ferry Road and east of 124th Avenue. This land will develop either in the traditional single-family subdivision pattern, or, through the conditional use process in clustered housing patterns.**

**(2) An area with the RML (Medium Low Density Residential) Zone is planned south of Norwood Road, east of Boones Ferry Road, and west of I-5. An additional area of RML Zone is also planned east of Grahams Ferry Road between the two above described areas of RL Zone. These areas lends themselves to a slightly higher density than traditional single-family due to the excellent transportation access and the close relationship to the employment centers. The use of the RML Zone in this area provides for the needed higher densities with a Zone that will allow development that is similar in character and density to the RL lands.**

**(3) An area with the RH (High Density Residential) Zone is planned north of Greenhill Road and east of Boones Ferry Road. This land lends itself to a higher density due to the excellent transportation access and the close relationship to the employment centers. The use of the RH District in this area provides for the needed higher densities.**

**(4) A small area with the CN (Neighborhood Commercial) Zone is planned north of Greenhill Road and east of Boones Ferry Road. This CN Zone is intended to provide locations for commercial uses within close proximity to residential areas, to provide opportunities to serve the needs of residents for convenience shopping and services. This area lends itself to the CN Zone due to the excellent transportation access and the close proximity to abutting residential areas of medium to higher densities.**

**(5) The balance of the Basalt Creek Planning Area is designated in the MP (Manufacturing Park) Zone. The MP District is intended to be conducive to the development and protection of modern, large-scale specialized manufacturing and related uses and research facilities. This area is located north of Basalt Creek Parkway, south of Tonquin Loop, east of 124th Avenue, west of Basalt Creek Canyon and an area of RML Zone.**

**Table 9-1**  
**Residential Densities in the Roamer's Rest, Hazelbrook,**  
**and Graham's Ferry Planning Areas**

Area and District	Net Acres	Dwelling Units Per Acre	Dwelling Units	Attached to Detached Ratio
Roamer's Rest				
RML	16.35	10	163	100:0
RMH	8.87	15	133	100:0
RH	13.74	25	340	100:0
Subtotal	38.96	16.32	636	100:0
Hazelbrook				
RL	66.11	5	330	0:100
RML	11.68	10	116	100:0
RMH	19.54	15	293	100:0
Subtotal	97.33	7.59	739	55:45
Graham's Ferry				
RL	201.69	5	1,008	0:100
RML	42.24	10	421	100:0
Subtotal	243.93	5.88	1,429	29:71
Total of Planning Area	380.22	7.37	2,804	52:48
Total of Existing City	283.80	8.95	2,539	62:38
<b>Grand Total - Planning Area and City</b>	664.02	8.05	5,343	57:43

# TDC Chapter 51: Neighborhood Commercial (CN) Zone

**Section 51.100 – Purpose.** The purpose of this district is to provide locations for commercial uses within close proximity to residential areas, to provide opportunities to serve the needs of residents for convenience shopping and services. The primary uses are intended to include professional offices, services, and retail oriented to the day-to-day needs of adjacent neighborhoods. Neighborhood commercial uses are intended to be pedestrian oriented and should serve to reduce automobile trips and energy consumption. The purpose is also to assure that development is of a scale and design that is compatible with the residential environment and is an enhancement to neighborhood areas. It is not the purpose of this district to allow for large scale commercial facilities, such as large grocery or department stores, which are more appropriately located within the downtown area.

## Section 51.110 – District Size and Location Standards.

~~(1) **District Size.** The aggregate area of a CN district, consisting of one or more lots or a portion of a single lot, must not exceed 2 acres.~~

~~(2) **District Location.** The boundaries of a CN district must be separated from middle-school property by not less than 300 feet. The boundaries of a CN District must be separated from public high school property and all other CN, CC, and CG districts by at least 1,320 feet.~~

~~(3) **Street Frontage.** At least one-fourth of the total street frontage of the CN District area must be on an Arterial or Major Collector street.~~

## Section 51.200 – Use Categories.

(1) **Use Categories.** Table 51-1 lists use categories Permitted Outright (P) or Conditionally Permitted (C) in the CN zone. Use categories may also be designated as Limited (L) and subject to the limitations listed in Table 51-1 and restrictions identified in TDC 51.210. Limitations may restrict the specific type of use, location, size, or other characteristics of the use category. Use categories which are not listed are prohibited within the zone, except for uses which are found by the City Manager or appointee to be of a similar character and to meet the purpose of this zone, as provided in TDC 31.070.

(2) **Overlay Zones.** Additional uses may be allowed in a particular overlay zone. See the overlay zone Chapters for additional uses.

**Table 51-1  
Use Categories in the CN Zone**

USE CATEGORY	STATUS	LIMITATIONS AND CODE REFERENCES
<b>RESIDENTIAL USE CATEGORIES</b>		

Household Living	P (L)	Permitted uses limited to one (1) dwelling unit for each business located on the lot.
<b>COMMERCIAL USE CATEGORIES</b>		
Retail Sales and Services	P (L)	<p>Permitted uses limited to:</p> <ul style="list-style-type: none"> <li>General merchandise or variety stores;                             <ul style="list-style-type: none"> <li>o Food stores, subject to TDC 51.210(1);</li> </ul> </li> <li>Drug store and pharmacy;</li> <li>Laundry and dry cleaning, subject to TDC 51.210(2);</li> <li>Beauty and barber shops;</li> <li>Shoe repair; and</li> <li>Child day care center, subject to TDC 34.100.</li> </ul> <p>All commercial uses subject to floor area limitation, see TDC 51.210(3).</p>
<b>INSTITUTIONAL USE CATEGORIES</b>		
Community Services	P(L)	Permitted uses limited to a community center, community recreation facility, or community aquatic center, when open to the general public and operated by a non-profit community organization.
<b>INFRASTRUCTURE AND UTILITIES USE CATEGORIES</b>		
Greenways and Natural Areas	P	--
Transportation Facilities	P	--

**Section 51.210 – Additional Limitations on Uses.**

(1) **Food Stores.** Food stores must not exceed 4,000 square feet of gross floor area.

(2) **Laundry and dry cleaning.** Laundry and dry cleaning establishments must be exclusively for the cleaning of clothing and materials of the resident population and must not involve laundry or cleaning of commercial, industrial, or institutional clothing and materials.

(3) **Commercial Floor Area Limit.** A nonresidential occupant must not occupy more than 10,000 square feet of any building or combination of buildings within a single CN District area.

**Section 51.300 – Development Standards.** Development standards in the CN zone are listed in Table 51-2. Additional standards may apply to some uses and situations, see TDC 51.310.

**Table 51-2  
Development Standards in the CN Zone**

<b>STANDARD</b>	<b>REQUIREMENT</b>	<b>LIMITATIONS AND CODE REFERENCES</b>
<b>MINIMUM LOT SIZE</b>		
All Uses	20,000 square feet	--
<b>MINIMUM LOT WIDTH</b>		
Minimum Average Lot Width	100 feet	When lot has frontage on public street, minimum lot width is 100 feet.
Minimum Lot Width at the Building Line	100 feet	--
Infrastructure and Utilities Uses	--	As determined through the Subdivision, Partition, or Lot Line Adjustment process
<b>MINIMUM SETBACKS</b>		
Front	20 feet	
Side and Rear	0 – 15 feet	As determined through Architectural Review Process.

Corner Lots	0 – 10 feet along each frontage	Must be a sufficient distance to provide adequate sight distance for vehicular and pedestrian traffic at an intersection, as determined through the Architectural Review process.
Parking and Vehicle Circulation Areas	5 feet	Except as approved through Architectural Review process.
Fences	5 feet	From public right-of-way.
<b>MAXIMUM LOT COVERAGE</b>		
All Uses	75%	Includes both building and parking areas. All land not covered by buildings or parking must be landscaped.
<b>MAXIMUM STRUCTURE HEIGHT</b>		
All Uses	25 feet	In addition to meeting the maximum height limit, where a property line or alley separates CN land from land in a residential district, a building must not be greater than 20 feet in height at the setback line; and a building or structure must not extend above a plane beginning at 20 feet in height above that setback line and extending inward and upward at a slope of 45 degrees.

**Section 51.310 – Additional Development Standards.**

(1) **Building and Driveway Orientation.** All commercial uses in CN District must be oriented and have primary driveway access to an Arterial or Major Collector street. No more than one driveway may access Minor Collector, Local Residential, or Cul-De-Sac street.

(2) **Building Design.** All commercial buildings must be of a general residential character, including the following design elements:

(a) **Facade Design.** All building facades must be of wood or brick and, if painted, must be in muted, earth tone colors.

(b) **Roof Forms.** All roofs must be compatible with the surrounding residential area as determined through the Architectural Review process.

**(3) Setback Reduction for Developments Adjacent to Greenways and Natural Areas.** To preserve natural areas and habitat for fish and wildlife, the decision-authority may provide a front yard setback reduction for developments that are adjacent to Greenways or Natural Areas that dedicate land for conservation or public recreational purposes, in accordance with the following standards.

**(a) Setback Reduction.** All permitted uses may be allowed a reduction of up to 35% of the front yard setbacks, as determined through the Architectural Review process, if as a result the buildings are farther away from fish and wildlife habitat areas.

**(b) Location of Greenway or Natural Area Lot.** A portion of the parcel must be located in one of the following conservation or protection areas:

- (i) Natural Resource Protection Overlay (NRPO) District (TDC Chapter 72);
- (ii) Other Natural Areas identified in Figure 3-4 of the Parks and Recreation Master Plan; or
- (iii) Clean Water Services Vegetated Corridor.

**(c) Ownership of Greenway or Natural Area Lot.** The ownership of each Greenway or Natural Area Lot must be one of the following:

- (i) Dedicated to the City at the City's option;
- (ii) Dedicated in a manner approved by the City to a non-profit conservation organization; or
- (iii) Retained in private ownership.

**(d) Ownership Considerations.** The decision-making authority must consider, but not limited to, the following factors when determining the appropriate ownership of the Greenway or Natural Area Lot:

- (i) Does the Park and Recreation Master Plan designate the lot for a greenway, pedestrian or bike path, public park, recreation, overlook or interpretive facility, or other public facility;
- (ii) Does the lot include one or more designated Heritage Trees, or one or more significant trees;
- (iii) Does the lot provide a significant view or esthetic element, or does it include a unique or intrinsically valuable element;
- (iv) Does the lot connect publicly owned or publicly accessible properties;
- (v) Does the lot abut an existing park, greenway, natural area or other public facility;
- (vi) Does the lot provide a public benefit or serve a public need;
- (vii) Does the lot contain environmental hazards;

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(viii) Geologic stability of the lot; and

(ix) Future maintenance costs for the lot.

[Ord. 1414-18, 12/10/18]



## TDC Chapter 62: Manufacturing Park (MP) Zone

**Section 62.100 – Purpose.** The purpose of this district is to provide an environment exclusively for and conducive to the development and protection of modern, large-scale specialized manufacturing and related uses and research facilities. Such permitted uses must not cause objectionable noise, smoke, odor, dust, noxious gases, vibration, glare, heat, fire hazard or other wastes emanating from the property. The district is to provide for an aesthetically attractive working environment with park or campus like grounds, attractive buildings, ample employee parking and other amenities appropriate to an employee oriented activity. The purpose is also to protect existing and future sites for such uses by maintaining large lot configurations or a cohesive planned development design and limiting uses to those that are of a nature so as to not conflict with other industrial uses or surrounding residential areas. The purpose is also to allow a limited amount of commercial uses and services and other support uses.

**Section 62.200 - Use Categories.**

(1) **Use Categories.** Table 62-1 lists use categories Permitted Outright (P) or Conditionally Permitted (C) in the MP zone. Use categories may also be designated as Limited (L) and subject to the limitations listed in Table 62-1 and restrictions identified in TDC 62.210. Limitations may restrict the specific type of use, location, size, or other characteristics of the use category. Use categories which are not listed are prohibited within the zone, except for uses which are found by the City Manager or appointee to be of a similar character and to meet the purpose of this zone, as provided in TDC 31.070.

(2) **Overlay Zones.** Additional uses may be allowed in a particular overlay zone. See the overlay zone Chapters for additional uses.

**Table 62-1  
Use Categories in the MP Zone**

<b>USE CATEGORY</b>	<b>STATUS</b>	<b>LIMITATIONS AND CODE REFERENCES</b>
<b>RESIDENTIAL USE CATEGORIES</b>		
Household Living	C (L)	Conditional uses limited to a caretaker residence when necessary for security purposes.
<b>COMMERCIAL USE CATEGORIES</b>		
Commercial Parking	P	--
Commercial Recreation	P (L)	Permitted uses limited to a health or fitness facility as a limited use subject to TDC 62.210(4).
Eating and Drinking Establishments	P (L)	Permitted uses limited to a restaurant or deli as a limited use and subject to TDC 62.210(4).
Marijuana Facilities	P (L)	Subject to TDC Chapter 80.
Office	P (L)	Permitted uses limited, see TDC 62.210(2).
Other Educational and Vocational Services	P (L)	Permitted uses limited to: o

USE CATEGORY	STATUS	LIMITATIONS AND CODE REFERENCES
		<p>Correspondence, trade, or vocational school as a limited use subject to TDC 62.210(4);</p> <ul style="list-style-type: none"> <li>o</li> </ul> <p>Job training or related services as a limited use subject to TDC 62.210(4).</p>
Retail Sales and Services	P (L)	<p>Permitted uses limited to:</p> <ul style="list-style-type: none"> <li>o</li> </ul> <p>Sale of goods produced on-site subject to TDC 62.210(1);</p> <ul style="list-style-type: none"> <li>o</li> </ul> <p>Child day care center, subject to TDC 34.200;</p> <ul style="list-style-type: none"> <li>o</li> </ul> <p>Food or convenience store, mailing operations, reproduction or photocopying services, bank, and medical services as limited uses subject to TDC 62.210(2).</p>
<b>INDUSTRIAL USE CATEGORIES</b>		
Light Manufacturing	P (L)	<p>Permitted uses limited to:</p> <ul style="list-style-type: none"> <li>o</li> </ul> <p>Manufacture or assembly of electronic or optical instruments, equipment, devices; musical instruments; toys; and sporting goods.</p> <ul style="list-style-type: none"> <li>o</li> </ul> <p>Production of textiles or apparel;</p> <ul style="list-style-type: none"> <li>o</li> </ul> <p>Printing, publishing, and lithography shops; and</p> <ul style="list-style-type: none"> <li>o</li> </ul> <p>Research and development laboratories.</p> <p>Primary processing of organic materials, such as tanning of leather, is prohibited.</p>

USE CATEGORY	STATUS	LIMITATIONS AND CODE REFERENCES
<b>INFRASTRUCTURE AND UTILITIES USE CATEGORIES</b>		
Basic Utilities	P	--
Greenways and Natural Areas	P	--
Public Safety Facilities	C (L)	Conditional uses limited to a fire station.
Transportation Facilities	P	--
Wireless Communication Facility	P (L)	Subject to maximum height and minimum setback standards defined by TDC Chapter 73F.

**Section 62.210 – Additional Limitations on Uses.**

(1) **Sale of Goods Produced On-Site.** The retail sale of goods produced on-site is permitted, provided that the retail sale area, including the showroom area, is no greater than 5 percent of the gross floor area of the building and does not exceed 1,500 square feet.

(2) **Offices.** Office uses are a permitted as specified below.

(a) **Permitted Uses.** The following are permitted uses:

- (i) Offices for chemical and physical sciences, engineering, cartography, or other research functions;
- (ii) Shared service facilities (as defined by TDC 31.060); and
- (iii) Corporate, regional, or district headquarter offices if:
  - (A) the headquarters is for a permitted use in this Code;
  - (B) the offices occupy at least 20,000 square feet; and
  - (C) manufacturing is not conducted, unless the manufacturing is a permitted use in the MP zone.

(b) **Accessory Uses to an Industrial Use.** Office uses accessory to a permitted industrial use are permitted.

(c) **Limited Uses.** Offices located on the same site as a permitted industrial use may be permitted, subject to TDC 62.210(4).

(3) **Size Limitation on Commercial Uses.** Permitted or conditional commercial uses, as specified in Table 62-1, are subject to the following size limitations:

(a) **Employment Areas or Corridors.** Commercial uses on land designated Employment Area (EA) or Corridor (CO) Design Type on Map 9-4 must not exceed 60,000 square feet of gross floor area per building or business.

(b) **Industrial Areas.** Commercial uses on land designated as an Industrial Area Design Type on Map 9-4 must not exceed 5,000 square feet for any individual use or a total of 20,000 square feet of all commercial uses on the site. Commercial uses permitted in the Limited Commercial Setback are exempt from this requirement.

(4) **Limited Commercial Uses.** Commercial uses permitted as limited uses, as specified in Table 62-1, must be located on the same site as a permitted industrial use. The site must be used primarily for industrial purposes and the commercial use is subject to the following

limitations. The office, retail, and service uses may be located in a stand-alone building or combined in a building with other permitted uses.

(a) **Offices.** Office uses must not exceed 25 percent of the total gross floor area of all buildings on the site.

(b) **Retail Sales and Services, Eating and Drinking Establishments, or Educational Services.** Permitted uses in these categories, as specified in Table 61-1, are subject to the following additional standards:

(i) **Maximum Size.** The use must not exceed 5,000 square feet for any individual use or a total of 20,000 square feet of all retail or service uses on the site.

(ii) **Spacing Standard.** Uses must not be located within 80 feet from any Residential Planning District and from the right-of-way of SW Tualatin-Sherwood Road.

(iii) **Access Standard.** If located in a standalone building, the uses must not have direct access onto any arterial or collector street.

(5) **Outdoor Uses.** All uses must be conducted wholly within a completely enclosed building, except as provided by this section.

(a) **Permitted Uses.** Off-street parking and loading, utility facilities, wireless communication facilities, and outdoor storage occupying less than ten (10) percent of the total site area, are permitted outright as outdoor uses.

(b) **Conditional Uses.** A conditional use permit is required for outdoor storage activity or mechanical equipment when proposed to occupy more than ten (10) percent of the total lot area when part of and necessary for the operation of any permitted use.

**Section 62.300 – Development Standards.** Development standards in the MP zone are listed in Table 62-2. Additional standards may apply to some uses and situations, see TDC 62.310.

**Table 62-2  
Development Standards in the MP Zone**

<b>STANDARD</b>	<b>REQUIREMENT</b>	<b>LIMITATIONS AND CODE REFERENCES</b>
<b>LOT SIZE</b>		
Minimum Lot Size North of SW Leveton Drive	40 acres	Minimum lot size and dimensions for conditional uses are set by City Council to accommodate the proposed use. Lots or remnant areas created by the location of public streets may be less than 40 acres if necessary to create a logical, safe network of streets in the district.
Minimum Lot Size South of SW Leveton Drive, <b><u>and south of Tonquin Loop</u></b>	5 acres	
<b>LOT DIMENSIONS</b>		

STANDARD	REQUIREMENT	LIMITATIONS AND CODE REFERENCES
Minimum Lot Width	250 feet	Measured at the building line. When lot has frontage on public street, minimum lot width at the street is 250 feet. When lot has frontage on cul-de-sac street, minimum lot width at the street is 50 feet.
Infrastructure and Utilities Uses	--	As determined through the Subdivision, Partition, or Lot Line Adjustment process
Flag Lots	--	Must be sufficient to comply with minimum access requirements of TDC 73C.
<b>MINIMUM SETBACKS</b>		
Minimum Building Setback for Yards Adjacent to Streets or Alleys, North of SW Leveton Drive	100 feet	
Minimum Building Setback for Yards Adjacent to Streets or Alleys, south of SW Leveton Drive	60 feet	
<b><u>Minimum Building Setback for Yards Adjacent to Residential District, south of Tonquin</u></b>	<b><u>60 feet</u></b>	
Minimum Setback for Side and Rear Yards not Adjacent to Streets or Alleys, north of SW Leveton Drive	50 feet	No minimum setback if adjacent to railroad right-of-way or spur track.
Minimum Setback for Side and Rear Yards not Adjacent to Streets or Alleys, South of SW Leveton Drive	0-50 feet	Determined through Architectural Review Process. No minimum setback if adjacent to railroad right-of-way or spur track.
Parking and Circulation Areas Adjacent to Public Right-of-Way	50 feet	No minimum setback required adjacent to joint access approach in accordance with TDC 73C.
Parking and Circulation Areas Adjacent to Private Property Line	5-25 feet	Determined through Architectural Review Process. No minimum setback required adjacent to joint access approach in accordance with TDC 73C.
Fences	50 feet	From public right-of-way.

STANDARD	REQUIREMENT	LIMITATIONS AND CODE REFERENCES
<b>STRUCTURE HEIGHT</b>		
Maximum Height	70 feet	May be increased to 85 feet if yards adjacent to structure are not less than a distance equal to one and one-half times the height of the structure. Flagpoles may extend to 100 feet.
Maximum Height Adjacent to Residential District	28 feet	Measured at the required 50-foot or 100-foot setback line, includes flagpoles. The building height may extend above 28 feet on a plane beginning at the 50-foot or 100-foot setback line at a slope of 45 degrees extending away from the setback line.

**Section 62.310 – Additional Development Standards.**

(1) **Industrial Master Plan.** Minimum lot size, setbacks, maximum height, and other development standards may be modified by submittal of an Industrial Master Plan application. See TDC 33.050.

(2) **Spur Rail Tracks.** Spur rail tracks are not permitted within 200 feet of an adjacent residential district.

(3) **Wetland Conservation Lots.** Minimum lot size, width, or frontage requirement do not apply to wetland conservation lots.

[Ord. 1414-18, 12/10/18]

## TDC Chapter 75: Access Management

### Sections:

#### Section 75.010 Purpose.

The purpose of this chapter is to promote the development of safe, convenient and economic transportation systems and to preserve the safety and capacity of the street system by limiting conflicts resulting from uncontrolled driveway access, street intersections, and turning movements while providing for appropriate access for all properties. [Ord. 635-84, §43, 6/11/1984; Ord. 982-97, § 2, 8/4/1997; Ord. 1103-02, 3/25/02]

#### Section 75.020 – Permit for New Driveway Approach.

(1) **Applicability.** A driveway approach permit must be obtained prior to constructing, relocating, reconstructing, enlarging, or altering any driveway approach.

(2) **Exceptions.** A driveway approach permit is not required for:

- (a) The construction, relocation, reconstruction, enlargement, or alteration of any driveway approach that requires a state highway access permit; or
- (b) The construction, relocation, reconstruction, enlargement or alteration of any driveway approach that is part of the construction of a publicly or privately engineered public improvement project.

(3) **Procedure Type.** A Driveway Approach Permit is processed as a Type II procedure under TDC 32.220 (Type II).

(4) **Submittal Requirements.** In addition to the application materials required by TDC 32.140 (Application Submittal), the following application materials are also required:

- (a) A site plan, of a size and form and in the number of copies meeting the standards established by the City Manager, containing the following information:
  - (i) The location and dimensions of the proposed driveway approach;
  - (ii) The relationship to nearest street intersection and adjacent driveway approaches;
  - (iii) Topographic conditions;
  - (iv) The location of all utilities;
  - (v) The location of any existing or proposed buildings, structures, or vehicular use areas;
  - (vi) The location of any trees and vegetation adjacent to the location of the proposed driveway approach that are required to be protected pursuant to TDC Chapter 73B or 73C; and

(vii) The location of any street trees adjacent to the location of the proposed driveway approach.

(b) Identification of the uses or activities served, or proposed to be served, by the driveway approach; and

(c) Any other information, as determined by the City Manager, which may be required to adequately review and analyze the proposed driveway approach for conformance with the applicable criteria.

(5) **Criteria.** A Driveway Approach Permit must be granted if:

(a) The proposed driveway approach meets the standards of this Chapter and the Public Works Construction Code;

(b) No site conditions prevent placing the driveway approach in the required location;

(c) The number of driveway approaches onto an arterial are minimized;

(d) The proposed driveway approach, where possible:

(i) Is shared with an adjacent property; or

(ii) Takes access from the lowest classification of street abutting the property;

(e) The proposed driveway approach meets vision clearance standards;

(f) The proposed driveway approach does not create traffic hazards and provides for safe turning movements and access;

(g) The proposed driveway approach does not result in significant adverse impacts to the vicinity;

(h) The proposed driveway approach minimizes impact to the functionality of adjacent streets and intersections; and

(i) The proposed driveway approach balances the adverse impacts to residentially zoned property and the functionality of adjacent streets.

(6) **Effective Date.** The effective date of a Driveway Approach Permit approval is the date the notice of decision is mailed.

(7) **Permit Expiration.** A Driveway Approach Permit approval expires one year from the effective date, unless the driveway approach is constructed within the one-year period in accordance with the approval decision and City standards. [ Ord. 1414-18, 12/10/2018]

### **Section 75.030 – Driveway Approach Closure.**

(1) The City Manager may require the closure of a driveway approach where:



- (a) The driveway approach is not constructed in conformance with this Chapter and the Public Works Construction Code;
- (b) The driveway approach is not maintained in a safe manner;
- (c) A public street improvement project is being constructed, and closure of the driveway approach will more closely conform to the current driveway approach standards;
- (d) A new building or driveway is constructed on the property;
- (e) A plan text amendment or zone change is proposed for the property served by the driveway;
- (f) A change of use or activity in an existing building increases the amount of required parking;
- (g) The driveway approach has been abandoned; or
- (h) There is a demonstrated safety issue.

(2) **Notice.** Notice of driveway approach closure must be given in writing to the property owner and any affected tenants stating the grounds for closure, the date upon which the closure becomes effective, and the right to appeal.

(3) **Appeals.** Any person entitled to notice under subsection (2) of this section may appeal the decision to the City Council.

(4) **Effect.** Closure is effective immediately upon the mailing of notice of the decision. Unless otherwise provided in the notice, closure terminates all rights to continue the use the driveway approach for which the notice of closure has been issued.

(5) **Failure to Close Driveway.** If the owner fails to close the driveway approach to conform to the notice within 90 days, the City Manager may cause the closure to be completed and all expenses assessed against the property owner.

[Ord. 1414-18, 12/10/2018]

### **Section 75.040 – Driveway Approach Requirements.**

(1) The provision and maintenance of driveway approaches from private property to the public streets as stipulated in this Code are continuing requirements for the use of any structure or parcel of real property in the City of Tualatin. No building or other permit may be issued until scale plans are presented that show how the driveway approach requirement is to be fulfilled. If the owner or occupant of a lot or building changes the use to which the lot or building is put, thereby increasing driveway approach requirements, it is unlawful and a violation of this code to begin or maintain such altered use until the required increase in driveway approach is authorized by the City.

(2) Owners of two or more uses, structures, or parcels of land may agree to utilize jointly the same driveway approach when the combined driveway approach of both uses, structures, or parcels of land satisfies their combined requirements as designated in this code; provided that satisfactory legal evidence is presented to the City Attorney in the form of deeds, easements, leases or contracts to establish joint use. Copies of said deeds, easements, leases or contracts must be placed on permanent file with the City Recorder.

**(3) Joint and Cross Access.**

(a) Adjacent commercial uses may be required to provide cross access drive and pedestrian access to allow circulation between sites.

(b) A system of joint use driveways and cross access easements may be required and may incorporate the following:

(i) A continuous service drive or cross access corridor extending the entire length of each block served to provide for driveway separation consistent with the access management classification system and standards;

(ii) A design speed of 10 mph and a maximum width of 24 feet to accommodate two-way travel aisles designated to accommodate automobiles, service vehicles, and loading vehicles;

(iii) Stub-outs and other design features to make it visually obvious that the abutting properties may be tied in to provide cross access via a service drive; and

(iv) An unified access and circulation system plan for coordinated or shared parking areas.

(c) Pursuant to this section, property owners may be required to:

(i) Record an easement with the deed allowing cross access to and from other properties served by the joint use driveways and cross access or service drive;

(ii) Record an agreement with the deed that remaining access rights along the roadway will be dedicated to the city and pre-existing driveways will be closed and eliminated after construction of the joint-use driveway;

(iii) Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners; and

(iv) If subsection(i) through (iii) above involve access to the state highway system or county road system, ODOT or the county must be contacted and must approve changes to subsection(i) through (iii) above prior to any changes.

**(4) Requirements for Development on Less than the Entire Site.**

(a) To promote unified access and circulation systems, lots and parcels under the same ownership or consolidated for the purposes of development and comprised of more than one

building site must be reviewed as one unit in relation to the access standards. The number of access points permitted must be the minimum number necessary to provide reasonable access to these properties, not the maximum available for that frontage. All necessary easements, agreements, and stipulations must be met. This must also apply to phased development plans. The owner and all lessees within the affected area must comply with the access requirements.

(b) All access must be internalized using the shared circulation system of the principal commercial development or retail center. Driveways should be designed to avoid queuing across surrounding parking and driving aisles.

(5) Lots that front on more than one street may be required to locate motor vehicle accesses on the street with the lower functional classification as determined by the City Manager.

(6) Except as provided in **TDC 53.100**, all driveway approach must connect directly with public streets.

(7) To afford safe pedestrian access and egress for properties within the City, a sidewalk must be constructed along all street frontage, prior to use or occupancy of the building or structure proposed for said property. The sidewalks required by this section must be constructed to City standards, except in the case of streets with inadequate right-of-way width or where the final street design and grade have not been established, in which case the sidewalks must be constructed to a design and in a manner approved by the City Manager. Sidewalks approved by the City Manager may include temporary sidewalks and sidewalks constructed on private property; provided, however, that such sidewalks must provide continuity with sidewalks of adjoining commercial developments existing or proposed. When a sidewalk is to adjoin a future street improvement, the sidewalk construction must include construction of the curb and gutter section to grades and alignment established by the City Manager.

(8) The standards set forth in this Code are minimum standards for driveway approaches, and may be increased through the Architectural Review process in any particular instance where the standards provided herein are deemed insufficient to protect the public health, safety, and general welfare.

(9) Minimum driveway approach width for uses are as provided in Table 75-1 (Driveway Approach Width):

**TABLE 75-1**

**Driveway Approach Width**

Use	Minimum Driveway Approach Width	Maximum Driveway Approach Width
Single-Family Residential,	10 feet	26 feet for one or two care garages

townhouses, and duplexes		37 feet for three or more garages
Multi-family	<p>2 Units = 16 feet</p> <p>3-49 Units = 24 feet</p> <p>50-499 = 32 feet</p> <p>Over 500 = as required by the City Manager</p>	<p>May provide two 16 foot one-way driveways instead of one 24 foot driveway</p> <p>May provide two 24 foot one-way driveways instead of one 32 foot driveway</p>
Commercial	<p>1-99 Parking Spaces = 32 feet</p> <p>100-249 Parking Spaces = two approaches each 32 feet</p>	Over 250 Parking Spaces = As Required by the City Manager, but not exceeding 40 feet
Industrial	36 feet	Over 250 Parking Spaces = As Required by the City Manager, but not exceeding 40 feet.
Institutional	<p>1-99 Parking Spaces = 32 feet</p> <p>100-249 Parking Spaces = two approaches each 32 feet</p>	Over 250 Parking Spaces = As Required by the City Manager, but not exceeding 40 feet.

(10) **Driveway Approach Separation.** There must be a minimum distance of 40 feet between any two adjacent driveways on a single property unless a lesser distance is approved by the City Manager.

(11) **Distance between Driveways and Intersections.** Except for single-family dwellings, the minimum distance between driveways and intersections must be as provided below. Distances listed must be measured from the stop bar at the intersection.

(a) At the intersection of collector or arterial streets, driveways must be located a minimum of 150 feet from the intersection.

(b) At the intersection of two local streets, driveways must be located a minimum of 30 feet from the intersection.

(c) If the subject property is not of sufficient width to allow for the separation between driveway and intersection as provided, the driveway must be constructed as far from the intersection as possible, while still maintaining the 5-foot setback between the driveway and property line as required by TDC 73.400(14)(b).

(d) When considering a driveway approach permit, the City Manager may approve the location of a driveway closer than 150 feet from the intersection of collector or arterial streets, based on written findings of fact in support of the decision.

(12) **Vision Clearance Area.**

(a) **Local Streets.** A vision clearance area for all local street intersections, local street and driveway intersections, and local street or driveway and railroad intersections must be that triangular area formed by the right-of-way lines along such lots and a straight line joining the right-of-way lines at points which are 10 feet from the intersection point of the right-of-way lines, as measured along such lines (see [Figure 73-2](#) for illustration).

(b) **Collector Streets.** A vision clearance area for all collector/arterial street intersections, collector/arterial street and local street intersections, and collector/arterial street and railroad intersections must be that triangular area formed by the right-of-way lines along such lots and a straight line joining the right-of-way lines at points which are 25 feet from the intersection point of the right-of-way lines, as measured along such lines. Where a driveway intersects with a collector/arterial street, the distance measured along the driveway line for the triangular area must be 10 feet (see [Figure 73-2](#) for illustration).

(c) **Vertical Height Restriction.** Except for items associated with utilities or publicly owned structures such as poles and signs and existing street trees, no vehicular parking, hedge, planting, fence, wall structure, or temporary or permanent physical obstruction must be permitted between 30 inches and 8 feet above the established height of the curb in the clear vision area (see [Figure 73-2](#) for illustration).

[Ord. 1414-18, 12/10/2018]

**Section 75.050 Access Limited Roadways.**

(1) This section applies to all developments, permit approvals, land use approvals, partitions, subdivisions, or any other actions taken by the City pertaining to property abutting any road or street listed in TDC 75.050(2). In addition, any property not abutted by a road or street listed in subsection (2), but having access to an arterial by any easement or prescriptive right, must be treated as if the property did abut the arterial and this Chapter applies.

(2) The following Freeways and Arterials are access limited roadways:

- (a) Interstate 5 Freeway;
- (b) Interstate 205 Freeway;
- (c) Pacific Highway 99W;
- (d) Tualatin-Sherwood Road at all points located within the City of Tualatin Planning Area;
- (e) Nyberg Street, from its intersection with Tualatin-Sherwood Road east to 65th Avenue, including the I-5 Interchange;
- (f) 124th Avenue from Pacific Highway 99W south to ~~Tonquin~~ **Basalt Creek Parkway**;
- (g) Lower Boones Ferry Road, from Boones Ferry Road to the Bridgeport/72nd intersection and from the Bridgeport/72nd intersection to the east City limits;
- (h) Boones Ferry Road at all points located within the City of Tualatin Planning Area;
- (i) 65th Avenue from its intersection with Nyberg Street south to City limits;
- (j) Borland Road from 65th Avenue east to Saum Creek;
- (k) Bridgeport Road from Lower Boones Ferry Road to the west City limits;
- (l) Martinazzi Avenue from Boones Ferry Road south to Sagert Street;
- (m) Sagert Street from Martinazzi Avenue to 65th Avenue;
- (n) Leveton Drive from 108th Avenue to 124th Avenue;
- (o) 108th Avenue from Leveton Drive to Herman Road;
- (p) Herman Road from Teton Avenue to 124th Avenue;
- (q) 90th Avenue;
- (r) Avery Street;
- (s) Teton Avenue;

**(t) Basalt Creek Parkway.**

If the Council finds that any other road or street is in need of access control for any reason, it may direct that the street or road be added to this section through a Plan Text Amendment.

(3) This Chapter takes precedence over any other TDC chapter and over any other ordinance of the City when considering any development, land use approval or other proposal for property abutting an arterial or any property having an access right to an arterial.

(4) The City may act on its own initiative to protect the public safety and control access on arterials or any street to be included by TDC 75.030, consistent with its authority as the City Road Authority. [Ord. 635-84, §45, 6/11/84; Ord. 982-97, §4, 8/4/97; Ord. 1103-02, 3/25/02; Ord. 1321-11 §52, 4/25/11; Ord. 1354-13 §22, 02/25/13; Ord. 1414-18, 12/10/2018]

**Section 75.060 Interim Access Agreement.**

(1) When a property abuts a freeway or arterial and a future street shown in **TDC Chapter 11**, Transportation, (**Figures 11-1 and 11-3**), or abuts or bisects the property, the City Manager may approve an interim access on the arterial through an agreement with the property owner if:

(1) The City Manager finds that at the current time the construction of the new street shown in **TDC Chapter 11**, Transportation, (**Figures 11-1 and 11-3**), is impractical due to costs of right-of-way acquisition.

(2) The Interim Access Agreement must be signed by the property owner and contain the following provisions:

(a) A statement that the property owner receiving interim access dedicates the right-of-way for the new street as shown in **TDC Chapter 11**, Transportation, (**Figures 11-1 and 11-3**), if it would be on the property.

(b) A statement that the property owner agrees that at such time as the City Manager finds that it is practical to construct a new street as shown in **TDC Chapter 11**, Transportation, (**Figures 11-1 and 11-3**), the property owner agrees to pay for or construct its fair share of the new street when it is practical.

(c) A statement that at such time as the new street as shown in **TDC Chapter 11**, Transportation, (**Figures 11-1 and 11-3**), is constructed, the interim access must be closed and no longer used.

(d) A statement that the cost of this closure of the interim access must be borne by the property owner; and

(e) A statement that the City may enforce the Interim Access Agreement against the property owner, its successors, and assigns and seek any remedies available to the City at law and in equity.

(3) In granting the interim access the property owner may be required to share said interim access with adjacent properties.

(4) The interim access must be constructed in a manner to make it as efficient as possible. Improvements required as part of the interim access may include:

(a) A left turn lane;

(b) A right turn lane;

(c) Driveways constructed at street intersections to provide for truck turning movement;

(d) Dedication of additional right-of-way on the arterial;

(e) Installation of traffic control signals; and

(f) Limitation of new driveways to right turn in, right turn out movements by construction of raised median barriers or other means.

(5) Any interim access approved in accordance with this chapter must be set forth in the form of a written agreement, approved by the City Attorney. The agreement must be verified by the owner in the manner provided for deeds and restrictions on real property. The agreement must bind the parties thereto as well as their heirs, successors in interest and assigns and must not be modified without the express written approval of the City, and the agreement must be recorded in the deed of records for the County in which the property is located. [Ord. 635-84, §51, 6/11/84, §75.090(7); Ord. 743-88, §30, 3/28/88; Ord. 1103-02, 3/25/02; Ord. 1354-13 §25, 02/25/13; Ord. 1414-18, 12/10/2018]

#### **Section 75.070 Existing Driveways and Street Intersections.**

(1) Existing driveways with access onto arterials on the date this chapter was originally adopted are allowed to remain. If additional development occurs on properties with existing driveways with access onto arterials then this Chapter applies and the entire site must be made to conform with the requirements of this chapter.

(2) The City Manager may restrict existing driveways and street intersections to right-in and right-out by construction of raised median barriers or other means. [Ord. 635-84, §48, 6/11/84; Ord. 982-97, §7, 8/4/97; Ord. 1414-18, 12/10/2018]

**Section 75.100 – Spacing Standards for New Intersections.** Except as shown in [TDC Chapter 11](#), Transportation, ([Figures 11-1](#) and [11-3](#)), all new intersections with arterials must have a minimum spacing of one-half mile between intersections.



**Section 75.110 – Joint Access Standards.** When the City Manager determines that joint accesses are required by properties undergoing development or redevelopment, an overall access plan shall be prescribed by the City Manager and all properties shall adhere to this. Interim accesses may be allowed in accordance with **TDC 75.060** of this chapter to provide for the eventual implementation of the overall access plan. [Ord. 1414-18, 12/10/2018]

**Section 75.120 – Collector Streets Access Standards.**

(1) **Major Collectors.** Direct access from newly constructed single family homes, duplexes or triplexes are not permitted. As major collectors in residential areas are fully improved, or adjacent land redevelops, direct access should be relocated to the nearest local street where feasible.

(2) **Minor Collectors.** Residential, commercial and industrial driveways where the frontage is greater or equal to 70 feet are permitted. Minimum spacing at 100 feet. Uses with less than 50 feet of frontage shall use a common (joint) access where available.

(3) If access is not able to be relocated to the nearest local street, the City Manager may allow interim access in accordance with 75.060 of this chapter to provide for the eventual implementation of the overall access plan.

[Ord. 1414-18, 12/10/2018]

**Section 75.130 New Streets Access Standards.**

(1) New streets designed to serve as alternatives to direct, parcel by parcel, access onto arterials are shown in **TDC Chapter 11**, Transportation, (**Figures 11-1 and 11-3**). These streets are shown as corridors with the exact location determined through the partition, subdivision, public works permit or Architectural Review process. Unless modified by the City Council by the procedure set out below, these streets will be the only new intersections with arterials in the City. See map for changes

(2) Specific alignment of a new street may be altered by the City Manager upon finding that the street, in the proposed alignment, will carry out the objectives of this chapter to the same, or a greater degree as the described alignment, that access to adjacent and nearby properties is as adequately maintained and that the revised alignment will result in a segment of the Tualatin road system which is reasonable and logical.

(3) The City Council may include additional streets in **TDC Chapter 11**, Transportation, (**Figures 11-1 and 11-3**), through the plan amendment procedure. In addition to other required findings, the City Council must find that the addition is necessary to implement the objectives of this chapter. [Ord. 635-84, §53, 6/11/84; Ord. 743-88, §31, 3/28/88; Ord. 975-97, §3, 5/12/97; Ord. 1023-99, §11, 6/28/99; Ord. 1354-13 §27, 02/25/13; Ord. 1414-18, 12/10/2018]

**Section 75.140 Existing Streets Access Standards.**

The following list describes in detail the freeways and arterials as defined in **TDC 75.030** with respect to access. Recommendations are made for future changes in accesses and location of future accesses. These recommendations are examples of possible solutions and shall not be construed as limiting the City's authority to change or impose different conditions if additional studies result in different recommendations from those listed below.

**(1) INTERSTATE 5 (I-5)**

I-5 is a State facility and access is controlled by the State.

**(2) INTERSTATE 205 (I-205)**

I-205 is a State facility and access is controlled by the State.

**(3) PACIFIC HIGHWAY 99W**

(a) On the southeasterly side of Pacific Highway 99W access will be provided by Cipole Road, 130th Avenue, 124th Avenue and Hazelbrook Road. In addition to 130th Avenue, shared driveway accesses will be allowed between Tax Lots 2S1 21A 1800 (Grimm's Fuel, 18850 Cipole Road) and 1801 (Construction Equipment Company, 18650 99W), and Lots 2000 (no street address) and 2101 (Anderson Forge & Machine, 18500 99W). A shared driveway access will also be allowed between 130th Avenue and 124th Avenue. West of Cipole Road and south of Pacific Highway 99W access will be provided by a new street or private drive extending west of Cipole Road across from the proposed Cummins Drive/Cipole Road intersection.

(b) East of 124th Avenue on the southeasterly side of Pacific Highway 99W, property will access onto Tualatin Road or onto Hazelbrook Road. In this area a central access from Pacific Highway 99W consisting of one right-in and one right-out driveway may be allowed. The access point shall be located within the middle one-third of the frontage between 124th Avenue and Hazelbrook Road. The City Manager shall determine the final location at the time any portion of either site is developed.

(c) On the northwesterly side of Pacific Highway 99W access will be provided by Cipole Road and Pacific Drive. West of Cipole Road and north of Pacific Highway 99W access will be provided by Pacific Drive. Pacific Drive will be extended as a frontage road toward the 124th Avenue intersection as far as is practicable as determined by the City Manager. Past that point shared driveways shall be used as determined by the City Manager. Pacific Drive will be reconfigured to align with 130th Avenue to form a new intersection. From the reconfigured intersection with Pacific Drive and Pacific Highway 99W to 124th Avenue, interim accesses may be approved in accordance with TDC Chapter 75. Between 124th Avenue and the Tualatin River on the northwesterly side of Pacific Highway 99W existing accesses will remain except as noted below for development or redevelopment due to the median of Pacific Highway 99W these will be limited to right-turn in, right-turn out. Any redevelopment in this area will require that the driveway accesses be consolidated to a minimum number as determined by the City Manager.

#### **(4) TUALATIN-SHERWOOD ROAD**

**(a) Nyberg Street to Boones Ferry Road:**

Access to this section was purchased at the time of right-of-way acquisition. Access will be provided by Martinazzi Avenue and Boones Ferry Road. Notwithstanding other provisions of this Code, a single access onto Tualatin-Sherwood Road shall be allowed along the north side of this section in the block between Martinazzi Avenue and Boones Ferry Road; its exact location and configuration shall be determined by the City Manager.

**(b) Boones Ferry Road to 89th Avenue:**

All access to this property was purchased as part of the right-of-way acquisition. Access shall be limited to right-in, right-out access on the south side at Mohave Court and on the north side kitty-corner or opposite to Mohave Court. Full access shall be prohibited at these locations by means of a median barrier. An existing four-way intersection serving 89th Avenue, Old Tualatin-Sherwood Road, and a driveway of the Hedges Greene retail development (Tax Lot 2S123D 2600) located approximately 800 feet west of Boones Ferry Road.

**(c) 89th Avenue to Teton Avenue:**

(i) Tualatin-Sherwood Road access shall be limited as follows: On the north side of the road the Emery Zidell Commons Subdivision (Tax Map 2S1-23D) shall have two street accesses located at 90th Avenue across from 90th Court and at 95th Place at the west property line. The intersection of 90th Avenue with Tualatin-Sherwood Road shall remain a four-way intersection. The four-way intersection at the west line of the Emery Zidell Subdivision shall remain located across from 95th Place on the south side of Tualatin-Sherwood Road.

(ii) Between 95th Place and 97th Avenue on the north side of Tualatin-Sherwood Road, the two existing driveways may remain, but limited to right-in, right-out. A cross access will be developed to serve tax lots 2S1 23CA 200, 90000, 700, 800, 801 and 900 for access to 95th Place.

(iii) The cul-de-sac street system (of 97th Avenue) extends north with Potano Street as a stub to the west to serve Tax Lot 2S1 23CB 100. On the south side Tualatin Gardens Subdivision (Tax Lot 2S1 23DA, 1400) shall access onto Old Tualatin-Sherwood Road. Tax Lots 2S1 23DB 00600 and 2S1 23DC 00401 shall access onto 95th Place. Between 97th Avenue and Teton Road, Tax Lots 2S1 23CC 200 and 300 shall have a joint driveway access, and Tax Lot 400 shall have a cross access to either the joint driveway on Tax Lots 200 and 300 or a cross access over Tax Lot 500 to Teton Avenue.

(iv) A driveway extends south of Tualatin-Sherwood Road at 97th Avenue. The driveway provides access for Tax Lot 2S1 23 CD 300 and the six Tualatin Business West Tax Lots 2S123CD 700, 800, 900, 1000, 1100, and 1200 located between 95th Place and the properties to the west fronting Teton (2S1 23CC/1100, 1200, 1300). The properties fronting on Teton Avenue take

access from Teton Avenue. The Washington County water quality facility (Tax Lot 2S123CC 1000) is permitted the one existing service driveway adjacent to its east property line.

**(d) Teton Avenue to Avery Street/112th Avenue:**

(i) On the north side of Tualatin-Sherwood Road no new driveways will be constructed and existing driveways will be removed at the time of development or redevelopment. All of the properties will be served by either Manhasset Drive or 112th Avenue. 112th Avenue will connect to Myslony Street. Tax Lot 2S1 22DD 600 (Western Industrial Ce-ramics (2S1 22D/200) shall take access to Manhasset Street. An eastern extension off of the 112th Avenue/Myslony Street connection will terminate at and provide access to Tax Lot 2S1 22D 600 (Pascuzzi Investment LLC and may provide additional access for Tax Lot 2S1 22DD 100 (UPS) which has access from the west end of Manhasset Drive.

(ii) On the south side of Tualatin-Sherwood Road there will be no new driveways or streets. Development of property east of Tax Lot 2S1 27AA 90000 (Arlington Commons at Tualatin Condominiums) on Tualatin-Sherwood Road may be accomplished only with a joint access agreement with Lakeside Lumber through its driveways on Tax Lot 2S1 27AA 2000. Tax Lot 90000 shall have one access onto Tualatin-Sherwood Road. Properties between Arlington Commons at Tualatin and Avery Street on the south side are served from Avery Street and Avery Court and no driveway access will be constructed with Tualatin-Sherwood Road.

**(e) Avery Street/112th to Cipole Road.** On the north side of Tualatin-Sherwood Road between 112th Avenue and Cipole Road the area will be served by the following streets or driveways:

(i) 115th Avenue which will extend north to Amu Street.

(ii) 124th Avenue which will extend north and west to an intersection at 124th Avenue approximately 800 feet north of Tualatin-Sherwood Road.

(iii) 124th Avenue.

(iv) Cipole Road. The exact location and configuration of the streets or driveways shall be determined by the City Manager.

(v) On the south side of Tualatin-Sherwood Road between Avery Street and 120th Avenue the area will be served by the following street system:

(A) 115th Avenue.

(B) 120th Avenue, which may be restricted to right-in, right-out movements in the future.

The exact location and configuration of the streets shall be determined by the City Manager . No driveways will be constructed in this area and existing driveways will be removed. Tax Lot 2S127B 800 (Select Sales) shall have a cross access to 115th Avenue.

**(5) NYBERG STREET**

**(a) Tualatin-Sherwood Road to 65th Avenue:**

(i) West of I-5. On the south side between Fred Meyer and I-5 any development shall be served by the Fred Meyer driveway Tax Lot 2S1 24CA 200 or Urban Renewal Area Block 6) aligned with the Urban Renewal Area Block 2 driveway on the north side and shall not be granted any access to Nyberg Street. No additional driveways will be allowed.

(ii) East of I-5.

(A) On the north side of the Nyberg Woods development (Tax Lot 2S1 24A 2503) shall be limited to one signalized access and one right-in/right-out access. The driveway for Forest Rim Apartments (Tax Lot 2S1 24A 2800) may remain.

(b) On the south side, access to Tax Lot 2S1 24DB 200 (Shell) shall be limited to right-in, right-out. Tax Lot 2S1 24DB 100 (La-Z-Boy) access shall be aligned with the Nyberg Woods signalized access. The existing westside Nyberg Retail access shall be limited to right-in, right-out. Tax Lot 2S1 24DA 100 (Meridian Park Veterinary Hospital and 7Eleven) shall share a driveway that aligns with the 65th/Nyberg Street intersection. There will be no new additional driveways created in this section of roadway.

**(6) 124TH AVENUE**

(a) **Pacific Highway to Tualatin Road.** No street or driveway accesses on the west side of this intersection will be permitted. No driveway accesses shall be allowed between Pacific Highway 99W and Tualatin Road.

(b) **Tualatin Road to Herman Road.** Between Tualatin Road and Herman Road, access to 124th Avenue shall be limited to a street intersection at Leveton Drive. The area west of the 124th Avenue/Tualatin Road intersection and south of Pacific Highway 99W will be served by a cul-de-sac connecting to the westward extension of Leveton Drive.

(c) **Herman Road to Tualatin-Sherwood Road.** On the east side of 124th Avenue between Herman Road and Tualatin-Sherwood Road the area will be served by the following streets or driveways:

(i) A street intersection at Myslony Street.

(ii) A street or driveway intersection approximately 800 feet south of the Myslony Street/124th Avenue intersection extending east with an alternative to extend north to connect with Myslony Street a minimum of 150 feet east of 124th Avenue. Access may be limited to right in/right out as determined by the City Manager.

(iii) Cimino Street extending east and south to an intersection at Tualatin-Sherwood Road across from 120th Avenue. The exact location and configuration of the streets and driveways shall be determined by the City Manager.

(iv) On the west side of 124th Avenue between Herman Road and Tualatin-Sherwood Road the area will be served by the following streets or driveways:

(A) A driveway across from Myslony Street.

(B) A street or driveway intersection approximately 800 feet north of the intersection of Tualatin-Sherwood Road and 124th Avenue. The exact location and configuration of the streets or driveways shall be determined by the City Manager.

(d) **Tualatin-Sherwood Road.** Between Tualatin-Sherwood Road and ~~Tonquin Road~~ **Basalt Creek Parkway** access to 124th Avenue shall be limited to street intersections at ~~Blake Street~~ **Tonquin Road and one other location** and the ~~unnamed east-west collector street.~~ Depending on when this segment of 124th Avenue is constructed (possibly interim) connection to ~~Tonquin Road~~ May also be provided.

## **(7) LOWER BOONES FERRY ROAD**

### **(a) Boones Ferry Road to Childs Road.**

(i) On the south side of the road, Tax Lot 2S1 24AB 800 shall have its access located at its east property line. This access shall be combined with the access of the Mt. Hood Chemical Building (Tax Lot 2S1 24 700) at its west property line into one joint access.

(ii) On the north side of the road is a small lot (Leageld Development; Tax Lot 2S1 13DC/2000) the driveway of which shall line up with the intersection of Childs Road and Lower Boones Ferry Road.

### **(b) Childs Road to I-5 Freeway:**

(i) On the south side of the road the existing driveways may be allowed to remain. No new driveways will be permitted.

(ii) On the north side of the road, the existing driveways may be allowed to remain. No new driveways will be permitted.

**(c) I-5 Freeway northerly to Bridgeport Road:**

(i) On the west side, Hazel Fern Road shall intersect with Lower Boones Ferry Road, as Traveller's Lane.

(ii) On the east side, the Tri-Met park and ride shall be permitted two driveway accesses as determined by the City Manager.

**(d) 72nd Avenue to the east City limits:**

(i) On the north side access shall be permitted only by 65th Avenue and 63rd Avenue and a right-in, right-out driveway between 65th and 63rd Avenues. Between 63rd Avenue and the east City limits the properties fronting Lower Boones Ferry Road shall take access from 63rd Avenue.

(ii) On the south side access shall be permitted at 65th Avenue. Between 65th Avenue and the east City limits no new accesses shall be permitted. A median may be constructed to limit access to right-in, right-out.

**(8) BOONES FERRY ROAD**

**(a) North City Limits to the Tualatin River.** All existing driveways will remain. No new driveways will be permitted.

**(b) Tualatin River to Tualatin Road.**

(i) Between the River and Martinazzi Avenue on the south side, the access for the apartments (Tax Lot 2S1 24B 1500) will be closed and converted over to the Loop Road. The Loop Road will have a right-in, right-out connection to Boones Ferry Road between the river and Martinazzi Avenue.

(ii) On the south side of Boones Ferry Road between Martinazzi Avenue and the driveway for the White Lot (formerly Lot C), any development or redevelopment shall take access over the White Lot or from Martinazzi Avenue.

(iii) Between the White lot and 84th Avenue, all properties shall have combined accesses resulting in only one access on Boones Ferry Road. Between 84th Avenue and Tualatin Road on the south side, any redevelopment shall result in no driveways onto Boones Ferry Road and access shall be taken from 84th Avenue or Seneca Street.

(iv) On the north side Tax Lots 2S1 24BC 1301 and 1400 and Tax Lot 2S1 24B 1300 (Apartments by Hedges Creek: Kaplan) shall combine their driveways at a location to be determined by the design of the Martinazzi Avenue-Boones Ferry Road intersection. Further the properties shall combine their access into one on Lot 1300 across from the White lot's driveway. Between the Green (former Lot G) and Blue (former Lot H) Lots, any redevelopment of these properties shall remove the existing driveways and

take access from the public parking lots from a cross access between the two public lots. Between the Blue Lot and Tualatin Road any development or redevelopment shall have access off of Tualatin Road at the north edge of the property or over the Blue Lot.

**(c) Tualatin Road to Tualatin-Sherwood Road.**

(i) On the west side of this road is the Portland & Western Railroad (PNWR) tracks. There will be no access to Boones Ferry Road across the PNWR tracks except an access for a public street to the west side of the railroad tracks, centered on the centerline of Nyberg Street. The existing two driveways to the Tax Lot 2S1 23D 3400 (Sweek House also known as Willowbrook) shall be allowed a gated emergency access onto Boones Ferry Road, the other access shall be closed and access taken over Tax Lot 2S1 23D 2600 (Hedges Greene retail development) to Nyberg Street.

(ii) On the east side of this road, all redevelopment shall lead to elimination of all driveways onto Boones Ferry Road. Vehicular access to Boones Ferry Road in this section shall be limited to the Seneca Street intersection and Nyberg Street intersection. This will require interim access agreements per TDC 75.090.

**(d) Tualatin-Sherwood Road to Sagert Street.**

(i) On the west side, all existing driveways will be allowed to remain. On the frontage of the property of the demolished historic Tualatin Elementary School (Tax Lots 2S1 23DD 500 and 501), a new local street intersection is allowed on SW Boones Ferry Road that connects to a future public street on the Old Tualatin Elementary School property that extends north from Sagert Street in the approximate alignment of 90th Avenue. The new local street intersection may be located approximately 500 ft. north of the intersection with Sagert Street. Tax Lot 2S1 23DA 100 (the unnamed retail development at the intersection with Warm Springs Street will have one access aligned with Warm Springs.

(ii) On the east side, the driveway of McDonald's (Tax Lots 2S1 24CB 1201, 1301, and 1400) was closed and shall re-main closed. Any additional development on the Brock property (Tax Lot 2S1 24CB 2100) shall result in closure of this driveway to Boones Ferry Road. Any additional development on (Tax Lot 2S1 24CB 2200) (Tualatin West Center retail development) shall result in closure of this driveway to Boones Ferry Road. Between Warm Springs Street and Tualatin-Sherwood Road, as an option to closing the driveways at Brocks, and Tualatin West Center, it may be permissible to construct a raised median barrier or other improvements in Boones Ferry Road in this section to physically eliminate left turning movements, thus limiting all these driveways to right turn in, right turn out. Any redevelopment of the residential property between Mohawk and Sagert on the east side of Boones Ferry Road shall be accomplished in such a manner that the ultimate



access to this area is from a street off of Sagert Street at its intersection with 86th Avenue. This may require interim agreements in accordance with TDC 75.090. All existing driveways in this area will be allowed to remain so long as the use of the property does not change.

(e) **Sagert Street to Avery Street.** The existing driveways will be allowed to remain. Any redevelopment of any residential property between Sagert and Avery shall result in no additional driveways being constructed in this area.

(f) **Avery Street to Ibach Street.** South of Avery Street, the Sundae Meadows Subdivision and Tualatin Presbyterian Church (Tax Lot 2S1 26AC 301) shall access Boones Ferry Road via Siletz Drive. One additional street or private drive (Cherry Lane) will be allowed for the Boones Ferry Commons Condominiums (Tax Lot 2S1 26CA 90000).

(g) **Ibach Street to Norwood Road.** Development of these residential properties shall result in no more than two driveway accesses for Tualatin High School, one emergency access with no curb cut for Grahams Landing Townhomes Condos (Tax Lot 2S1 35BA 90000) and only street intersections for other properties. All street intersections on Boones Ferry Road between Ibach and Norwood shall be spaced a minimum of 500 feet apart.

#### **(9) 65TH AVENUE**

(a) **Nyberg to Borland:**

There will be no new additional drive-ways.

(b) **Borland Road to south city limits:**

A street connection will be constructed across from Sagert Street to serve property to the east of 65th Avenue.

#### **(10) BORLAND ROAD**

(a) **Between 65th and the Entrance to Bridgeport School:**

In this section of roadway, as the residential properties develop, all accesses to Borland shall be limited to street intersections. These street intersections shall be spaced a minimum of 500 feet apart. All development in this area shall be interconnected so there are no dead-end entrances from Borland Road.

(b) **Bridgeport School Entrance to Saum Creek:**

As the residential properties develop, all accesses to Borland shall be limited to street intersections. These street intersections shall be spaced a minimum of 500 feet apart. All development in this area shall be interconnected so there are no dead-end entrances from Borland Road. Access to Prosperity Park Road is allowed.

#### **(11) BRIDGEPORT ROAD**

(a) **72nd Avenue to the West City Limits.**

(i) On the north side, the existing driveways will be allowed to remain. No new driveways will be permitted.

(ii) On the south the existing driveways will be allowed to remain. No new driveways will be permitted.

**(12) 72ND AVENUE**

(a) **Bridgeport Road to North City Limits.** The existing driveways will be allowed to remain. No new driveways will be permitted.

**(13) MARTINAZZI AVENUE**

(a) **Boones Ferry Road to Seneca Street:**

(i) On the west side, any redevelopment on the Haberman and Soft Tough Dentistry property (2S1 24BC 1500 and 1503) or the unnamed retail development property with corner tenant Umpqua Bank (Tax Lot 2S1 24BC 1502) shall result in combining these two driveways into one driveway on Martinazzi Avenue, or the Halstin retail development property shall take access from the White Lot (former Lot C) to Boones Ferry Road.

(ii) On the east side the existing driveway shall be removed and access shall be taken off of the Loop Road.

(b) **Seneca Street to Nyberg Street.** No driveways shall be permitted. The raised center median prohibiting left turns in this area shall remain until driveways are removed. On the west side on Tax Lot 2S1 24BC 2702 (Wells Fargo Bank), the driveway shall be removed and access taken from Seneca Street or Nyberg Street. On the east side the driveway for Tax Lot 2S114B 2000 (Tualatin Center retail development Building 1) shall be removed and access taken from the Loop Road or Nyberg Street.

(c) **Nyberg Street to Tualatin-Sherwood Road.** There shall be no access to Martinazzi Avenue.

(d) **Tualatin-Sherwood Road to Warm Springs Street.** The only access shall be the existing Fred Meyer/Martinazzi Square driveway intersection.

(e) **Warm Springs Street to Sagert Street.** There shall be no additional access granted. The only street intersection will be Mohawk Street.

**(14) SAGERT STREET**

(a) Martinazzi Avenue to 65th Avenue. No new driveways or streets shall be allowed, except the City Manager may allow one driveway from the SE corner lot of Sagert and Martinazzi. This driveway may be restricted to right-in, right-out.

**(15) LEVETON DRIVE**

(a) 108th Avenue to 118th Avenue.

(i) On the north side of Leveton Drive, JAE (2S122B 200) shall align a driveway across from 118th Avenue and be permitted a second driveway approximately 50 feet from their east property line. Novellus (2S122AA 500 and 2S122AB 100) shall be permitted three driveways located approximately 25 feet and 950 feet from the west property line for Tax Lot 100 and 600 feet west of 108th Avenue for Tax Lot 500.

(ii) On the south side, Phight Inc. (2S122 300) shall be allowed a driveway aligned with the west Novellus (2S122AB 100) driveway and a driveway adjacent to their east property line. Fujimi (2S122 400) shall be allowed a driveway adjacent to their west property line and east property line. Tofle (2S122AD 400) shall be allowed a driveway aligning across from the Novellus (2S122AA 500) driveway and a second driveway approximately 260 feet west of 108th Avenue.

(b) 118th Avenue to 124th Avenue. The existing driveways will be allowed to remain. No new driveways will be permitted.

**(16) 108TH AVENUE**

(a) Leveton Drive to Herman Road.

(i) On the west side, Tofle (2S122AD 400) shall take access from Leveton Drive. The undeveloped property (2S122AD 500) shall be allowed one driveway onto 108th Avenue. The old Shulz Clearwater site (2S122AD 800) and then Northwest Pipe and Metal Fab (2S122AD 600 and 700) shall provide a joint driveway access. The Wahco Inc. property (2S122AD 900) shall take access from Herman Road.

(ii) On the east side, the DOT Inc. site shall have a driveway that aligns with Leveton Drive. The City Operations Center (2S122AD 200 and 300) will be permitted two driveways at locations to be determined by the City Manager.

**(17) HERMAN ROAD**

(a) Teton Avenue to 108th Avenue:

(i) On the north side, the existing driveways will be allowed to remain. No new driveways will be permitted. Airifco (2S123B 600) will be permitted one driveway adjacent to their west property line.

(ii) On the south side is the Portland & Western Railroad (PNWR) tracks. There will be no access to Herman Road across the tracks except for a shared driveway between the Kem Equipment (2S122AD 800) and Marshall Property (2S122AD 1000) located on the common property line. The Marshall Property (2S123BC 1000) shall take access from Teton Avenue.

(b) 108th Avenue to 118th

(i) On the north side the existing driveways will be allowed to remain. No new driveways will be permitted.

(ii) On the south side is the Portland & Western Railroad (PNWR) tracks. There will be no access to Herman Road across the tracks.

(c) 118th Avenue to 124th Avenue:

(i) On the north side the existing driveways will be allowed to remain. No new driveways will be permitted.

(ii) On the south side is the Portland & Western Railroad (PNWR) tracks. There will be no access to Herman Road across the tracks.

**(18) 90TH AVENUE**

(a) Tualatin Road to Tualatin-Sherwood Road. The existing driveways will be allowed to remain. No new driveways will be permitted.

**(19) AVERY STREET**

(a) Teton Road to Tualatin-Sherwood Road:

**(20) TETON AVENUE**

(a) Tualatin Road to Herman Road. The existing driveways will be allowed to remain. No new driveways will be permitted.

(b) Herman Road to Tualatin-Sherwood Road. The existing driveways will be allowed to remain. No new driveways will be permitted.

(c) Tualatin-Sherwood Road to Avery Street. The existing driveways will be allowed to remain. No new driveways will be permitted.

**(20) BASALT CREEK PARKWAY**

**(a) 124th Avenue to Boones Ferry Road. Access to the Parkway shall be limited to Grahams Ferry Road and Boones Ferry Road and one other location within the City's section of the Basalt Creek Planning Area.**

[Ord. 635-84, §54, 6/11/84; Ord. 786-89, 11/14/89; Ord. 859-92, §1, 2/24/92; Ord. 800-90, §2, 3 and 4, 3/26/90; Ord. 849-91, §41, 11/25/91; Ord. 879-92, §1, 10/12/92; Ord. 882-92, §26 and 27, 12/14/92; Ord. 975-97, §4, 5/12/97; Ord. 982-97, §9, 8/4/97; Ord. 1023-99, §12, 6/28/99; Ord. 1080-01 §1, 7/23/01; Ord. 1103-02, 03/25/02; Ord. 1080-01, 7/23/01; Ord. 1191-05, 6/27/05; Ord. 1234-07 §1, 4/9/07,

Chapter 75 – Access Management

Ord. 1309-10, §1. 8/23/10; Ord. 1321-11 §53, 4/25/11; Ord. 1354-13 §28, 02/25/13;  
Ord 1414-18, 12/10/2018]



# City of Tualatin

www.tualatinoregon.gov

UNOFFICIAL

## TUALATIN PLANNING COMMISSION

MINUTES OF March 21, 2019

### TPC MEMBERS PRESENT:

Alan Aplin  
Mona St. Clair  
Bill Beers  
Travis Stout

### STAFF PRESENT

Steve Koper  
Lynette Sanford  
Onnie Neumann

**TPC MEMBER ABSENT:** Janelle Thompson, Naomi White

**GUESTS:** Grace Lucini, John Lucini, Tom Re, Lee Leighton, Al Jeck

#### 1. CALL TO ORDER AND ROLL CALL:

Mr. Beers called the meeting to order at 6:33 PM and reviewed the agenda. Roll call was taken.

#### 2. APPROVAL OF MINUTES:

##### A. Approval of November 15, 2018 TPC Minutes

Mr. Beers asked for approval of the November 15, 2018 TPC minutes. MOTION by Aplin, SECONDED by Beers to approve the minutes as written. MOTION PASSED 4-0.

#### 3. ANNOUNCEMENTS/PLANNING COMMISSION COMMUNICAITON:

##### A. Introduction of new Planning Commissioner Naomi White

Steve Koper, Planning Manager, noted that we have a new Planning Commissioner, Naomi White. Since she was not in attendance, she will be introduced at the next meeting.

##### B. Recognition of outgoing Planning Commissioner Kenneth Ball

Mr. Koper stated that Kenneth Ball has accepted a position out of state and will no longer serve on the Planning Commission.

#### 4. COMMUNICATION FROM THE PUBLIC (NOT ON THE AGENDA):

None

These minutes are not verbatim. The meeting was recorded, and copies of the recording are retained for a period of one year from the date of the meeting and are available upon request.

## 5. ACTION ITEMS

### A. Election of a Chair and Vice Chair to represent the Tualatin Planning Commission

Mr. Aplin asked Mr. Beers if he would like to continue as Chair of the Planning Commission. Mr. Beers accepted. Mr. Aplin stated that he is willing to step down as Vice Chair and asked if Ms. St. Clair will be willing to serve – which she accepted. MOTION PASSED 4-0 in favor of Mr. Beers as Chair and Ms. St. Clair as Vice Chair of the Planning Commission for 2019.

### B. Basalt Creek Comprehensive Plan Update (File Nos. PTA19-0001 and PMA 19-0001)

Steve Koper, Planning Manager, stated that there were two errors in the findings, which have been corrected in the findings that will be presented to the City Council. In Table 1 on page 13 of the findings, the correct buildable acreage for the Basalt Creek Planning Area should be 3.6 acres for RH and 24.83 for RL. This changes the overall density figure for the City from 8.7 to 8.5 dwelling units per buildable acres to 8.5. The minimum standard of 8 is still met. On page 99 of the findings, under TDC 13.015, should read “development in the area will need to connect to eight gravity sewer mains.”

Mr. Koper gave a presentation which provided an overview of the staff report for the Basalt Creek Comprehensive Plan Update (File Nos. PTA 16-0001 and PMA 19-0001). Mr. Koper went through an overview of the process, project history, public engagement, and implementation process. The next step in the process following adoption of the amendments would be property-owner initiated annexations and then development applications.

Mr. Koper noted that the public engagement process included focus groups, design workshop, and two open house events. Mr. Koper added that this public engagement process also included updates to the City web site, mailed notice of proposed amendments, posted the notice in public places, interested parties were emailed, and the notice will be published in the Times newspaper this week.

Mr. Koper stated that the Comprehensive Plan update includes:

- Updates to the Comprehensive Plan text, figures, and maps.
- Updates to the Development Code text, figures, and maps
- Updates to the Transportation System Plan text, figures, and maps.

Mr. Koper stated the Comprehensive Plan is the guiding document for land development in Tualatin. It shows compliance with Oregon Statewide Planning Goals, Oregon Administrative Rules, and Metro Code. Changes proposed are Chapter 4 – Community Growth, Chapter 7 – Manufacturing Planning Districts, and

## Chapter 9 – Plan Map.

Mr. Koper stated that the Transportation System Plan (TSP) is part of the Comprehensive Plan. The TSP identifies the existing transportation system and future improvements necessary to support development in Tualatin consistent with adopted zoning designations. It also shows compliance with Oregon Statewide Planning Goals, Oregon Administrative Rules, and Metro Code.

Mr. Koper noted that the proposed updates expand the TSP to include the Basalt Creek Planning Area. This applies roadway types consistent with the Basalt Creek Concept Plan and Basalt Creek Transportation Refinement Plan.

Mr. Koper provided an overview of the Functional Classification Plan (Figure 11-1) which includes arterial and collector road designations and traffic signals, and the Bike and Pedestrian Plan (Figure 11-4), which includes the location of future bike lanes and sidewalks, as well as planned pedestrian and multi-use paths.

Mr. Koper noted that the Development Code text amendments include changes to the Neighborhood Commercial (CN) zone, the Manufacturing Park (MP) zone, and the Access Management chapter, which includes updates to identify access restrictions for streets within the Basalt Creek Planning Area.

The City implementation process includes City Council consideration of the Planning Commission's recommendation on the proposal on April 8, 2019. After Council adoption of the proposed amendments, it is estimated that property owners will be able to submit annexation petitions in Spring/Summer of 2019 and recently annexed property owners may be able to submit land use application in late 2019.

Mr. Koper concluded that the findings and analysis show compliance with the criteria applicable to the proposed amendments and requested that the Planning Commission forward a recommendation of approval of the amendments, as proposed, to City Council.

Mr. Beers asked if the audience members have any questions or comments. John Lucini asked whether there was a storm water plan map. Mr. Koper replied that the specific location of future storm water infrastructure has not been determined. This will happen after the annexation process.

Grace Lucini asked about storm water not associated with street runoff. She noted that conduits created adjacent to Boones Ferry Road did not adequately deal with storm water. Mr. Koper answered that Boones Ferry Road is a Washington County facility until the area is annexed to Tualatin and Tualatin has roadway jurisdiction, the City does not have authority over it at this time.

Lee Leighton, of Mackenzie, was in attendance on behalf of the owners east of Horizon Christian High School. He noted that he is happy with the process going forward and is in support.



Tom Re wanted to make sure the storm water is taken care of.

Mr. Leighton added that he has reviewed the materials regarding storm water provisions and said that each development will require ponds and swales which will protect the downstream system.

Mr. Beers asked if people can apply for a conditional use/map amendment to dedicate some of the RL zone to RML. Mr. Koper replied that it is something that might be considered post-adoption of the proposed amendments.

Mr. Aplin inquired about the Manufacturing Business Park (MBP) zone to the west of the Manufacturing Park (MP) zone in the Basalt Creek Planning Area. Mr. Koper replied that the MBP zone is part of the SW Concept Plan Area.

MOTION by Beers, SECONDED by Stout to recommend adoption of PMA 19-0001 and PTA 19-0001 to City Council. MOTION PASSED 4-0.

### **C. 2018 Annual Report of the Tualatin Planning Commission**

Mr. Koper presented the 2018 Tualatin Planning Commission Annual Report. Every year the report is presented to Council – this year it will be filed with the Council on April 1, 2019 and is scheduled to be presented by Ms. St. Clair on behalf of the Commission on April 8, 2019.

The Municipal Code states that no later than April 1st of each year, the Commission shall file with the City Council its annual report of activities of the Commission. The annual report shall include a report of the activities by the Commission during the preceding year. In addition to specific recommendations to the City Council relating to the planning process, plan implementation measures within the City, or future activities of the Commission.

Mr. Koper noted that the Commission serves as a special advisory committee to the City Council, and is an important component of the City satisfying its obligation under Oregon Statewide Planning Goal 1 (Public Involvement). The Commission met ten times during the calendar year; two meetings were cancelled due to a lack of agenda items. Mr. Koper summarized the Commission's activities for 2018, which included approval of two variances and recommendations of approval on three Plan Text Amendments (Accessory Dwelling Unit standards, Amendments to Chapter 70 of the Development Code relating to floodplains, and the Tualatin Development Code Improvement Project). Furthermore, the Commission heard multiple updates on the Capital Improvement Plan, Tualatin Development Code Improvement Project (TDCIP), Basalt Creek, Parks and Recreation Master Plan, potential TDC Plan Text Amendment to increase building height in the Mixed Use Commercial Overlay district, and a Tualatin Moving Forward update.

MOTION by Beers, SECONDED by Aplin to approve the 2018 Annual Report of the Planning Commission. MOTION PASSED 4-0.

**6. FUTURE ACTION ITEMS**

Mr. Koper mentioned that a Conditional Use Permit (CUP) and Variance application that is planned to be submitted soon. The site is located off of 124<sup>th</sup> Avenue and Tualatin-Sherwood Road. PGE is proposing to build an integrated operations center on a 40 acre site – roughly the back 20 acres will be for the building. The CUP is for a wireless telecommunications facility and the Variance is due to the height of the tower.

Mr. Aplin inquired about a previously approved cell tower Variance and the appeal involving American Tower. Mr. Koper replied the Oregon Court of Appeals affirmed the City's previous approval without onion. The latest available information is that building permits for the tower have been issued, but inspections have not been scheduled.

**7. COMMUNICATION FROM CITY STAFF**

Mr. Koper suggested that as a future work item for the Commission, staff could assist with the development of administrative code amendments. Examples included examining the thresholds for types of Architectural Review applications or the review procedures for Subdivisions, which are currently processed by the Engineering Division. Mr. Koper noted that code amendments of this nature were identified as part of the Tualatin Development Code Improvement Project, but were planned to occur in the future due to their not being policy-neutral. Mr. Koper mentioned that there was the potential for this work item to proceed parallel to the policy update work that the City would be doing in the future as part of the Tualatin 2040 project. Mr. Beers was supportive of exploring this idea further at a future meeting. Mr. Aplin asked that staff identify and develop specific potential code changes for the Commission to consider.

**8. ADJOURNMENT**

MOTION by Aplin to adjourn the meeting at 7:32 pm. SECONDED by Stout. MOTION PASSED 4-0.

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Lynette Sanford, Office Coordinator



## AFFIDAVIT OF MAILING

STATE OF OREGON                    )  
  ) ss  
COUNTY OF WASHINGTON        )

I, Lynette Sanford, being first duly sworn, depose and say:

That on the 5th day of March, 2019, I served upon the persons shown on Exhibit A, attached hereto and by this reference incorporated herein, a copy of a Notice of Hearing marked Exhibit B, attached hereto and by this reference incorporated herein, by mailing to them a true and correct copy of the original hereof. I further certify that the addresses shown on said Exhibit A are their regular addresses as determined from the books and records of the Washington County and/or Clackamas County Departments of Assessment and Taxation Tax Rolls, and that said envelopes were placed in the United States Mail at Tualatin, Oregon, with postage fully prepared thereon.

Dated this 12 of March, 2019

Lynette Sanford  
Signature

SUBSCRIBED AND SWORN to before me this 12 day of March, 2019.

Onnie Tashanne Neumann  
Notary Public for Oregon



My commission expires: 12.26.20

RE: PTA 19-0001 AND PMA 19-0001 – PROPOSES AMENDMENTS TO THE BASALT CREEK CONCEPT PLAN AND APPLY THE CITY OF TUALATIN COMPREHENSIVE PLAN, AND DEVELOPMENT CODE WITHIN THE BASALT CREEK PLANNING AREA UPON ANNEXATION OF PROPERTY TO THE CITY.



**THIS IS TO NOTIFY YOU THAT THE CITY OF TUALATIN HAS PROPOSED A LAND USE REGULATION THAT MAY AFFECT THE PERMISSIBLE USES OF YOUR PROPERTY AND OTHER PROPERTIES.**

**NOTICE IS HEREBY GIVEN** that on Monday, April 8, 2019 at 7:00 p.m., the City of Tualatin City Council will hold a public hearing to consider:

A Comprehensive Plan Text Amendment (PTA 19-0001) and Plan Map Amendment (PMA 19-0001) that would implement the Basalt Creek Concept Plan and apply the City of Tualatin Comprehensive Plan, and Development Code within the Basalt Creek Planning Area, upon annexation of property to the City. The Basalt Creek Planning Area is generally north of Basalt Creek Parkway and Greenhill Lane, south of Helenius Road and Norwood Rd., east of 124th Avenue, and west of Interstate 5.

This land use hearing notice is being sent to you to comply with Oregon Revised Statute (ORS) 227.186 (Measure 56), and requires the following language:

*Adoption of the proposed amendments may affect the permissible uses and/or change the value of your property and other properties in the affected zone/area.*

**The City Council public hearing will be held at  
7:00 p.m. on  
Monday, April 8, 2019  
Juanita Pohl Center,  
8513 SW Tualatin Road,  
Tualatin, OR 97062**

**PROPOSAL:**

The proposed amendments include updates to: Chapters 4, 7, 9, Figures 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, and Maps 9-1, 9-2, 9-4, 9-5, 12-1, and 13-1, of the Tualatin Comprehensive Plan; Chapters 51, 62, and 75, Figure 73-3, and Maps 72-1, 72-2, 72-3, and 74-1 of the Tualatin Development Code; and the Tualatin Transportation System Plan. The proposed amendments can be viewed at: <https://www.tualatinoregon.gov/planning/basalt-creek-area-planning>.

**TO COMMENT:**

You may comment in writing to the Planning Division by email to [skoper@tualatin.gov](mailto:skoper@tualatin.gov) or mail to the address listed below by **March 29, 2019** to be included in the City Council packet. Written and/or verbal testimony may also be presented to the City Council at the hearing. *Note: Failure to raise an issue with sufficient specificity to allow the decision-maker to the opportunity to respond precludes appeal to the Oregon Land Use Board of Appeals (LUBA) on that issue.*

**ADDITIONAL INFORMATION:**

For additional information concerning the proposal, please contact Steve Koper, Planning Manager at 503-691-3028 or [skoper@tualatin.gov](mailto:skoper@tualatin.gov).

A copy of the staff report, findings and draft Ordinance on PTA 19-0001/PMA 19-0001 will be available one week before the hearing at <https://www.tualatinoregon.gov/citycouncil> or upon request at the Planning Division (18880 SW Martinazzi Avenue, Tualatin, OR 97062) during business hours.



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City of Tualatin  
18880 SW Martinazzi Ave  
Tualatin, OR 97062

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PRSRT STD  
U.S. POSTAGE  
PAID  
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PERMIT NO. 11



City of Tualatin  
18880 SW Martinazzi Ave  
Tualatin, OR 97062

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AGHAZADEH-SANAEI MEHDI &  
23745 SW BOONES FERRY RD  
TUALATIN, OR 97062-9640

ANDERSON STEPHEN FRANK &  
8590 SW MIAMI ST  
WILSONVILLE, OR 97070-9798

BEWLEY ROY W JR & KELLEY J  
11290 SW TONQUIN LOOP RD  
SHERWOOD, OR 97140

BRAMEL ROBERT A & SHARON K REV  
23070 SW 112TH AVE  
SHERWOOD, OR 97140-9537

CHAMBERLAIN JOHN &  
9000 SW GREENHILL LN  
TUALATIN, OR 97062-9603

DAANE MARGARET L  
PO BOX 28  
ALSEA, OR 97324-0028

FOX LOIS C REV TRUST  
23550 SW GRAHAMS FERRY RD  
SHERWOOD, OR 97140-7216

HARRIS SUSAN  
22060 SW GRAHAMS FERRY RD UNIT C  
TUALATIN, OR 97062-8948

HICKOK TODD J &  
23855 SW BOONES FERRY RD  
TUALATIN, OR 97062-9639

ICE JAMES NEAL  
1348 SW TONQUIN LOOP  
SHERWOOD, OR 97140-9501

ALVSTAD RANDALL & KAREN  
23515 SW BOONES FERRY RD  
TUALATIN, OR 97062-9641

AUTUMN SUNRISE LLC  
485 S STATE ST  
LAKE OSWEGO, OR 97034-3937

BOCCI JAMES A & JULIA A  
23205 SW BOONES FERRY RD  
TUALATIN, OR 97062-9619

BRAUN LAURA  
11235 SW NOOTKA ST  
SHERWOOD, OR 97140-9543

CHILDS THOMAS L &  
23470 SW GRAHAMS FERRY RD  
SHERWOOD, OR 97140-9529

DAIISADEGHI MOHAMMAD HOSSEIN  
RE  
9393 SW 171ST AVE  
BEAVERTON, OR 97007-6101

GERTTULA DEBRA KAY &  
770 AVENUE S  
SEASIDE, OR 97138-7510

HELENIUS LLC  
PO BOX 1606  
LAKE OSWEGO, OR 97035-0806

HOLSTROM ERIC  
10545 SW TONQUIN LOOP  
SHERWOOD, OR 97140-9542

JOHANSEN MATTHEW &  
23740 SW GRAHAM'S FERRY RD  
SHERWOOD, OR 97140-9028

ANDERSON STEPHEN &  
8590 SW MIAMI ST  
WILSONVILLE, OR 97070-9798

BAZANT CHRISTINE LEE &  
36449 HWY 34  
LEBANON, OR 97355-9682

BOWEN EDWARD A  
640 SEA SPRAY PL  
BULLHEAD CITY, AZ 86442-4910

CATALDO MICHAEL C &  
11080 SW TONQUIN LOOP  
SHERWOOD, OR 97140-9540

CLARK KURT C &  
23170 SW BOONES FERRY RD  
TUALATIN, OR 97062-9619

FELLERS RICHARD R &  
15065 S KIRK RD  
OREGON CITY, OR 97045-8773

GROSSMAN JEFFERY A  
23605 SW BOONES FERRY RD  
TUALATIN, OR 97062-9641

HERBST PROPERTIES LLC  
10595 SW IBACH ST  
TUALATIN, OR 97062-8011

HOUSTON HOWARD W JR  
6214 LAKE WASHINGTON BLVD NE  
KIRKLAND, WA 98033-6804

JOHANSEN GARY C &  
120 GLENWOOD CIR  
ROSEVILLE, CA 95678-7024

LEDoux FAMILY TRUST  
23155 SW BOONES FERRY RD  
TUALATIN, OR 97062-9619

LEGEND HOMES CORPORATION  
735 SW 158TH AVE STE 130  
BEAVERTON, OR 97006-4914

LEGGETT ALBERT SCOT  
11150 SW TONQUIN LOOP  
SHERWOOD, OR 97140-9540

LEITGEB SHERMAN W &  
23200 SW GRAHAMS FERRY RD  
SHERWOOD, OR 97140-9529

LITERA JIRI  
9287 SW SWEET DR  
TUALATIN, OR 97062-7407

LOVITT ROBYN C &  
11400 SW NOOTKA ST  
SHERWOOD, OR 97140-9504

LUCINI JOHN W & GRACE N FAM TRU  
23677 SW BOONES FERRY RD  
TUALATIN, OR 97062-9641

MAST MARVIN R &  
23845 SW BOONES FERRY RD  
TUALATIN, OR 97062-9639

MCGUIRE BROS LLC  
947 SE MARKET ST  
PORTLAND, OR 97214-3556

MCLEOD RANDY FRANKLIN &  
23465 SW BOONES FERRY RD  
TUALATIN, OR 97062-9642

MINER RHONDA L  
449 SW 351ST RD  
CLINTON, MO 64735-8908

MOLEN JON A &  
11365 SW NOOTKA ST  
SHERWOOD, OR 97140-9543

MONEGO JOSEPH A &  
11190 SW TONQUIN PL  
SHERWOOD, OR 97140-9664

MORRIS MELVIN H & DIANE M REV L  
12100 AGATE RD  
EAGLE POINT, OR 97524-6556

NATIONSTAR MORTGAGE  
PO BOX 619093  
DALLAS, TX 75261-9093

OAKES LARRY M  
11220 SW TONQUIN RD  
SHERWOOD, OR 97140-9548

P3 PROPERTIES LLC  
PO BOX 691  
WHITE SALMON, WA 98672-0691

PARR STEVEN M & KATHRYN E  
10650 SW TONQUIN LOOP  
SHERWOOD, OR 97140-9532

PAUL JAMES V &  
10630 SW TONQUIN LOOP  
SHERWOOD, OR 97140-9532

POTTER DYLAN D &  
23405 SW BOONES FERRY RD  
TUALATIN, OR 97062-9642

RE THOMAS J & KATHRYN S  
19035 SW CHESAPEAKE DR  
TUALATIN, OR 97062-7722

RICHARDS DONALD P  
PO BOX 1488  
WILSONVILLE, OR 97070-1488

RILEY SHAWN O  
23365 SW BOONES FERRY RD  
TUALATIN, OR 97062-9643

SATTLER STEVEN E  
17225 SW GREEN HERON DR  
SHERWOOD, OR 97140-8973

SHAMBURG SCOTT A &  
PO BOX 829  
TUALATIN, OR 97062-0829

SHERWOOD GRAHAMS FERRY  
INVESTORS  
22400 SALAMO RD STE #106  
WEST LINN, OR 97068-8269

SHEVCHENKO DAVID &  
11015 SW TONQUIN LOOP  
SHERWOOD, OR 97140-9540

SHENES CHAD J &  
11125 SW TONQUIN LOOP  
SHERWOOD, OR 97140-9540

SPENCER DUDLEY &  
11300 SW NOOTKA ST  
SHERWOOD, OR 97140-9543

SUMMERS JARED J &  
10800 SW TONQUIN RD  
SHERWOOD, OR 97140-9558

SUMMERS STEVEN J  
PO BOX 1562  
WILSONVILLE, OR 97070-1562

THOMPSON LEE H & MARION B FOUND  
24170 SW GRAHAM'S FERRY RD  
SHERWOOD, OR 97140-7218

TYLER MARVIN L &  
PO BOX 242  
TUALATIN, OR 97062-0242

UNITED STATES OF AMERICA  
1002 NE HOLLADAY ST  
PORTLAND, OR 97232

VENABLES JOHN V TRUST &  
7120 SW 60TH AVE  
PORTLAND, OR 97219-1182

WALDO RONALD M TRUST  
10965 SW TONQUIN LOOP  
SHERWOOD, OR 97140-9535

WASHINGTON COUNTY  
1400 SW WALNUT ST MS 18  
HILLSBORO, OR 97123

WASHINGTON COUNTY  
169 N 1ST AVE MS 42  
HILLSBORO, OR 97124

WILLIAMS TOM K  
9300 SW NORWOOD RD  
TUALATIN, OR 97062-9618

WOODBURN INDUSTRIAL CAPITAL  
GROU  
PO BOX 1060  
WOODBURN, OR 97071-1060

YACKLEY DIANE M &  
23240 SW BOONES FY RD  
TUALATIN, OR 97062-9619





6605 SE Lake Road, Portland, OR 97222  
 PO Box 22109 Portland, OR 97269-2169  
 Phone: 503-684-0360 Fax: 503-620-3433  
 E-mail: legals@commnewsletters.com

**AFFIDAVIT OF PUBLICATION**

State of Oregon, County of Washington, SS I, Charlotte Allsop, being the first duly sworn, depose and say that I am the Accounting Manager of the **The Times**, a newspaper of general circulation, serving Bvtn/Tigard/Tualatin/Sherwood in the aforesaid county and state, as defined by ORS 193.010 and 193.020, that

**CITY OF TUALATIN  
 NOTICE OF HEARING  
 CITY OF TUALATIN, OREGON  
 A Comprehensive Plan Text Amendment (PTA 19-0001) and Plan Map Amendment (PMA 19-0001)  
 Ad#: 98012**

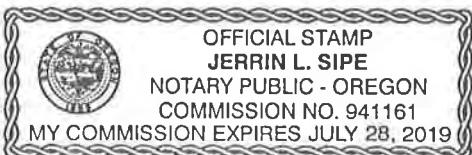
A copy of which is hereto annexed, was published in the entire issue of said newspaper(s) for 1 week(s) in the following issue(s):  
**03/21/2019**

Charlotte Allsop  
 Charlotte Allsop (Accounting Manager)

Subscribed and sworn to before me this 03/21/2019.

Jerrin L. Sipe  
 NOTARY PUBLIC FOR OREGON

Acct #: 101499  
**Attn: Lynette Sanford**  
 TUALATIN, CITY OF  
 18880 SW MARTINAZZI AVE  
 TUALATIN, OR 97062



**NOTICE OF HEARING  
 CITY OF TUALATIN, OREGON**

NOTICE IS HEREBY GIVEN that a public hearing will be held before the City of Tualatin City Council at 7:00 p.m., Monday, April 8, 2019, at the Juanita Pohl Center (8513 SW Tualatin Road, Tualatin, OR 97062).

**You are invited to attend and participate in the public hearing.** Under consideration is File Nos. PTA 19-0001 and PMA 19-0001:

- A Comprehensive Plan Text Amendment (PTA 19-0001) and Plan Map Amendment (PMA 19-0001) that would implement the Basalt Creek Concept Plan and apply the City of Tualatin Comprehensive Plan, and Development Code within the Basalt Creek Planning Area, upon annexation of property to the City. The Basalt Creek Planning Area is generally north of Basalt Creek Parkway and Greenhill Lane, south of Helenius Road and Norwood Rd., east of 124th Avenue, and west of Interstate 5.

**The public is invited to comment by e-mail, writing or by testifying at the hearing.** Written comments can be made: by email to Steve Koper (503-691-3028) at [skoper@tualatin.gov](mailto:skoper@tualatin.gov), by mail or in person (18880 SW Martinazzi Avenue), or submitted at the hearing. Failure to raise an issue at the hearing or in writing or to provide sufficient specificity to afford the City Council an opportunity to respond to the issue precludes appeal to the Land Use Board of Appeals (LUBA). Legislative hearings begin with the Mayor opening the hearing, presentation of the staff report, public testimony, questions of staff or anyone who testified by Council, after which the Mayor closes the public hearing, and Council may then deliberate to a decision and a motion would be made to either approve, deny, or continue the public hearing. The time of individual testimony may be limited.

**To view the application materials visit:** <https://www.tualatin-oregon.gov/planning/basalt-creek-area-planning>. Copies of the application materials, all supporting documents and applicable criteria are available for inspection at no cost and will be provided at reasonable cost. A staff report will available seven day prior to the public hearing. This meeting and any materials being considered can be made accessible upon request.

**If approved, PTA 19-0001 and PMA 19-0001** would include updates to: Chapters 4, 7, 9, Figures 11-1, 11 -2, 11-3, 11-4, 11-5, 11-6, and Maps 9-1, 9-2, 9-4, 9-5, 12-1, and 13-1, of the Tualatin Comprehensive Plan; Chapters 41, 51, 62, and 75, Figure 73-3, and Maps 72- 1, 72-2, 72-3, and 74-1 of the Tualatin Development Code; and the Tualatin Transportation System Plan.

**To grant the amendment,** Council must find the proposal meets the applicable criteria of the Oregon Statewide Planning Goals, Oregon Administrative Rules, Metro Code, and the Tualatin Comprehensive Plan and Development Code, including Tualatin Development Code Section 33.070.

CITY OF TUALATIN, OREGON  
 Publish March 21, 2019. TT98012



# AFFIDAVIT OF POSTING

STATE OF OREGON )  
 ) SS  
COUNTY OF WASHINGTON )

I, Lynette Sanford, being first duly sworn, depose and say:

That at the request of Sherilyn Lombos, City Recorder for the City of Tualatin, Oregon; that I posted two copies of the Notice of Hearing on the 11<sup>th</sup> day of March 2019, a copy of which Notice is attached hereto; and that I posted said copies in two public and conspicuous places within the City, to wit:

1. City of Tualatin – Development Services Building
2. City of Tualatin - Library

Dated this 11 day of March, 2019

Lynette Sanford  
Lynette Sanford

Subscribed and sworn to before me this 12 day of March, 2019.

Onnie Tashanne Neumann  
Notary Public for Oregon

My Commission expires: 12-26-20



**RE: PLAN TEXT AMENDMENT (PTA)19-0001 AND PLAN MAP AMENDMENT (PMA) 19-0001 TO IMPLEMENT THE BASALT CREEK CONCEPT PLAN.**



# City of Tualatin

[www.tualatinoregon.gov](http://www.tualatinoregon.gov)

## NOTICE OF HEARING CITY OF TUALATIN, OREGON

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CITY OF TUALATIN, OREGON

NOTICE TO THE TUALATIN TIMES: Please publish on March 21, 2019



Roger A. Alfred, Senior Assistant Attorney

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roger.alfred@oregonmetro.gov

August 9, 2018

Mayor Lou Ogden and Tualatin City Council  
City of Tualatin  
18880 SW Martinazzi Ave  
Tualatin OR 97062-7092

Re: Resolution No. 5392-18  
Basalt Creek Concept Plan

Dear Mayor Ogden and members of the Council:

This is Metro's response to issues raised by Peter Watts in his undated letter to the Tualatin City Council regarding the Basalt Creek Concept Plan. Metro is compelled to submit this letter and the attached evidence to correct inaccurate and misleading statements in the letter from Mr. Watts, and to ensure Metro's ability to participate effectively in any appeal to LUBA. Please include this letter and the attached exhibits in the record of city proceedings for Resolution No. 5392-18.

As you recall, the City of Tualatin entered into an IGA with Metro, the City of Wilsonville, and Washington County wherein the cities authorized Metro to resolve their dispute and make a binding determination regarding the appropriate planning designation for the Central Subarea of the Basalt Creek Planning Area. In the IGA, both cities agreed to support the Metro decision and to implement it through their concept planning for the area: "Each city agrees that it will prepare concept plans for the Basalt Creek Planning Area consistent with Metro's final decision and with Title 11" of the Metro functional plan. The cities also expressly agreed to adopt resolutions accepting the concept plan.

### **1. Procedural Issues**

Mr. Watts raises a procedural objection under the 1973 Oregon Supreme Court decision in *Fasano v. Board of Washington County Commissioners*. The *Fasano* decision was a very early cornerstone of Oregon land use law, establishing basic procedural requirements that did not previously exist for quasi-judicial land use proceedings. The continued relevance of *Fasano* today is minimal at best, because since 1973 the procedural safeguards for quasi-judicial land use proceedings that were first announced in that case have been incorporated by the Oregon legislature into state land use statutes, specifically ORS 197.763.

Regardless, neither *Fasano* nor ORS 197.763 apply to the pending city decision, nor to Metro's decision in the arbitration, because neither of those proceedings are quasi-judicial land use proceedings. As LUBA noted in *Weber Coastal Bells v. Metro*, 64 Or LUBA at 224 (2011), "the *Fasano* procedural rights only apply to quasi-judicial decisions," and not to legislative decisions such as this one and Metro's decision in Resolution No. 18-4885.

## **2. Title 4 Map**

Mr. Watts notes that the map of Metro Title 4 industrial and employment areas that was attached to the 2004 Metro ordinance adding the Basalt Creek area into the UGB does not identify Basalt Creek as an industrial or employment area. However, the map attached as Exhibit E to that ordinance does specifically show Basalt Creek as being added to the UGB with an industrial design type. Moreover, a subsequent amendment to the Title 4 map in 2010 via Metro Ordinance No. 10-1244B maps the Basalt Creek area with a Title 4 industrial designation.

There is no dispute that Basalt Creek was included in the UGB in 2004 as part of a UGB expansion that was specifically and exclusively intended to “increase the capacity of the boundary to accommodate growth in industrial employment.” That language is from the purpose statement of Metro Ordinance No. 04-1040B. There is also no dispute that Basalt Creek currently has an industrial designation on the Metro Title 4 map, which is the only map that is legally relevant today.

## **3. Industrial Land Supply**

Mr. Watts also cites the portion of the draft UGR that forecasts a net decrease in regional industrial jobs during the 2018 to 2038 time period. This prediction by Metro has little to do with designating the Central Subarea for future employment use. As stated in the Metro final decision:

“The evidence indicates that, although the Central Subarea may not be a likely candidate for a large footprint industrial facility, there is sufficient developable area on the site for multiple buildings housing smaller employment uses, as depicted in the Mackenzie and KPFF studies, such as office, flex business park, manufacturing, and craft industrial. This conclusion is supported by the City of Tualatin staff report to the City Council dated November 28, 2016, which concludes: ‘After consideration of OTAK’s proposal and all of the above factors together, staff believes the central subarea can be developed for employment over the long-term. While there are some hilly areas, the Manufacturing Park designation can be made flexible enough to include some smaller scale employment uses.’” Metro COO Recommendation, pages 19-20.

It should also be noted that a decrease in total “industrial” jobs does not necessarily equate to decreased need for industrial/employment land. Modern land use types, particularly those associated with advanced manufacturing and data centers, often do not employ the same number of workers as they have historically.

## **4. Buildable Land Inventory**

Mr. Watts asserts that the Central Subarea has been “mapped” by Metro for future residential use. That is not accurate. Rather, the area was counted in Metro’s draft Urban

Growth Report (UGR) as being potentially available for future residential development. More importantly, the draft UGR is just that – a draft – and Metro will be removing this area from the residential inventory before it is finalized this fall, thereby negating this argument entirely.

Metro is required by state law governing the regional UGB to prepare an inventory every six years of all land that is “buildable” for residential purposes in the entire Metro region. Metro then measures that inventory against future demand (*i.e.*, 20-year population growth projections) to determine whether there is enough land for potential future dwelling units inside the UGB to accommodate 20 years of residential growth. If not, Metro must expand the UGB.

Preparing an inventory of every single lot inside the UGB that could be developed or redeveloped in the next 20 years, and at what density, is a large and complex task; that work is done by Metro’s Data Resource Center (DRC), not by the Metro planning department. The DRC analysis of whether a particular parcel is potentially “buildable” for future residential use under the ORS 197.296(4) definition of that term is based primarily on local zoning, with input from city and county planning staff. In this instance, the Central Subarea of Basalt Creek does not yet have urban zoning. Because the DRC did not see anything in local zoning that would prohibit future residential use, and received no input from the cities regarding planned future uses coming out of the recent concept planning work, the DRC included it in the inventory as being potentially buildable for housing under ORS 197.296(4).

The central subarea has not been “mapped” or otherwise designated by Metro for future residential use. Rather, it was counted as potentially buildable for purposes of the draft UGR inventory based on its current zoning. In light of the recent concept planning efforts by the cities and Metro’s decision in the arbitration, the DRC will be removing the disputed area from the draft housing inventory for purposes of Metro’s pending UGB decision.

## **5. Population Forecast**

Finally, Mr. Watts argues that Metro’s population forecasting has underestimated the actual population growth in Tualatin and Wilsonville. There are two fundamental flaws in this argument: first, Mr. Watts is comparing apples to oranges by comparing the PSU/Metro population estimates with the US Census Bureau estimates; second, he appears to be treating the Census Bureau estimates as if they are hard data, when in reality they are only estimates, just like the PSU estimates. There are no actual population counts regarding the current population of Tualatin or Wilsonville. The Census estimates happen to be higher than the PSU estimates that Metro relies on for forecasting purposes. That does not mean that the Census is right and PSU is wrong, or vice versa, it just means they use different methods that result in different estimates.

Metro is required by state law to “distribute” projected population growth to all cities and counties in the Metro region whenever it completes a 20-year population forecast in the UGR (typically every six years). Local governments are then required by state law to adopt

Metro's forecasted population numbers and to use those figures for land use planning purposes. OAR 660-032-0030. Both PSU and the US Census Bureau undertake annual estimates of Oregon city populations. The only actual population counts are generated every ten years from the decennial census. Metro relies on the PSU estimates for purposes of making its 20-year forecast because, in Metro's experience, the PSU estimates tend to be more accurate than the Census Bureau in non-decennial years.

Metro's most recent population distribution to Tualatin occurred in 2016 via Metro Ordinance No. 16-1371 (attached as Exhibit A). That distribution includes the PSU estimate cited by Mr. Watts in his letter, which was 26,590 for the year 2015. Based in part on that estimate, Metro made a 25-year population forecast for Tualatin of 27,372 for the year 2040.

As noted in the attached Ordinance No. 16-1371, the Metro population distribution decision process began in July of 2015 and was coordinated with all cities in the Metro region. Metro provided all cities, including the City of Tualatin, with draft numbers and solicited their input during a comment period, which resulted in refinement of the numbers prior to the final distribution decision. By the time of final adoption of the ordinance in October 2016, there were no further objections or concerns from any cities in the region.

Mr. Watts notes that the Census Bureau estimate for Tualatin's population in 2016 is 27,545, and asserts that therefore "Tualatin has exceeded 25 years of population growth in the first year of the 25-year period." This statement is a logical fallacy, because the Census estimate is no more inherently right or wrong than the PSU/Metro estimate. Contrary to the heading on the table submitted by Mr. Watts, the Census numbers for 2016 are not "data," they are merely estimates.

The fact that the Census numbers are estimates is highlighted by more recent revisions to those estimates. Exhibit B to this letter is a current table showing the Census Bureau population estimates for all Oregon cities as of July 1, 2017. The estimates for the City of Tualatin are at page 6, and the estimate for 2016 has been reduced from the 27,545 figure cited by Mr. Watts to 27,459. The estimate for 2017 is now 27,478.

Predicting future population growth over a 20 or 25 year timeframe can never be done with 100% accuracy. However, Metro's historical accuracy has been very good. As described in Appendix 1 to the current Draft UGR at pages 41-43 (attached as Exhibit C), a comparison of past population forecasts and actual growth show that Metro's average forecast error for the last 15 years (2000 to 2015) is less than 0.3% per year for the entire region of approximately 1.5 million people.

There is no factual or logical basis for the assertion by Mr. Watts in his letter that Tualatin and Wilsonville "are far exceeding Metro's projected growth." The discrepancy between the PSU/Metro estimate and the Census Bureau estimate is a function of the fact that they are merely different estimates, based on different methodology. We will not know how accurate Metro's population forecast is for Tualatin until the next decennial census in 2020; however, as noted above, Metro's forecasts have proven to be reliably accurate over time.

## 6. Conclusion

Thank you for the opportunity to participate in this process. Metro looks forward to continuing to work with the cities on the planning and development of the Basalt Creek Planning Area.

Sincerely,



Roger A. Alfred  
Senior Assistant Attorney

Attachments - Exhibits A-C  
cc: Martha Bennett  
Elissa Gertler



EXHIBIT A

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ADOPTING THE	)	
DISTRIBUTION OF THE POPULATION	)	Ordinance No. 16-1371
AND EMPLOYMENT GROWTH TO YEAR	)	
2040 TO LOCAL GOVERNMENTS IN THE	)	Introduced by Chief Operating Officer
REGION CONSISTENT WITH THE	)	Martha Bennett in concurrence with
FORECAST ADOPTED BY ORDINANCE	)	Council President Tom Hughes
NO. 15-1361 IN FULFILLMENT OF	)	
METRO'S POPULATION COORDINATION	)	
RESPONSIBILITY UNDER ORS 195.036	)	

WHEREAS, ORS 195.025 designates Metro as the local government responsible for coordination of planning activities within the Metro district; and

WHEREAS, ORS 195.036 requires Metro, in coordination with other local governments within its boundary, to issue a population forecast for the entire area within its boundary to be applied by Metro and local governments within the boundary of Metro as a basis for changes to comprehensive plans and land use regulations; and

WHEREAS, on November 12, 2015 the Metro Council adopted a population and employment forecast for the region by Ordinance No. 15-1361 ("For the Purpose of Adopting the 2014 Urban Growth Report and Complying with Regional Growth Management Requirements Under ORS 197.299 and Statewide Planning Goal 14"); and

WHEREAS, Metro planning staff have begun work on a required update to the Regional Transportation Plan, which is scheduled for adoption in 2018 and will need to rely on the most current data regarding the distribution of the forecasted population and employment growth for the region; and

WHEREAS, Metro began the process of distribution of the forecasted population and employment in July 2015 by coordinating with the 24 cities and three counties within the Metro district regarding the proposed distribution, including a series of meetings and a review and comment period designed to improve the accuracy of the distributions; and

WHEREAS, Metro staff made presentations to its advisory committees (MPAC, MTAC, TPAC and JPACT) regarding the distribution and coordination with local governments; and

WHEREAS, Metro incorporated comments and suggestions from the cities and counties to refine the distribution; and

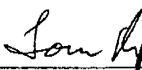
WHEREAS, the forecast distributions shown on the attached Exhibit A are expressed in terms of population, households, and employment, and the household estimates are the basis for Metro's residential capacity analysis; now, therefore,

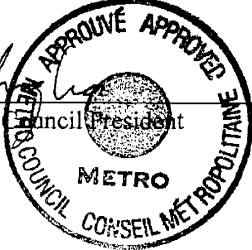
EXHIBIT A

THE METRO COUNCIL ORDAINS AS FOLLOWS:

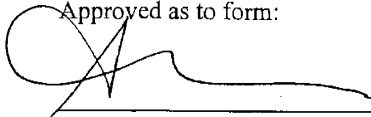
1. The distribution made to local governments, described in Exhibit A to this Ordinance and in the Staff Report dated August 29, 2016, of the regional population and employment forecast adopted by the Council in Ordinance No. 15-1361, is accepted and adopted as fulfillment of Metro's responsibilities regarding coordination of population forecasts under ORS 195.025 and 195.036 and is endorsed for use by the 24 cities and three counties as their own population and employment forecasts for their planning activities.
2. The Metro Chief Operating Officer shall make the distribution of population and employment available to each city and county in the district.

ADOPTED by the Metro Council this 13 day of October 2016.

  
Tom Hughes, Council President



Approved as to form:

  
Alison R. Kean, Metro Attorney

# EXHIBIT A

Exhibit A

## 2040 POPULATION DISTRIBUTED FORECAST

Created: July 12, 2016

City population prorated to match 2015 PSU population estimates.  
Estimates and forecasts are bounded by today's city limits.

2015 Population Estimate (PSU estimate)	FINAL 2040 Population Forecast
---	--------------------------------------

### INSIDE Metro UGB

#### Clackamas County

Gladstone	11,505	12,083
Happy Valley	17,510	32,314
Johnson City	565	561
Lake Oswego	37,300	40,311
Milwaukie	20,505	23,149
Oregon City	33,940	41,857
Rivergrove	495	515
West Linn	25,605	27,861
Wilsonville	22,870	27,046
Uninc. Clackamas + formerly Damascus	104,353	148,716
Uninc. Clackamas County / future city annex.	93,728	116,447
Damascus / area within 2015 city boundary	10,625	32,269
<b>Clackamas County inside UGB total *</b>	<b>274,648</b>	<b>354,414</b>

#### Multnomah County

Fairview	8,940	9,708
Gresham	107,065	123,162
Maywood Park	750	771
Portland	613,355	863,509
Troutdale	16,020	17,884
Wood Village	3,910	4,298
Uninc. Multnomah County /future city annex.	17,809	37,448
<b>Multnomah County inside UGB total *</b>	<b>767,849</b>	<b>1,056,780</b>

#### Washington County

Beaverton	94,215	112,651
Cornelius	11,900	17,432
Durham	1,880	1,996
Forest Grove	23,080	34,844
Hillsboro	97,480	128,901
King City	3,425	5,310
Sherwood	19,080	20,674
Tigard	49,280	68,701
Tualatin	26,590	27,372
Uninc. Washington County /future city annex.	213,493	294,279
<b>Washington County inside UGB total</b>	<b>540,423</b>	<b>712,160</b>

<b>TOTAL inside today's Metro UGB</b>	<b>1,582,920</b>	<b>2,123,354</b>
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### OUTSIDE Metro UGB (including urban reserves/ future UGB adds)

Rural Cities	42,355	59,608
Uninc. Clackamas County / future city annex.	84,667	100,838
Uninc. Multnomah County /future city annex.	9,641	12,315
Uninc. Washington County /future city annex.	25,802	62,017

<b>TOTAL outside Metro UGB</b>	<b>162,465</b>	<b>234,778</b>
--------------------------------	----------------	----------------

<b>Tri-county TOTAL</b>	<b>1,745,385</b>	<b>2,358,132</b>
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\* Cities in multiple counties are tabulated to the county of majority.

# EXHIBIT B

PEPANNRES

**Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017  
2017 Population Estimates**

1 - 241 of 241	Geography	April 1, 2010		Population Estimate (as of July 1)							
		Census	Estimates Base	2010	2011	2012	2013	2014	2015	2016	2017
	Adair Village city, Oregon	840	840	838	839	838	831	831	833	844	859
	Adams city, Oregon	350	350	351	355	355	354	353	351	353	353
	Adrian city, Oregon	177	177	177	175	173	174	172	171	174	174
	Albany city, Oregon	50,158	50,156	50,337	50,921	50,997	50,930	51,334	51,651	52,660	53,503
	Amity city, Oregon	1,614	1,614	1,616	1,618	1,621	1,609	1,630	1,630	1,659	1,688
	Antelope city, Oregon	46	46	46	46	46	46	46	46	48	49
	Arlington city, Oregon	586	586	589	611	611	613	606	585	583	583
	Ashland city, Oregon	20,078	20,078	20,082	20,270	20,364	20,355	20,582	20,689	20,897	21,117
	Astoria city, Oregon	9,477	9,477	9,483	9,506	9,574	9,419	9,531	9,567	9,788	9,862
	Athena city, Oregon	1,126	1,132	1,134	1,143	1,146	1,143	1,137	1,131	1,133	1,137
	Aumsville city, Oregon	3,584	3,588	3,602	3,677	3,704	3,824	3,930	4,000	4,062	4,108
	Aurora city, Oregon	918	911	919	931	933	936	949	970	1,001	1,020
	Baker City city, Oregon	9,828	9,828	9,814	9,781	9,746	9,763	9,766	9,676	9,723	9,783
	Bandon city, Oregon	3,066	3,066	3,064	3,063	3,061	3,023	3,024	3,053	3,091	3,112
	Banks city, Oregon	1,777	1,801	1,808	1,834	1,859	1,878	1,903	1,945	1,981	2,002
	Barlow city, Oregon	135	135	135	135	136	136	140	141	142	145
	Bay City city, Oregon	1,286	1,286	1,286	1,293	1,293	1,300	1,307	1,329	1,359	1,385
	Beaverton city, Oregon	89,803	89,786	90,146	91,364	92,388	93,205	94,632	95,851	97,422	97,514
	Bend city, Oregon	76,639	76,639	76,636	77,518	78,559	80,852	83,472	86,242	90,615	94,520
	Boardman city, Oregon	3,220	3,228	3,237	3,235	3,322	3,314	3,283	3,305	3,340	3,329
	Bonanza town, Oregon	415	415	414	415	410	409	407	409	411	416
	Brookings city, Oregon	6,336	6,364	6,353	6,381	6,312	6,304	6,316	6,360	6,426	6,440
	Brownsville city, Oregon	1,668	1,668	1,672	1,683	1,684	1,692	1,706	1,730	1,761	1,783
	Burns city, Oregon	2,806	2,811	2,803	2,797	2,764	2,735	2,720	2,721	2,762	2,772
	Butte Falls town, Oregon	423	423	423	426	427	430	433	436	440	444
	Canby city, Oregon	15,829	16,697	16,712	16,760	16,812	16,911	17,125	17,348	17,571	17,759
	Cannon Beach city, Oregon	1,690	1,690	1,693	1,687	1,691	1,678	1,682	1,691	1,713	1,728
	Canyon City town, Oregon	703	703	705	690	683	677	671	672	669	669
	Canyonville city, Oregon	1,884	1,885	1,884	1,891	1,893	1,887	1,888	1,893	2,023	2,044
	Carlton city, Oregon	2,007	2,007	2,008	2,018	2,025	2,030	2,050	2,064	2,117	2,147
	Cascade Locks city, Oregon	1,144	1,141	1,147	1,142	1,146	1,147	1,150	1,142	1,147	1,166
	Cave Junction city, Oregon	1,883	1,883	1,887	1,882	1,888	1,894	1,901	1,929	1,949	1,971
	Central Point city, Oregon	17,169	17,098	17,103	17,176	17,244	17,360	17,492	17,694	18,028	18,234
		734	734	734	731	725	722	718	723	729	737

Versions of this table are available for the following years:

- 2017
- 2016
- 2015
- 2014
- 2013
- 2012
- 2011

## EXHIBIT B

Geography	April 1, 2010		Population Estimate (as of July 1)							
	Census	Estimates Base	2010	2011	2012	2013	2014	2015	2016	2017
Chiloquin city, Oregon										
Clatskanie city, Oregon	1,737	1,747	1,746	1,747	1,742	1,738	1,752	1,749	1,785	1,815
Coburg city, Oregon	1,035	1,028	1,028	1,034	1,032	1,031	1,028	1,042	1,061	1,105
Columbia City city, Oregon	1,946	1,950	1,948	1,944	1,938	1,947	1,949	1,948	1,985	2,031
Condon city, Oregon	682	682	685	711	710	705	702	681	678	675
Coos Bay city, Oregon	15,967	15,973	15,964	15,918	16,004	15,987	15,956	15,999	16,185	16,295
Coquille city, Oregon	3,866	3,866	3,864	3,844	3,827	3,788	3,789	3,806	3,874	3,903
Cornelius city, Oregon	11,869	11,868	11,901	12,036	12,136	12,187	12,393	12,463	12,519	12,493
Corvallis city, Oregon	54,462	54,501	54,393	54,554	54,950	54,568	55,362	56,242	56,945	57,961
Cottage Grove city, Oregon	9,686	9,675	9,682	9,737	9,752	9,752	9,806	9,880	10,032	10,169
Cove city, Oregon	552	615	614	617	616	613	616	619	628	632
Creswell city, Oregon	5,031	5,045	5,050	5,068	5,055	5,081	5,116	5,194	5,267	5,375
Culver city, Oregon	1,357	1,357	1,355	1,355	1,362	1,367	1,387	1,426	1,461	1,508
Dallas city, Oregon	14,583	14,568	14,602	14,649	14,719	14,769	15,006	15,192	15,813	16,301
Damascus city, Oregon	10,539	10,519	10,536	10,590	10,642	10,690	10,782	10,891	11,034	11,155
Dayton city, Oregon	2,534	2,534	2,535	2,537	2,536	2,532	2,547	2,562	2,624	2,704
Dayville town, Oregon	149	149	149	148	146	145	145	145	144	145
Depoe Bay city, Oregon	1,398	1,398	1,397	1,388	1,393	1,397	1,398	1,415	1,441	1,472
Detroit city, Oregon	202	202	203	207	208	210	212	216	219	221
Donald city, Oregon	979	979	980	980	986	988	991	1,004	1,020	1,031
Drain city, Oregon	1,151	1,151	1,152	1,147	1,142	1,138	1,139	1,146	1,154	1,169
Dufur city, Oregon	604	604	606	605	608	609	609	615	624	638
Dundee city, Oregon	3,162	3,162	3,162	3,167	3,164	3,152	3,173	3,174	3,230	3,284
Dunes City city, Oregon	1,303	1,299	1,300	1,305	1,309	1,311	1,316	1,327	1,353	1,375
Durham city, Oregon	1,351	1,351	1,354	1,372	1,388	1,906	1,908	1,921	1,928	1,924
Eagle Point city, Oregon	8,469	8,469	8,486	8,560	8,599	8,635	8,716	8,819	8,966	9,139
Echo city, Oregon	699	699	701	707	713	705	704	702	703	705
Elgin city, Oregon	1,711	1,715	1,714	1,717	1,719	1,709	1,720	1,727	1,754	1,769
Elkton city, Oregon	195	193	193	193	192	191	192	192	194	198
Enterprise city, Oregon	1,940	1,938	1,940	1,928	1,879	1,870	1,871	1,882	1,912	1,950
Estacada city, Oregon	2,695	2,706	2,710	2,822	2,866	2,919	2,995	3,128	3,289	3,398
Eugene city, Oregon	156,185	156,430	156,506	157,153	157,976	158,248	160,058	162,815	165,665	168,916
Fairview city, Oregon	8,920	8,917	8,938	9,040	9,145	9,188	9,247	9,287	9,327	9,302
Falls City city, Oregon	947	952	955	956	961	960	972	983	1,009	1,032
Florence city, Oregon	8,466	8,474	8,480	8,512	8,516	8,521	8,544	8,611	8,801	8,947
Forest Grove city, Oregon	21,083	21,325	21,402	21,830	22,185	22,823	23,130	23,609	24,030	24,141
Fossil city, Oregon	473	473	475	466	464	453	445	438	437	447

# EXHIBIT B

Geography	April 1, 2010		Population Estimate (as of July 1)							
	Census	Estimates Base	2010	2011	2012	2013	2014	2015	2016	2017
Garibaldi city, Oregon	779	775	774	776	770	773	774	782	800	815
Gaston city, Oregon	637	637	638	649	657	663	673	687	700	708
Gates city, Oregon	471	471	471	475	477	479	483	487	495	500
Gearhart city, Oregon	1,462	1,454	1,458	1,463	1,473	1,469	1,490	1,507	1,550	1,593
Gervais city, Oregon	2,464	2,464	2,477	2,527	2,553	2,557	2,579	2,623	2,676	2,707
Gladstone city, Oregon	11,497	11,491	11,507	11,565	11,618	11,681	11,823	11,927	12,079	12,207
Glendale city, Oregon	874	874	873	872	868	864	865	872	877	887
Gold Beach city, Oregon	2,253	2,253	2,256	2,266	2,244	2,242	2,227	2,243	2,274	2,282
Gold Hill city, Oregon	1,220	1,220	1,222	1,227	1,233	1,240	1,249	1,257	1,271	1,284
Granite city, Oregon	38	38	38	38	37	37	37	37	37	36
Grants Pass city, Oregon	34,533	35,908	35,980	35,898	35,872	36,004	36,139	36,602	37,086	37,579
Grass Valley city, Oregon	164	164	165	162	161	160	160	157	159	164
Gresham city, Oregon	105,594	105,641	105,993	107,423	108,503	109,048	109,832	110,298	111,420	111,053
Haines city, Oregon	416	416	415	414	413	411	411	409	412	415
Halfway city, Oregon	288	290	289	289	288	287	287	284	286	288
Halsey city, Oregon	904	904	913	928	926	927	927	940	952	974
Happy Valley city, Oregon	13,903	14,321	14,516	14,780	15,572	16,169	17,161	18,324	19,470	21,196
Harrisburg city, Oregon	3,567	3,567	3,573	3,620	3,642	3,655	3,655	3,687	3,748	3,797
Helix city, Oregon	184	184	184	186	186	182	183	182	182	184
Heppner city, Oregon	1,291	1,291	1,295	1,293	1,280	1,279	1,264	1,267	1,276	1,268
Hermiston city, Oregon	16,745	16,757	16,818	17,022	17,120	17,150	17,159	17,154	17,258	17,428
Hillsboro city, Oregon	91,611	92,251	92,529	94,014	96,117	98,031	99,698	102,496	104,888	106,894
Hines city, Oregon	1,563	1,579	1,573	1,559	1,533	1,510	1,503	1,510	1,532	1,537
Hood River city, Oregon	7,167	7,113	7,144	7,199	7,303	7,362	7,413	7,554	7,588	7,686
Hubbard city, Oregon	3,173	3,176	3,187	3,193	3,205	3,221	3,261	3,297	3,397	3,501
Huntington city, Oregon	440	440	439	438	435	434	434	431	433	436
Idanha city, Oregon	134	139	139	140	141	141	142	144	146	148
Imbler city, Oregon	306	306	306	307	306	306	306	310	314	318
Independence city, Oregon	8,590	8,599	8,615	8,618	8,646	8,646	8,724	9,200	9,823	10,053
Ione city, Oregon	329	329	330	331	327	328	323	324	326	325
Irrigon city, Oregon	1,826	1,826	1,829	1,829	1,808	1,798	1,783	1,784	1,797	1,783
Island City city, Oregon	989	991	992	992	995	988	994	1,001	1,017	1,025
Jacksonville city, Oregon	2,785	2,785	2,784	2,790	2,794	2,824	2,832	2,868	2,885	2,894
Jefferson city, Oregon	3,098	3,102	3,107	3,134	3,149	3,154	3,199	3,227	3,279	3,321
John Day city, Oregon	1,744	1,746	1,752	1,737	1,717	1,702	1,679	1,673	1,667	1,669
Johnson City city, Oregon	566	570	570	576	579	582	592	590	600	608
Jordan Valley city, Oregon	181	181	181	178	178	174	172	172	173	173

# EXHIBIT B

Geography	April 1, 2010		Population Estimate (as of July 1)							
	Census	Estimates Base	2010	2011	2012	2013	2014	2015	2016	2017
Joseph city, Oregon	1,081	1,094	1,094	1,089	1,061	1,057	1,058	1,062	1,081	1,101
Junction City city, Oregon	5,392	5,349	5,367	5,496	5,515	5,591	5,660	5,754	5,999	6,101
Keizer city, Oregon	36,478	36,485	36,564	36,685	36,808	36,718	37,073	37,652	38,817	39,315
King City city, Oregon	3,111	3,127	3,136	3,185	3,333	3,514	3,655	3,679	3,817	3,892
Klamath Falls city, Oregon	20,840	20,991	21,011	21,065	21,139	21,030	20,929	21,037	21,177	21,359
Lafayette city, Oregon	3,742	3,742	3,742	3,749	3,777	3,777	3,845	3,954	4,108	4,259
La Grande city, Oregon	13,082	13,095	13,087	13,213	13,101	12,905	12,946	12,938	13,095	13,173
Lake Oswego city, Oregon	36,619	36,718	36,758	36,957	37,168	37,376	37,749	38,210	38,607	39,196
Lakeside city, Oregon	1,699	1,699	1,699	1,700	1,698	1,694	1,697	1,722	1,749	1,766
Lakeview town, Oregon	2,294	2,318	2,315	2,322	2,286	2,285	2,291	2,274	2,290	2,301
La Pine city, Oregon	1,653	1,653	1,653	1,665	1,678	1,714	1,749	1,785	1,824	1,864
Lebanon city, Oregon	15,518	15,517	15,532	15,664	15,741	15,908	16,043	16,266	16,600	16,878
Lexington town, Oregon	238	238	239	238	235	236	233	235	236	236
Lincoln City city, Oregon	7,930	8,287	8,282	8,269	8,288	8,332	8,345	8,496	8,663	8,905
Lonerock city, Oregon	21	21	21	22	22	22	22	21	20	21
Long Creek city, Oregon	197	197	197	196	194	194	191	191	191	190
Lostine city, Oregon	213	214	214	213	207	206	208	207	211	214
Lowell city, Oregon	1,045	1,042	1,044	1,045	1,058	1,063	1,070	1,084	1,101	1,115
Lyons city, Oregon	1,161	1,161	1,162	1,174	1,171	1,176	1,178	1,188	1,207	1,233
McMinnville city, Oregon	32,187	32,182	32,182	32,250	32,358	32,319	32,603	32,967	33,814	34,347
Madras city, Oregon	6,046	6,330	6,309	6,318	6,337	6,337	6,442	6,516	6,657	6,839
Malin city, Oregon	805	805	803	803	794	793	790	793	799	807
Manzanita city, Oregon	598	598	598	602	603	606	608	614	634	651
Maupin city, Oregon	418	418	419	417	421	419	419	422	428	437
Maywood Park city, Oregon	752	752	754	764	778	786	800	817	830	838
Medford city, Oregon	74,907	74,943	74,990	75,515	76,069	76,778	77,692	79,420	80,557	81,780
Merrill city, Oregon	844	844	842	841	831	833	819	820	826	834
Metolius city, Oregon	710	710	707	709	712	709	722	734	751	773
Mill City city, Oregon	1,855	1,853	1,854	1,869	1,864	1,865	1,875	1,864	1,889	1,914
Millersburg city, Oregon	1,329	1,329	1,333	1,346	1,345	1,351	1,426	1,534	1,672	1,951
Milton-Freewater city, Oregon	7,050	7,050	7,067	7,107	7,119	7,100	7,063	7,022	7,010	7,027
Milwaukie city, Oregon	20,291	20,292	20,303	20,352	20,375	20,383	20,501	20,642	20,775	20,801
Mitchell city, Oregon	130	133	134	131	130	126	124	122	121	124
Molalla city, Oregon	8,108	8,508	8,523	8,585	8,639	8,711	8,873	8,997	9,118	9,218
Monmouth city, Oregon	9,534	9,530	9,542	9,713	9,781	9,808	9,781	9,868	10,136	10,338
Monroe city, Oregon	617	617	616	619	618	615	617	621	629	642
	128	128	128	127	126	125	123	124	124	125

# EXHIBIT B

Geography	April 1, 2010		Population Estimate (as of July 1)							
	Census	Estimates Base	2010	2011	2012	2013	2014	2015	2016	2017
Monument city, Oregon										
Moro city, Oregon	324	324	326	320	321	317	316	312	316	325
Mosier city, Oregon	433	433	434	433	436	437	437	439	446	458
Mount Angel city, Oregon	3,286	3,379	3,381	3,381	3,388	3,370	3,375	3,496	3,483	3,536
Mount Vernon city, Oregon	527	527	528	526	519	517	510	512	511	511
Myrtle Creek city, Oregon	3,439	3,424	3,421	3,411	3,397	3,388	3,387	3,412	3,438	3,475
Myrtle Point city, Oregon	2,514	2,514	2,511	2,503	2,491	2,480	2,482	2,486	2,510	2,530
Nehalem city, Oregon	271	271	271	271	271	275	276	280	286	292
Newberg city, Oregon	22,068	22,123	22,189	22,333	22,398	22,416	22,565	22,642	23,321	23,609
Newport city, Oregon	9,989	9,989	9,976	9,935	10,062	10,083	10,048	10,221	10,402	10,592
North Bend city, Oregon	9,695	9,695	9,685	9,577	9,523	9,474	9,472	9,528	9,617	9,702
North Plains city, Oregon	1,947	1,947	1,953	1,985	2,010	2,022	2,051	2,097	2,137	2,159
North Powder city, Oregon	439	433	432	433	433	431	434	438	444	449
Nyssa city, Oregon	3,267	3,267	3,272	3,228	3,205	3,190	3,156	3,145	3,166	3,179
Oakland city, Oregon	927	927	925	924	920	916	917	921	929	940
Oakridge city, Oregon	3,205	3,200	3,201	3,211	3,208	3,204	3,208	3,201	3,247	3,294
Ontario city, Oregon	11,366	11,366	11,373	11,208	11,121	11,073	10,954	10,926	10,992	11,009
Oregon City city, Oregon	31,859	32,609	32,688	33,024	33,389	34,429	35,047	35,502	36,012	36,360
Paisley city, Oregon	243	243	242	243	239	238	239	237	239	239
Pendleton city, Oregon	16,612	16,612	16,648	16,767	16,829	16,833	16,662	16,676	16,661	16,677
Philomath city, Oregon	4,584	4,582	4,580	4,601	4,588	4,558	4,543	4,576	4,649	4,760
Phoenix city, Oregon	4,538	4,428	4,429	4,446	4,464	4,483	4,502	4,515	4,550	4,576
Pilot Rock city, Oregon	1,502	1,502	1,505	1,516	1,516	1,514	1,505	1,499	1,500	1,504
Portland city, Oregon	583,776	583,799	585,340	593,965	602,955	609,059	619,740	631,731	641,494	647,805
Port Orford city, Oregon	1,133	1,133	1,134	1,139	1,127	1,121	1,119	1,124	1,139	1,142
Powers city, Oregon	689	689	688	686	682	669	663	665	672	678
Prairie City city, Oregon	909	909	911	906	897	889	880	882	879	880
Prescott city, Oregon	55	58	58	58	58	58	48	48	51	50
Prineville city, Oregon	9,253	9,255	9,206	9,105	9,097	9,135	9,223	9,414	9,761	10,055
Rainier city, Oregon	1,895	1,916	1,915	1,912	1,906	1,910	1,911	1,907	1,951	1,982
Redmond city, Oregon	26,215	26,212	26,216	26,569	26,718	27,260	27,706	28,396	29,109	30,011
Reedsport city, Oregon	4,154	4,154	4,148	4,122	4,096	4,074	4,042	4,057	4,074	4,121
Richland city, Oregon	156	164	164	164	162	175	175	174	175	176
Riddle city, Oregon	1,185	1,185	1,186	1,180	1,175	1,169	1,170	1,177	1,183	1,199
Rivergrove city, Oregon	289	289	289	290	293	316	350	365	369	371
Rockaway Beach city, Oregon	1,312	1,312	1,311	1,320	1,317	1,325	1,327	1,344	1,375	1,401
	2,131	2,131	2,132	2,144	2,154	2,160	2,163	2,201	2,239	2,294



# EXHIBIT B

Geography	April 1, 2010		Population Estimate (as of July 1)							
	Census	Estimates Base	2010	2011	2012	2013	2014	2015	2016	2017
Rogue River city, Oregon										
Roseburg city, Oregon	21,181	22,025	22,011	21,784	21,846	21,813	21,892	21,888	22,078	22,321
Rufus city, Oregon	249	249	251	246	245	244	241	240	244	249
St. Helens city, Oregon	12,883	13,033	13,030	13,022	12,956	12,919	13,042	13,146	13,478	13,701
St. Paul city, Oregon	421	421	421	422	423	423	428	434	442	449
Salem city, Oregon	154,637	154,728	155,030	155,815	157,073	158,618	160,505	163,093	166,378	169,798
Sandy city, Oregon	9,570	9,598	9,647	9,796	9,889	10,009	10,274	10,567	10,929	11,149
Scappoose city, Oregon	6,592	6,697	6,706	6,767	6,751	6,777	6,834	6,907	7,116	7,262
Scio city, Oregon	838	838	839	848	849	852	855	880	929	960
Scotts Mills city, Oregon	357	357	357	358	364	364	366	369	373	384
Seaside city, Oregon	6,457	6,442	6,447	6,467	6,457	6,415	6,428	6,503	6,651	6,707
Seneca city, Oregon	199	199	200	198	197	195	193	207	207	207
Shady Cove city, Oregon	2,904	2,904	2,907	2,921	2,937	2,951	2,981	3,003	3,042	3,077
Shaniko city, Oregon	36	36	36	36	36	36	36	36	36	37
Sheridan city, Oregon	6,127	6,140	6,139	6,094	6,015	6,018	6,076	5,971	6,071	6,111
Sherwood city, Oregon	18,194	18,146	18,250	18,480	18,658	18,769	18,859	19,125	19,314	19,467
Siletz city, Oregon	1,212	1,210	1,208	1,200	1,203	1,202	1,203	1,221	1,246	1,267
Silverton city, Oregon	9,222	9,227	9,240	9,288	9,341	9,361	9,478	9,700	9,972	10,313
Sisters city, Oregon	2,038	2,038	2,039	2,077	2,121	2,188	2,335	2,464	2,572	2,701
Sodaville city, Oregon	308	308	308	311	313	310	310	318	325	331
Spray town, Oregon	160	159	160	156	155	152	149	146	147	150
Springfield city, Oregon	59,403	59,388	59,411	59,728	59,848	59,916	60,060	60,370	61,417	62,353
Stanfield city, Oregon	2,043	2,043	2,050	2,062	2,065	2,075	2,081	2,072	2,076	2,081
Stayton city, Oregon	7,644	7,675	7,680	7,702	7,728	7,754	7,825	7,913	8,037	8,129
Sublimity city, Oregon	2,681	2,685	2,693	2,717	2,768	2,812	2,842	2,863	2,901	2,930
Summerville town, Oregon	135	135	135	135	137	135	135	135	139	140
Sumpter city, Oregon	204	204	204	203	202	202	202	200	201	203
Sutherlin city, Oregon	7,810	7,844	7,841	7,826	7,794	7,806	7,823	7,867	7,928	8,025
Sweet Home city, Oregon	8,925	8,929	8,945	9,084	9,081	9,079	9,088	9,196	9,406	9,612
Talent city, Oregon	6,066	6,056	6,061	6,101	6,136	6,203	6,313	6,352	6,427	6,492
Tangent city, Oregon	1,164	1,164	1,170	1,182	1,182	1,188	1,206	1,220	1,244	1,297
The Dalles city, Oregon	13,620	14,965	15,004	14,948	15,052	15,025	14,995	15,114	15,324	15,646
Tigard city, Oregon	48,035	48,189	48,302	49,094	49,687	50,280	50,590	51,012	51,768	53,148
Tillamook city, Oregon	4,935	5,004	5,001	5,027	4,988	4,995	4,993	5,046	5,166	5,257
Toledo city, Oregon	3,465	3,465	3,462	3,449	3,459	3,462	3,456	3,492	3,546	3,604
Troutdale city, Oregon	15,962	15,956	15,998	16,200	16,384	16,453	16,542	16,600	16,632	16,554
Tualatin city, Oregon	26,054	26,120	26,167	26,444	26,696	26,810	26,845	27,064	27,459	27,478

# EXHIBIT B

Geography	April 1, 2010		Population Estimate (as of July 1)							
	Census	Estimates Base	2010	2011	2012	2013	2014	2015	2016	2017
Turner city, Oregon	1,854	1,854	1,858	1,871	1,884	1,883	1,928	1,971	2,022	2,095
Ukiah city, Oregon	186	186	186	188	190	192	191	191	190	191
Umatilla city, Oregon	6,906	6,906	6,925	6,996	7,001	6,985	7,077	7,065	7,102	7,132
Union city, Oregon	2,121	2,121	2,120	2,124	2,117	2,102	2,116	2,129	2,172	2,188
Unity city, Oregon	71	71	71	70	70	71	70	67	67	69
Vale city, Oregon	1,874	1,874	1,877	1,853	1,853	1,830	1,802	1,800	1,785	1,793
Veneta city, Oregon	4,561	4,558	4,568	4,600	4,623	4,643	4,706	4,755	4,893	5,016
Vernonia city, Oregon	2,151	2,165	2,166	2,162	2,154	2,134	2,137	2,138	2,196	2,240
Waldport city, Oregon	2,033	2,063	2,061	2,049	2,064	2,080	2,085	2,120	2,152	2,198
Wallowa city, Oregon	808	814	814	811	794	790	791	795	803	818
Warrenton city, Oregon	4,989	5,022	5,036	5,099	5,160	5,116	5,199	5,300	5,454	5,602
Wasco city, Oregon	410	410	413	407	406	399	397	391	397	405
Waterloo town, Oregon	229	229	229	231	233	233	233	238	241	246
Westfir city, Oregon	253	251	251	251	251	252	252	255	259	263
West Linn city, Oregon	25,109	25,100	25,144	25,341	25,539	25,805	26,077	26,346	26,613	26,703
Weston city, Oregon	667	667	668	675	675	672	669	642	644	646
Wheeler city, Oregon	414	414	415	418	416	416	415	421	429	436
Willamina city, Oregon	2,025	2,033	2,035	2,042	2,055	2,063	2,084	2,104	2,161	2,200
Wilsonville city, Oregon	19,509	19,508	19,530	19,543	20,511	21,453	22,008	22,700	23,671	24,058
Winston city, Oregon	5,379	5,380	5,376	5,364	5,333	5,312	5,314	5,347	5,387	5,452
Woodburn city, Oregon	24,080	24,067	24,090	24,071	24,144	24,310	24,638	25,060	25,525	25,780
Wood Village city, Oregon	3,878	3,878	3,886	3,936	3,971	3,988	4,020	4,035	4,052	4,040
Yachats city, Oregon	690	690	690	688	694	698	704	714	738	757
Yamhill city, Oregon	1,024	1,024	1,026	1,025	1,032	1,031	1,055	1,089	1,138	1,165
Yoncalla city, Oregon	1,047	1,047	1,048	1,043	1,039	1,036	1,038	1,045	1,055	1,066

**Note:**

The estimates are based on the 2010 Census and reflect changes to the April 1, 2010 population due to the Count Question Resolution program and geographic program revisions. See Geographic Terms and Definitions at <http://www.census.gov/programs-surveys/popest/guidance-geographies/terms-and-definitions.html> for a list of the states that are included in each region and division. All geographic boundaries for the 2017 population estimates series except statistical area delineations are as of January 1, 2017. The Office of Management and Budget's statistical area delineations for metropolitan, micropolitan, and combined statistical areas, as well as metropolitan divisions, are those issued by that agency in July 2015. An "(X)" in the 2010 Census field indicates a locality that was formed or incorporated after the 2010 Census. For population estimates methodology statements, see <http://www.census.gov/programs-surveys/popest/technical-documentation/methodology.html>.

The 6,222 people in Bedford city, Virginia, which was an independent city as of the 2010 Census, are not included in the April 1, 2010 Census enumerated population presented in the county estimates. In July 2013, the legal status of Bedford changed from a city to a town and it became dependent within (or part of) Bedford County, Virginia. This population of Bedford town is now included in the April 1, 2010 estimates base and all July 1 estimates for Bedford County. Because it is no longer an independent city, Bedford town is not listed in this table. As a result, the sum of the April 1, 2010 census values for Virginia counties and independent cities does not equal the 2010 Census count for Virginia, and the sum of April 1, 2010 census values for all counties and independent cities in the United States does not equal the 2010 Census count for the United States. Substantial geographic changes to counties can be found on the Census Bureau website at <http://www.census.gov/geo/reference/county-changes.html>.

**Suggested Citation:**

Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017

Source: U.S. Census Bureau, Population Division

Release Dates: For the United States, regions, divisions, states, and Puerto Rico Commonwealth, December 2017. For counties, municipios, metropolitan statistical areas, micropolitan statistical areas, metropolitan divisions, and combined statistical areas, March 2018. For cities and towns (incorporated places and minor civil divisions), May 2018.

# EXHIBIT C

Why do population forecasts seem more accurate than employment forecasts?

Population forecasts generally are closer to actual trends because the factors that drive population change are more easily predictable, including future assumptions about mortality and birth rates and future migration levels.

Mortality and birth rates vary over time, but generally these variations happen slowly and in relatively predictable patterns. Additionally, the differences between national rates and regional rates are generally similar so we can very reasonably rely on national data sets to predict regional natural population increases.

Predicting migration is a more difficult problem and suffers from greater historical deviations. Moreover, past migration trends may not be directly comparable to future levels because of the potential for sweeping economic fluctuations that could swing the migration level wildly up or down according to regional business cycles.

Why do employment forecasts have greater uncertainty?

There is greater uncertainty in the factors that influence economic growth, so employment forecasts will tend to diverge more. Employment forecasts are generally less accurate because there is a wider set of variables yet we are able to model only a simplified version of reality. There is also more uncertainty about the variables we use to predict regional employment. Besides more uncertainty in the input variables, the economic relationship between the regional economy and national/global economy is also subject to wider economic shifts. In other words, past performance is no guarantee of future results.

## **How Accurate are Metro's Regional Forecasts?**

### Summary

- Over long periods (ten to twenty years) Metro's population forecasts have been within ten percent of actual population change at the Metropolitan Statistical Area geography (recent Metro forecasts have been higher than observed population growth by about 3% to 4% over ten to fifteen years; Metro's 1985 forecast was 9.4% lower than observed population estimates twenty years later in 2005).
- Although Metro's regional forecasts are designed for twenty-year, long-term decision support and not short-term market timing, annual comparisons between past population forecasts and actuals/estimates are within an error band of about +/- 1 annual percent, excluding years for the Great Recession;
- Employment forecasts contain more uncertainty than population forecasts: Metro's 1985 forecast was only 3.3% low compared to 2005 observed employment. However, a forecast created in year 2000 was over 20% higher than actual employment for the Great Recession year of 2010. This emphasizes the point that Metro's forecasts are long-term trend forecasts and do not capture outlier events.

## EXHIBIT C

### Discussion of Historic Forecasts vs. Actuals

Metro has looked back at three forecasts: those created in 1985, 2000, and 2010 (Metro staff sometimes refer to the forecast creation year as the forecast “vintage”). Note that there’s not enough history gone by to make a legitimate comparison of the 2015 regional forecast.

#### 1985 vintage regional forecast

The 1985 regional forecast shows a -9.4 percent forecast error in population. This is a pretty accurate forecast given that it has a less than 1% annual error rate ( $-9.4\% / 15 \text{ years} = -0.62\%$ ). The negative sign indicates population grew faster than projected. This is not surprising since the region experienced an unexpected higher level of migration in the late 80’s and early 90’s as “equity migrants” cashed out of lucrative homes in southern California and settled here in the Portland area due to its milder climate and attractive real estate opportunities.

The 1985 regional forecast showed a miniscule percent forecast error in employment of -3.3 percent by the end of its 20 year forecast horizon in 2005. This forecast was remarkably accurate despite the economic turmoil (positive and negative) that played out during the 20 year time frame.

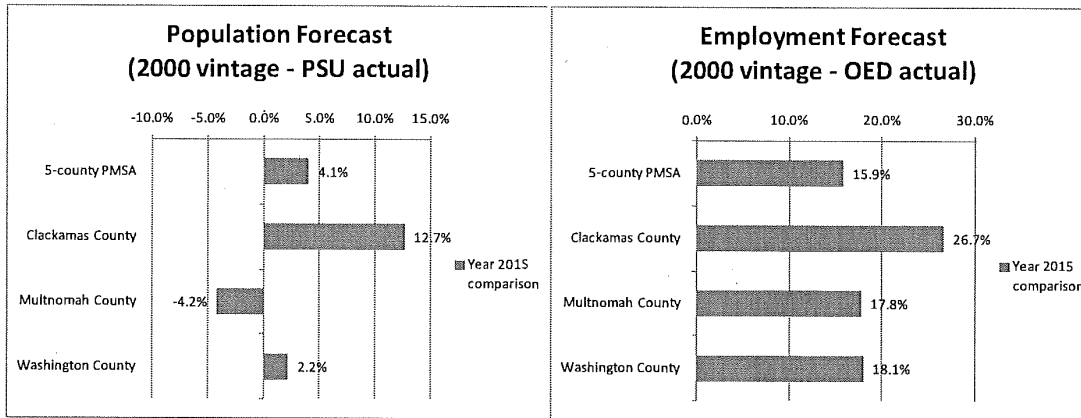
Lastly, in terms of business cycle comparisons, both 1985 and 2005 are roughly at the same stage of the business cycle – i.e., both are trending up and somewhere in the middle of the peak and trough of their respective recessions. For trend analysis point of view, this is a fair comparison.

#### 2000 vintage regional forecast (2002/04 UGM)

The 2000 regional population forecast shows a 3.2 percent forecast error in year 2010, and 4.1% error factor in year 2015. The average forecast error for the last 15 years (2000 to 2015) shows it be less than a 0.3% per year ( $4.1/15 = 0.273$ ).

The 2000 regional employment forecast shows an error margin of 22.1% in year 2010, and 15.9% in year 2015. This shows the unanticipated effect of the Great Recession. Going into and at its deepest trough, the forecast error was greatest in 2010, but with the subsequent recovery, the error factor narrows by year 2015 when the recession has long ended. However, those lost years of economic growth will take longer to recover to pre-recession trends.

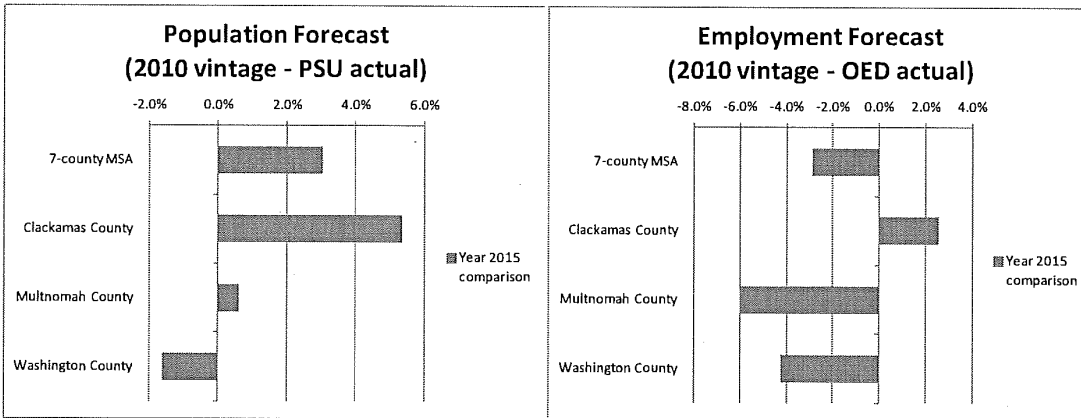
# EXHIBIT C



2010 vintage regional forecast (2010 UGM)

In 2010, the MSA has been revised and is now defined as a 7-county metropolitan region (Clackamas, Clark WA, Columbia, Multnomah, Skamania WA, Washington, and Yamhill).

The overall MSA population forecast error in 2015 is 3%, for an average annual error factor of 0.6%. The MSA employment forecast error in 2015 is -2.9%, for an average annual error of less than -0.6%. County-level error rates show a wider variance because they represent smaller regions and are less diversified than the MSA as a whole. Therefore structural economic differences add to the higher error factor in some cases.



Actual estimates for population are from PSU population research center. Actual job estimates are derived from the OR employment department.

Dear Members of the Tualatin City Council,

Thank you for accepting my Testimony into the record. I wanted to enter testimony previously provided to the Wilsonville Planning Commission regarding the Basalt Central Subarea ("Subarea"), testimony previously provided to the City Council regarding Tualatin's Buildable Lands Inventory, testimony to the Metro Council regarding issues with the Metro wide Buildable Lands Inventory ("BLI"), as well as testimony previously provided to Tualatin and Metro along with updated letters from OTAK and Stu Peterson. That testimony demonstrates that the Subarea did not meet the criteria for Industrial Land at the time that it was brought into the Urban Growth Boundary ("UGB"), that it is currently counted in Metro's BLI as "Single Family Residential," and it as well as the adjacent lands represent a statistically significant amount of the BLI for Washington County and the Metro Region.

The testimony also demonstrates that a significant amount of future multi-family housing BLI is on land currently providing affordable housing such as manufactured home parks. I have also included updated letters from commercial realtors, engineers, etc., regarding the feasibility of the Basalt Central Subarea for development. The evidence demonstrates that the Subarea can't feasibly be developed as Industrial Land, and is needed for future housing inventory.

Nearly two decades ago Metro commissioned a report, which I have attached, by ECONorthwest and Johnson Gardner to identify policies that would result in increasing density in new developments. The conclusion reached was that a constrained land supply and strong market demand would likely result in higher density, [p. 4-1] When land was added to the UGB in the next cycle, a majority of it was located in areas such as Damascus that were far from transportation infrastructure and urban services, and had steep slopes and topographic challenges. This effectively constrained buildable land supply, resulting in the higher rents and prices, making denser development financially feasible.

The desired policy outcome of density has happened and continues to happen. However, one collateral impact of high land prices is a significant increase in the cost of single-family homes and condos, and the inability for young Oregonians to purchase homes. The lack of residential lots in the Metro region has resulted in gentrification of formerly affordable neighborhoods. Designating land currently counted as single family residential, as Industrial would further exacerbate this problem. Metro's BLI does not predict a need for additional Industrial Land. Conversely the need for housing currently and in the future is very real. I ask that you adopt a residential designation for the Basalt Central Subarea. Thank you for your time and consideration.

Sincerely,



Peter O. Watts

# **Metro Urban Centers: An Evaluation of the Density of Development**

Prepared for

**Metro**

by

**ECONorthwest**

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With

**Johnson Gardner**

This report was funded by a Periodic Review  
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Land Conservation and Development

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# Summary

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## INTRODUCTION

Under the Goal 14 requirements of the periodic review process, Metro is doing research in three phases to evaluate the ability of mixed-use areas and corridors to provide additional development capacity, as an alternative to acquiring that capacity by expanding the regional urban growth boundary (UGB). This report is the product of the second phase. It takes as given that much of the development in Metro's Urban Centers is occurring at densities that are less than current zoning allows, and provides an economic analysis of two questions:

- ∞ What are the causes of the lower densities?
- ∞ What policies are available to influence those causes so as to increase the densities, and which are likely to have the greatest impact?

## WHY ARE ACTUAL DEVELOPMENT DENSITIES LOWER THAN ALLOWED DENSITIES?

We considered four potential general explanations for why actual development densities are lower than allowed densities in Urban Centers: measurement issues, site issues, market issues, and policy issues.

### MEASUREMENT ISSUES

This explanation of lower density would have addressed our initial assumption by investigating whether new development is really occurring at densities less than those allowed. Given the scope, schedule, and available data, we were not able to provide an independent, empirical estimate of the degree to which actual densities were lower than allowed densities. Our interviews with developers, however, provided confirmation that developers are, in fact, frequently unable or unwilling to build at the allowed densities. We believe that this anecdotal evidence is significant, and that it is unlikely that the perception that there is a difference between actual densities and allowed densities is inconsistent with reality or a result of inadequate measurement.

That finding does not mean that no projects of relatively high density are being built in Urban Centers: they are. For reasons described in this report, however, high-density development in urban centers usually has required public participation.

## SITE ISSUES

In attempting to build to higher densities, developers may encounter site-related issues that are difficult to overcome.

- ∞ **Environmental constraints.** The most notable example is the new riparian setback requirements under Title 3 of the Urban Growth Management Functional Plan. About 18% of the vacant land in both Regional Centers and Town Centers is Title 3-constrained. In some Centers, Title 3-constrained land makes up more than 50% of the vacant land.
- ∞ **Need for redevelopment.** Only 18% of the land in Urban Centers is vacant, compared to 28% of the land within the Metro UGB. When Title 3 land is removed from the vacant inventory, only 15% of the land in all Urban Centers is vacant. The fact that Urban Centers are to a great extent already developed suggests that, over the long run, redevelopment must occur for densities to achieve the 2040 targets.
- ∞ **Infrastructure constraints.** The benefits of using existing infrastructure may be countered by the costs of having to upgrade the infrastructure to accommodate higher densities. Even when this is not the case, there is usually a need for some additional infrastructure expenditure.
- ∞ **Parcel size constraints.** Many of the Urban Centers are older areas where parcelization has occurred to a high degree. About 92% of parcels in Regional and Town Centers are smaller than one acre, and 82% of vacant parcels are smaller than one acre. Though development at urban densities is possible on parcels as small as a quarter acre (even smaller), small parcels will usually make the unit cost (per square foot) more expensive. Small parcels in Urban Centers may need to be assembled before some types of commercial development occur on them.

While these issues are obviously important, we do not believe that they are, by themselves, the primary cause of the purported underbuilding. Rather, they contribute to the main cause: the high cost of development relative to land values and market rates of return.

## MARKET ISSUES

We see several reasons why the market is not building to the densities allowed by zoning.

## FINANCIAL FEASIBILITY

The most common refrain heard from developers interviewed was a variation of "We don't do it because it doesn't make any financial sense." The

following are the main issues affecting the financial feasibility of higher density in Urban Centers.

- ∞ **Parking.** The cost of structured parking is the most significant financial limitation cited with respect to achieving higher densities. The cost of traditional structured parking (multiple stories, above or below ground) substantially exceeds what can be justified on a financial basis by any associated revenue gain in most locations outside of the Central City. Surface parking is substantially less costly to provide when underlying land values are relatively low. In addition, existing surface parking lots may be fully leased and generating revenue greater than office space in the same Center, providing a significant return with none of the risks of development.

That said, there have been some recent advances in providing lower cost structured parking options. There are also specialized situations in which structured parking would be considered viable in suburban locations. In general, the high-density development that has occurred in Urban Centers has put parking at ground level beneath a concrete or steel podium on which two to four floors of a wood-frame building are constructed. The key to density in those developments is a low to very low number of spaces (e.g., 1.5, or even 1.0, parking spaces per dwelling unit for residential development). At those ratios, it is possible to achieve densities of 60 to 80 dwelling units per net acre. For retail space, which typically wants at least three spaces per thousand square feet of retail floor area, there must be roughly as much space for parking as there is for retail. In other words, it is hard to get beyond an aggregate FAR (floor to area ratio) of about 0.5 without structured parking. For office uses, the FARs can be perhaps 50% higher.

- ∞ **Construction Types.** Higher-density development often requires changes in construction types, which can yield higher costs per unit associated with shifts to concrete and steel construction. In general, the increase in either sales price or achievable lease rates associated with alternative construction type is insufficient to offset the higher costs. The key benefit from a financial perspective of changing densities through construction type is a higher yield, in terms of leasable square footage or units, associated with a particular land parcel. As a result, higher underlying land values can change the financial equation to favor higher density development forms. This higher-density development could only be supported if supportable rent levels rose.
- ∞ **Return on Risk.** Urban and redevelopment projects are perceived to have a greater level of risk, necessitating a higher level of return for some developers. Particular problems cited included difficulty in construction, relatively high soft costs, and interaction with jurisdictional planning efforts that sometimes add a layer of risk and bureaucracy.

- ∞ **Scale.** The scale of most infill and redevelopment opportunities is limited, while the complexity is substantially higher. This increases soft costs relative to the overall level of investment, decreasing yield.
- ∞ **Timing.** The limitations listed above reflect current market conditions. Over a longer planning horizon, shifts in usage patterns and land values may substantively alter the development environment. The high-density product may in fact be in demand today by consumers, but today's land prices do not always support a high enough rent to make the high-density product the most profitable land use.

## REDEVELOPMENT

A large number of the properties identified as redevelopable have a significant economic value in their current configuration, which is likely to be greater than the value of the land for redevelopment. Other key factors that can limit redevelopment include: owner disposition, current lease structure, leaseholder disposition, and the regulatory environment.

One of the most prevalent errors with respect to redevelopment, and higher-density development in general, is to *require* densities and development forms that are not viable. To the extent that development does not occur, densities and land values will not increase to the threshold necessary to trigger the desired development forms. Urban development forms represent an organic and iterative development process, in which development activity increases densities and demand, triggering redevelopment and higher densities over time.

## COMPETITIVE ISSUES

An impediment to substantive changes in rent levels in Urban Centers is competition from other areas, often neighboring Urban Centers. Many Regional Centers are participants in the same sub-regional market for certain goods and services. Another competition related problem for the Urban Centers is the loss of traditional office space demand to industrially zoned land. In terms of residential development, only highly desirable housing markets can support the values necessary to allow for high-density residential development, particularly ownership.

## POLICY ISSUES

Some public policies, while having merit in meeting other public goals, tend to increase the difficulty of building at the densities envisioned for Urban Centers:

- ∞ Minimum zoning requirements that are set too high and preclude the organic, iterative process of development and redevelopment
- ∞ System development charges and other fees
- ∞ Lengthy planning and permitting processes

- ∞ Outdated development standards
- ∞ Parking requirements
- ∞ ODOT restrictions on access to state facilities
- ∞ Community resistance

## SUMMARY OF EXPLANATIONS

- ∞ **The primary reason for underbuilding in urban areas is the lack of financial feasibility.** There is little evidence to support the conclusion that the high densities required in Urban Centers, in the absence of public assistance, are profitable under current market conditions, and that developers and property owners are either unaware that they could make more money by building denser, or prohibited from doing so by physical or policy constraints.
- ∞ **Land values are good indicators of when density becomes profitable.** If land values stay low, density does not work financially. If the public sector wants the private sector to build more densely it must do something to affect demand and supply conditions so that land prices increase,<sup>†</sup> or it must subsidize development cost so that there is profit to developing more density before the market would otherwise provide it.
- ∞ **Zoning is still ahead of the market.** Market conditions and public policy have not made land scarce enough, have not made central locations superior enough in terms of transportation or amenity, and have not seen demand great enough to cause land values to rise fast enough in Urban Centers that rents can be demanded that make high density profitable without public assistance (e.g., land assembly, fee waivers, tax abatement).
- ∞ **The fact that zoning is ahead of the market is not a condemnation of public policy.** Planning is looking ahead to encourage the metropolitan area to be a metropolis it is not quite ready to be. Getting lower than planned densities should be expected.

## CONCLUSIONS

We divide the policies for increasing density into two categories.

- ∞ **Incentive-based approaches** range from less direct to more direct incentives. Some allow density to occur; others provide guidance or information that facilitates density; some provide financial incentives

---

<sup>†</sup> Note that this is *not* a recommendation that public policy should arbitrarily adopt policies that make land more expensive. It is a statement that (1) if land becomes relatively more valuable than it is now, the private market will move toward more density of development, and (2) if public policy does things that increase the price of land, density will happen sooner.

through regulatory relief; and others provide direct financial assistance to developers.

- ∞ **Regulatory approaches** include policy tools that make it harder for developers to do what elected officials, and the citizens they represent, do not want. Regulatory approaches can impact development both in and out of Urban Centers. Within Urban Centers, government can mandate density levels, making it harder to develop at low densities. Outside Urban Centers, government can raise the cost of development by adding fees and other discouraging mechanisms, thereby encouraging development in Urban Centers.

Following are the policies that are the most *effective* ways to increase density in Urban Centers. They may not necessarily be the most *efficient* from an economic perspective, nor the most *equitable* from a societal one.

- ∞ **Continue to allow dense development** by keeping allowed densities ahead of the market, continuing to allow accessory dwelling units, and allowing mixed-use development.
- ∞ **Reduce entitlement, planning, and information costs to developers** through specific-area development plans, research, and education.
- ∞ **Provide regulatory relief** by streamlining the permitting process for development in Urban Centers, using targeted fee reductions for high-density development, and reviewing design standards.
- ∞ **Provide direct financial incentives for development** through the land assembly, tax abatement, tax-increment financing available through urban renewal districts, and other means.
- ∞ **Require high density within Urban Centers** by maintaining minimum-density zoning requirements at a level that is not too far ahead of the market, and by encouraging shadow platting, which requires the placement of buildings in a way that allows future infill.
- ∞ **Limit certain types of development outside the Urban Centers** by maintaining an Urban Growth Boundary and by limiting service extension to outlying areas within the UGB if contiguous development has not yet occurred where services have already been provided.
- ∞ **Increase development fees to better reflect true cost.** If, for example, traffic impact fees are tied to the number of parking spaces provided, then the cost of lower-density development increases relative to higher-density development.
- ∞ **Work to maintain high demand for working and living in the region,** by providing a range of natural, cultural, and economic opportunities.

## BACKGROUND

The periodic review process mandated by Oregon's land use planning laws requires compliance with the requirements of Goal 14. Among those requirements is one for an evaluation of whether there are additional efficiencies of land development (i.e., whether greater density is possible) as an alternative to expanding the Urban Growth Boundary (UGB). To address this requirement Metro is evaluating mixed-use areas and corridors for additional capacity.

The work program for that evaluation has three phases. In the first phase, completed in April 2001, Metro conducted interviews with local jurisdictions to identify housing and employment capacity not included in the 2017 capacity calculations and to identify barriers to achieving capacity within the 2017 timeframe and beyond. This report is the product of the second phase, the purpose of which is to provide an economic analysis of why Metro's Urban Centers are not developing at the densities anticipated. The third phase of the overall project will incorporate the findings of the first two phases to develop recommendations for possible policy amendments.

The impetus for the research in this report was the finding in Phase I that development in Metro's Urban Centers<sup>1</sup> has been occurring primarily at densities substantially below those that the plans and zoning in those centers allow. That finding, however, was based on anecdotes, not a systematic comparison of data on actual development to zoning. Thus, the first question that this study was to address was:

- ∞ Do data on recent development support the Phase I finding of underbuilding?

While substantial research was done on ways available data might be used to answer that questions, the conclusion was that the data were not adequate for the task without more work than the budget or schedule for this project would allow.<sup>2</sup> Thus, the study focused two subsequent questions, on the presumption that Phase I findings were generally correct (i.e., that there is, in fact, a substantial underbuilding of allowable densities in Urban Centers), which our evaluation of the Phase I evidence suggests is likely to be the case.

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<sup>1</sup> By "Urban Centers," we mean the seven regional centers and 30 smaller town centers in Metro's current 2040 Growth Concept. The different types of urban centers are often referred to at Metro as "design types." The Growth Concept also includes many station areas, main streets, and corridors, as well as the central city, but these areas are not being studied in this analysis. Regional centers and town centers are seen as having the greatest potential for higher density, mixed-use development.

<sup>2</sup> Appendix A of this report documents that conclusion.



The next two questions are the focus of this report:

- ∞ What are the causes of the lower development densities?
- ∞ What policies are likely to be most effective in influencing the causes, to increase the densities?

The focus of this study is on the *economic reasons* that lead to lower development densities. The Phase I report already gives many of the planning and political reasons.

This report was prepared by ECONorthwest (ECO), with assistance from Johnson Gardner (JG). A review panel consisting of staff from Metro, the Department of Land Conservation and Development, and the Portland Development Commission commented on drafts of this report.

This research was funded by a Periodic Review assistance grant from the Oregon Department of Land Conservation and Development. The contents and conclusions of this report do not necessarily reflect the positions or policies of the State of Oregon.

## METHODS

This study relies on the following methods to answer the questions above:

- ∞ **Review of previous Metro reports.** We reviewed Metro reports including *2040 Means Business* and the *Main Street Handbook*. The purpose was to get background and perspective for this study: what Metro wants to achieve in the Urban Centers, what policies it has adopted toward those ends, and what it has already found out through evaluations of its progress to date.
- ∞ **GIS analysis.** We began the project with the assumption that Metro's RLIS database would allow a comprehensive analysis of development, by type, by year, by sub-area (jurisdiction, design type, and local zone). The idea was that Metro data would allow us to match development information from building permits to 2040 design types. Our research, documented in Appendix A, showed why this analysis would not be possible with available Metro data.
- ∞ **Interviews and illustrative projects.** We identified projects in the Urban Centers that either succeeded or failed to reach the densities encouraged by the Urban Center designation.<sup>3</sup> We conducted interviews with developers involved in some of these projects to hear their explanations as to why their higher density projects did or did not succeed. We used the information from these interviews to illustrate various forces that work for and against higher density in

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<sup>3</sup> ECO and JGA chose these projects according to two main criteria: (1) the projects together should illustrate a variety of factors leading to success or failure of higher density development; and (2) adequate data should be available (which often meant that a developer had to be willing to be interviewed and otherwise share information about the projects).

the Centers. We used a combination of open-ended questions and specific prompts on various possible explanations.

- ∞ **Prototypical pro forma analysis.** We present simple pro forma financial analysis for development prototypes to illustrate the circumstances in which various densities of housing and employment make financial sense, and the circumstances in which they do not. The pro forma analysis illustrates the costs associated with prototypical projects, along with the likely revenues, the resulting profits, and the timing of the costs and revenues.

## ORGANIZATION OF THIS REPORT

This report consists of a summary, four chapters and two appendices. A description of each follows:

- ∞ **Chapter One: Introduction.** This chapter provides background to the project, explains the study methods, and outlines the structure of the report.
- ∞ **Chapter Two: Why are actual development densities lower than allowed densities?** This chapter draws on the interviews, prototypical pro forma analysis, and economic and planning theory to list and describe potential explanations for the Phase I finding that development densities have been lower than allowed in Urban Centers.
- ∞ **Chapter Three: What policies are likely to be most effective in increasing the densities of development?** This chapter addresses the potential causes of lower densities that we outlined in Chapter Two by evaluating and recommending potential policies that could increase development densities in Urban Centers.
- ∞ **Chapter Four: Conclusions.** This chapter summarizes the main findings of our analysis, draws some conclusions as to the main causes of lower than allowed densities in Urban Centers, and lists actions by Metro and local jurisdictions that would be most effective in increasing the likelihood that the Centers will densify within a reasonable timeframe.
- ∞ **Appendix A: Data evaluation.** This appendix describes our efforts to provide a more rigorous answer to the question: Are development densities in Urban Centers substantially lower than allowed densities? It describes chronologically the steps in our investigation that led, ultimately, to the conclusion that existing Metro data were not adequate to answer the question in the way that the contract scope of work had envisioned.
- ∞ **Appendix B: Example pro forma analysis.** This appendix provides examples of the prototypical pro forma financial analysis that we used to determine how different densities and financial contexts lead to financial success or failure.

# Why Are Actual Development Densities Lower Than Allowed Densities?

## Chapter 2

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Why actual development densities are lower than allowed densities is one of the two key questions that this report addresses. The other (addressed in the next chapter) is, What can the public sector do about it? To effectively do something requires some knowledge of cause and effect: what are the factors that cause the underbuilding? This chapter provides our answers to that question.

We divide the causes of underbuilding into four categories, and address each in a section of this chapter. These categories cover the *potential* explanations for the perceived underbuilding. Whether these are *real* explanations is what the analysis in this chapter addresses:

- ∞ **Measurement issues.** What are perceived to be lower densities can be in part a result of definitions and measurement.
- ∞ **Site issues.** Densities can be low because site constraints keep them from being any higher.
- ∞ **Market issues.** Densities can be low because the economics of developing to the densities that governments allow and desire do not currently work for the private sector, which is supposed to be building to those densities.
- ∞ **Policy issues.** Densities can be low because other public policies make building to the desired densities difficult.

These categories clearly overlap. As economists, we tend to see most of the issues as economic issues: site constraints could be overcome and costs imposed by public policy could be accommodated if demand were great enough. Ultimately, the reason that density does not get built, or built fast enough, is that the people responsible for the building (primarily private property owners and developers) believe that the expected return (given expected cost and demand) are too low to justify the financial risk.

That said, we believe that it is easier for most people to understand the issues by dividing them into categories. We draw the pieces together in a summary at the end of the chapter.

## MEASUREMENT ISSUES

In theory, the method of measurement and the definitions that are used for the categories that are measured can affect whether densities are perceived to be lower than those allowed.

First, there are different kinds of densities, each of which measures the density of something different. One may measure the density in terms of the amount of building space per acre (for example, by referring to a floor-to-area ratio or "FAR"), the number of dwelling units or commercial units per acre, or the number of residents or workers per acre. An Urban Center may meet the target FAR set by public policy but may fail to achieve the desired level of population or employment per acre if the amount of population or employment per square foot of building space is lower than anticipated. The reverse could also be true. In short, it is important to identify what aspect of density one cares about, and to measure *that specific density*.

The density standards of the 2040 Growth Concept are specified in terms of persons per acre (for both residential and employment-related development). That suggests that this study evaluate density in that way also. But getting reliable estimates of population and employment outside the decennial census is difficult.<sup>1</sup> In fact, a standard technique for estimating population growth is to use building permits as the independent variable. Thus, even though the primary specification of density may be persons per acre, a measurement based on dwelling units or square footage per acre may be more direct.

Second, there are both net densities and gross densities, which define differently the land by which the numerator (persons, building space, dwelling units, etc.) is divided. Gross densities include in the denominator all the land in a given area, including streets, sidewalks, waterways, steep slopes, and dedicated open space. Net densities include only net buildable land, excluding streets, sidewalks, waterways, and other non-buildable land area. Net densities are always higher, sometimes significantly, than gross densities.

Some public policies, most notably zoning ordinances, focus on net density. For example, they may specify a maximum FAR on a particular parcel, which is assumed to exclude public rights-of-way, significant waterways, parks, and other non-buildable space. Other public policies, including the 2040 Growth Concept density targets, focus on gross densities that include all the land within a certain area like a Urban Center. The distinction between gross and net densities is critical throughout any analysis that attempts to compare desired densities and actual densities.

Third, a point related to the previous one, gross density differs depending on the size of the area over which it is calculated. We have done previous

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<sup>1</sup> Employment, using the state Department of Revenue ES-202 data, is easier than population to estimate directly.

work on density at both a subdivision and regional scale. For a typical new single-family residential subdivision, population density might be about 10 persons per gross acre. If one expands to capture several adjacent subdivisions, some of which have multi-family walk-up apartments, that density might increase to 15 persons per acre. If the unit of analysis expands to a square mile, except in the most homogenous of suburbs, the land now includes many parcels that do not have housing: they have employment-related uses (office, industry, warehousing), public uses (e.g., parks), or they are vacant (and in some cases, permanently so: e.g., water bodies). Thus, at this scale and larger, gross population densities tend drop, though this affect is partially offset by the fact that at really large scales the geography can include central cities (e.g., downtown Portland) that has very high population density. In our analysis of the Metro UGB, we found that about 50% of the *total* land area was in parcels with residential zoning.

We planned to address these measurement issues in our analysis of data on actual densities in Urban Centers. As it turned out, however, our analysis could not proceed to the point where we could assess the impact of these issues. As described in Appendix A, the data on recent building permits in Urban Centers were not accurate or complete enough for us to confidently assess actual development densities at all. The data sets that Metro assembled from local jurisdictions were missing many projects completed within the past five years, the permit data that was provided often lacked information on the size of the development, and much of the permit data was not assigned to a specific parcel. Given the limits of the project budget and schedule, we were not able to overcome these obstacles.

Despite our inability to use building permit data to measure development densities, we found other evidence to support, at least anecdotally, the hypothesis that development is occurring below allowed densities in Urban Centers. Our interviews with developers provided confirmation that developers are, in fact, frequently unable or unwilling to build at the allowed densities. This corroborates Metro's findings in Phase I of this project, in which local planners told Metro that this was occurring.

We believe that this anecdotal evidence is significant, and that it is unlikely that the difference between actual densities and allowed densities is purely a measurement artifact. We think that when the exact same type of density is considered (for example, persons per gross acre), the difference between actual densities and allowed densities is still likely to be significant. We therefore proceed to the other possible explanations for underbuilding, which we believe have more explanatory power than the measurement issues.

## **SITE ISSUES**

In attempting to build to higher densities, developers may encounter site-related issues that are difficult to overcome. Some of these site issues are even created by high-density development. The four main types of constraints

are environmental constraints, the need for redevelopment, infrastructure constraints, and parcel-size constraints.

## ENVIRONMENTAL CONSTRAINTS

The basic question: are there environmental constraints in Urban Centers that make developing to allowed densities difficult?

Assume, for the moment, that there is a constant amount of open space and natural habitat per person that is needed to mitigate the effects of development. If that were true, then as densities increase the percentage of land that must be set aside for open space and natural habitat would have to increase, with two effects. First, it reduces developable land, perhaps counteracting the financial benefits to the developer of having more rent-paying residents or workers per acre. As a result, the developer may not choose to build at higher densities. Second, it increases the gross-to-net land ratio, moderating the effect of any increase in net density on overall gross density. In other words, the developer may choose to build to a high net density, but the required land set-aside may keep gross density from increasing much. In practice, the need for additional open space and habitat associated with development would typically be reflected in system development charges targeted towards parks and open space. If this demand is more urban in nature, the cost of providing proximate park or open space will be relatively high.<sup>2</sup>

An alternative assumption—one that comports more with empirical evidence in the densely urbanized areas of metropolitan areas—is that the amount of open space and natural habitat per person drops as density increases. If, as a matter of policy, Metro and local governments can accept that decrease, then the extra cost on development described in the previous paragraph may be reduced. It is also possible, however, that the impact of the reduction in acres of open space per person is offset by requirements for improvements to remaining open space that allows it to be used more intensely without any additional environmental impact (e.g., riparian buffers with trail systems).

Even where Urban Centers do not have more environmental constraints per acre than in other areas, the recent discovery of new environmental constraints may lead to less dense development than originally envisioned. The most notable example of this is the new riparian setback requirements that are being proposed as a way to protect aquatic habitat. Title 3 of the Urban Growth Management Functional Plan, the Stream and Floodplain Protection Plan, requires special development standards on the FEMA-

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<sup>2</sup> This theme—the equivalence of site and policy constraints to developer costs—will show up many more times in this report. Our assumption, supported by both economic theory and the experience of land developers, is that almost everything in the development decision gets converted back to costs, revenues, and the bottom line. No land is unbuildable, given enough demand and the absence of absolute policy prohibitions. Even water bodies are buildable (e.g., filling of the San Francisco Bay; houseboats on Lake Union and Portage Bay in Seattle).

defined floodplain and the area inundated by the 1996 flood, and it requires buffers along waterways and wetlands.

These Title 3 designations are slightly more prominent in Urban Centers than in the UGB as a whole. About 9% of land in Regional and Town Centers is subject to Title 3 constraints, compared with 8% in the entire Metro UGB. These Title 3 constraints affect a significant proportion of the remaining vacant land in Urban Centers. About 18% of the vacant land in both Regional Centers and Town Centers is in Title 3-affected areas, as shown in Table 2-1.

**Table 2-1. Title 3 Designation in Regional and Town Centers**

Design Type	Total Acres	Title 3 Acres	Title 3% of Acres	Title 3 Vacant Acres	Title 3 % of Vacant Acres
All Regional Centers	2,812	311	11%	38	19%
All Town Centers	3,995	330	8%	186	18%
<b>TOTAL CENTERS</b>	<b>6,807</b>	<b>641</b>	<b>9%</b>	<b>224</b>	<b>18%</b>
All land in Metro UGB	162,892	13,486	8%	7,615	17%

Source: ECONorthwest based on Metro Data Resource Center data, 2001

Though not shown in Table 2-1, our analysis found that in some centers, such as the Oregon City and Washington Square Regional Centers and the Tualatin Town Center, Title 3-constrained land makes up more than 50% of the vacant land.

## NEED FOR REDEVELOPMENT

Table 2-2 shows that most of the land in Urban Centers is already developed. Only 18% of the land in Regional and Town Centers is vacant. By comparison, 28% of the land within the Metro UGB is vacant. When Title 3 land is removed from the vacant inventory, only 15% of the land in all Urban Centers is vacant.

**Table 2-2. Vacant Land in Regional and Town Centers**

Design Type	Total Acres	Total Vacant Acres	% Vacant Acres	Vacant Non-Title 3 Acres	% Vacant Non-Title 3 Acres
All Regional Centers	2,812	199	7%	161	6%
All Town Centers	3,995	1,044	26%	858	21%
<b>TOTAL CENTERS</b>	<b>6,807</b>	<b>1,243</b>	<b>18%</b>	<b>1,019</b>	<b>15%</b>
All land in Metro UGB	162,892	44,804	28%	37,189	23%

Source: ECONorthwest based on Metro Data Resource Center data, 2001

The fact that Urban Centers are to a great extent already developed suggests that redevelopment—perhaps a lot of it<sup>3</sup>—must occur for densities

<sup>3</sup> We did not have the time to go to the next level of analysis and try to estimate what Metro sometimes refers to as land "productivity" in Centers (i.e., the amount of development that could occur if all vacant, buildable land were developed to its maximum allowed density, and if redevelopment were to occur at some reasonable rate).

to achieve the 2040 targets. The section below on market issues describes the financial difficulties involved in redevelopment.

## **INFRASTRUCTURE CONSTRAINTS**

Another site issue is the requirement for adequate infrastructure such as roads and sewers. Higher densities allow more persons per acre, but because of the greater use of infrastructure from increased activity on the land, higher densities also can require more expenditure per acre on infrastructure improvements. In some cases, this presents a financial obstacle that is difficult for developers to overcome. In other cases, the development may be allowed to proceed, but the market demand for the development dissipates if adequate infrastructure is not available. As with the need for habitat or open space, the need for some infrastructure expenditure for each person who is housed or employed on a parcel of land tends to counteract the financial benefits to developers of increased density.

It is not always the case that higher densities lead to higher infrastructure costs per acre; the marginal costs of each additional person per acre may be very low. But even in these cases, there is usually a need for some additional infrastructure expenditure. In some situations, such as one where road widening is required, the cost of the infrastructure improvement is very high regardless of the density, and any further intensification of development in a Urban Center may be limited. In cases of redevelopment and infill where development in Urban Centers makes use of existing infrastructure, there may be no need for further infrastructure expenditure, but this is likely to be the exception rather than the norm. It is more likely that the benefits of using existing infrastructure will be countered by the costs of having to upgrade the infrastructure to accommodate higher densities. The costs of expanding pipes and pavement in developed areas can be more expensive, per unit, than providing it new and complete at a greenfield site. In many cases, the only thing that makes the redevelopment possible is substantial public subsidy (e.g., the Portland Pearl District).<sup>4</sup>

## **PARCEL SIZE CONSTRAINTS**

Many of the Urban Centers are older areas where parcelization has occurred to a high degree. Table 2-3 shows the parcel size distribution of all land in Regional and Town Centers. Nearly all (92%) of parcels are smaller than one acre, though the majority (64%) of acreage is in parcels greater than one acre.

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<sup>4</sup> We are not commenting on whether such public subsidies are justified. They may well be, based on the assumption that healthy centers have other benefits (e.g., public amenity, avoided cost associated with disinvestment, better opportunities for transit to ameliorate traffic problems).



**Table 2-3: Parcel size distribution in Regional and Town Centers**

Parcel size (acres)	No. of Parcels	% of Parcels	No. of Acres	% of Acres
less than 0.25	8,661	66%	1,004	15%
0.25 to 0.5	2,302	18%	794	12%
0.5 to 1	1,008	8%	705	10%
1 to 5	898	7%	1,885	28%
5 to 10	127	1%	856	13%
10 to 25	74	1%	1,094	16%
25 and over	10	0%	461	7%
<b>Total</b>	<b>13,080</b>	<b>100%</b>	<b>6,799</b>	<b>100%</b>

Source: ECONorthwest, based on Metro data 2001

Note: Parcels that are split by Center designation have only their acreage within the Centers counted

Table 2-4 shows the parcel size distribution of all *vacant* land in Regional and Town Centers. Again, nearly all (82%) of parcels are smaller than one acre, though the majority (82%) of acreage is in parcels greater than one acre.

**Table 2-4: Parcel size distribution of vacant land in Regional and Town Centers**

Parcel size (acres)	No. of Parcels	% of Parcels	No. of Acres	% of Acres
less than 0.25	649	55%	60	5%
0.25 to 0.5	161	14%	57	5%
0.5 to 1	150	13%	109	9%
1 to 5	171	15%	355	29%
5 to 10	20	2%	132	11%
10 to 25	14	1%	214	17%
25 and over	6	1%	316	25%
<b>Total</b>	<b>1,171</b>	<b>100%</b>	<b>1,243</b>	<b>100%</b>

Source: ECONorthwest, based on Metro data 2001

Note: The vacant portion of any parcel that includes Metro-designated vacant land is included

The parcelization issue is not limited to Urban Centers. Table 2-5 shows that 78% of parcels in the Metro UGB are smaller than one acre. Again, the majority (82%) of acreage in the Metro UGB is in parcels greater than one acre.

**Table 2-5: Parcel size distribution of vacant land in the Metro UGB**

Parcel size (acres)	No. of Parcels	% of Parcels	No. of Acres	% of Acres
less than 0.25	18,000	50%	2,149	5%
0.25 to 0.5	5,214	14%	1,842	4%
0.5 to 1	5,027	14%	3,557	8%
1 to 5	6,192	17%	13,375	30%
5 to 10	976	3%	6,877	15%
10 to 25	520	1%	7,762	17%
25 and over	187	1%	8,885	20%
<b>Total</b>	<b>36,116</b>	<b>100%</b>	<b>44,446</b>	<b>100%</b>

Source: ECONorthwest, based on Metro data 2001

Note: The vacant portion of any parcel that includes Metro-designated vacant land is included

While high-density development can use smaller parcels, typical formats for commercial development in particular requires a minimum size parcel for the floor area of the building. There is a limit to how tall and narrow buildings can be, given zoning restrictions and financial considerations. Because of this, small parcels in Urban Centers may need to be assembled before commercial development occurs on them.

Relatively small parcel sizes limit the scale of achievable development in many instances. Redevelopment typically is more complicated and involves a greater expenditure of time and expense to realize. As a result, developers will desire a certain scale of development, in terms of units or leaseable area, in order to warrant the anticipated effort. Assemblage of parcels is an option, but also involves a level of complexity and risk, which needs to be reflected in the project's projected return.

## **MARKET ISSUES**

Metro's interviews in Phase I of this project found that local planners felt that the reason for the underbuilding was that the zoned capacity of the Urban Centers is ahead of the market. We agree. But that assessment only describes the problem: it says that the market (developers) is not building what zoning allows (and what Metro policy wants). It does not explain why the market is not building to those densities, or what public policy can do to affect what the market does. An explanation of causes is essential in any rigorous evaluation of policy options.

In this analysis we will address market issues from a theoretical and quantifiable basis, guided by the input of interviews conducted with local and regional developers active in urban residential and office space development.

## **OVERVIEW OF DEVELOPMENT PROCESS**

The private sector development process is a largely rational and, therefore, largely predictable response to market and regulatory conditions.

Developers serve as the primary drivers of the development process, typically initiating land development. The developer makes a living through managing risk, evaluating the probable financial return on a project in light of assumed risk. Developers cannot be expected to initiate a development in which the risk-to-return ratio is not compelling. Both lenders and equity contributors will also evaluate any development opportunity proposed by a developer using similar criteria.

The “market” is the customer or end-user in the development process, and will largely dictate to the developer what is marketable and what will be paid for the end product (either through purchase price or lease rate). Governmental agencies typically define the legal and bureaucratic process under which entitlements are granted (or purchased), and can influence the marketplace by incentives or restrictions. In theory, that influence can go way beyond what is typically done now, even in the Metro area.

Development typically occurs when the development of an allowed use yields an adequate return to attract a developer and equity source. The final development form will typically represent what is viewed as the “highest and best use” of the property from a development perspective, which reflects the development type and timing yielding the greatest risk adjusted return to the developer. The assessment of these risks and returns typically requires substantial analysis by the developer, equity source and lenders.

## FINANCIAL FEASIBILITY

Private sector development activity reflects the management of perceived risks and returns. Anticipated return rates are typically generated using pro forma financial analyses, which forecast costs and revenues associated with specific developments. Developers use a broad range of approaches in preparing their financial analyses, with a number of financial return measures commonly used to evaluate the viability of projects.

Financial feasibility represents the most significant reason that developers are not building desired densities. **The most common comment from developers interviewed was a variation of “We don’t do it because it doesn’t make any financial sense.”** This explanation is the principal focus of our analysis, which includes the use of prototypical pro forma analysis applied to specific examples to show why certain densities and land uses do and do not work in some Urban Centers. We focus on office development and mid-rise housing—if they do not pencil out, density will be difficult to achieve. We do not examine industrial uses (which do not occur much in Urban Centers) or retail (which is not consuming enough space in centers, and is assumed to not be of such a density as to account for much of the density problem).<sup>5</sup>

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<sup>5</sup> All of these decisions were discussed and approved by the project’s technical advisory committee in May, 2001.

The following sections describe the most commonly cited situations in which financial feasibility limits densities.

## PARKING

The cost of structured parking is the most significant limitation cited with respect to achieving higher densities. The cost of this type of parking substantially exceeds what can be justified on a financial basis by any associated revenue gain in most locations outside of the Central City. The cost of structured parking ranges from approximately \$9,000 per space for above-ground structures to over \$25,000 for subterranean spaces. These costs can be recovered in areas in which substantial parking fees can be collected, such as the Central City, but can be justified without subsidy only in extremely limited situations elsewhere in the metropolitan area.

A generalized pro forma was prepared to evaluate the relative cost of providing surface and structured parking assuming alternative land values. As shown in Table 2-6, surface parking is substantially less costly to provide when underlying land values are relatively low.

Land values in Urban Centers in suburban locations are typically between \$6 and \$15 per square foot. Under these values, surface parking represents the most cost effective way to provide parking.

**Table 2-6: General cost characteristics of parking types, per parking space**

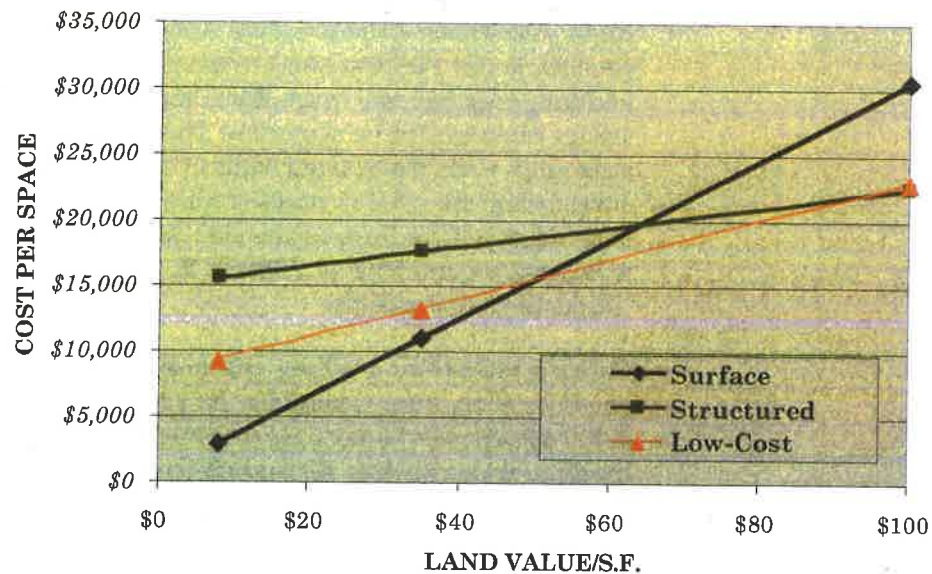
<i>Parking Type</i> Land Value-S.F.	Land Cost	Construction Cost	Total Cost	Monthly Amortization 1/
<b>Surface Parking</b>				
\$8.00	\$2,400	\$600	\$3,000	\$24
\$35.00	\$10,500	\$600	\$11,100	\$89
\$100.00	\$30,000	\$600	\$30,600	\$247
<b>Traditional Structured Parking 2/</b>				
\$8.00	\$600	\$15,000	\$15,600	\$126
\$35.00	\$2,625	\$15,000	\$17,625	\$142
\$100.00	\$7,500	\$15,000	\$22,500	\$181
<b>Lower Cost Options 3/</b>				
\$8.00	\$1,200	\$8,000	\$9,200	\$74
\$35.00	\$5,250	\$8,000	\$13,250	\$107
\$100.00	\$15,000	\$8,000	\$23,000	\$185
1/ Assumes 100% financing, 20 year loan term at 7.5%.				
2/ Assumes four story structure				
3/ Assumes two story structure				

Source: Johnson Gardner

Using the rough cost estimates presented in the previous table, the cost for traditional structured parking does not become competitive with surface parking until land values approach \$55 to \$65 per square foot. Figure 2-1

illustrates the conclusion. At those land prices, the savings in land cost (from not having a large surface lot) offset the increased capital cost of the parking structure.

**Figure 2-1: Comparative costs of parking types**



Source: Johnson Gardner

There have been some recent advances in providing lower-cost structured parking options that have made this type of parking more competitive with surface parking. Figure 2-1 shows these types of construction becoming competitive with surface parking at land values around \$45 to \$50 per square foot. Some experts believe the number may be as low as \$35 per square foot. That still leaves surface parking the lowest cost option in most suburban locations, the reduced cost of structured parking increases the viability of developments requiring higher densities. Some examples are:

- ∞ *Lower parking ratios in transit centers.* Rather than the typical 1.6–2.2 parking spaces per dwelling unit, projects with as few as 1.0 spaces per unit are being constructed. That ratio has a direct and strong impact on achievable density. Lowering parking ratios is the least expensive method of reducing the parking-cost component of a project. A parking ratio of 1 to 1 (1 space for each dwelling unit) can theoretically result in densities up to 60 or more units per acre, compared to 20-30 units per acre for a parking ratio of 2 to 1. Lower parking ratios will face consumer resistance in many locations, but lower parking ratios appear to be working in transit centers and have possible applications in other Urban Centers. Banks are generally not comfortable with ratios of less than 1.5, but projects with ratios of 1 to 1 are now being financed and constructed in some suburban Urban Centers.

- ∞ *Tuck-under parking.* This technique “tucks” a parking bay under a building but maintains a surface access lane with asphalt paving (less expensive than a concrete structure). Often it includes a surface parking space on the opposite side of the access lane. Examples of this technique can be found at Buckman Heights at 16th near Sandy Blvd in Portland, and at Central Point in downtown Gresham.
- ∞ *Rigid steel-frame structure with wood deck.* This technique uses a rigid steel frame for the first story, a wood deck above, with a wood-frame building attached above the deck. Parking is located on the surface within the steel frame structure. The steel supports in the parking area align with the bearing walls of the apartment building, eliminating the need to create a reinforced deck that will support the housing structure (less expensive). An example of this type of building is Burnside Commons at 172nd & E. Burnside at 60 units/acre with 1.5 parking spaces/unit.<sup>6</sup>

Parking ratios and dwelling unit size are critical here, because only one floor of parking is possible. At 1.5 space per unit, and 3 spaces per 1,000 square feet of parking area (tight for surface parking), every dwelling unit requires 500 square feet of ground floor parking. A quarter-block site (100 feet by 100 feet) with no setbacks would have a footprint of 10,000 sq. ft. Allowing for some aesthetic treatment of the ground floor parking (e.g. landscape buffers, ground floor lobby, ground floor retail) might reduce the parking area to 6,000 to 8,000 sq. ft. which would only be enough for 12 to 16 dwelling units. If all the ground floor, lot-line to lot-line, were used for parking, it would provide 30 parking spaces. That would allow a maximum of 20 units to be built at 1.5 spaces per unit—that would be two floors of residential over one floor of parking. That would result, however, in about 80 dwelling units per net acre: high-density even by urban standards. Our point is that unless either (1) parking ratios drop below 1.5 spaces per dwelling unit, or (2) other surface parking is allowed adjacent to the building (which would reduce net density but allow taller buildings), it is hard to see how structures with more than two floors can be supported without structured (multiple-floor) parking.

- ∞ *Concrete Podium.* This technique is typically a reinforced-concrete structure at the ground floor with 3-4 floors of wood frame constructed above. The column spacing in the parking portion of the building is designed for efficiency of parking. Because of the reinforced concrete deck, the bearing walls of the apartment need not align with the supports in the garage, which allows for the most efficient lay out for parking bays and footprint for the housing. This is the preferred

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<sup>6</sup> Metro estimates that the parking costs were approximately \$4,200/space, less than half of what they would be in a typical multi-story parking structure. We did not have the information, however, to determine if any of the parking costs were allocated to the units (e.g., all the foundation costs gets allocated to dwelling units), or whether all soft costs are included in the estimate.

method of construction in high-end areas such as Portland's Pearl District but also has been used with success in less costly applications. Buckman Terrace (Phase II) at Sandy & 16th used this type of construction. If parking is limited to the ground floor, the same limits on density apply as discussed above.

- ∞ *Steel Frame Podium.* This technique is similar to the reinforced concrete podium above, but uses a steel frame for the parking portion. The column spacing is set at 27 feet to accommodate three parking spaces per bay. Such a building is currently being designed for an Urban Center: its cost estimates are less than those for a concrete podium.

This analysis is quite general, and does not factor in a number of important elements, such as the following:

- ∞ There are some specialized situations in which structured parking would be considered viable in suburban locations.
  - ∞ The first of these is when there is no other plausible option for providing parking, and the parking is required for a high-value land use. An example of this would be at a regional mall such as Washington Square, where retailers demand parking within a certain distance from their establishment. Another situation in which structured parking is viable is near regional hospitals, which generate a substantial area-specific premium.
  - ∞ There are also situations in which site slope conditions and other factors allow for a limited level of structured parking spaces. One example would be if grading or foundation requirements yield unused space suitable for tuck-under parking. As another example, one level of underground parking can be, at the margin, at the low end of cost (\$10,000 per space) if a multi-story building has to dig a hole anyway to get an adequate foundation.
- ∞ Operating costs for both structured and surface parking lots that charge fees were not factored in. Operating costs tend to be higher for structured parking, reducing their competitiveness.
- ∞ Structured parking lots can offer covered and secured spaces, as well as direct entry to buildings. These characteristics often can yield a premium in achievable lease rates, allowing for partial cost recovery. In residential townhouse developments, secure, direct access parking can yield a substantial premium.
- ∞ Parking is viewed as a necessary asset to lease space, and developers will pay what is necessary to provide adequate parking, in order to support an existing or proposed development.
- ∞ The allocation of costs to parking is difficult, as the garage often contains structural improvements necessary for the remainder of the

project. The allocation of land costs between parking and other improvements can also vary.

- ∞ Revenues for parking can alter the equation. While full cost recovery is not often feasible, suburban properties can currently charge fees in the range of \$60 to \$80 per month for a covered and secured parking space, which can offset a portion of the cost of structured parking.

From a revenue perspective, the degree to which a developer can recapture the cost of parking through direct parking charges is limited in suburban locations. Suburban office space does not typically charge directly for parking, although the number of required parking spaces is often included in lease negotiations. Based on previous work, we have found that if the cost of structured parking were rolled into the lease rate of suburban office space, the lease rate would increase by 5% to 10%. That increase may not be an insurmountable hurdle in a highly demanded location, but in a competitive market with multiple, similar leasing opportunities, 10% can kill a project.

Direct parking charges are the norm in the Central City, with achievable rates approaching \$185 per space per month. While the cost of parking is established outside of the lease rate, this cost affects the nature of tenants and achievable lease rates for office space. Table 2-7 compares the additional cost of space associated with parking for a prospective tenant in the Central City, the Lloyd District and a suburban location such as Kruse Way.

**Table 2-7: Parking costs for prospective tenants in different locations**

	Central City	Lloyd District	Kruse Way
Space Need (S.F.)	10,000	10,000	10,000
# of Employees	40	40	40
% of Employees Parking	50%	50%	50%
% paid by Employer	50%	50%	50%
Monthly Parking Rate	\$175	\$75	\$0
Parking Cost/Year	\$21,000	\$9,000	\$0
Parking Cost/Year/S.F.	\$2.10	\$0.90	\$0.00

Source: Johnson Gardner

Under these assumptions, the cost of space in the Central City associated with parking would exceed that in Kruse Way by \$2.10 per square foot annually. This disadvantage would theoretically be reflected in a lower acceptable lease rate in the Central City vis-à-vis a suburban location. In reality, we see current lease rates roughly equivalent in both the suburban and Central City markets, indicating that discounts related to parking are largely offset by the relative attractiveness of the Central City as an office location.



An additional impact of the differential in direct parking charges is that tenants with a relatively low level of parking reimbursement or auto dependence would be willing to pay more for Central City space than other tenants. Over time, this would tend to lead to a concentration of this type of tenant in the Central City, which also offers outstanding mass transit access. There is a limited pool of these types of tenants (primarily professional services that draw on the entire region and have the bulk of their traffic generated by other professionals in the same urban center). Businesses that require a lot of customer trips for lower cost services (e.g., title companies) tend to decentralize to reduce a legitimate cost of their business: providing customer parking.

A similar pattern is observed in the residential market, where low-income and senior projects with lower parking ratios have a greater propensity to accommodate structured parking. In addition, these projects can more easily be built at high-rise densities because of the higher demand by the tenants for amenities (including access to transit) central places, and the lower demand for yard space.

From a market perspective, structured parking is unlikely to represent a viable development form in most Urban Centers without public participation. That conclusion is confirmed by recent work we have done in the downtowns of both Eugene and Salem, which, if placed in Portland Metro area would be the biggest urban centers outside the central city. In neither of those central cities (with a couple exceptions as noted above: to support an existing high-density development that has become parking-constrained; or for hospitals) does the private sector provide structured parking—it is subsidized by the public sector. That is the same conclusion JGA came to in evaluating parking in the Clackamas Regional Center a few years ago.

The economics of parking also help explain why infill may occur less quickly than the public sector would desire. A surface parking lot supporting existing multi-story buildings in a partially developed center may be fully leased and generating revenue from fees on the order of \$1,000 per space per year: about \$2 to \$3 per square foot. That is as much or more per square than office space in the same center. At typical land prices in these centers, and with typical operating costs for lease or self-pay surface parking, this could be about a 10% return (1) with none of the risks of development, and (2) without counting appreciation. In a center with growing demand and mid-range land prices, parking as land banking makes a lot of sense.<sup>7</sup>

## CONSTRUCTION TYPES

Higher-density development often requires changes in construction types, which can yield higher costs per unit. In the case of both office and

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<sup>7</sup> And though this may be seen as a current problem by planners, there is a plausible argument with both theoretical and empirical support (Peiser, R. B. (1989). "Density and Urban Sprawl." *Land Economics* 65(3): 193-204) that the ultimate density of the urban center is improved by such actions, which hold land until underlying land values drive greater density.

residential development, wood-frame construction represents the lowest cost per square foot for new space. Construction costs per square foot tend to increase as densities increase, with higher costs associated with shifts to concrete and steel construction. In general, the increase in either sales price or achievable lease rates associated with alternative construction type is insufficient to offset the higher costs.

The key benefit from a financial perspective of changing densities through construction type is a higher yield, in terms of leasable square footage or units, associated with a particular land parcel. As a result, higher underlying land values can change the financial equation to favor higher density development forms.

As a demonstration of this relationship, we have evaluated a series of cost estimates for alternative rental apartment development forms. The evaluation, summarized in Table 2-8, includes a calculation of threshold rent levels necessary to support this type of construction using a range of assumed land values.

**Table 2-8: General cost characteristics of rental apartments**

<i>Building Type</i> Land Value-S.F.	Land Cost	Construction Cost 1/	Total Cost	Cost/ Unit	Rent Threshold 2/
<i>Low Rise (100 units @ 30 per acre)</i>					
\$4.50	\$653,400	\$6,456,600	\$7,110,000	\$71,100	\$0.90
\$35.00	\$5,082,000	\$6,456,600	\$11,538,600	\$115,386	\$1.45
\$100.00	\$14,520,000	\$6,456,600	\$20,976,600	\$209,766	\$2.64
<i>Mid-Rise (100 units @ 150 per acre)</i>					
\$4.50	\$130,680	\$8,245,850	\$8,376,530	\$83,765	\$1.06
\$35.00	\$1,016,400	\$8,245,850	\$9,262,250	\$92,623	\$1.17
\$100.00	\$2,904,000	\$8,245,850	\$11,149,850	\$111,499	\$1.41
<i>High Rise (250 units @ 300 per acre)</i>					
\$4.50	\$163,350	\$26,210,940	\$26,374,290	\$105,497	\$1.33
\$35.00	\$1,270,500	\$26,210,940	\$27,481,440	\$109,926	\$1.39
\$100.00	\$3,630,000	\$26,210,940	\$29,840,940	\$119,364	\$1.50
1/ RS Means					
2/ Rent necessary for 9.0% return on cost w/ 30% operating cost ratio.					

Source: Johnson Gardner

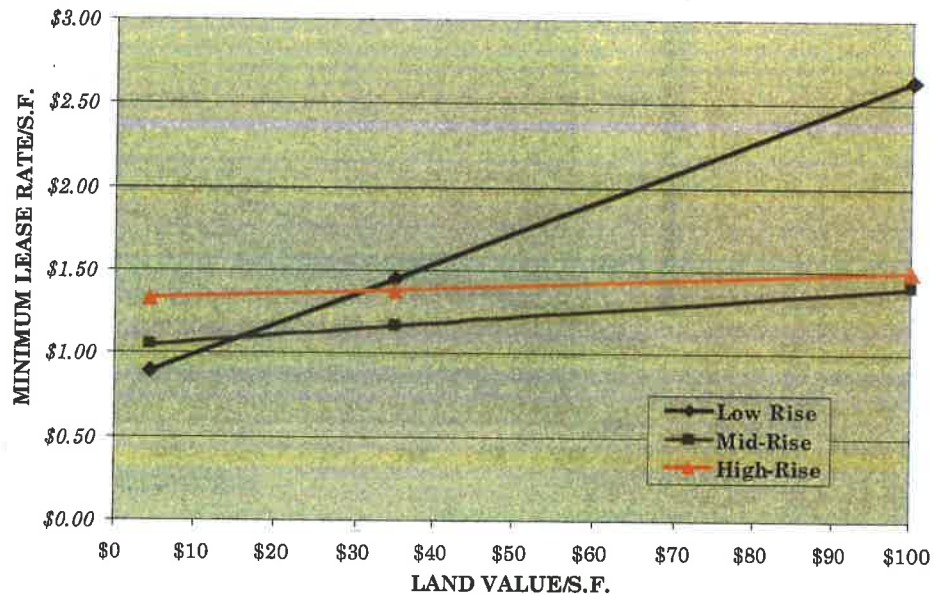
The costs presented for a low-rise rental apartment building reflect garden apartments, with a typical density of between 22 and 30 units per acre. These projects are wood frame construction, are between two and three stories, and provide surface parking. Regional examples of this type of construction would be suburban projects in areas such as Tanasbourne and Hillsboro.

The costs for mid-rise development represent wood frame construction above a concrete parking podium. Within the Portland metropolitan area, this type of construction is seen in areas such as the Lloyd District (Lloyd Place Apartments, 5 stories) and downtown (University Park, 5 stories). High-rise construction (seven or more stories) is seen primarily in the central

city and Pearl District, which have the highest supportable rent levels and land values. An example of this type of project would be The Essex House in downtown Portland's South Auditorium District.

Figure 2-2 shows that, under the assumptions used, garden apartments are able to deliver units at the lowest rent levels when underlying land values are below approximately \$15 per square foot, above which mid-rise housing delivers the lowest cost residential development form.

**Figure 2-2. Rent minimums (\$/sq. ft./mo.) by land value and building type for residential products**



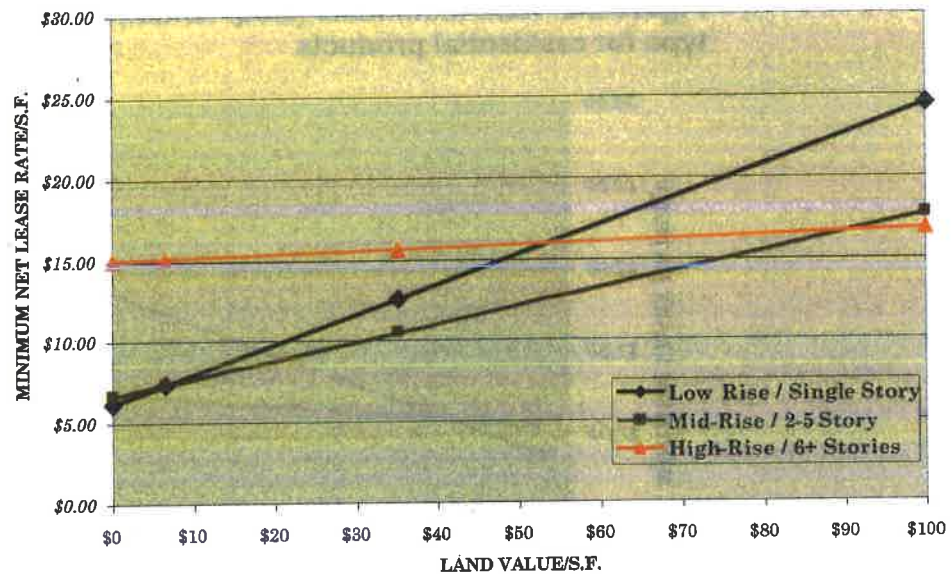
Source: Johnson Gardner

The results of this analysis are consistent with observed development patterns within the metropolitan area. Non-subsidized mid-rise construction becomes the market choice only in close-in markets or the Central City, where land prices are adequate to make this the highest and best use of the property. High-rise construction represents the highest and best use only when land prices approach \$100 per square foot.

The key challenge illustrated by this analysis for Urban Centers is that the development of mid-rise apartments under current land prices in most Urban Centers would require rent levels not currently attainable in these markets. While a regulatory action setting minimum densities that precluded low-rise apartments would make mid-rise construction the highest and best use of the property, no development activity would be expected to occur without substantive subsidy. Rising land values would cause mid-rise development to make financial sense, but the development could only be supported if supportable rent levels rose. Our analysis indicates that rent levels would have to increase by a minimum of 23% in real terms to support residential land values consistent with mid-rise construction.

Figure 2-3 shows a similar analysis for speculative office space: It shows minimum lease rates necessary to support alternative development types at a variety of land values. The three product types evaluated were low-rise, mid-rise and high-rise office space. Only the high-rise format included structured parking.

**Figure 2-3: Net lease rate minimums (\$/sq.ft./yr.) by land value and building type for office space**



The results of this analysis also trend with observed behavior in the market. Low-rise office space, typically single story flex space, is the predominant land use when values are below \$6.00 per square foot, while mid-rise development with surface parking is generally the preferred option outside of the Central City area. Much of the low-rise office space available has been built on relatively low-cost industrial land in flex buildings. Examples of this type of construction would be the Beaverton Creek Industrial Park in Beaverton, Evergreen Corporate Center in Hillsboro, and the SunTech Corporate Park in Hillsboro. Mid-rise construction examples would include developments such as Kruse Woods (Lake Oswego) and Dawson Creek Corporate Park (Hillsboro). High-rise examples are found primarily in the Portland CBD, and include the recently completed Fox Tower.

Market factors cited by developers interviewed reflect reproducible financial realities. Widespread adoption of higher density development forms without active public sector participation will require a substantive change in achievable rent/lease levels.

## RETURN ON RISK

Urban and redevelopment projects are perceived to have a greater level of risk, necessitating a higher level of return for some developers. Particular problems cited included difficulty in construction (staging, conflict with existing uses) and relatively high soft costs associated with complex projects with limited scale. In addition, developers cited interaction with jurisdictional planning efforts in Urban Centers as sometimes representing an additional layer of entitlement risk and bureaucracy. There are developers willing to accept lower initial rates of return for urban projects, on the anticipation that barriers to entry in these areas will allow for better long-term returns.

The primary impact of a relatively high perceived level of risk is the resulting impact on acceptable rate of return. Increasing the return threshold can dramatically impact development activity. As an example, increasing the acceptable return on a mid-rise rental apartment development from 9% to 12% would increase required rent levels by a third, and would require the land price to shift from \$15 to \$42 for this to be the highest and best use.

Risk is also a particular concern when dealing with redevelopment, where construction cost estimates and timing are less predictable. Redevelopment is discussed in more detail later in this chapter.

## SCALE

The scale of most infill and redevelopment opportunities is limited, while the complexity is substantially higher. This increases soft costs relative to the overall level of investment, decreasing yield. Soft costs include the following basic categories:

- ∞ Architectural and Engineering
- ∞ Developer Fee
- ∞ Construction Interest
- ∞ Legal
- ∞ Market Analysis
- ∞ Bank Fees/Appraisal
- ∞ Permits & Fees
- ∞ Pre-Development Costs
- ∞ Community Outreach

## TIMING

While our analysis supports the market limitations cited by developers, it should be noted that these limitations reflect current market conditions. Over a longer planning horizon, shifts in usage patterns and land values may substantively alter the development environment. If achievable rent levels increase substantively within the metropolitan area and/or the Urban Centers, many of the higher density development forms envisioned in the 2040 Plan would become more viable. In other words, the high-density product may in fact be in demand today by consumers, but today's land prices

do not support a high enough rent to make the high-density product the most profitable land use.

There have been some efforts to allow for current development that does not preclude development at higher densities at a later time. This is an important consideration, as development under current market conditions is not expected to yield targeted densities but can limit redevelopment opportunities. Shadow platting is an approach being used by some jurisdictions. This process requires developers to design their developments to achieve targeted densities over time, while still allowing for a viable project under current market conditions. A successful example of this type of project was the Murray Scholls Town Center, a mixed-use project recently completed by Gramor Northwest in a designated Town Center. The project has been successful from a market perspective, while retaining the ability to support additional density when supported by the market.

## REDEVELOPMENT

A large proportion of the land in Urban Centers has been developed, and a key source for additional capacity within these Centers is therefore the redevelopment of existing properties. But while current uses may not represent what would be considered the highest and best use of a site from a public policy perspective, redevelopment is often not viable from a market perspective. A specific example of this is the auto dealers in areas such as the Beaverton Regional Center, which yield less than optimal densities while remaining economically viable. Redevelopment requires several definable conditions to be viable, which are outlined in this section.

A ratio of improvement to land value is typically used to identify parcels with development or redevelopment potential. This ratio attempts to identify parcels in which the value of the improvement is relatively low relative to the value of the land. The following are some limitations of this type of analysis:

- ∞ Not all of the vacant parcels are being actively marketed, and a property owner's decision to sell is not always predictable and can be based on personal as well as economic factors.
- ∞ The data used to quantify the value of improvements is derived from County Assessor records and is not always reliable.
- ∞ A large number of the properties identified as redevelopable have a significant economic value in their current configuration, which is likely to be greater than the value of the land for redevelopment. Under these conditions, it would not be reasonable to assume redevelopment of the property from market forces, particularly for office or residential development (which support relatively low land values). Table 2-9 outlines the underlying land values necessary to redevelop two relatively low-density existing development forms.

Using these examples, the value of the property under a current single family or retail use is significantly greater than the value of that land for redevelopment as office space or multi-family residential. As a result, an office developer willing to pay \$8.00 per square foot for office land would be unable to purchase either site for redevelopment. It would cost more than \$8 per square foot to acquire either site given the high value of the existing uses.

**Table 2-9: Land uses for redevelopment**

	<b>Current Use: Single Family</b>	<b>Current Use: Retail</b>
Lot Size/S.F.	10,000	10,000
Land Value	\$40,000	\$100,000
Land Value/S.F.	\$4.00	\$10.00
Improvement Value	\$80,000	\$150,000
Total Value	\$120,000	\$250,000
Add Demolition	\$10,000	\$20,000
Total Cost of Land	\$130,000	\$270,000
Cost of Land/S.F.	\$13.00	\$27.00

Source: Johnson Gardner

One of the key variables to track in determining the viability of redevelopment is residual land value, or the value of land under alternative development programs. The following are conditions under which redevelopment is likely.

- ∞ The land value necessary for the proposed development to be financially feasible is greater than the sum of the land value and improvements under the current use;
- ∞ The return associated with improving a property yields rent premiums capable of amortizing the associated costs; or
- ∞ Depreciation of the improvements on a property has reached a point to which the improvement has no effective value.

The factors impacting the viability and/or probability of redevelopment in a specific area are numerous, making it difficult to generate a reliable delineation of sites for redevelopment. Key factors include:

- ∞ **Owner disposition.** This factor includes a broad range of variables, including the property owner's level of capitalization, investment objectives, risk sensitivity, availability and terms of credit, perception of return, etc.
- ∞ **Current lease structure.** The property's current lease structure and term may either preclude major improvements or reduce the potential for realizing a return on enhancements or improvements. An example

of this is often found in retail leases, which have relatively long terms with extension options.

- ∞ **Leaseholder disposition.** The leaseholder's disposition is also a contributing factor to improvements, as the leaseholder's willingness to bear the burden of increased rents associated with improvements is critical. In addition to the current leaseholder, the general market for space and the disposition of potential lessees is also an important factor impacting the viability of improving a property.
- ∞ **Regulatory environment.** The ability to successfully complete an improvement also relies upon the local regulatory environment, including building and zoning code applications.

One of the most prevalent errors made in encouraging more intensive development in an area is to require densities and development forms that are not viable. This precludes any unsubsidized development in the area. To the extent that development does not occur, densities and land values will not increase to the threshold necessary to trigger the desired development forms. As outlined in the financial portion of this chapter, the desired higher-density development requires an increase in achievable rent levels and land values to be viable.

Urban development forms represent an organic and iterative development process, in which development activity increases densities and demand, triggering redevelopment and higher densities over time. There are two primary regulatory risks that have the potential to work against achieving the desired development pattern:

- ∞ Regulatory mandates on density and form which require development types that are not currently viable without subsidy; and
- ∞ Regulatory restrictions that force a development to configure in a manner that precludes redevelopment at higher densities when viable.

The first of these risks is likely to leave the area undeveloped and bypassed as an area in which development activity is concentrated. As a result, land values and activity levels will not move towards the levels required to achieve the desired development forms. The second risk would lock in lower density development forms, even if market conditions justify higher density development later in the planning horizon.

## COMPETITIVE ISSUES

The financial section of this chapter identifies substantive changes in achievable rental rates as a key factor necessary to increase achievable densities within the Urban Centers. Achievable rent levels for real estate products are driven primarily by basic supply and demand factors. A significant impediment to the Urban Centers realizing substantive changes



in rent levels is competition from other areas, often neighboring Urban Centers.

An example can be found in designated Regional Centers, many of which are participants in the same sub-regional market for certain goods and services. Regional Centers such as Gateway and Oregon City are quite close to the Clackamas Regional Center, which has developed a regional office space concentration. There are substantial benefits from agglomeration in office space, favoring existing concentrations. There is insufficient need at this time for three major office concentrations along the I-205 Corridor, and achieving the targeted densities will be extremely difficult without a substantial level of office space development. Pending development of the Cascade Station property east of the Portland International Airport will drain additional office space demand and exacerbate the problem in these Centers.

Another competition related problem for the Urban Centers is the loss of traditional office space demand to industrially zoned land. Office development tends to be an outright allowed use in most industrial zoning designations, and returns a substantially higher land value. As a result, business parks that can support office space development such as Amberglen and Cornell Oaks have largely converted to office parks, offering a substantial amount of Class A office space. Office space is typically classified on the basis of quality, with space delineated as either Class A, Class B, Class C or Rehab. Class A space represents high quality, well designed projects using above-average materials and workmanship. These buildings are considered the most desirable in their markets. In downtown Portland, Class A space would include most of the high rise buildings completed in the last twenty years. Typical suburban Class A space can be found on Kruse Way in Lake Oswego.

Similar issues impact the residential market. While there is less benefit of agglomeration for housing, only highly desirable housing markets can support the values necessary to allow for high-density residential development, particularly ownership. Only a limited percentage of households are considered likely consumers of urban density housing products, and the pool can become quickly diluted. To achieve the relatively high prices necessary to support densities seen in the Pearl District requires a package of urban amenities that is not easily duplicated elsewhere in the metropolitan area.

## **POLICY ISSUES**

Public policies can abet or impede the ability of developers to build to the desired densities. We discuss all of these policies in more detail in the next chapter. The following are examples of public policies that, while having merit in meeting other public goals, tend to increase the difficulty of building at the densities envisioned for Urban Centers. Some policies remove land from the buildable land inventory, thereby decreasing achievable gross densities. Other policies increase the cost and time required to build at

higher densities. Still other public policies, like traffic access restrictions and political responsiveness to community concerns, have a more direct effect by not allowing higher densities at all.

- ∞ **System development charges and other fees.** Related to the financial feasibility above, the application of SDCs and other development fees might be a critical factor in affecting the rate of redevelopment and infill, and the density of development. SDCs have a useful role in charging development for the costs it imposes on infrastructure. They do not, however, always acknowledge the cost-saving potential of redevelopment and infill. Redevelopment and infill can often take advantage of excess capacity of existing infrastructure, or can allow greater transit use and impose fewer costs on area roads. Given the other financial difficulties involved in redevelopment and infill, the imposition of SDCs or other development fees that do not consider the lower costs of using existing infrastructure can be a critical force in discouraging redevelopment and infill.

An additional characteristic of SDCs is that they tend to depress land values, changing the highest and best use equations to favor lower density development forms.

- ∞ **Lengthy planning and permitting processes.** Developers interviewed felt that jurisdiction-level planning exercises for Urban Centers were often detrimental to development in these areas. Development activity was often delayed until planning efforts could be completed, and the resulting plans placed development restrictions that negatively impacted the development potential of properties. Developers also pointed out that securing entitlements is taking longer, with the pre-development period stretching from two to six years.
- ∞ **Outdated development standards.** The working paper on regulatory and parking evaluation conducted as part of the 2040 Means Business study in 1996 found that existing codes at that time penalized innovation by either not allowing or requiring too many variances for planned unit developments (PUDs), in-fill, zero-lot-line development, accessory dwelling units, and other innovative development techniques. Codes also required wide roads, disconnected street networks and a clear separation of uses. Since 1996, progress has been made in the revision of zoning and development codes, but some jurisdictions still have room to improve to allow flexibility and innovation in achieving higher densities.
- ∞ **Parking requirements.** There is a quandary inherent in high-density development with respect to parking requirements. On the one hand, higher-density development can require less parking per person because it facilitates walking, cycling, and transit use. On the other hand, financial underwriting requirements and various covenants, conditions and restrictions (CC&Rs) require certain parking ratios in

order for development to be financed. Unless parking is provided, higher-density development will not occur. If the parking is provided as surface parking, the amount of land used for buildings is significantly lowered, counteracting the higher density in the buildings that are constructed and leading to an ambiguous effect on gross densities. The less land-intensive use of structured parking is a potential solution, but it is more expensive, as described in the financial feasibility section above.

- ∞ **ODOT restrictions on access to state facilities.** These restrictions can limit development densities in Urban Centers. In the Phase I report, the city of Cornelius cited this as an issue with respect to Highway 8. Increased density almost always leads to increased trip generation. The developers we interviewed said that ODOT objects to any application that would add trips to their road network.
- ∞ **Community resistance.** Both local political leaders and the citizens they represent may be reluctant to increase densities in their jurisdiction for a variety of reasons. Developers we interviewed pointed out that, while jurisdictions require higher density development forms, public reaction is often extremely negative and little support is offered developers in public hearings. A prominent cause of reluctance is the continued belief that high-density development decreases quality of life by increasing noise, visual effects, and other detrimental characteristics that accompany increased commercial and residential activity. Community character is often cited as a reason to preserve the status quo of low-density development with ample setbacks, low building heights, and surface parking.

## SUMMARY

The following are the key findings of our analysis in this chapter.

- ∞ **Site issues, market issues, and policy issues combine to limit higher-density development in Urban Centers.** Site issues include environmental constraints, infrastructure constraints, and site size constraints. Market issues include most prominently the issue of financial feasibility. High land values and high rental or lease rates to support these values are needed to make high-density development and the structured parking that it requires financially feasible. Other market issues include the difficulties of redevelopment, and competition between centers. Policy issues include various things the public sector does that decrease the feasibility of higher density development in Urban Centers.
- ∞ **The primary reason for underbuilding in urban areas is the lack of financial feasibility.** There is little evidence to support the conclusion that the high densities required in urban centers are profitable under current market conditions, and that developers and

property owners are either unaware that they could make more money by building denser, or prohibited from doing so by physical or policy constraints.

- ∞ **Land values are good indicators of when density becomes profitable.** Land values reflect the interaction of demand and supply conditions. If land values stay low, density does not work financially. If the public sector wants the private sector to build more densely it must do something to affect demand and supply conditions so that land price increases, or it must subsidize development cost so that there is profit to developing more density before the market would otherwise provide it. The next chapter provides a long list of possible policies.
- ∞ **Zoning is still ahead of the market.** We started this chapter—in fact, this project—with the observation from planners in local jurisdictions that in many Urban Centers "the zoning is ahead of the market." Our analysis supports that conclusion, and goes farther to explain why. Market conditions and public policy have not made land scarce enough, have not made central locations superior enough in terms of transportation or amenity, and have not seen demand great enough to cause land values to rise fast enough in urban centers that rents can be demanded that make high density profitable.
- ∞ **The fact that zoning is ahead of the market is not a condemnation of public policy.** Planning is looking ahead to encourage the metropolitan area to be a metropolis it is not quite ready to be. Getting lower than planned densities should be expected. Where the public and private sectors can conflict, however, is when the public sector requires, either directly or indirectly, minimum density that the private sector cannot profitably build. In that case, development slows in the short and medium run as land is held for the appreciation in value that would justify those densities. If such restrictions hold, the public sector eventually gets what it wants: the pent-up demand drives up land prices until higher density works. The question the public sector, which has some control over that process, must answer is the following: *Are the benefits of higher density worth the administrative and political cost of maintaining these restrictions, the probable slowing of development in the short and medium run, and the possible decrease in affordability that may result?*

# What Policies Are Likely to Be Most Effective in Increasing the Densities of Development?

## FRAMEWORK FOR EVALUATING POLICIES

Metro's work in Phase I of this project suggests that the density of development in designated Urban Centers is lower than the densities desired by policy and allowed by zoning. Chapter 2 explains the reasons for that effect. This chapter compiles and evaluates a list of policies designed to increase development densities.

We divide the policies into two categories: **incentive-based approaches** and **regulatory approaches**. The incentive-based approaches are typically voluntary and offer various 'carrots' to developers to encourage them to build at higher densities. The regulatory approaches are not voluntary. They are requirements, and can take at least two forms. First, they can require that developers in Urban Centers meet density goals through mandated policies. Second, they can require things in other zones that increase the costs of development in those zones, making development in Urban Centers more attractive by comparison. These policies do not directly encourage higher-density development in Urban Centers, but they encourage redevelopment and infill in Urban Centers, a precondition for increased densities.

Every policy that we list fits into one of these two categories. That is both an advantage (the categories are comprehensive) and a disadvantage (the categories may be too broad). To reduce the disadvantages, we use the categories only as an organizing principle, and focus our evaluation on specific policies.

In fact, there is another category of policy that we are not evaluating: do nothing (no new policy). That may be a reasonable policy if:

- ∞ *The difference between actual and zoned densities is small.* ECO has ample experience with evaluation of density in Oregon. With rare exceptions, the actual density of development is lower than the allowed density. The reasons are clear: (1) allowed density is defined as the maximum density zoning permits, so achieving greater density requires a variance; (2) at least in Oregon, maximum densities in areas meant to be dense (like downtowns and Urban Centers) have typically been set high enough to allow any density the market might be willing to provide; and (3) few jurisdictions have adopted *minimum* densities (though in the Metro area nearly all jurisdictions have done so through minimum FARs). Our work has typically found the actual densities of residential development to be 60% to 80% of the maximum densities allowed by zoning. Our case study work on that topic in 1993

found the Portland area to have the highest percentage of actual-to-allowed residential density: about 90%. Given that there will always be a difference, if the difference is small then a reasonable policy might be to "do nothing."

- ∞ *The expected cost of new policies exceeds the expected benefits.* In theory, it is easy to see how this could be the case. If actual densities are only slightly lower than allowed densities, and the incentives or regulations to get more density would be very expensive to either the public or private sector, then "no new policies" may be the efficient decision. Or it could be that the externalities associated with achieving densities create a greater social cost than the anticipated direct social benefit of the higher density.

In the rest of this chapter, however, we proceed from the assumption that policymakers will want to do something to bring actual and allowed densities of new development closer to each other, and we evaluate ways that that could be done.

We keep the evaluation simple, looking at four criteria:

- ∞ **Effectiveness.** How great an effect is the policy likely to have on increasing density, given the likely range of its application and the existing policy framework in the Metro region?
- ∞ **Cost.** What will it take to implement the policy?
- ∞ **Equity.** Who is likely to pay that cost?
- ∞ **Side effects.** What other effects might accompany the policy if it is implemented?

Entire studies have been done on each of the many policies we are summarizing. Our charge in this study is synthesis, not analysis. We are trying to provide a broad overview for Metro Council so that they can decide which changes in policy, if any, are likely to be, on net, beneficial.

## INCENTIVE-BASED APPROACHES

Table 3-1 summarizes the different policy tools government can use to make it *easier* for developers to do what elected officials, and the citizens they represent, *want*.

The table is organized from the least direct to the most direct incentives. The first four *allow* density to occur. The next two provide guidance or information that facilitates density. The next three provide financial incentives through regulatory relief—not a direct transfer of funds, but a means of allowing a developer to keep more of its financial resources. The final four provide direct financial assistance to developers.

**Table 3-1. Incentive-based approaches**

Policy	Mechanism; Comments	Effect on Density	Cost	Who Pays	Side Effects
<b>Allow dense development</b>					
Increased permitted density	Allows densities at higher level than previously allowed	In theory, strong. In practice, no potential in region. The assumption in this study is that density is already allowed but still not being built.	Small: requires change to zoning code	Taxpayers through local government	Perceived impact on community character
Density bonus					
Accessory apartments on residential lots	Zoning code specifically allows more than 1 unit on a lot  Need to ensure good design	Moderate: Usually allows only two units per lot.  Already allowed regionally as part of Metro Functional Plan.	Small: requires change to zoning code  Low-cost unit makes sense for owner	Taxpayers through local government pay for zoning change  Cost of unit paid by owner	Allows affordable housing in established neighborhoods; homeowner receives rent income  Neighborhoods get impacts of more density, but typically smaller than impacts of larger projects
Purchase or transfer of development rights	Permits owners of land in development-restricted area to sell or transfer development rights to owners in development-encouraged districts	Moderate: Would not increase density in the aggregate, but could increase it locally in Urban Centers. In practice, little potential in region as high density is already allowed in Urban Centers.	Costly and difficult because of complex individual transactions at both ends  Suitable development sites must be identified	Landowners in high-density areas pay for low-density areas' loss of value, and for transaction costs	
Mixed-Use zoning	Allows flexibility to mix uses This policy can be either an incentive ("allow") or a regulation ("require")	Weak: May or may not increase density. Already allowed in Urban Centers.	Small: requires change to zoning code	Taxpayers through local government	Shorter trips More transit use  Potential conflict between uses
<b>Reduce planning and information costs</b>					
Specific-Area development plan	A master plan that includes more detail than is usually found in a zoning ordinance; used to guide redevelopment, infill, and high-density development	Moderate: guides but does not incent development. Does not necessarily focus on high-density development	Small: cost of planning	Taxpayers through local government  Developer builds structures	Can be used to encourage transportation-efficient land uses
Research and education	Collection and dissemination of data. If public policy is right—that density is a good idea that the market is not quite ready for—then part of the problem could be that the market (both developers and consumers) are not understanding its long-term advantages.	Moderate: changes perceptions of costs, not costs themselves. For the market to be affected, the long-term advantages must be tangible enough to consumers that they are willing to pay for them.	Small to moderate	Taxpayers through local government  Foundations through non-profit research organizations	None
<b>Provide regulatory relief</b>					
Regulatory relief: permit process	Streamline permitting  Local gov't can make all permits available in one place, make all info about requirements to secure a permit readily available, and allow flexibility for innovative development	Moderate: direct effect on the cost of development, but not specifically on cost of high-density development	Small: requires re-organization of processes	Taxpayers through local government	Can reduce oversight and allow potentially undesirable projects  Encourages all development, not just 2040 Center or high-density development

Policy	Mechanism; Comments	Effect on Density	Cost	Who Pays	Side Effects
Regulatory relief: fee reduction	Wide range: reduces SDCs, building fees, exactions, etc.	Strong: direct effect on the cost of development  Especially strong if targeted for high-density development only	Moderate: loss in revenue to local government	Taxpayers through local government	Reduces funding for other local services
Regulatory relief: design standards	Wide range: allows narrower streets, less parking, smaller setbacks, less landscaping  Saves land for buildings	Strong: increases density directly and can decrease developer costs by increasing revenue-generating space	Small: requires change to zoning code	Taxpayers through local government	Narrow streets encourage car traffic to drive at a slower pace, creating a more pedestrian-friendly environment, but may increase congestion  Less parking may lead to increased transit usage, but mandating less parking may discourage development

### Provide direct financial incentives to developers

Land assembly	Acquisition, by voluntary negotiation or eminent domain, of contiguous parcels to create large developable tracts	Strong: increases desirability of Urban Centers  Does not necessarily increase the desirability of higher density development within the Urban Centers	Moderate	Taxpayers through local government	Reduces demand for "greenfield" development and reduces pressure on rural areas
Subsidy for development/public investment	Direct grants or guaranteed or low-interest loans for land, infrastructure, parking, etc.  Parking subsidy is helpful for structured parking, which is needed for high density development	Strong: direct effect on the cost of development  Increases the desirability of Urban Centers  Does not necessarily increase the desirability of higher density development within the Urban Centers, unless the subsidy is for structured parking or other high-density facilitators	High: significant use of public funds	Taxpayers through local, state, or federal government  Financing tools include Urban Renewal (Tax-Increment Financing) or non-local funding sources	Creates expectations and precedent  Diverts resources from other public services
Location Efficient Mortgages	Fannie Mae recognizes that people save money by living close to workplace and commercial districts, raises level of available loan.  Only available in 5 test market metro areas in US. Not available in Portland	Increases demand for urban infill housing  Does not necessarily increase density within that urban infill	Moderate	Fannie Mae assumes greater risk by raising loan amount  Homebuyer pays for house	Could increase housing prices in inner-cities, unless developers respond to increased demand by building more infill.
Split Rate Property Tax	Shifts property tax to value of land, eliminating tax on capital improvements  Encourages developers to spend less on land and more on improvements, thereby increasing density	Moderate: some states mandate equal tax for property and capital improvement  A. Downs reports these taxes have been ineffective at stopping growth or making regions compact	Small: little change to total tax	Landowner pays tax  Large lot residences in inner core will see property taxes rise	

Source: ECONorthwest



Many of these approaches are not necessarily focused on increasing density, but on encouraging redevelopment and infill in Urban Centers. Redevelopment and infill are important because of the already developed landscape in Urban Centers. It is possible, however, that new development in Urban Centers could continue to be at lower densities.

We summarize what we believe to be some of the key points related to incentive-based approaches, with the caveat that these are our judgments and that others may come to different conclusions:<sup>1</sup>

- ∞ Taxpayers usually pay for these approaches through increased costs to local government.
- ∞ Many incentives encourage development in Urban Centers but do not directly address the density within the Urban Centers. That said, redevelopment and infill in Urban Centers is a necessary precondition to higher density in Urban Centers, given the lower-density development that presently occupies much land in Urban Centers.
- ∞ Some incentives make all development easier, not just development in Urban Centers or high-density development.
- ∞ Most of these incentives have other side effects, some of which are intended and beneficial, others of which are unintended and negative.
- ∞ Local jurisdictions in the Metro area have already tried many of these incentives, particularly those that merely allow high-density development.
- ∞ Given that the problem defined in Phase 1 is that development is occurring at density lower than permitted, expanding on the first category of incentives is not likely to have much of an effect on the density of new development.

## REGULATORY APPROACHES

Table 3-2 summarizes the different policy tools government can use to make it *harder* for developers to do what elected officials, and the citizens they represent, do *not want*.

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<sup>1</sup> Though Table 3-1 contains a lot of information, each row has been the subject of several, if not dozens of articles and book chapters. The literature is not unanimous about all the characteristics of these policies.

**Table 3-2. Regulatory approaches**

Policy	Mechanism; Comments	Effect on Density	Cost	Who Pays	Side Effects
<b>Require higher density or make lower density more difficult <u>inside</u> Urban Centers</b>					
Minimum-density zoning	Requires that development meet some minimum requirement for density  Uniform application throughout jurisdiction or region ensures development doesn't shift to a less restrictive zone	Strong: ensures minimum expectations are met  But can preclude any development if market is not ready for higher-density development  Already done in most jurisdictions as per Metro Functional Plan	Requires fundamental change to zoning code and comprehensive plan  Reduces the value of land when it precludes development of the property under its highest and best use	Taxpayers through local government for code or plan changes  Landowners lose value if highest and best use was at the lower density zoning	Unless minimum density accurately reflects the market, the regulations could drive some developers to other parts of the region or outside the region, where they can develop at lower densities.
Interim development standards	Regulations that limit development through large lot zoning, development moratoria, or land banking until the land can be developed at planned densities	Moderate: prevents lower than desirable density for areas that will become part of the urban area in the future.  Not as relevant in already urbanized areas such as Urban Centers	Small: requires change to zoning code and possibly Comprehensive Plan  Possible temporary lowering of property values on the urban fringe	Taxpayers through local government for the code and plan changes  Landowners on the urban fringe have loss in property values	Can divert demand to substitution markets, which may reduce pressure on rents necessary to achieve higher densities in the future.
Shadow platting	Allows placement of buildings to allow future infill	Strong: prevents preclusion of higher future densities but allows development to occur.	Small: additional planning, some higher development costs	Taxpayers through local government for planning  Developer pays for any additional costs of development	
Mandated mixed use	Requires commercial uses to mix with residential.	Weak: may or may not increase density	Small: requires change to zoning code	Taxpayers through local government  Developers pay for the development	Shorter trips  More transit use  Potential conflict between uses
<b>Restrict or raise the cost of development <u>outside</u> Urban Centers</b>					
Restrictions on land development outside of centers	UGBs, zoning, limits on service extension	In theory, moderate: Straightforward economics: reduced supply of developable land in the region>increased price of developable land throughout the region>increased density where development is allowed  In practice, effect depends on how tight the UGB is kept  UGB allows devt outside Urban Centers if within UGB	Loss of land values outside the UGB or service areas	Landowners whose land values drop	Land values within the UGB or service area increase; as a result, high densities are required to avoid excessive housing costs.  Higher densities do not address housing costs when the density form requires higher rent levels.
Developer Impact Fees	Local government charges fees to defray cost of new infrastructure and facilities at urban fringe  Raises price of greenfield development	Moderate: ineffective if not implemented throughout region  Fees are continually challenged by developers	High cost to developers	Developers, who may pass costs on to homebuyers or businesses	Can decrease development regionwide

Regulatory approaches can impact development both in and out of Urban Centers. Within Urban Centers, government can mandate density levels, making it harder to develop at low densities. The first four approaches in Table 3-2 are examples of this strategy. Outside Urban Centers, government can raise the cost of development by adding fees and other discouraging mechanisms, thereby encouraging development in Urban Centers. The last two approaches are examples of this strategy. Note, however, that while these approaches encourage development in Urban Centers, they do not guarantee that the density will occur at the high levels desired.

We summarize what we believe to be some of the key points related to regulatory approaches, with the caveat that these are our judgments and that others may come to different conclusions:

- ∞ The costs of regulations are initially borne by developers, not local government. Developers may pass the costs on to homebuyers and businesses, or back to the landowner. Developers are unlikely to bear any substantial portion of the cost over the long run.
- ∞ Mandating densities may preclude any development at all if financial feasibility only exists for lower density development. There are two views of this outcome. One view is that the land values will eventually increase to facilitate the mandated density, as regional growth meets the supply constraints of the UGB. Another view, however, is that ongoing, steadily intensifying development is the most effective way of creating the higher land values that will lead to higher densities, and that density minimums that effectively stop development lead to decreasing land values that undermine the goal of higher density. Under either view, achievable rent levels would need to increase substantially in order for the market to develop to the higher densities.
- ∞ Among the factors in keeping land prices high so that higher densities can occur is the existence of the Urban Growth Boundary, as well as high demand for the quality of life and economic opportunities offered by the region.
- ∞ Regulations that restrict development outside of the UGB do not guarantee that development will occur inside Urban Centers. Development may instead occur elsewhere within the UGB. However, the existence of the UGB will raise overall land values in a way that makes the high-density allowances of the Urban Centers more appealing.
- ∞ Regulations that restrict development within the UGB outside of Urban Centers do not guarantee that development will occur within Urban Centers. The businesses that currently use suburban land may not find it profitable to do business in Urban Centers. The result could be that this section of the economy, rather than re-locating in a denser

environment in Urban Centers, will simply disappear or re-locate outside the region. To the extent that the economy of Urban Centers depends on the existence of these other segments of the economy, the economy of Urban Centers could be weakened rather than strengthened by these regulations.

- ∞ The regulations that restrict development outside of Urban Centers do not necessarily guarantee that the development within Urban Centers will be at higher densities than at present. That said, redevelopment and infill in Urban Centers is a necessary precondition to higher density in the Centers, given the lower-density development that presently occupies much land in them.
- ∞ Regulations can create cross-jurisdictional movement if not uniformly applied across all jurisdictions.

Tables 3-1 and 3-2 condense (and over-simplify) a lot of information about policies to increase urban density. There is plenty to discuss but, in our opinion, little that has not already been discussed in the Portland region. In the next chapter we discuss a subset of the policies that we think are more likely to have measurable effects on density in the Urban Centers.

Based on our analysis, consideration of the economic and financial issues, and our interviews with those in the development field, we have come to the following conclusions about density in Urban Centers.

## MARKET FEASIBILITY

- ∞ Though the public sector regulates development, the great majority of new commercial and residential development is provided by the private sector.
- ∞ The simple view of how development decisions get made approximates what actually happens. The private sector will build what it can make a profit building. Risk-adjusted profits on real estate products require that they be sold at prices above cost. Selling at those prices requires adequate demand for the products at the necessary price points.
- ∞ The fact that development occurs at densities less than plans and zoning allow suggests that developers believe that consumers (households and businesses) will not currently pay prices for denser products that will deliver the same risk-adjusted rate of return that they can expect from more conventional, lower-density products. That belief is, in general, supported by our modeling of the financial performance of such products. The denser, less-conventional products can work in certain circumstances, but market conditions are such that more conventional products currently make more sense for more businesses and households.
- ∞ The key economic explanation for why higher densities are not supported by the market is that land costs are not high enough. The yield on high-density development is more compelling when land costs are higher.
- ∞ Higher land costs are a function of higher achievable lease rates, which reflect a combination of constrained land supply (limiting opportunities for substitution) and strong market demand.
- ∞ If an urban growth boundary (UGB) is to achieve some of its intended goals (e.g., protection of farm land, greater efficiency of urban development through greater urban density), then both the cause and result of that effect will be increased land prices inside the UGB, especially relative to prices outside the UGB. Those prices increase, in part, because a UGB constrains land supply, at the margin.<sup>1</sup> In the

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<sup>1</sup> We do not join here the debate about the effects of UGBs and the desirability of those effects. We are simply stating the majority opinion of urban economists: a UGB achieves its purported desirable effects by constraining the supply of developable land.

1980s the effects of that constraint were not strong because demand was not great and the supply was not very constrained. Both those conditions shifted in the late 1980s and 1990s.

- ∞ The highest prices for land, in the Portland area, as in metropolitan areas around the country, are in the central city. The high prices define the central city. They result from the fact that central locations in a metropolitan area are valuable, and land at the central location is limited. The result is that businesses and households will pay more for land at a central location, and they are willing to economize on the expensive land by accepting more density.
- ∞ Because higher achievable rents are needed to justify the higher land prices that support higher densities, rent-related costs to residents and businesses must be higher in real terms to offset the higher costs.
- ∞ All of these points are a longer description and an explanation of the observation made in the previous phase of this study that in Urban Centers "the zoning is ahead of the market."

## THE ROLE OF PUBLIC POLICY

- ∞ Public policy can play an important role in making it easier for developers to build at high densities, and making it harder for developers to build at low densities.
  - ∞ Allowing higher density will not achieve much more in the Metro region, since higher densities are already allowed. Financial or permitting incentives have a higher possibility of increasing density in Urban Centers.
  - ∞ Encouraging or requiring development in Urban Centers will not guarantee higher densities in the Urban Centers, but more development in Urban Centers is a necessary precondition to achieving higher densities.
  - ∞ Discouraging certain types of development outside Urban Centers will not guarantee higher densities in the Urban Centers, though it will theoretically move development in that direction.
  - ∞ The problem for public policy is that *the net effects of such policies cannot be predicted with any certainty*. Incentives and regulations to increase density in Urban Centers will have other effects on regional characteristics such as economic development, affordability, and wealth distribution. For example, reducing land available for office development outside Urban Centers would, at first glance, appear to have the effect of increasing office development (and, hence, density) inside Urban Centers. But (1) it is theoretically possible that such restrictions could lower total office development for the region or a sub-area of the region, and

(2) the other impacts on businesses and property owners of such a change in policy could be negative and largely offsetting to the additional benefits of more density in Urban Centers.

- ∞ Timing is key. Because current market decisions are influenced by past policy decisions, any change to development patterns in response to policy changes will occur slowly. Short-term market responses to policy changes may be negative as the previous market retracts from an area and the intended market takes time to enter the area.

## **MOST EFFECTIVE WAYS TO INCREASE DENSITY IN URBAN CENTERS**

In this section we provide a list of policies that Metro and local jurisdictions could follow if they wish to increase the likelihood that Urban Centers will be developed closer to the allowed densities in a relatively short (less than 10-year) timeframe. These policies are not necessarily recommendations; they would only be recommendations if Metro and local jurisdictions wished to increase the density of Urban Centers, *regardless of other effects of the policies* (such as decreased affordability, lower land values for suburban land owners, etc.). We mention these side effects, but we do not evaluate their costs compared with the perceived benefits of higher density: such an evaluation is outside our scope of work.

In other words, we list policies that we believe are the most *effective* ways to increase density in Urban Centers. They may not necessarily be the most *efficient* from an economic perspective, nor the most *equitable* from a societal standpoint.

Most of the policies described below are ones already in place, at some level, in Urban Centers.

### **CONTINUE TO ALLOW DENSE DEVELOPMENT**

- ∞ Local jurisdictions could keep allowed densities ahead of the market, subject to environmental and infrastructure constraints, and could continue to allow accessory dwelling units. This policy may not do much to increase demand for higher density, but it at least keeps public policy from discouraging the increases in density that the market is willing to provide.
- ∞ Mixed-use zoning could remain in Urban Centers. This zoning adds flexibility, allowing developers to pick the mix of uses that make high-density development financially feasible. Requiring mixed-use zoning, though, as opposed to allowing it, *reduces* flexibility and can increase costs and decrease the likelihood of higher densities.

## **REDUCE ENTITLEMENT, PLANNING, AND INFORMATION COSTS TO DEVELOPERS**

- ∞ Local jurisdictions could use specific-area development plans to guide redevelopment, infill, and high-density development within Urban Centers when it is likely that the plans would help developers understand the requirements and possibilities of Urban Centers.
- ∞ Metro and local jurisdictions could continue to conduct research and education, which can point out the benefits of higher densities and the ways in which costs can be lower than originally perceived.

## **PROVIDE REGULATORY RELIEF**

- ∞ Local jurisdictions could streamline the permitting process for development in Urban Centers—not by removing oversight from the process, but by centralizing permitting information, making permitting information more accessible, and allowing greater flexibility for innovative development where possible.
- ∞ Local jurisdictions could consider the use of targeted fee reductions for high-density development, especially that which uses existing excess infrastructure rather than requiring new infrastructure.
- ∞ Local jurisdictions could review their design standards for ways to allow greater density through narrower streets, lower parking ratios, and smaller setbacks.

## **PROVIDE DIRECT FINANCIAL INCENTIVES FOR DEVELOPMENT**

- ∞ Local jurisdictions, possibly through urban renewal districts, could assemble contiguous developable parcels in Urban Centers to create large development sites that are more attractive to developers. Voluntary negotiation is usually preferable to eminent domain for political reasons, but it takes longer.
- ∞ Local jurisdictions could use public funding (e.g., the tax-increment financing available through urban renewal districts) to lower the costs of development in Urban Centers. The establishment of joint ventures with developers, particularly with land purchase and the construction of structured parking, is a key possibility. Placing the necessary infrastructure in advance of anticipated development is another important method. Assistance could be of a fixed duration, tied to project-specific minimum density requirements, and financed with the additional tax revenue collected as a result of increasing property values in the Urban Centers.



## REQUIRE HIGH DENSITY WITHIN URBAN CENTERS

- ∞ Local jurisdictions could continue to maintain minimum-density zoning requirements in Urban Centers. If minimum zoning requirements are set too high, however, they can stifle the organic, iterative process that causes development to gradually intensify and land values to rise high enough to support gradual densification. Exceptions may exist where minimum-density zoning requirements might be temporarily ahead of the market, but where future land prices are expected to rise to a level where the market will build at that zoning. In this case, the Urban Center must be perceived to be desirable enough that it will eventually develop even if new development has been temporarily halted by minimum-density requirements.
- ∞ Local jurisdictions could encourage or require the use of shadow platting, which requires the placement of buildings in a way that allows future infill at some minimum density. Unlike simple minimum-density requirements that are ahead of the market, shadow platting allows development to occur and generate the gradually increasing land values that are absent in the case of a *de facto* development moratorium. At the same time, shadow platting arranges the buildings constructed in the early phases of development in a way that allows future buildings to be placed on the site in an infill manner, increasing density without requiring demolition of existing buildings. Careful consideration must be given to design and streetscape issues so that key streets and intersections are not dominated by unattractive, uninviting, unbuilt space like vast surface parking lots.

## RESTRICT DEVELOPMENT AND MAINTAIN A HIGHER COST OF DEVELOPMENT (FULL COST) OUTSIDE THE URBAN CENTERS

- ∞ Among the factors encouraging higher density (through its effects on land prices) is the existence of the Urban Growth Boundary.<sup>2</sup> There are some costs in terms of affordability and equity that are involved in the maintenance of the UGB, but it is probably one of the most *effective* ways to increase density in urban areas in general, and in Urban Centers in particular.
- ∞ Local jurisdictions could choose to not extend services to outlying areas within the UGB until it is necessary—for example, until after contiguous growth has occurred in all areas where services have already been provided. This policy would have an effect similar to the effect of the Urban Growth Boundary, only in this case it is within the

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<sup>2</sup> UGBs may have other effects that benefit the region (e.g., effects on quality of life and economic opportunities) that we do not address in this report.

UGB. This will encourage making use of the higher densities allowed in Urban Centers.

- ∞ Local jurisdictions could continue to charge System Development Charges and other fees that reflect the true cost of development outside Urban Centers. Previous work by ECONorthwest and others has found that the infrastructure costs of greenfield development can be greater than those of infill and redevelopment that uses existing excess infrastructure capacity. This policy may not provide an advantage for Urban Centers over other urban areas within the UGB, but it may provide an advantage for Urban Centers over more suburban or greenfield sites.

## **WORK TO MAINTAIN HIGH DEMAND FOR WORKING AND LIVING IN THE REGION**

- ∞ To increase land prices in the region that will support higher density, it is not enough to constrain the land supply. People must be willing to live and work in the region, and must be willing to pay higher prices to do so. A strong regional economy with a superior quality of life will lead to the necessary high demand. To this end, Metro and local jurisdictions could continue their efforts to maintain and enhance the region's business strength. The efforts of Metro and local jurisdictions to preserve the natural environment and to provide a range of natural and cultural opportunities for regional residents and workers are also very important.

## BACKGROUND

The impetus for the research in this report was the finding in Phase I that development in Metro's Urban Centers<sup>1</sup> has been occurring primarily at densities substantially below those that the plans and zoning in those centers allow. That finding, however, was based on anecdotes, not a systematic comparison of data on actual development to zoning. Thus, the first question that this study was to address was:

- Do data on recent development support the Phase I finding of underbuilding?

While substantial research was done on ways available data might be used to answer that questions, the conclusion was that the data were not adequate for the task without more work than the budget or schedule for this project would allow. This appendix documents that conclusion for two reasons: (1) the evaluation was part of the scope of work in the contract; dropping that evaluation requires an explanation, and (2) more importantly, the reasons that the analysis could not be done provide insights into what data would be required to be able to do the evaluation, and have implications both for the evaluation designs of future research and for the data collection efforts of Metro's Data Resources Center.

## THE ORIGINAL RESEARCH PROPOSAL

Our scope of work said that Metro was to provide the data for the analysis of the question about actual versus allowed densities. Both consultants and Metro project staff had reason to believe that DRC building permit data would allow the type of analysis proposed.

Thus, we began the project with the assumption that Metro's RLIS database would allow a comprehensive analysis of development, by type, by year, by sub-area (jurisdiction, design type, and local zone). The idea was that Metro data would allow us to match development information from building permits to 2040 design types. Data tracked by the system includes building permits, land use designations, parcel maps and 2040 designations. Ideally, all the Urban Centers and Corridors are defined spatially (e.g., as Geographic Information System (GIS) shape files), all the building permit data are coded

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<sup>1</sup> By "Urban Centers," we mean the seven regional centers and 30 smaller town centers in Metro's current 2040 Growth Concept. The different types of urban centers are often referred to at Metro as "design types." The Growth Concept also includes many station areas, main streets, and corridors, as well as the central city, but these areas are not being studied in this analysis. Regional centers and town centers are seen as having the greatest potential for higher density, mixed-use development.

to parcels, and the building permit data contain accurate information about the number of housing units or square footage of built space.

A cross-tabulation of these variables would allow us to quantify recently observed development patterns by urban center designation, and compare the resulting densities with targets. It would allow us to estimate the extent to which targeted densities were being achieved with a high level of certainty in various Regional Centers, Main Streets, Town Centers, and Station Areas throughout the metropolitan region.

## DESCRIPTION OF RESEARCH ISSUES

Our investigation revealed that our assumption—that Metro's RLIS system would be able to provide a detailed profile of recent development activity by 2040 designation and underlying zoning—was not valid.

Our analysis began with the sorting of building permits by center type, jurisdiction, development type, and zoning designation. Once these factors were accounted for, several samples of the permit data were analyzed to determine their accuracy and depth. Our sampling indicates that the data currently within the RLIS system and compiled by Metro staff are neither complete nor accurate enough for the intended use. The main problems:

- *Incomplete data sets.* We found that several jurisdictions failed to provide Metro with complete permit data sets. This included missing permits for projects currently under construction and projects completed within the last five years. A number of substantial projects that the consultant team was aware of were not included in the database sample evaluated. As a result, we have a limited level of confidence in the completeness of the permit data available.
- *Missing development units/size.* When permit data was provided, it often lacked development size in terms of square footage – for commercial developments – and the number of units – for residential developments.
- *Missing or improperly defined parcel designation.* In addition to missing development sizes, development permits were often missing parcel numbers, were given partial parcel numbers, or were mapped to a street location instead of a parcel. The difficulty in matching permit activity to physical parcels precluded calculations of density in a substantial portion of the available data.

In summary, the data currently available, in the form that they were delivered to us, do not allow for a rigorous quantitative evaluation of the question at hand: the extent to which development densities in Urban Centers are substantially lower than allowed densities.

## IMPLICATIONS FOR THIS PROJECT AND FUTURE RESEARCH

For this project, we considered three ways to deal with the problems described above: (1) Do more research to fix the data base; (2) Use sampling techniques that would allow us to use the accurate parts of the data set to make valid and reliable inferences; and (3) Abandon the analysis. The first two solutions did not match the contract's schedule and budget. We discussed the reasons with Metro staff, and jointly agreed on proceeding along the third path. The justification, beyond the constraints of time and budget, is that a substantial body of anecdotal evidence about underbuilding has been assembled by Metro. In the absence of better data, we are accepting the assertion that a substantial level of underbuilding is occurring.

Questions about the type and density of development, but sub-area, however, are central to many regional planning efforts, and a long-term solution providing adequate data should be sought. The first two solutions—the ones that would actually help solve the problem—may be practical in the longer run. Metro could do either or both of the following:

- *Get better data from local jurisdictions.* With its data set, Metro is trying to solve a problem that plagues every metropolitan area that we are familiar with: building permit data are collected by many cities in an urban area. There are differences in definitions, the types of information collected, the quality of collection, and so on. Ultimately, Metro must rely on cities reporting the information to Metro. As long as cities see the reporting only as a burden, either missing or dismissing the advantages to them of a standardized regional data base, Metro is stuck. At one point Metro had a contractor assisting with quality control on local permit data, though we understand from staff that such effort no longer occurs.
- *Develop sampling techniques for dealing with the data that are available.* Some jurisdictions collect and report more and better-quality development data than others; some types of data (e.g., number of dwelling units) are more commonly collected and more accurate than other types (e.g., square footage, value). Some jurisdictions use GIS for data entry and display, and could, without difficulty, code permits to a standard coordinate system that would match with Metro's. Since Metro staff, based on years of experience, are probably already most of the way to understanding all the strengths and weaknesses of the data, they should be able to specify sampling techniques that use the reliable data to get approximate answers to the kind of question raised in this study.

## BACKGROUND

As a component of our analysis of market limitations to achieving targeted densities, a series of simplified pro formas was produced to evaluate the basic financial characteristics of alternative development forms. The following pro formas evaluate parking, rental residential and speculative office development. A variety of assumptions were made with respect to underlying land values and achievable rent levels, testing associated returns.

## OUTLINE OF ASSUMPTIONS

The following is a list of assumptions utilized in the pro formas:

- *Loan/Equity Split.* Lenders were assumed to have a minimum equity requirement of 20% of cost, and a minimum debt coverage ratio of 1.20. Both conditions need to be met in establishing the equity requirements for the developer.
- *Cost Information.* Cost information was provided by RS Means.
- *Loan Terms.* Permanent financing was assumed with a 20-year loan term and a 7.50% fixed interest rate.
- *Measures of Return.* The measures of return calculated include return on cost (net pre-tax operating income divided by total cost) and return on equity (net pre-tax income after debt service divided by equity).

The pro formas are static, reflecting only the first stabilized year. Developers are more likely to use a dynamic analysis, evaluating the return of the project over a longer time period.

## SUMMARY OF CASH FLOWS

### PARKING

The baseline parking pro formas (Exhibit B.01) evaluate prototypical structured parking garages, with an average price per stall ranging from \$15,600 to \$22,500 inclusive of land. Base gross monthly revenue per stall is set at \$65, \$125 and \$175, with an additional assumption of income from evenings and weekends at 22% of base income. A total of nine separate calculations of return are provided, representing three cost assumptions and three income assumptions. The pro formas indicate that structured parking under the cost assumptions used does not yield acceptable rates of return until revenues per space reach approximately \$125 to \$150 per month.

There are a number of lower cost options available for providing structured parking, which would lower this revenue hurdle. Exhibit B.02 reduces the cost per space to between \$9,200 and \$23,000. This reduces the necessary revenues per space for an acceptable return substantially.

## **RENTAL APARTMENTS**

The rental apartment pro formas (Exhibit B.03) evaluate the development of a prototypical rental apartment project using three alternative types of construction. The development forms include low-rise, mid-rise and high-rise construction. Each development form was evaluated using three alternative land values, yielding a total of nine scenarios. The achievable lease rate assumed was \$1.00 per square foot for low-rise, \$1.20 for mid-rise and \$1.45 for high rise. The higher assumed lease rates for higher density products reflects the need for higher rents to support this type of development.

## **SPECULATIVE OFFICE SPACE**

A series of pro formas was prepared for speculative office space, using a similar range of options as utilized for the rental apartments. Low-rise, mid-rise and high-rise development forms were assumed using alternative land values and lease rates. As with the rental apartments, a total of nine scenarios were modeled.

EXHIBIT B.01

STRUCTURED PARKING PRO-FORMAS  
 STATIC ANALYSIS, FIRST STABILIZED YEAR

	Land Value/S.F.			Land Value/S.F.			Land Value/S.F.		
	\$8	\$35	\$100	\$8	\$35	\$100	\$8	\$35	\$100
<b>PROJECT DETAILS</b>									
Number of Stalls:	200	200	200	200	200	200	200	200	200
Price/Stall:	\$15,600	\$17,825	\$22,500	\$15,600	\$17,825	\$22,500	\$15,600	\$17,825	\$22,500
Construction Cost:	\$3,120,000	\$3,525,000	\$4,500,000	\$3,120,000	\$3,525,000	\$4,500,000	\$3,120,000	\$3,525,000	\$4,500,000
Perment Loan Amount:	\$1,064,663	\$1,065,192	\$1,065,771	\$2,534,047	\$2,534,047	\$2,534,047	\$2,652,000	\$2,996,250	\$3,735,842
Equity:	\$2,055,337	\$2,459,808	\$3,434,229	\$585,953	\$990,953	\$1,965,953	\$468,000	\$528,750	\$764,158
Debt Coverage Ratio:	1.20	1.20	1.20	1.20	1.20	1.20	1.70	1.51	1.20
Loan Period/Years:	20	20	20	20	20	20	20	20	20
Permanent Loan Rate:	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Annual Debt Service:	\$102,922	\$102,973	\$103,029	\$244,969	\$244,969	\$244,969	\$256,372	\$289,651	\$361,148
<b>INCOME</b>									
Number of Parking stalls	200	200	200	200	200	200	200	200	200
Occupancy Rate	100%	100%	100%	100%	100%	100%	100%	100%	100%
Monthly Parking Rate/Standard	\$65.00	\$65.00	\$65.00	\$125.00	\$125.00	\$125.00	\$175.00	\$175.00	\$175.00
Parking Income									
Monthly -Standard	\$156,000	\$156,000	\$156,000	\$300,000	\$300,000	\$300,000	\$420,000	\$420,000	\$420,000
Hourly, Daily, Monthly, Evenings/Weekends	\$34,320	\$34,320	\$34,320	\$66,000	\$66,000	\$66,000	\$92,400	\$92,400	\$92,400
<b>Total Income</b>	\$190,320	\$190,320	\$190,320	\$366,000	\$366,000	\$366,000	\$512,400	\$512,400	\$512,400
<b>EXPENSES</b>									
Parking Operator Costs	\$10,400	\$10,400	\$10,400	\$10,400	\$10,400	\$10,400	\$10,400	\$10,400	\$11,098
Sweeping	\$1,522	\$1,522	\$1,522	\$1,522	\$1,522	\$1,522	\$1,522	\$1,522	\$1,624
Administration/Personnel	\$2,102	\$2,102	\$2,102	\$2,102	\$2,102	\$2,102	\$2,102	\$2,102	\$2,243
Minor Maintenance/Janitorial	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,671
Plumbing Expenses	\$72	\$72	\$72	\$72	\$72	\$72	\$72	\$72	\$77
Elevator Maintenance	\$3,118	\$3,118	\$3,118	\$3,118	\$3,118	\$3,118	\$3,118	\$3,118	\$3,327
Electrical Maintenance	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,195
Electricity	\$4,600	\$4,600	\$4,600	\$4,600	\$4,600	\$4,600	\$4,600	\$4,600	\$4,909
Water and Sewer	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,195
Security / Life Safety	\$72	\$72	\$72	\$72	\$72	\$72	\$72	\$72	\$77
<b>Total Operating Expenses</b>	\$34,126	\$34,126	\$34,126	\$34,126	\$34,126	\$34,126	\$34,126	\$34,126	\$36,415
<b>OWNERSHIP EXPENSES</b>									
Property Taxes	\$23,400	\$23,400	\$23,400	\$23,400	\$23,400	\$23,400	\$23,400	\$23,400	\$23,400
Insurance	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,348
Professional Services	\$1,324	\$1,324	\$1,324	\$1,324	\$1,324	\$1,324	\$1,324	\$1,324	\$1,413
Reserves for Replacements/Repairs	\$5,710	\$5,710	\$5,710	\$10,980	\$10,980	\$10,980	\$15,372	\$15,372	\$15,372
<b>Total Ownership Expenses</b>	\$32,634	\$32,634	\$32,634	\$37,904	\$37,904	\$37,904	\$42,296	\$42,296	\$42,532
<b>NET OPERATING INCOME</b>	\$123,560	\$123,560	\$123,560	\$293,970	\$293,970	\$293,970	\$435,978	\$435,978	\$433,452
Total Receipts/Stall	\$952	\$952	\$952	\$1,830	\$1,830	\$1,830	\$2,562	\$2,562	\$2,562
Total Expense/Stall	\$334	\$334	\$334	\$360	\$360	\$360	\$382	\$382	\$395
Total Net Operating Income/Stall	\$618	\$618	\$618	\$1,470	\$1,470	\$1,470	\$2,180	\$2,180	\$2,167
<b>STATIC MEASURES OF RETURN</b>									
Return on Cost	3.96%	3.51%	2.75%	9.42%	8.34%	6.53%	13.97%	12.37%	9.63%
Return on Equity	1.99%	1.66%	1.19%	16.60%	9.81%	4.95%	49.17%	38.46%	18.77%

(1) Assumes CCTV security coverage with monitors in parking attendants main booth.  
 SOURCE: Johnson Gardner



EXHIBIT B.02

STRUCTURED PARKING PRO-FORMAS - REDUCED COST  
 STATIC ANALYSIS, FIRST STABILIZED YEAR

	Land Value/S.F.			Land Value/S.F.			Land Value/S.F.		
	\$8	\$35	\$100	\$8	\$35	\$100	\$8	\$35	\$100
<b>PROJECT DETAILS</b>									
Number of Stalls:	200	200	200	200	200	200	200	200	200
Price/Stall:	\$9,200	\$13,250	\$23,000	\$9,200	\$13,250	\$23,000	\$9,200	\$13,250	\$23,000
Construction Cost:	\$1,840,000	\$2,650,000	\$4,600,000	\$1,840,000	\$2,650,000	\$4,600,000	\$1,840,000	\$2,650,000	\$4,600,000
Perment Loan Amount:	\$1,064,663	\$1,065,192	\$1,065,771	\$1,472,000	\$2,120,000	\$2,534,047	\$1,472,000	\$2,120,000	\$3,735,842
Equity:	\$775,337	\$1,584,808	\$3,534,229	\$368,000	\$530,000	\$2,065,953	\$368,000	\$530,000	\$864,158
Debt Coverage Ratio:	1.20	1.20	1.20	2.07	1.43	1.20	3.06	2.13	1.20
Loan Period/Years:	20	20	20	20	20	20	20	20	20
Permanent Loan Rate:	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Annual Debt Service:	\$102,922	\$102,973	\$103,029	\$142,300	\$204,943	\$244,969	\$142,300	\$204,943	\$361,148
<b>INCOME</b>									
Number of Parking stalls	200	200	200	200	200	200	200	200	200
Occupancy Rate	100%	100%	100%	100%	100%	100%	100%	100%	100%
Monthly Parking Rate/Standard	\$85.00	\$85.00	\$85.00	\$125.00	\$125.00	\$125.00	\$175.00	\$175.00	\$175.00
Parking Income									
Monthly -Standard	\$156,000	\$156,000	\$156,000	\$300,000	\$300,000	\$300,000	\$420,000	\$420,000	\$420,000
Hourly, Daily, Monthly, Evenings/Weekends	\$34,320	\$34,320	\$34,320	\$66,000	\$66,000	\$66,000	\$92,400	\$92,400	\$92,400
<b>Total Income</b>	<b>\$190,320</b>	<b>\$190,320</b>	<b>\$190,320</b>	<b>\$366,000</b>	<b>\$366,000</b>	<b>\$366,000</b>	<b>\$512,400</b>	<b>\$512,400</b>	<b>\$512,400</b>
<b>EXPENSES</b>									
Parking Operator Costs	\$10,400	\$10,400	\$10,400	\$10,400	\$10,400	\$10,400	\$10,400	\$10,400	\$11,098
Sweeping	\$1,522	\$1,522	\$1,522	\$1,522	\$1,522	\$1,522	\$1,522	\$1,522	\$1,624
Administration/Personnel	\$2,102	\$2,102	\$2,102	\$2,102	\$2,102	\$2,102	\$2,102	\$2,102	\$2,243
Minor Maintenance/Janitorial	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,671
Plumbing Expenses	\$72	\$72	\$72	\$72	\$72	\$72	\$72	\$72	\$77
Elevator Maintenance	\$3,118	\$3,118	\$3,118	\$3,118	\$3,118	\$3,118	\$3,118	\$3,118	\$3,327
Electrical Maintenance	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,195
Electricity	\$4,600	\$4,600	\$4,600	\$4,600	\$4,600	\$4,600	\$4,600	\$4,600	\$4,909
Water and Sewer	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,120	\$1,195
Security / Life Safety	\$72	\$72	\$72	\$72	\$72	\$72	\$72	\$72	\$77
<b>Total Operating Expenses</b>	<b>\$34,126</b>	<b>\$34,126</b>	<b>\$34,126</b>	<b>\$34,126</b>	<b>\$34,126</b>	<b>\$34,126</b>	<b>\$34,126</b>	<b>\$34,126</b>	<b>\$36,415</b>
<b>OWNERSHIP EXPENSES</b>									
Property Taxes	\$23,400	\$23,400	\$23,400	\$23,400	\$23,400	\$23,400	\$23,400	\$23,400	\$23,400
Insurance	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,200	\$2,348
Professional Services	\$1,324	\$1,324	\$1,324	\$1,324	\$1,324	\$1,324	\$1,324	\$1,324	\$1,413
Reserves for Replacements/Repairs	\$5,710	\$5,710	\$5,710	\$10,980	\$10,980	\$10,980	\$15,372	\$15,372	\$15,372
<b>Total Ownership Expenses</b>	<b>\$32,634</b>	<b>\$32,634</b>	<b>\$32,634</b>	<b>\$37,904</b>	<b>\$37,904</b>	<b>\$37,904</b>	<b>\$42,296</b>	<b>\$42,296</b>	<b>\$42,532</b>
<b>NET OPERATING INCOME</b>	<b>\$123,560</b>	<b>\$123,560</b>	<b>\$123,560</b>	<b>\$293,970</b>	<b>\$293,970</b>	<b>\$293,970</b>	<b>\$435,978</b>	<b>\$435,978</b>	<b>\$433,452</b>
Total Receipts/Stall	\$952	\$952	\$952	\$1,830	\$1,830	\$1,830	\$2,562	\$2,562	\$2,562
Total Expense/Stall	\$334	\$334	\$334	\$360	\$360	\$360	\$382	\$382	\$395
Total Net Operating Income/Stall	\$618	\$618	\$618	\$1,470	\$1,470	\$1,470	\$2,180	\$2,180	\$2,167
<b>STATIC MEASURES OF RETURN</b>									
Return on Cost	6.72%	4.66%	2.69%	15.98%	11.09%	6.39%	23.69%	16.45%	9.42%
Return on Equity	5.28%	2.58%	1.16%	48.83%	24.41%	4.71%	87.42%	51.21%	16.60%

(1) Assumes CCTV security coverage with monitors in parking attendants main booth.  
 SOURCE: Johnson Gardner

EXHIBIT B.03

STRUCTURED RENTAL APARTMENT PRO-FORMAS  
 STATIC ANALYSIS, FIRST STABILIZED YEAR

	Low-Rise/Land Value/S.F.		Mid-Rise/Land Value/S.F.		High-Rise/Land Value/S.F.	
	\$4.50	\$35.00	\$4.50	\$35.00	\$4.50	\$35.00
<b>PROJECT DETAILS</b>						
Number of Units:	100	100	100	100	100	100
Price/Unit:	\$71,100	\$115,386	\$83,765	\$92,623	\$105,497	\$109,926
Construction Cost:	\$7,110,000	\$11,538,600	\$8,376,530	\$9,262,250	\$10,549,716	\$10,992,576
Permanent Loan Amount:	\$5,598,681	\$5,598,156	\$8,716,486	\$6,716,519	\$8,115,756	\$8,115,797
Equity:	\$1,511,319	\$5,942,444	\$1,660,044	\$2,545,764	\$2,433,960	\$2,876,814
Debt Coverage Ratio:	1.20	1.20	1.20	1.20	1.20	1.20
Loan Period/Years:	20	20	20	20	20	20
Permanent Loan Rate:	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Annual Debt Service:	\$541,231	\$540,987	\$649,291	\$649,291	\$784,560	\$784,560
<b>INCOME</b>						
Number of Units:	100	100	100	100	100	100
Occupancy Rate:	95%	95%	95%	95%	95%	95%
Monthly Lease Rate:	\$850	\$850	\$1,020	\$1,020	\$1,233	\$1,233
Average Unit Size/S.F.:	850	850	850	850	850	850
Average Rent/S.F.:	\$1.00	\$1.00	\$1.20	\$1.20	\$1.45	\$1.45
Lease Income:	\$969,000	\$969,000	\$1,162,800	\$1,162,800	\$1,405,050	\$1,405,050
<b>Total Income</b>	\$969,000	\$969,000	\$1,162,800	\$1,162,800	\$1,405,050	\$1,405,050
<b>EXPENSES</b>						
Operating Expenses	\$290,700	\$290,700	\$348,840	\$348,840	\$421,515	\$421,515
Reserves for Replacements/Repairs	\$29,070	\$29,070	\$34,884	\$34,884	\$42,152	\$42,152
<b>Total Expenses</b>	\$319,770	\$319,770	\$383,724	\$383,724	\$463,667	\$463,667
<b>NET OPERATING INCOME</b>	\$649,230	\$649,230	\$779,076	\$779,076	\$941,384	\$941,384
<b>STATIC MEASURES OF RETURN</b>						
Return on Cost	9.13%	5.63%	9.30%	8.41%	8.92%	8.56%
Return on Equity	14.20%	3.61%	15.52%	10.12%	12.79%	10.82%
						7.89%
						8.15%

(1) Assumes CCTV security coverage with monitors in parking attendants main booth.  
 SOURCE: Johnson Gardner

EXHIBIT B.04

STRUCTURED SPECULATIVE OFFICE SPACE PRO-FORMAS  
 STATIC ANALYSIS, FIRST STABILIZED YEAR

	Low-Rise/Land Value/S.F.		Mid-Rise/Land Value/S.F.		High-Rise/Land Value/S.F.	
	\$4.50	\$95.00	\$4.50	\$95.00	\$4.50	\$95.00
<b>PROJECT DETAILS</b>						
Total Area/S.F.:	100,000	100,000	100,000	100,000	100,000	100,000
Price/S.F.:	\$66.98	\$114.48	\$67.17	\$95.67	\$137.71	\$142.46
Construction Cost:	\$6,698,333	\$11,448,333	\$6,717,000	\$9,567,000	\$13,771,333	\$14,246,333
Perment Loan Amount:	\$5,358,667	\$7,566,594	\$5,373,600	\$7,653,600	\$11,017,067	\$11,109,266
Equity:	\$1,339,667	\$3,881,739	\$1,343,400	\$1,913,400	\$2,754,267	\$3,137,067
Debt Coverage Ratio:	1.69	1.20	1.88	1.32	1.21	1.20
Loan Period/Years:	20	20	20	20	20	20
Permanent Loan Rate:	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Annual Debt Service:	\$518,029	\$731,472	\$519,472	\$739,883	\$1,065,033	\$1,073,946
<b>INCOME</b>						
Gross Leasable Area:	100,000	100,000	90,000	90,000	90,000	90,000
Occupancy Rate:	90%	90%	90%	90%	90%	90%
Monthly Lease Rate/Gross:	\$17.50	\$17.50	\$21.00	\$21.00	\$25.00	\$25.00
Lease Income:	\$1,575,000	\$1,575,000	\$1,701,000	\$1,701,000	\$2,025,000	\$2,025,000
<b>Total Income</b>	\$1,575,000	\$1,575,000	\$1,701,000	\$1,701,000	\$2,025,000	\$2,025,000
<b>EXPENSES</b>						
Operating Expenses	\$650,000	\$650,000	\$675,000	\$675,000	\$675,000	\$675,000
Reserves for Replacements/Repairs	\$47,250	\$47,250	\$51,030	\$51,030	\$60,750	\$60,750
<b>Total Expenses</b>	\$697,250	\$697,250	\$726,030	\$726,030	\$735,750	\$735,750
<b>NET OPERATING INCOME</b>	\$877,750	\$877,750	\$974,970	\$974,970	\$1,289,250	\$1,289,250
<b>STATIC MEASURES OF RETURN</b>						
Return on Cost	13.10%	7.67%	14.51%	10.19%	9.36%	8.41%
Return on Equity	34.47%	7.48%	41.52%	19.90%	15.76%	10.11%

(1) Assumes CCTV security coverage with monitors in parking attendants main booth.

SOURCE: Johnson Gardner



Mayor Bubenik  
Tualatin City Council Members

Mayor and Council

As some of you are aware, I have been a commercial Real Estate Broker for 37 years. I have been a shareholder at Macadam Forbes for 34 of those years. During that time much of my focus has been on the Cities of the I-5 Corridor. It would be very reasonable to say I have sold more land for industrial development than any other broker in the cities of Tualatin, Tigard, Wilsonville and Sherwood. I feel I understand the complexities of land development from an entitlement process as well as the geological characteristics that enable or inhibit sites from being developed for specific uses.

It is safe to say the I-5 south corridor is facing a shortage of land supply for Industrial and Residential development. It is important that the land that is brought into the Urban Growth Boundary is designated properly for its purpose. It is with this in mind that I have objected to the designation of the 50+- acre site known as Central Suberea as an industrial site. There are specific characteristics of sites that handicap or render them unfit for Industrial development. Chief amongst these are Solid Rock formations and excessive Slope. When both are found on a site it can render an Industrially zoned site economically useless. Often the cost to cure the characteristics I have described, are greater than the market price for the land.

I have been involved in the sales and development of several sites that are along the Basalt formation this site is affected by. Most recently I sold the Orr Estate at the Southwest corner of 124<sup>th</sup> and Tualatin Sherwood Hwy in Sherwood. The site has a strategically critical location at a major intersection. It was nearly 100 acres in size. Of that 100 acres the southerly 65 acres was in the Basalt formation we are considering. Every Industrial developer or large owner user company considered the site for their specific purposes. Despite the critical shortage of Industrial land and the frothy development market, the site sat fallow for 24 months after I listed it for sale.

Everyone that examined the site came to the same conclusion. The cost of breaking up the rock outweighed the value of the property. Most told me if they had to develop it, they would not take the land for free. Fortunately for the owners, the Willamette Water District needed just this type of property to install their water reservoirs in to help protect against seismic disruption of potable water. Without that unique Buyer the land would probably still be for sale, despite the increase in the values of Industrial land. The Solid rock formation requires blasting, rock crushing, sifting and other processes that makes this type of land better suited for quarrying than industrial development.

Endeavors such as this require extensive time. Developers need to be able to quickly utilize property in order to not miss the "window" of economic expansion, which is the necessary

economic driver of their development in the first place. Anyone who watched the construction of the new 124<sup>th</sup> in Tualatin can attest to the time required just to put a road through solid rock. The time to prepare a site of this size for a large industrial development would be years. This is a risk of time few developers, if any, would be willing to accept.

I also saw a study by KPFF of the site utilized as an industrial development. While it makes the site look functional it does not address the feasibility issues I have raised. There was data provided by Tony Weller and OTAK that put the costs of developing the site at approximately \$5.50 to \$6.50 per SF. This is approximately the value of the property if it were ready to go. Thus, in order for a developer to be enticed to buy the property the Sellers of the land would have to give the land to the developer in order to get the property on the tax rolls. This is not a reasonable assumption.

A residential development does not need the deep footings and extensive sitework required for Industrial development. Housing can follow the site contours as well, which industrial development cannot because of the large footprints of buildings, necessary parking, access and staging areas for trucks. There are many examples of this in our region, Cooper Mountain, Mt. Sylvania, Mount Taber, the West Hills of Portland to name a few.

Finally, I want to be clear about my reason for weighing in on this issue. I am not a paid consultant nor am I a broker for residential land. My primary focus is on industrial land. I applaud the addition of Industrial land being added to the UGB in Basalt Creek. However, experience has taught me that even if land is designated as developable, without services it stays fallow. A great example is the Coffee Creek sector of Wilsonville. Its land ideally suited to Industrial development. Its flat, likely rock free and has the same strategic location Basalt Creek shares. I was on a committee that studied and made recommendations, (presided over by OTAK), over 15 years ago. Yet that land has remained fallow for new industrial development due to the lack of services.

If the site in question is zoned residential, its development will unquestionably be accelerated as opposed to an industrial designation, which in my opinion, would likely be decades away. This will put the property on the tax rolls, generate system development charges, build roads and in general provide infrastructure that will accelerate the development of the entire planning area.

Best Regards

A handwritten signature in black ink, appearing to read 'Stu Peterson', with a long horizontal flourish extending to the right.

Stu Peterson SIOR



## Memorandum

**To:** Herb Koss - Sherwood Grahams Ferry Investors LLC  
**From:** Mike Peebles, PE and Keith Buisman, PE - Otak  
**Copies:** Don Hanson – Otak  
Tony Weller - CESNW  
**Date:** January 21, 2019  
**Subject:** Basalt Creek – Employment/Industrial Site:  
Preliminary Cost Estimate of Concept Grading Plan  
**Project No.:** 17713A

In accordance with your request, Otak has completed a preliminary cost estimate based on a conceptual grading plan of the 42-acre employment/industrial located in the Basalt Creek Planning Area - Central Sub-area in Wilsonville, Oregon.

The estimate is based on the concept plan provided by KPFF (Scheme B of the Basalt Creek Concept Plan – Feasibility Study, dated May 1, 2017) with assumptions on pad elevations, parking lot grades, access road grades, stripping depths, excavation/embankment limits, rock excavation, and erosion control requirements.

In addition, we reviewed the letters from CESNW, Inc (*Basalt Creek Central Area – KPFF Concept Plan*, dated May 18, 2017; and *Basalt Creek Central Area – Employment verses Residential Development*, dated July 20, 2017) and are in agreement with the content and summaries of each letter, but we have prepared a separate high-level cost estimate based on our analysis and assumptions on development of the KPFF Concept Plan – Scheme B.

In our review and analysis, we have considered the following:

1. Controlling factors in the site design:
  - a. Street grades and access points for public roads leading to area (assume site access from Grahams Ferry Road from the west side of the site, no access from Basalt Creek Parkway to the south)
  - b. Access points off internal roadway/drive-aisles to the building pads.
  - c. Grade transitions between "lots"/building pads.
  - d. Transitions at perimeter of site to meet existing grade
  - e. Constraints of existing topography and powerline corridors
  - f. Existing wetland and creation of new storm water management facilities
2. Requirements for typical industrial developments:
  - a. Large single story/constant floor elevation buildings
  - b. Large parking/drive aisle areas for employee parking and trucking circulation/loading/parking
  - c. Large stormwater management facilities due to addition of large impervious areas (parking, buildings, etc.)
3. Significant cost items include:
  - a. Excavation/embankment costs
  - b. Rock Excavation
  - c. Wall construction

As shown on the attached preliminary construction cost estimate and site/grading plan exhibit, the cost for just grading the site to provide access, parking, and buildable pads is approximately \$6.5M. Due to the conceptual nature of the design and unknowns on final geotechnical explorations and rock excavation parameters, we have added in a 30% construction cost contingency. In addition, we have included an estimate "soft cost" for design and permitting at 28% of the construction cost. The total preliminary earthwork cost for the project, including contingency and soft costs is approximately \$10.3M.

If you have any questions regarding our concept level preliminary cost estimate, please feel free to contact us.

This preliminary estimate was prepared using the following assumptions:

1. Preliminary quantities based on concept design Scheme B completed by KPFF June 2017.
2. Pad elevations follow KPFF Concept Plan (Option B) unless otherwise noted. Street grades and parking lot grades were roughly assumed for earthwork purposes.
3. Assumes avg 6" strippings and export off-site (no room for on-site disposal due to sloped areas and large parking areas/building pads)
4. Assumes dry weather construction in one phase.
5. Assumes rock excavation for cut depths exceeding 10 feet. Detailed geotechnical exploration and recommendations required to confirm.
6. Cost estimate does not include grading for storm water management facilities.
7. Cost estimate does not include paving and utilities required for site development. This estimate is for mass grading and wall construction only.

ITEM	DESCRIPTION	UNIT	QUANTITY	AVG UNIT PRICE	ITEM AMOUNT
<b>Site Preparation - Grading and Walls</b>					
<b>CONCEPT DESIGN GRADING CONSTRUCTION COST</b>					\$6,473,200
Construction Cost Contingency					\$1,941,960
Estimated Soft Costs (Design/CA/Permits)					\$1,812,496
<b>Total Project:</b>					<b>\$10,227,656</b>

ITEM	DESCRIPTION	UNIT	QUANTITY	AVG UNIT PRICE	ITEM AMOUNT
<b>Site Preparation - Grading and Walls</b>					
GEC-	1 Clearing and grubbing and removal of trees/brush in grading areas, including disposal	Acres	30.7	\$10,000.00	307,000.00
GEC-	2 Stripping (6" depth), haul offsite and disposal (all)	CY	24,760	\$15.00	371,400.00
GEC-	3 Excavation and embankment (on-site earthwork of structural material)	CY	93,300	\$12.00	1,119,600.00
GEC-	4 Rock Excavation and embankment (on-site earthwork of structural material)	CY	19,700	\$100.00	1,970,000.00
GEC-	5 Erosion Control (assume 15% of earthwork costs)	LS	15%		565,200.00
GEC-	6 Excavation (haul off-site)	CY	71,000	\$20.00	1,420,000.00
GEC-	7 MSE Retaining walls, granular backfill, 15' Avg Height (assume MSE block wall)	SFF	22,500	\$32.00	720,000.00
<b>Sub Total</b>					<b>\$ 6,473,200.00</b>

Number	Minimum Elevation	Maximum Elevation	VOLUME	Color
1	-200.00'	-15.00'	2199 CY	Orange
2	-10.00'	-10.00'	17565 CY	Light Orange
3	-10.00'	-5.00'	47309 CY	Yellow-Orange
4	-5.00'	0.00'	87291 CY	Yellow
5	0.00'	5.00'	97811 CY	Light Green
6	5.00'	10.00'	28544 CY	Green
7	10.00'	15.00'	12806 CY	Dark Green
8	15.00'	190.00'	4117 CY	Very Dark Green

Earthwork:  
Excavation - 164,300 CY  
Embankment - 113,000 CY

FF of 280 seemed low,  
so raised to 290

Excavation (15'-20')  
Rock Ex

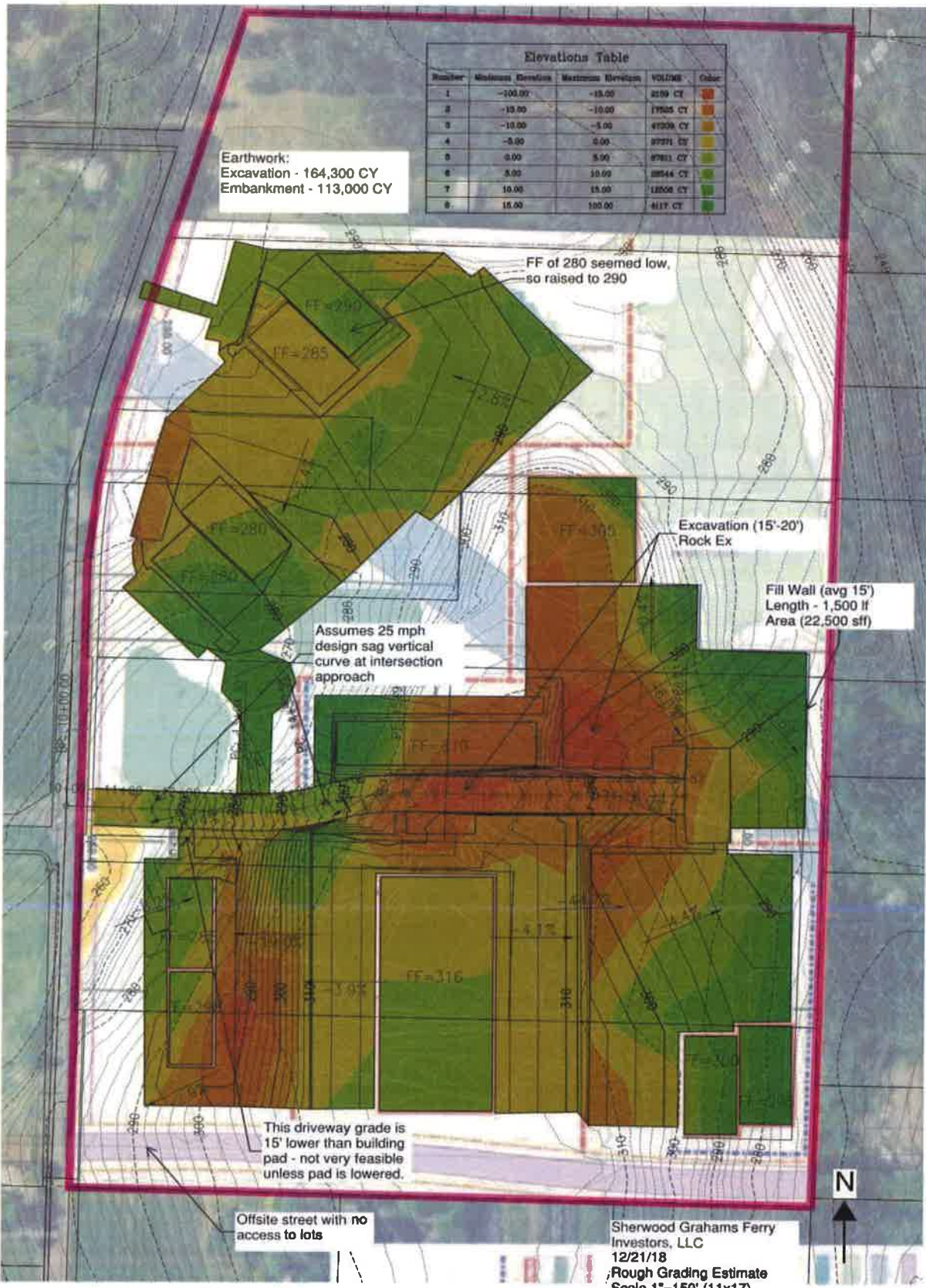
Fill Wall (avg 15')  
Length - 1,500 lf  
Area (22,500 sff)

Assumes 25 mph  
design sag vertical  
curve at intersection  
approach

This driveway grade is  
15' lower than building  
pad - not very feasible  
unless pad is lowered.

Offsite street with no  
access to lots

Sherwood Grahams Ferry  
Investors, LLC  
12/21/18  
Rough Grading Estimate  
Scale 1"=150' (11x17)





**Subject: Testimony for Monday's Work Session**

Dear Mayor Ogden, Members of the Tualatin City Council, and City Staff,

I, along with others, own land North of the planned Basalt Creek Parkway, and East of Grahams Ferry Drive. I am writing this letter solely on my own behalf, specifically to provide background information, address the report provided to Washington County by McKenzie, and also provide information from local experts who have walked the site, so that you can make the best possible determination regarding the most appropriate designation of the land.

**Executive Summary**

Don Hanson of OTAK, and Tony Weller of CES NW, have both provided letters stating significant reservations with the feasibility of developing this site as employment land, and provided detailed analysis of topographic and access limitations associated with the site, for your review. The letter from Tony Weller succinctly describes the issues with the McKenzie Report and the site in two pages.

Ken Leahy of Ken Leahy Construction, and Brian Clopton of Brian Clopton Excavating, both who have significant experience providing site preparation in the region, have walked the property, and believe that site preparation for the large building footprints required by employment designations, will be cost prohibitive due to the site slope and basalt rock soil.

Eric Sporre of PacTrust believes that there is an inability to develop industrial or flex buildings based on the site topography and soil conditions. Mike Diamond of the Real Estate Investment Group opined that the site was unlikely to develop as industrial or flex space because of the inability to provide large drive access for truck loading and turning radius. He also determined that office park use was not feasible, because the steep topography would have a negative impact on the proximity of parking and could pose an issue with American's Disabilities Act requirements. In short, all of the experts, were in agreement that there were significant issues with ever developing the property as employment land.

Although, McKenzie provided a report to Washington County, that the land could be feasibly developed as employment land, that report was based on a series of assumptions regarding site access, road construction, and zoning on the northern portion of the property, that will not occur under the current plan. Washington County staff has confirmed that the access off Basalt Creek Parkway, and the north south Kinsman road, will not be built. Both, Don Hanson and Tony Weller, have provided letters based on the most recent Washington County data, that contradict the conclusions reached in the McKenzie report.

Despite that the Basalt Creek planning area was brought into the UGB for the primary purpose of providing employment land, Metro has confirmed that there is no prohibition in the findings for non-employment designations. John Fregonese has confirmed that even if the subject property was zoned residential, the employment capacity for the planning area, will still far exceed Metro's estimates by 1,000, or more.

### **Background Information And Why We Are Here Today**

Although, I have significant experience representing both jurisdictions and developers in land use matters, I have never previously experienced the process from the perspective of a land owner, so this has been an eye opening experience. At the time that I decided to invest as a part owner in one of the subject properties, I did due diligence by looking at satellite images, reviewing the plans prepared by the cities and John Fregonese, and driving to the site. I didn't, however, walk the site, because of extremely bad weather.

I believed based on my review of the planning materials that the site would develop as employment land, and am very familiar with the regional needs analysis. In short, I did what everyone else did which was look at it from a bird's eye view, instead of on the ground.

At the time of my ownership, the most pressing issue was the boundary between the two cities. There seemed to be a logical boundary between Tualatin and Wilsonville, at Basalt Creek Parkway. I met with staff from Wilsonville to discuss the boundary, as well as Wilsonville's vision for mirror image zoning, which I believed, at the time, was feasible, and would work.

It was only when winter turned to summer, that I actually walked the property. What was not obvious from satellite imagery, or from the road, was immediately apparent, when I was on the ground. There are significant slope issues with the property and the adjacent properties, and there was very little topsoil, and a lot of rock. I am familiar with the impact of topography and soil conditions through my past representation of the former city of Damascus, and this property did not seem well suited for the large footprints necessary for an employment designation.

After discussions with Herb Koss, we contacted adjacent property owners, and received their permission to have experts look at the parcels of property as a whole, to help determine feasibility. At that time, concerned whether there was a prohibition on non-employment land zoning, I had preliminary discussions with Metro staff regarding whether there had been a requirement that the land be zoned employment, when it was brought into the UGB.

Metro's land use attorney, Roger Alfred, and I, both reviewed the findings and determined that although there was a strong desire for employment land, an orderly transition from residential to employment was contemplated at all times during the process. There is nothing in the findings that prevents a residential designation. This is particularly true if the factors on the ground do not support an employment designation. With that information and the consent of adjacent land owners we moved forward with the process of bringing in experts for site suitability analysis.

### **Preliminary Analysis From Experts And Washington County's Letter Opinion From McKenzie**

Herb Koss arranged for Don Hanson from OTAK to analyze the site for slope issues and potential zoning, and he has previously submitted materials regarding his findings. (See *attachment 1*) Brian Clopton, of Brian Clopton Excavating submitted a letter on November 18, 2016 regarding the soil conditions and topography. (See *attachment 2*) Eric Sporre of PacTrust submitted a letter on

November 14, 2016 regarding the inability to develop industrial or flex buildings based on the topography. (*See attachment 3*)

Mike Diamond of the Real Estate Investment Group submitted a letter on November 21, 2016 opining that the site was unlikely to develop as industrial or flex space because of the inability to provide large drive access for truck loading and turning radius. (*See attachment 4*) He also determined that office park use was not feasible because the steep topography would have a negative impact on the proximity of parking and could pose an issue with American's Disabilities Act requirements. In short, all of the experts, were in agreement that there were significant issues with ever developing the property as employment land.

Don Hanson shared Mike Diamond's concerns regarding compliance with ADA standards. He noted that the site that Washington County used as a comp, South Center, which was designed by OTAK had half the slope of the subject site, and could not be built under current ADA standards. (*See page 1 of attachment 1*)

At the same time, Mayor Ogden, and staff, asked John Fregonese for his opinion. He expressed reservations regarding the employment designation, and believed that it would be better suited as residential land. This, and other data, prompted Washington County to hire McKenzie to provide a letter opinion.

Upon receiving a copy of the McKenzie Letter, I had significant concerns that their report regarding feasibility was predicated on four inaccurate assumptions. Specifically:

1. The McKenzie letter contemplated access off of Basalt Creek Parkway, and did not take into account the 18-20 foot curb cut off of Basalt Creek Parkway (Washington County Project Manager, Renus Kelfkens, confirmed via email on 2/1/17 that the only access onto Basalt Creek Rd., will be from Grahams Ferry Rd., and Boones Ferry Rd., and that there will likely be an 18-20 foot curb cut); (*See Attachment 5*)
2. The McKenzie letter contemplated Kingsman Rd., as a North South connector, allowing truck access to the southern portion of the site (Washington County Planner Erin Wardell confirmed via a phone call to Herb Koss on 2/9/17 that this road had been deleted over a year ago);
3. The McKenzie letter contemplated an Employment designation in the northern quadrant of the property, despite the fact that it has been designated by the city as residential transition;
4. The McKenzie letter did not rely on site specific geotechnical conditions or topography, relying on regional mapping instead (Todd Johnson confirmed that they had not used site specific data via email on 2/10/17) (*See Attachment 6*)

I have had discussions with Gabriela Frask, who prepared the McKenzie report, and learned that she was not provided with the site transportation access information, nor was she aware that the northern portion of the property, which is relatively flat, was planned as residential transition. She was also unaware that Kingsman Rd., was deleted from the area planning approximately a year ago. Additionally, Washington County did not authorized a site visit, within her scope of work, which

I believe negatively impacted her ability consider other factors impacting feasibility. Regardless of the skill of an individual planner or agency, their work can only be as accurate as the information that they rely upon, and in this case I believe that Gabriela and McKenzie did not receive sufficiently detailed information to assess the property as accurately as possible.

**Expert Opinions and Assessment of the McKenzie Letter**

We asked Tony Weller of CES NW, to consider the Tualatin staff reports, McKenzie Study, email from Washington Co., regarding access, the DKS preliminary profile of the extension of Basalt Creek Parkway, and the OTAK Basalt Creek Concept Plan. In a comprehensive letter dated February 10, 2017, he opined that while the northerly third of the site is very developable as employment land, almost half of that property is reserved for residential use. And, that the deletion of the planned Kinsman Road, eliminates the only at grade potential access coming from the southerly portion of the site. The plateau portion of the property is surrounded by steep slopes of over 10% and over 20%. He further opined that neither access point can provide a secondary access to the plateau area which is a negative for both traffic flows and emergency access. *(See Attachment 7)*

Ken Leahy of Ken Leahy Construction Inc., was asked to provide a more comprehensive look at site preparation costs. He provided his opinion, in a letter dated February 10, 2017 that the cost of site preparation will exceed \$5.00 per foot. *(See Attachment 8)*

Don Hanson, of OTAK has provided a letter, and marked-up the McKenzie map based on the actual location of Basalt Creek Parkway, the lack of access off of Basalt Creek, the elimination of Kinsman road, and the residential designation at the top of the property. The result of those additional facts, eliminates a significant portion of the property that McKenzie deemed developable. *(See Attachment 9)*

Additionally, I have included a map that combines the McKenzie Plan with the residential zone and topographic map. *(See Attachment 10)*

Their letters are attached for your review.

**A Summary of Relevant Data**

With so many different letters from various experts, and communications from owners, neighbors, and other jurisdictions, over the last six months, it can be hard to keep track of the relevant information. So, I would offer the following:

1. Metro's own benchmark for employment land contemplates a slope of less than 10%, with less than 5% preferred. This site has slope in excess of 20% throughout;
2. PacTrust has provided a written opinion that the topography and basalt soil of the site mean it can't be feasibly developed for employment purposes;
3. OTAK has indicated in writing that the comparable property that Washington County used in their analysis, had half as much slope as this site, and could not be built under current American's with Disabilities Act rules/regulations;

4. Site preparation specialists in the area confirm the high cost of site preparation, due to soil conditions. The amount of blasting that can occur on this site is compromised by the high capacity power lines that bisect the site;
5. There is no access off of Basalt Creek road, and the deletion of Kinsman Road directly, and negatively impacts truck circulation on the southern portion of the site;
6. The northern portion of the site, adjacent to the existing neighborhood is currently planned to be zoned residential, contrary to what McKenzie's renderings show, and that designation has a major impact on the large footprint, employment, buildings that can/cannot be constructed. OTAK believes that only 11% of the site can be feasibly constructed as employment;
7. A residential designation and orderly transition to employment/industrial was always contemplated adjacent to the existing residential neighborhood, and is allowed under the findings that brought the Basalt Creek area into the UGB.
8. The county believes that an 18-20 foot curb cut, will be necessary on Basalt Creek Parkway. That curb cut means that the mirror image view that Wilsonville contemplated cannot occur. The view will either be of a graded slope or a 20 foot retaining wall.

### **Conclusion**

Although, the primary purpose of the Basalt Creek UGB expansion was to bring in employment land, the on ground conditions on this property don't support that designation. During the thirteen year period since this land was brought into the UGB, there has been a trend of locating workforce housing close to employment lands to lessen commute time to work, and there are other lands in the Basalt Creek Planning Area that are zoned residential.

John Fregonese was asked if this property was needed for employment capacity. His response was that if the subject property was zoned residential, the employment capacity for the planning area, will still far exceed Metro's estimates by 1,000, or more. In short, this land does not need to be zoned employment in order for the planning area as a whole to exceed Metro's employment capacity estimates.

Thank you for your time and consideration.

Peter

**Peter O. Watts** |  
**Jordan Ramis PC** | Attorneys at Law  
Direct: 503-598-5547 Main: 503-598-7070

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**BASALT CREEK/TUALATIN CONCEPT PLAN**  
**Amendment Request to the Concept Plan**  
**Tualatin, Oregon**  
**August 23, 2016, Revised November 21, 2016**

**Introduction**

- Otak Inc. (Otak) represents The Sherwood Grahams Ferry Investors LLC, headed by Herb Koss, who hold 10 acres in the 41 acre northeast quadrant of the overall district. The property is located near the northeast corner of Grahams Ferry Road and extends over to the Basalt Creek Canyon along the proposed new east-west arterial road. This summary of concerns and the amended concept plan lay out our intended direction moving forward.

**Project Concerns**

- Otak's concern is that the northeast quadrant area is not well suited to industrial zoning or employment transition proposed by the concept plan.
- **Topography.** Much of the site contains slopes in excess of 10 percent (10%) and 25 percent (25%). The site would be extremely difficult to flatten out to accommodate industrial or employment transition site development requirements. Attached is a topographic map of the South Center project provided to City of Tualatin (City) staff. Otak designed this flex-space project. The topography is half as severe as portions of the 41 acres site. The site would be extremely difficult to develop given today's American with Disabilities Act (ADA) requirements.
- **Access.** Vehicular access will be limited to Grahams Ferry Road and extending Tonquin Loop into the site. No access will be permitted on the proposed new east-west arterial road.
- **Basalt Creek Canyon.** The industrial land abuts the Basalt Creek Canyon with no transition.
- This is not a big change but rather a refinement to the concept plan. It is a defined site area that makes up about 3 to 5 percent (3-5%) of the total Basalt Creek Study Area. Also there are currently 329 acres of undeveloped industrial land within a one mile radius of the study area.

**Land Use Context**

- The following shows a comparison of Metro's initial goal for the district, the City's current plan, and the proposed amended plan.

Metro	2500 Jobs	1200 Households
City Plan	4500 Jobs	600 Households
Amended Plan	4070 Jobs	1194 Households

The amended plan proposes a more balanced approach that is well within the intended mix proposed by Metro when the land came into the Urban Growth Boundary (UGB).

A group of mayors in our region have gone to Metro and asked Metro for flexibility related to UGB expansions. They have asked Metro to look at lands and appropriate zoning designations on a sub-regional basis. They have asked that Metro consider factors such as slope, and proximity to infrastructure, to help avoid situation like Damascus. We are asking you to do the same. We recognize that the region anticipated that the Basalt Creek area would primarily be zoned employment uses.

It is certainly anticipated that the vast majority of the land will be used for that purpose. But, within the Basalt Creek Planning Area, there are sub-areas that cannot reasonably be developed as employment land because of topographic and other issues. The 41 acres that we have asked the City to zone for residential purposes is one of those sub-areas. There is land to the west and south of this land that is zoned employment, that land is flatter than the subject 41 acres, and it is closer to transportation infrastructure than the subject 41 acres. Neither PacTrust Pacific Realty Associates, LP nor Brian Clopton Excavating believed that an employment designation was possible given the slope and soil quality. Instead of designating the property with a designation that will result in it never developing, we ask that you give it a designation that will make development feasible. If you do not do so, it will sit vacant; counting as developable employment land, just as Damascus has sat vacant, counting as available housing stock. Its designation will prevent further necessary expansions.

There is a housing crisis in our region and the latest modeling has demonstrated the importance of having residential land and employment land in close proximity. This is an opportunity to provide housing, on land which cannot be feasibly developed as employment land.

## Amended Plan Options

- The attached concept plan option summarizes the requested amendment for proposed land uses that fit the site and its unique conditions.
- The plan anticipates building Tonquin Loop as an actual loop with two access points on Grahams Ferry Road. This road extension will provide complete access to the properties and also access to property owners east of the site.
- Three densities of residential are shown as transition to the neighborhood to the north and canyon to the east and also along the new east-west arterial, which is down 25 vertical feet from the site area. A center core area of potential retail, high density residential, and open space could serve as a walkable destination in the neighborhood. Also secondary access can be provided to the developable lands to the east above the canyon.
- Property uses can be molded to fit actual site conditions and provide a mix of housing (including workforce housing) close to jobs anticipated to the south and west.
- The programmed development will "be trip cap neutral" compared to the current city concept plan.

*Basalt Creek/Tualatin Concept Plan  
Amendment Request to the Concept Plan*

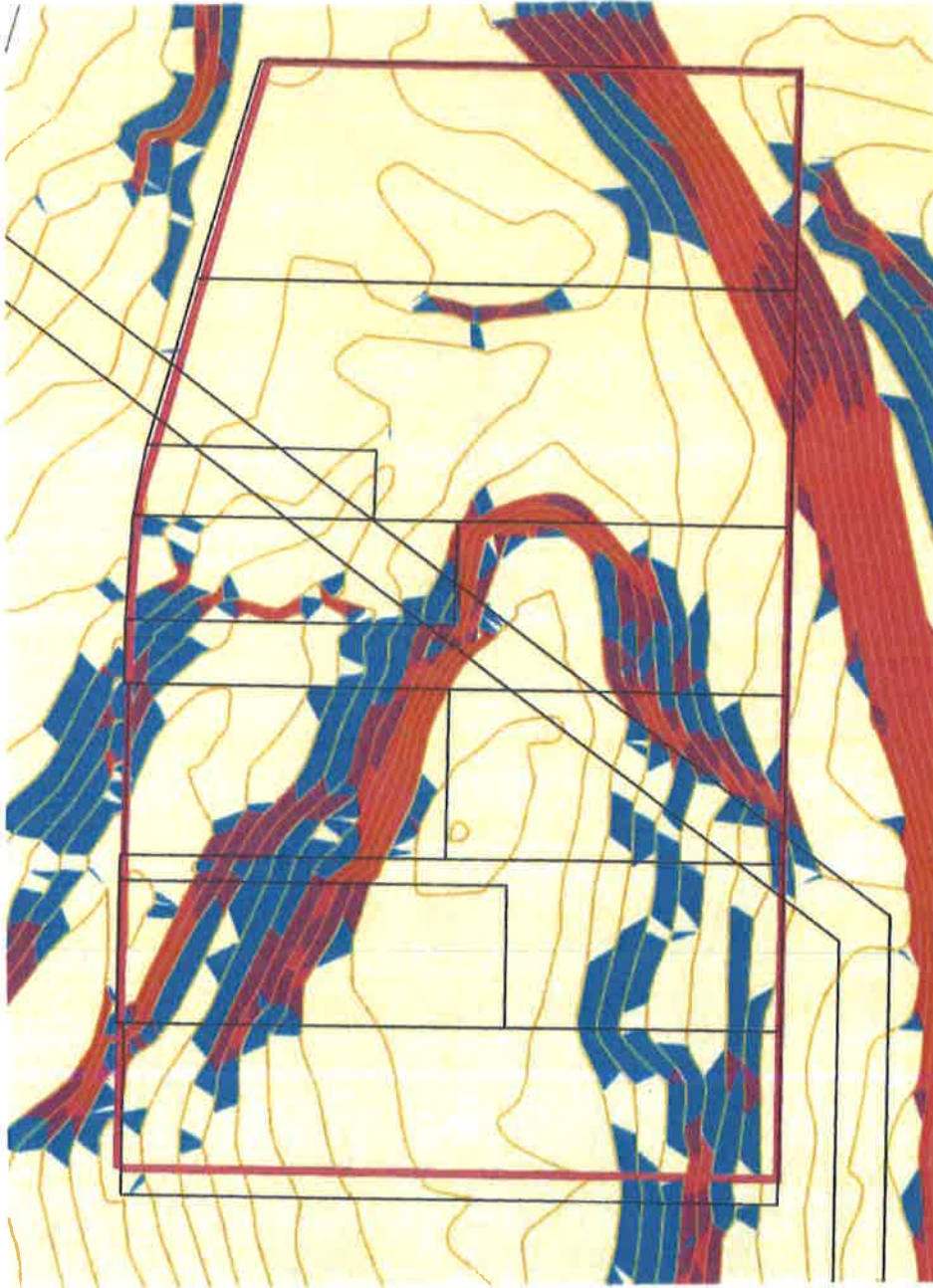
*Page 3  
August 23, 2016  
Revised November 21, 2016*

## Benefits

- A walkable neighborhood with appropriate transitions and destinations
- Land uses that are adaptable to actual site conditions. The mix of uses will act as a **catalyst to create activity in the district**. The high-density residential (HDR) land provides the best opportunity for workforce housing next to employment lands. Residents won't need a car to commute.
- A plan that meets Metro's initial objectives when the land was brought into the UGB.
- A more complete quality neighborhood for the City of Tualatin.

Attachments: Basalt Creek Site Topo  
Basalt Creek Slope Analysis  
South Center Site Topo (Comparison)  
Basalt Creek Land Use Concept  
Letter from PacTrust Pacific Realty Associates, L.P.  
Letter from Brian Clopton Excavating  
Letter from Micheal Diamond, Real Estate Investment Group  
Basalt Creek nearby Job Lands Map





11-16-2016



Slopes Table			
Number	Minimum Slope	Maximum Slope	Color
1	0.00%	10.00%	Yellow
2	10.00%	15.00%	Blue
3	15.00%	20.00%	Dark Red
4	20.00%	25.00%	Light Red
5	25.00%	357.23%	Red

## BASALT CREEK SLOPES ANALYSIS

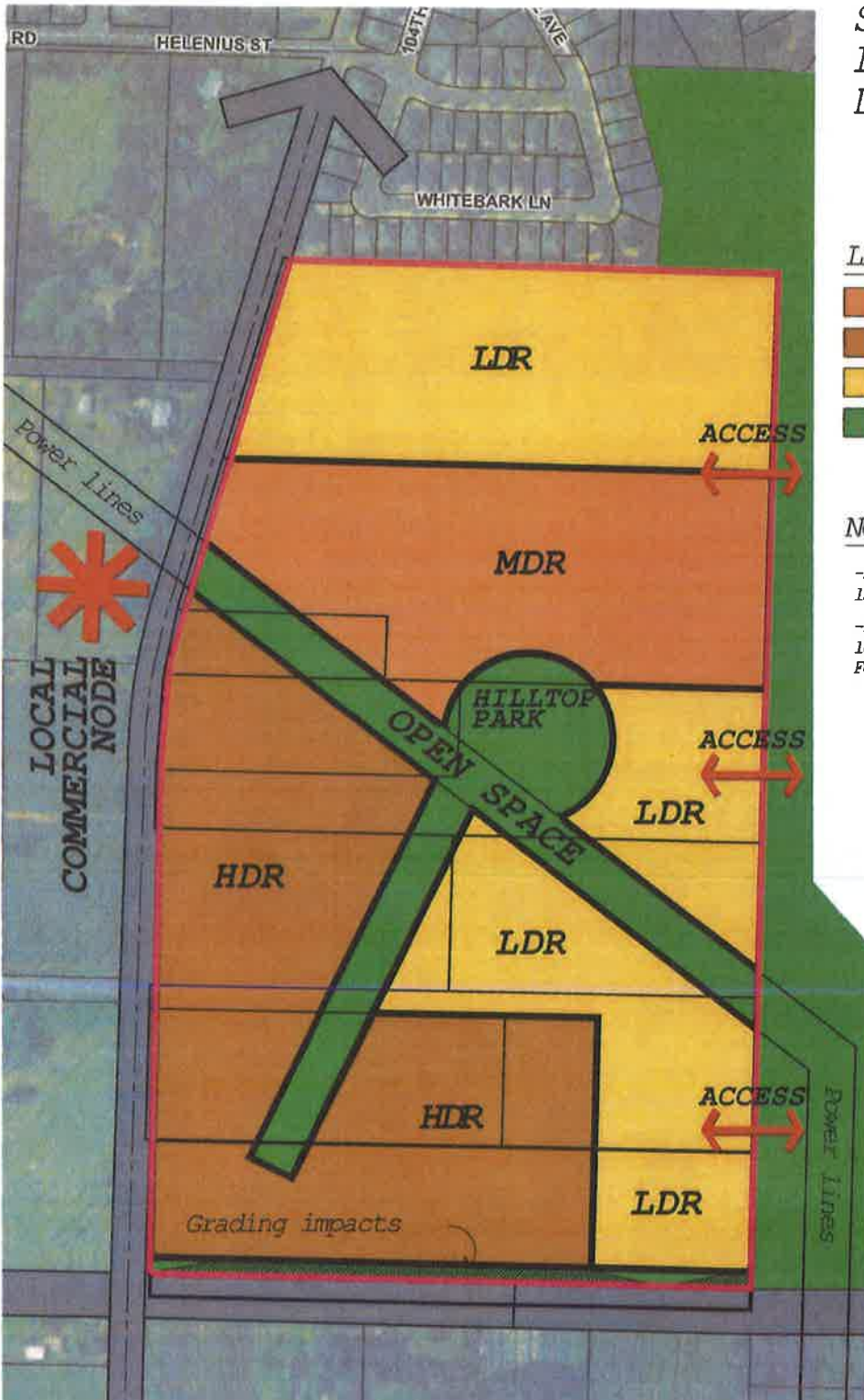


11-16-2016



SOUTH CENTER SITE TOPO

### Subdistrict Land Use Diagram



**LEGEND**

- Mid Density Residential
- High Density Residential
- Low Density Residential
- Open space

**NOTES**

- Access provided for landowners to East
- Local commercial node located across Graham's Ferry Road



11-21-2016



Basalt Creek Concept Plan



11-16-2016



BASALT CREEK SITE TOPO

②



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November 18, 2016

Dear Mr. Koss

You have asked me to visit the 41 acre site located in the Basalt Creek Planning area. Your question was the feasibility of grading this site for employment land vs. a residential zone.

For your information my company has just purchased another four acres next to our Clay Street property. With this acquisition we now have 16 acres of land on Clay Street. I am very familiar with this area and as you know my company has mass graded many sites in the Portland Metro Area. I have been asked many times to inspect potential projects in order to determine problems that may be associated with a developer's site plans --- slopes, access and feasibility.

Thank you for providing me with topography of the site. It was very helpful and to be honest the slopes on the site were more severe than I first thought. The other big issue is the amount of rock that would be encountered with any grading necessary to accommodate any development on this site. This site is far better suited for Residential use since grading for this does not require the same topographic grading in comparison to employment uses. The Basalt Creek area does feature other land that is suited for employment; however the 41 acres you have asked me to visit is not in that category. I was also surprised by the 18 to 20 foot cut in order to accommodate the extension of Basalt Creek Parkway.

If you require any additional information please let me know.

Sincerely

Brian Clopton

President/Owner

3

**PACTRUST**  
Pacific Realty Associates, L.P.

15350 S.W. Sequoia Pkwy., Suite 300  
Portland, Oregon 97224  
503/624-6300 • Facsimile: 503/624-7755

November 14, 2016

VIA EMAIL

Herb Koss  
2643 South Shore Boulevard  
Lake Oswego, OR 97034

Dear Herb,

At the request of Peter Bechen, I toured your site north of the future Basalt Creek Parkway last week. PacTrust is developing an industrial park several miles north at 115<sup>th</sup> Avenue and Tualatin-Sherwood Road in Tualatin known as Koch Corporate Center. We are interested in locating a site to develop in the Coffee Creek area for light industrial uses. Unfortunately, the topography of your site makes development of industrial or flex buildings uneconomic. We believe housing would be a more appropriate use for the site. The smaller floor plates for housing enable it to work with slope conditions present on your property. Industrial/employment land requires sites to be much more flat due to dramatically larger floor plates, parking requirements, loading areas for trucks and ingress/egress concerns for trucks. There are several sites in the area that are more appropriate for industrial/employment development.

Let me know if you would like to discuss this further.

Yours very truly,

PACIFIC REALTY ASSOCIATES, L.P.



Eric A. Sporre  
Vice President



4

November 21, 2016

Herb Koss  
2643 South Shore Blvd.  
Lake Oswego, Or 97034

VIA: EMAIL

RE: 41-acre Basalt Creek southern boarder 23960 SW Grahams Ferry Rd.

Dear Herb,

I visited the site and spent a considerable amount of time driving the area. It is an exciting development area especially when the Basalt Creek Parkway is completed.

The topography of the site is such that developing an industrial project would be very difficult and if done would be at best marginal and very inefficient. Industrial, flex buildings require large foot prints, large drive areas for loading and turning radius. There are better sites in the area for this type of use.

I also looked at the site for office park use and concluded that due to the steep topography of the site it could have a negative impact on the proximity of the parking that may pose an issue with ADA requirements. I also believe that the extraordinary site cost and small office footprints would not be cost effective and competitive in the office market. Furthermore, the location does not readily lend itself to that use.

This site lends itself to smaller foot print buildings such as housing and multifamily that can be planned around the steep grades and terraced into the topography. It is my opinion that the highest and best use for this site are single family homes buffered along the frontage with multifamily housing.

Our office has forty years of experience in commercial real estate and have procured sites for commercial developers such as Gramor, Holland Development LLC and West Hills

Let me know if you have any questions.



Michael N Diamond  
Principal Broker

**Peter Watts**

---

**From:** Herb Koss <herb@kossred.com>  
**Sent:** Saturday, February 11, 2017 5:56 PM  
**To:** Peter Watts  
**Subject:** FW: Basalt Creek Renus



**Thanks Herb Koss**

Begin forwarded message:

**From:** Renus Kelfkens <[Renus\\_Kelfkens@co.washington.or.us](mailto:Renus_Kelfkens@co.washington.or.us)>  
**Date:** February 1, 2017 at 12:02:54 PM PST  
**To:** Herb Koss <[herb@kossred.com](mailto:herb@kossred.com)>  
**Subject:** RE: Basalt Creek

Hi Herb,

Yes, Basalt Creek Parkway is a limited access road. The only access will be from Grahams Ferry Rd, and Boones Ferry Rd. Currently we have not done any topographic survey, or design but it is reasonable to expect an 18-FT to 20-FT cut. This will be investigated during the design phase of the project.

Sorry for the delayed response. Please let me know if there are any other questions or comments.

Thanks,

Renus Kelfkens | Project Manager  
503-846-7808 [renus\\_kelfkens@co.washington.or.us](mailto:renus_kelfkens@co.washington.or.us)

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**From:** Herb Koss [<mailto:herb@kossred.com>]  
**Sent:** Friday, January 27, 2017 12:40 PM  
**To:** Renus Kelfkens  
**Subject:** Basalt Creek

Dear Renus

I wanted to pass along the employment site evaluation prepared by Mackenzie. After our conversation earlier this week it seems clear to me that some of the assumptions that Mackenzie made, are not consistent with the transportation plan for the area. Although, the site evaluation shows access off of Basalt Creek Parkway, my understanding is that the county will not allow access. Additionally, the evaluation has Basalt Parkway in the wrong area, does not reflect the 18-20 foot curb cut, onto the property, nor does it show the residential that is planned on the northern portion of the site to transition from the existing neighborhood. I spoke to Mackenzie this week, and they indicated that they had not contacted the county regarding the transportation access, or the residential at the northern portion of the site.

Would you be willing to confirm that there is no planned access off of Basalt Creek Parkway, and that the curb cut is expected to be 18-20 feet? I think that that information will be enough for Mackenzie to retract their site evaluation. Please correct me, if anything that I have indicated isn't



accurate. My goal is to make sure that everyone is working off of the same assumptions, so that we can properly assess the site suitability. Thanks for all of your help, and taking the time to talk.

Herb

**Peter Watts**

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**From:** Herb Koss <herb@kossred.com>  
**Sent:** Saturday, February 11, 2017 5:49 PM  
**To:** Peter Watts  
**Subject:** FW: Proposal - Basalt Creek McKenzie  
**Attachments:** PRO-Koss Real Estate-Scope and Fee-170209.pdf



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**From:** Todd Johnson [mailto:TJohnson@mcknze.com]  
**Sent:** Friday, February 10, 2017 12:04 PM  
**To:** Herb Koss  
**Cc:** Dennis Woods; Gabriela Frask  
**Subject:** FW: Proposal - Basalt Creek McKenzie

Hi Herb-

I've been in meetings all morning. Sorry for the delay in getting this to you.

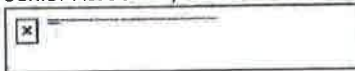
Attached is a scope and budget letter to further develop the work we did previously for Washington County. As we discussed, the letter report we prepared for Washington County relied on data available at the time we prepared the letter, and also relied on regional mapping, not site specific mapping for resource lands, geotechnical conditions, and topography. This scope includes developing site specific data to allow cost feasibility analysis to our previous study. By improving the accuracy of the data we have through onsite study and mapping, we will be able to determine if the site is economically viable for employment use, or also look at residential uses as alternates for economic viability.

It's my understanding that you have new information for the road connections and locations that we did not use in our previous report. That type of data would be collected as part of our work and would be incorporated into the scope we propose in the attached scope and budget letter.

Let me know if you have any questions about the attached scope, or if you would like us to change the proposal in any way. If the scope we outlined in the attached letter is satisfactory, I'd suggest we have a meeting with you and the project team to refine the tasks we identify prior to us commencing work.

Thanks for the opportunity to present this scope of work. I'll call you to discuss it.

Todd Johnson  
Senior Associate / Director of Planning



Architecture · Interiors · Engineering · Planning

P 503.224.9560 W [mcknze.com](http://mcknze.com) C vcard

RiverEast Center, 1515 SE Water Ave., Suite 100, Portland OR 97214

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CES|NW



February 10, 2017

Mr. Herb Koss  
Sherwood Grahams Ferry LLC  
22400 Salamo Road, Suite 106  
West Linn, Oregon 97068

**RE: BASALT CREEK CONCEPT PLAN – (CENTRAL AREA)**

Dear Mr. Koss:

In response to your request I have reviewed the Basalt Creek Concept Plan materials with regards to the suitability of employment/light Industrial development on the 63 acres north and east of the intersection of Grahams Ferry road and Basalt Creek Parkway. These materials included:

1. Tualatin Staff Reports
2. Mackenzie Study
3. Email from Washington County Basalt Creek Parkway project manager Renus Kelfkens regarding access to Basalt Creek Parkway.
4. DKS preliminary profile of the extension Basalt.
5. OTAK Basalt Creek Concept Plan.

We understand that the City, Metro and Washington County's desire is to zone this area for employment land. Development potential of land for employment uses, as stated in the MacKenzie report, is generally assumed to have less than 5% slopes. This is to allow for larger building footprints, parking, loading areas and truck access.

The two areas that meet that criteria for this property is the northerly 1/3 adjacent Victoria Gardens and the top of the plateau area in the lower middle of the site. The northerly area would be well served with access from Grahams Ferry Road at Tonquin Loop and potentially a secondary access from Tonquin Road at Grahams Ferry Road. These two access points would appear to have good separation and sight distance on Grahams Ferry. The northerly area is very developable as employment land, however the City has set aside approximately 10 acres (almost half) as residential to buffer the Victoria Gardens lots.

The southerly plateau area's best access would come from the southerly property line and Grahams Ferry. However, this is the location of Basalt Creek Parkway which the County will not allow access. We also understand that the County has deleted the proposed Kinsman Road crossing of Basalt Creek Parkway shown on the Tualatin Concept and MacKenzie plans thereby eliminating the only at grade potential access coming from the southerly portion of the site. Therefore any access to the plateau area must come from the north (Tonquin Road or Tonquin

Mr. Herb Koss

**BASALT CREEK CONCEPT PLAN – (CENTRAL AREA)**

Page 2 of 2

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Road Loop). The plateau area is almost completely surrounded by steeply sloped land. The slopes range from over 10% to over 20%. The over 40 vertical rise needed to get from Tonquin Road to the top of the plateau area will take 800 feet at 5% not accounting for access to the lower property on either side or the potential impacts to wetlands.

There is slightly over 25 feet vertical rise from Tonquin Loop to the top of the plateau. This does not account for the low area just north of the plateau that drops down another 15 feet that this road would have to cross. While the grading is more manageable the result would be truck traffic routed through a residential area.

Neither access point can provide a secondary access to the plateau area. This is a negative for both traffic flow patterns and emergency access. In addition as these roads are raised to provide access to the plateau area, the access to land on either side of the road becomes more difficult.


This area is also well known for the hard rock that is very near the surface. We were the design engineers for Victoria Gardens where we had about 2-feet of fill brought into the site to reduce the rock excavation costs. Unfortunately, filling the area does not provide better access.

Employment land requires flatter slopes to serve larger building footprints and then adjacent parking/loading areas. Providing for truck access and typical development footprint will severely limit the development efficiency for this portion of the property. Residential uses are more flexible with access grades and smaller footprints however the site will still be difficult to development without access to the south.

In summary, the northerly one third of the property is well suited to employment land. However, contrary to the Mackenzie report, Tualatin's current plan reserves the northerly 10 acres or so (almost half) of the northerly area for residential to buffer the Victoria Gardens lots. The southerly plateau area is not well suited for employment land. This is due to access constraints, surrounding steep slopes, lack of secondary access and grading costs.

It has also been our experience that if property is forced into a development pattern it is not well suited for, it will end up being one of the last parcels developed and the quality of that development is usually below expectations. If you have any questions in regards to our analysis, please don't hesitate to contact us.

Sincerely,

  
Anthony R. Weller, P.E., P.L.S.  
President



P.O. Box 489 • 915 S 12th Ave • Cornelius, Oregon 97113 • (503) 357-2193 • FAX (503) 357-3649



2/10/17

Subject: The Land South of Victoria Gardens to Basalt Creek Parkway

Dear Mayor Ogden and Tualatin City Councilors:

I am the owner of Ken Leahy Construction Inc., our firm specializes in all aspects of site preparation projects including full site development that require erosion control, clearing, grubbing, stripping, earthwork, cement soil stabilization, storm water detention facilities, bio swales, underground utilities (storm sewer, sanitary sewer, water distribution and franchise utilities), sanitary sewer lift stations and force mains. Our firm is celebrating its 50<sup>th</sup> year in the business and has been involved in many developments in the Portland Metro area.

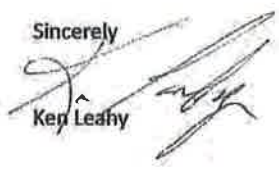
At the request of Herb Koss and I toured the site on 2/10/17, to give him an idea of the feasibility of full site development for employment use. I also was given topography site maps detailing the slopes and grades on the property.

I personally have developed sites that contain large volumes of rock. Based on my personal experience I estimate that the cost of land preparation for the land described above would surpass the \$5.00 per foot range.

I looked at site access, and am basing my opinion about access on the understanding that no access will be allowed onto Basalt Creek Parkway. If there is no access from Basalt Creek Parkway, traffic will have to come from the intersection of Tonquin Road and Grahams Ferry Road. There is approximately 50 feet of elevation rise, from that access point, which creates major issues for truck traffic.

Limited access, topography, and the large quantity of basalt rock are all major issues. A single one of them might not prevent the site from being developed as employment land, but the combination of all three cannot be overcome. Mass grading of Basalt Rock is not financially feasible.

Sincerely

  
Ken Leahy

*A diversified excavation, utility, street and site development company*



HansenGlobal Partner

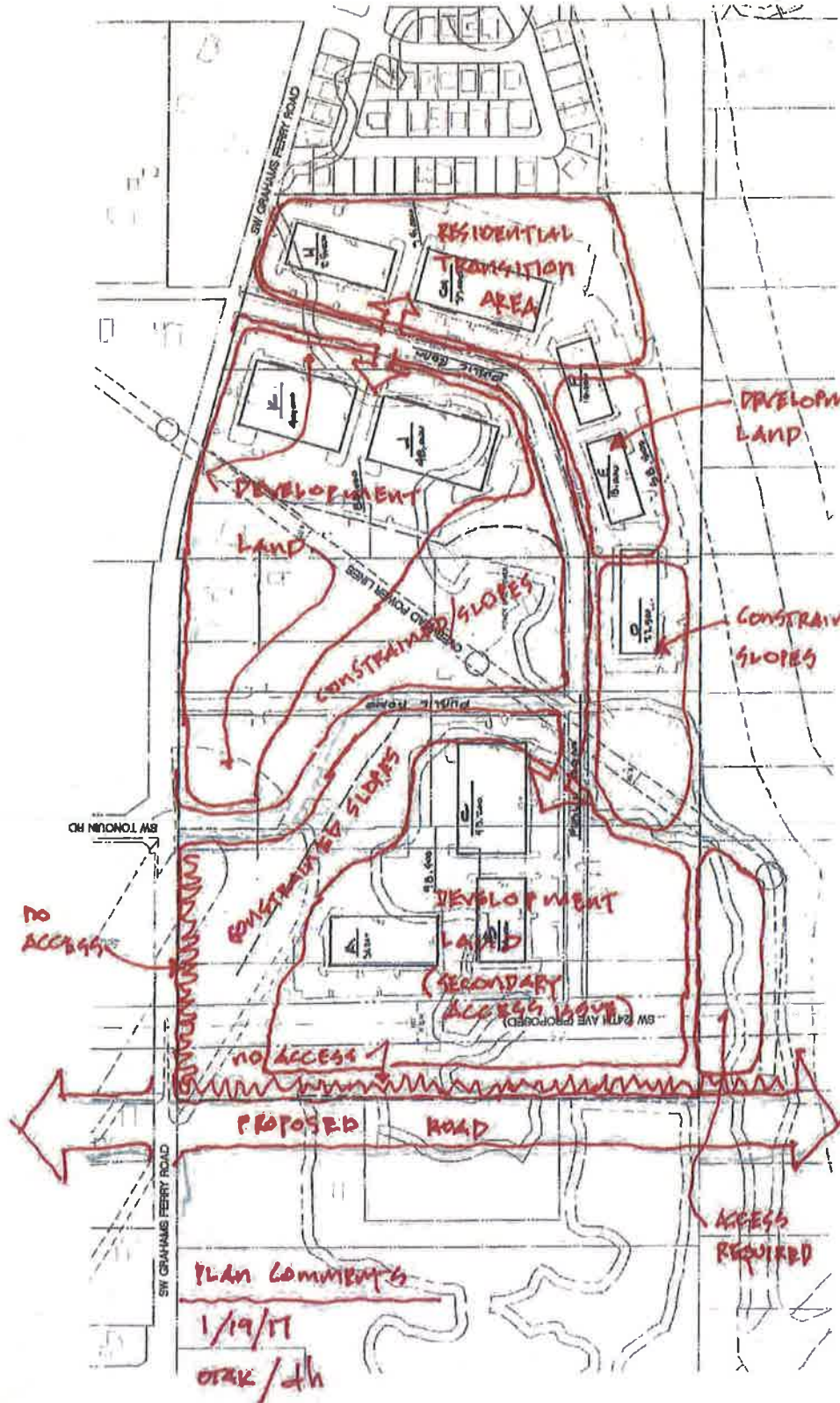
808 sw third avenue, suite 300 • portland, oregon 97204  
503.287-6825 • fax 503.415-2304  
www.otak.com



The following summarizes Don Hanson's testimony for the City Council meeting on Monday, February 13, 2017.

### Comments on MacKenzie Study

- **Items/information not made available to MacKenzie**
  - Residential transition land at north end.
  - Correct location for the future Basalt Creek Parkway road.
  - No road connection/access onto the future Basalt Creek Parkway road.
  - No access is shown to properties to the southeast.
  
- **Plan Comments**
  - The comments on slope suitability are well stated for employment uses. Less than 5% slopes are best, 5-10% present challenges, and greater than 10% slopes are not feasible.
  - Sites A, B and C are somewhat feasible but would need a second access for emergency vehicles.
  - Sites D, E and F are not feasible for employment.
  - Sites G and H are in the proposed residential zone.
  - Sites L and K are workable.
  - There are about 18-20 acres of feasible land for employment development, but without good access a successful employment development is not feasible.
  - No consideration for costs of grading the site.
  - What about ADA?



OPTION ONE  
 REC. 21, 2016  
 210,500 SF "EMPLOYMENT  
 (Municipal)"  
**M**  
 ARCHITECTURE - INTERIORS  
 PLANNING - ENGINEERING

LEGEND

THE PROPERTY	100.0000
PERMITTED 2.3.4	100.0000
ELEVATION TOLERANCE (FT)	0.5000
CREWING HELIX	0.5000

SITE DATA

BUILDING	SITE AREA	BUILDING AREA	PARKING SPACES	PARKING RATIO	PARKING PER PERMITTED	PARKING PERMITTED TO
PROPOSED BUILDING A	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING B	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING C	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING D	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING E	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING F	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING G	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING H	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING I	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING J	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING K	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING L	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING M	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING N	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING O	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING P	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING Q	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING R	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING S	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING T	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING U	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING V	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING W	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING X	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING Y	10,000	10,000	100	10.00	100	100
PROPOSED BUILDING Z	10,000	10,000	100	10.00	100	100

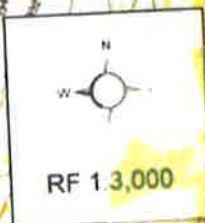
SITE XX  
 BASALT CREEK SITE  
 SW 124TH AVE  
 WASHINGTON COUNTY, OREGON

DATE: 01/19/11  
 12:24:11 - 2/11/11

10

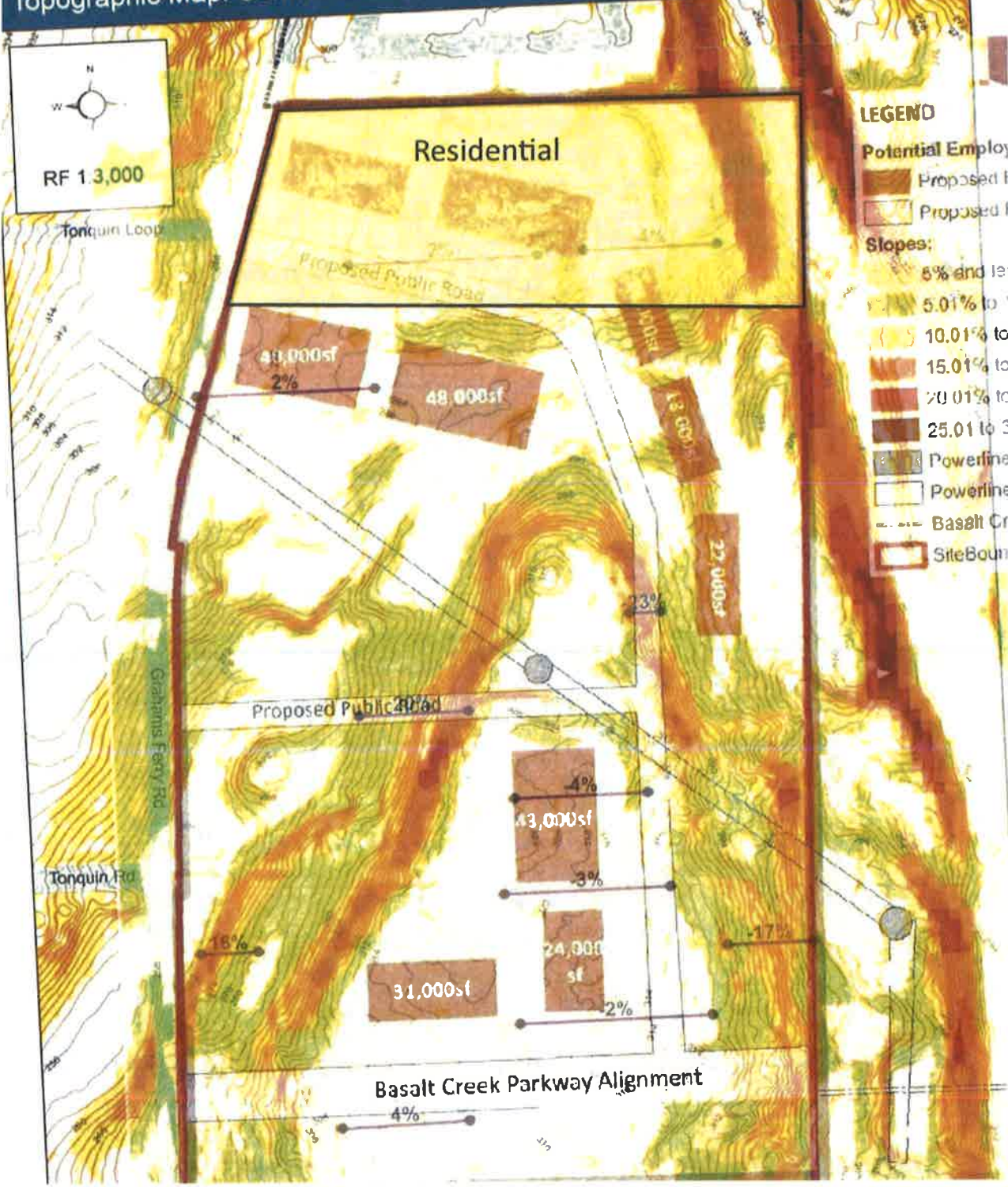
# Topographic Map: Central Subarea on Tualatin side of Basalt

TUALATIN



### LEGEND

- Potential Employ
- Proposed E
- Proposed I
- Slopes:
- 5% and le
- 5.01% to
- 10.01% to
- 15.01% to
- 20.01% to
- 25.01 to 3
- Powerline
- Powerline
- Basalt Cr
- SiteBound







July 20, 2017

Mr. Herb Koss  
Sherwood Grahams Ferry LLC  
22400 Salamo Road, Suite 106  
West Linn, Oregon 97068

**RE: BASALT CREEK CENTRAL AREA – EMPLOYMENT VERSES RESIDENTIAL DEVELOPMENT**

Dear Mr. Koss:

In response to your request we have prepared a summary on the differences between development of employment type uses versus residential uses on the central area of Basalt Creek Concept Plans. When we evaluate property for development we look at zoning, transportation/access, utility service availability, topography, environmental constraints, soil conditions and adjacent uses.

The Basalt Creek Central Area faces development constraints that impact any development regardless of use (employment verses residential). These development constraints are:

- Limited access (only from Grahams Ferry Road).
- Wetlands
- Powerline easement that bisects the area
- Significant slope and topography to access the southerly portion.
- Shallow hard rock soil conditions.

The most significant differences between employment development and residential is how they can respond to these constraints. Residential development typically has smaller building footprints and can accept steeper grades for access. In addition attached residential buildings can have split floor elevations and parking underneath, both of which allow this type of building to be more responsive to the topographic and access issues.

Conversely, employment development has larger building footprints, must have flatter access grades for trucks, wider maneuvering areas for turning movements and parking. It is also undesirable to split building floor elevations as that can limit the use or size of tenant. **This flatter and wider footprint requires more grading and retaining walls on property like this than any competitive property without these constraints. Add rock excavation at six to ten times the normal cost of grading to the excessive amount of grading required, and this property may not be economically feasible to develop.**

Mr. Herb Koss

**BASALT CREEK CENTRAL AREA**

Page 2 of 2

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Two residential projects we have been involved in are examples of how residential development can be more responsive to site constraints. Forest Rim apartments on Nyberg Road in Tualatin had wetlands and large rock outcrop in the middle of the site. The access roads and buildings were able to be wrapped around these features that turned them into amenities rather than limitations. A condominium project in Happy Valley, Greystone at Altamont was able to be wrapped around the top of the knoll with parking underneath both the upper and lower side of the units.

Most of the competitive employment land along the I-5 corridor in Tigard and Wilsonville or western Tualatin is relatively flat and/or does not require the rock excavation for development. We prepared rough cost estimates for the grading and retaining walls this property based on the KPFF Option B plan for basic site prep. These costs are in addition to the paving and utility costs that will also be needed for this site. The rough grading and retaining wall costs are:

Grading	350,000 Cubic Yards	\$10,500,000.00 (assumes significant rock excavation)
Retaining Walls	2,400 Lineal Feet	\$ 1,200,000.00

**It is important not to overlook the other constraint that impacts this area, Access.** The lack of access to the southerly and upper portion of the area increases the amount of grading and rock excavation required to develop the property. If Basalt Creek Parkway had been a local street that would provide at grade access to the upper portion of the area, employment uses could be feasible. Similar to variance criteria, this is not a self-imposed hardship but one that is unique to this portion of the planning area.

Another consideration is how this area relates to the adjacent uses (both existing and future). There is existing single family detached housing to the north. There is also underdeveloped property east of the planning area as well as the creek itself along the northeasterly portion of the area.

The City of Tualatin is proposing additional single family detached adjacent the existing single family housing to the north. Higher density residential provides an excellent transition between lower density residential, commercial and/or industrial uses. Basalt Creek Parkway with its deep cut and wide right of way provides additional transition area to the south.

Per your request, I will be present at the 7/24 work session and will be happy to answer any questions at that time.

Sincerely,



Anthony R. Weller, P.E., P.L.S.

President

Dear President Hughes and Members of the Metro Council,

Thank you for accepting this testimony. I wanted to offer some observations regarding the Buildable Lands Inventory ("BLI"), for the council's consideration, as well as identify some policy choices that I believe the council needs to make in order to ensure the accuracy of the BLI.

With that said, I would like to enter the following abbreviated comments and attachments into the record.

Since Metro released the Buildable Land Map ("Map") for the 2018 UGR, a number of intervening events have occurred which have impacted the map. Metro Mapped parts of the Basalt Creek Area, south of Tualatin and north of Wilsonville single family residential, the zoning adopted is employment. Since the mapping Metro has required the cities of to adopt an employment designation. The Map shows capacity for 380 single family housing units, in Basalt Central Area. *See attachments 3 and 3(a)*. The Map shows the area west of the Central Area as Single Family residential as well, with approximately 450 units in an area that has employment zoning. Additionally, 276 units are shown in or adjacent to the Basalt Creek Canyon. The Canyon is mapped as a hard constraint by Tualatin *See attachment 3(b)*, and is envisioned as a natural area in their Parks Masterplan *See 3(c)*. Additionally, Metro has mapped it as a Class I riparian area. As such, it is unlikely to develop at the mapped density. Combined the Basalt Creek Employment areas plus the canyon are projected to have over 1,100 units. While I agree with the residential designation, and have advocated for it in front of the Metro Council and LUBA, it is not the current zoning.

Since the release of the Map, Portland passed Ordinance No. 1891327, which is intended to protect the nearly 3,000 mobile homes in the city. Some, but not all of those parks are modeled for redevelopment under the current BLI. I've included one in Cully, and one on Hayden Island,, which were measured to have capacity for 213 infill units and 2227 infill units respectively. Ordinance No. 1891327 will prevent those parks from being razed and redeveloped.

Because many of our region's manufactured parks are relatively large parcels under single ownership, with a low tax assessed value, the algorithms used to model future growth identify

some of them as having capacity to be redeveloped. Some of the cities with manufactured dwellings modeled for redevelopment include Fairview, *See attachment 7*, Wood Village, *See attachment 8*, Gresham *See attachment 9*, Gladstone, *See attachment 10*, unincorporated Clackamas County *See attachment 11*, Washington County *See attachment 12 and 13* and Johnson City. *See attachment 14*. This is not an exclusive list, and there are many parks that are not modeled for redevelopment, but that number counted in the inventory is significant.

Whether or not manufactured dwellings should be modeled as available for redevelopment is a policy choice, both for the cities where they are located as well as region wide. There are many arguments that they should be removed from the inventory, as the manufactured parks offer relatively affordable housing options for tens of thousands of residents in our region. Regional equity is a stated goal in this process, and the expense of replacing the manufactured housing lost, with other types of affordable housing, would be substantial.

On the other hand, removing the modeled manufactured parks from the BLI will have a significant impact on the BLI. Using the Threshold/Strike Price modeling, Portland's Ordinance alone likely removes over 3,800 units from the BLI. It is a difficult policy choice, but one that in my mind needs to be made to give cities and residents certainty.

A second policy choice is whether units owned by affordable housing nonprofits should be removed from the inventory. For instance, the apartments owned by Central City Concern at 8018-8066 SE Taggart St., in Portland are slated for redevelopment. *See attachment 4*. I would argue that they should be, but once again this impacts the inventory as a whole. This is not limited to Portland. One example is the Woodridge apartments in Tualatin. *See 4(a) and 4(b)*. It is likely that these types of units are being identified by the algorithm because of a low assessed value. I am unaware if there is a map of affordable units in the region, or how the scope of the issue could be measured, but wanted to raise the issue.

A third policy choice, is whether properties that are on the National Historic Registry should be removed. For instance, the Bitar Mansion located at 3316 SE Ankeny is modeled for infill single family development. Historic protection versus infill development has been a heated

issue in the region, recently, and it may be difficult to have a hard and fast rule. However, it is a policy choice, perhaps that could be decided on a jurisdiction by jurisdiction basis.

My final observation is that the Map would benefit from "ground-truthing." For instance, the Wilsonville Sewage Treatment Plant is modeled for 56 units of single-family residential infill. *See attachment 15.*

There are numerous examples of this occurring with units in the Willamette river, and units where hotels or other structures have already been recently built. While it would be very time consuming to take a comprehensive look at the Map, particularly because development is constantly occurring, if we want the most accurate BLI possible, that needs to occur.

Sincerely,

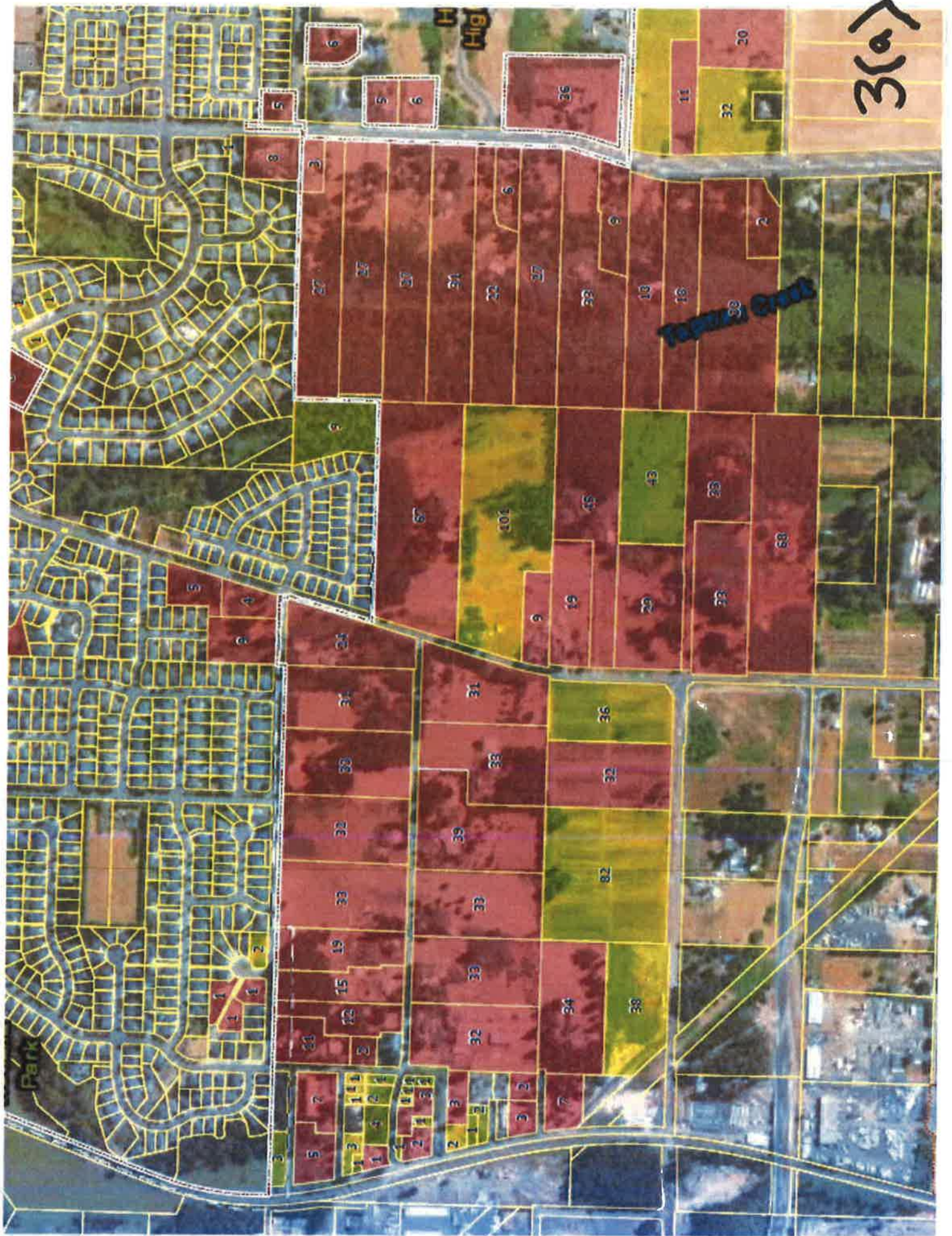


Peter O. Watts



- City Limits
- County Boundary
- Taxlot
- Vacant Single Family
- Infill Single Family
- Vacant Multi-Family

3

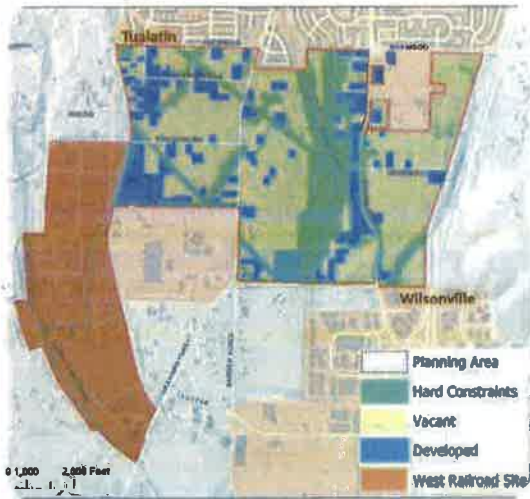


3(a)

**GOAL 1: EXPAND ACCESSIBLE AND INCLUSIVE PARKS AND FACILITIES TO SUPPORT COMMUNITY INTERESTS AND RECREATION NEEDS.**

To achieve Goal 1, the Master Plan recommends providing well-maintained parks, greenways,

natural areas and a diversity of recreation opportunities to fill existing gaps and serve future development areas. Thoughtfully designed facilities and activities will be accessible and meet the needs of Tualatin's diverse, growing and changing community.



Develop a new park in the Basalt Creek area to serve new residents and address unmet facility needs in south Tualatin.



Prioritize deferred maintenance projects and renovate aging amenities in parks



Improve existing sport fields, acquire new parks for sports, and evaluate the financial feasibility of a tournament complex.



Design parks to be accessible and respond to demographic, cultural and neighborhood needs.



## Proposed New Parks

Implementing the following recommendations for new parks and partnerships will help achieve all seven Master Plan goals:



### Jurgens Park Addition (P1)

Site recommendations for Jurgens Park include expanding the park by acquiring an adjacent space to introduce new uses.

- Acquire adjacent property as available.
- Master plan and develop this site in conjunction with the existing park.

### Tualatin Community Park Addition (P2)

Tualatin Community Park is the City's largest park located at the heart of the city on the Tualatin River. The City should take advantage of opportunities to acquire adjacent land that would improve park access and site use.

- Acquire additional land (if the opportunity exists) to enhance the role of the park as the heart of the Tualatin community.
- Master plan and develop this site in conjunction with the existing park.

### Basalt Creek Park (P3)

A new large neighborhood park is proposed for the Basalt Creek Concept Plan Area in south Tualatin to serve residents and employees. Prior to acquisition, opportunities should be evaluated to acquire additional land to support community-wide

recreation needs and protect natural resources in the Basalt Creek Canyon. A larger park in the Basalt Creek Concept Plan area would help address traffic congestion by developing the City's second community park, connected to the local and regional trail system, providing tourism attractions and space for community events, large and small group gatherings, sports (fields or a sports complex), as well as other active and passive recreation uses.

- Acquire 10-20+ acres of park space through an area master plan process.
- Acquire additional land for greenways and natural parks to support planned trail connectivity and protect creek canyon habitat and natural resources.
- Master Plan and develop park site as a community park to meet neighborhood, employee, and community needs.

### East Tualatin/Bridgeport Elementary Partnership (P4)

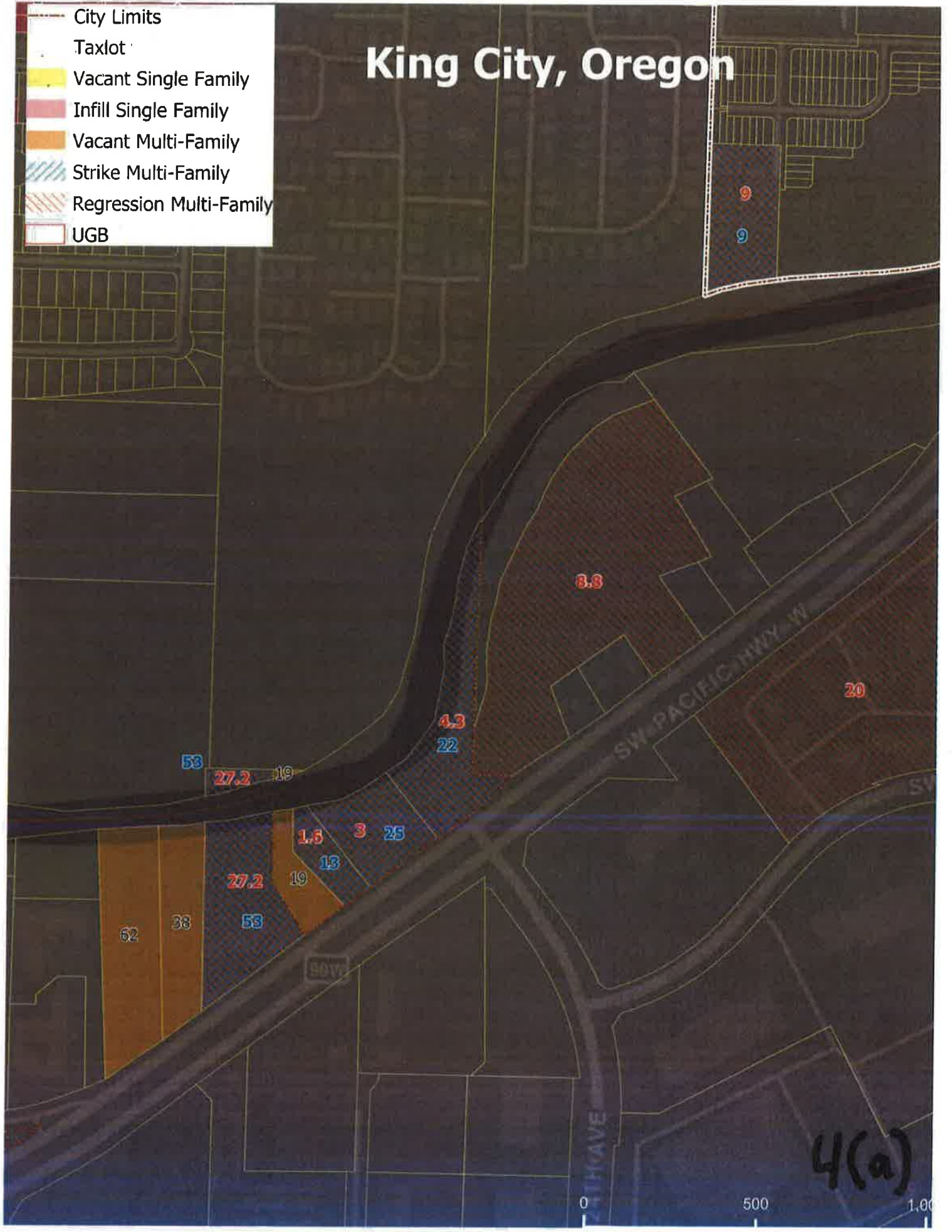
Residents in east Tualatin lack access to a nearby neighborhood park. The City should explore a partnership or joint-use agreement with the Tigard-Tualatin School District for the use and/or improvement of recreation facilities of Bridgeport Elementary. The partnership would expand the range of park lands available in east Tualatin, which is now limited to greenways and natural areas.

- Pursue a school partnership with Bridgeport Elementary to formalize the joint use of the outdoor play areas, lawn, sports field, basketball courts, and track during out-of-school hours.
- Add programming for Hispanic/Latino community in partnership with Bridgeport Elementary.



# King City, Oregon

- City Limits
- Taxlot
- Vacant Single Family
- Infill Single Family
- Vacant Multi-Family
- Strike Multi-Family
- Regression Multi-Family
- UGB





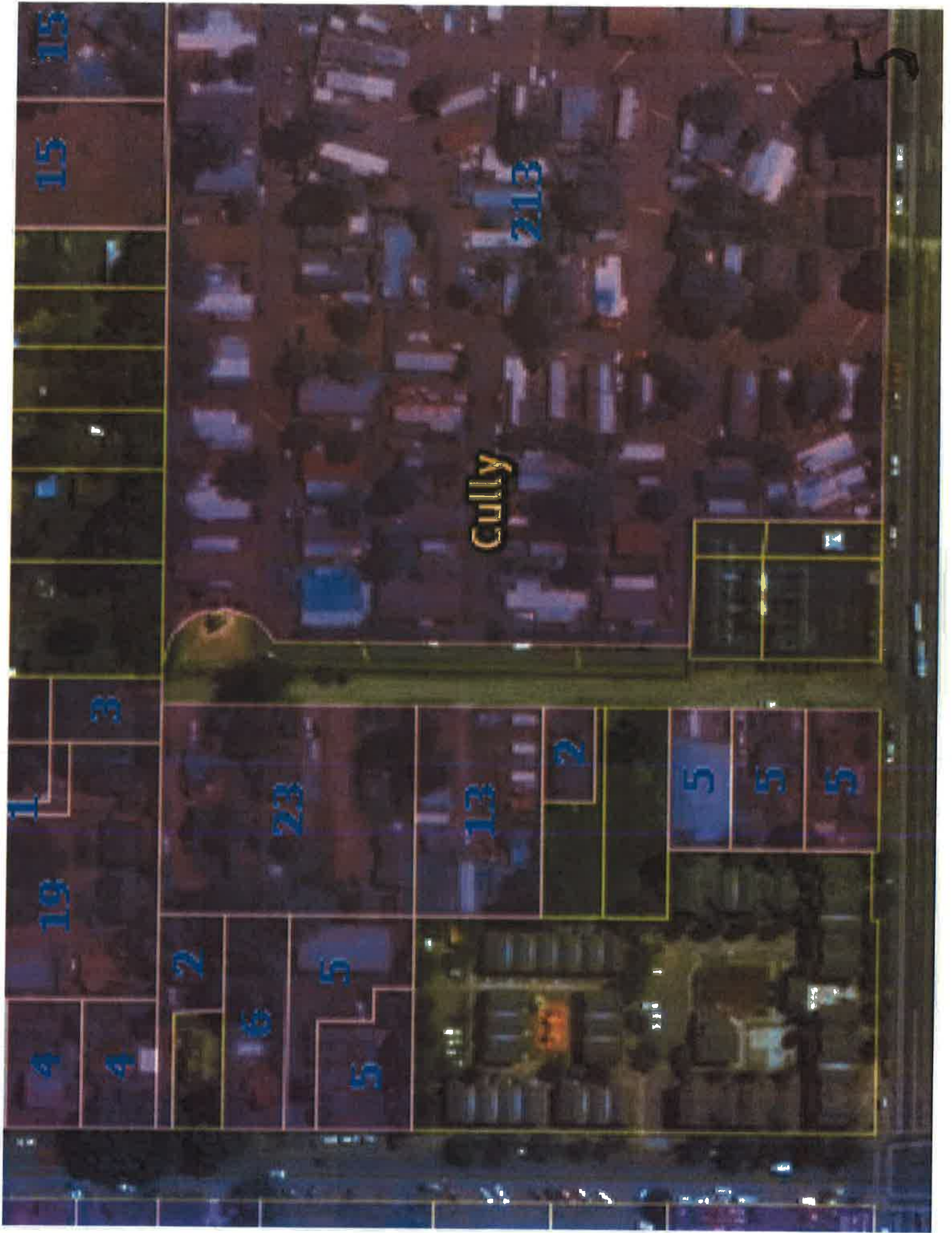
### LIHTC Program Income Guidelines

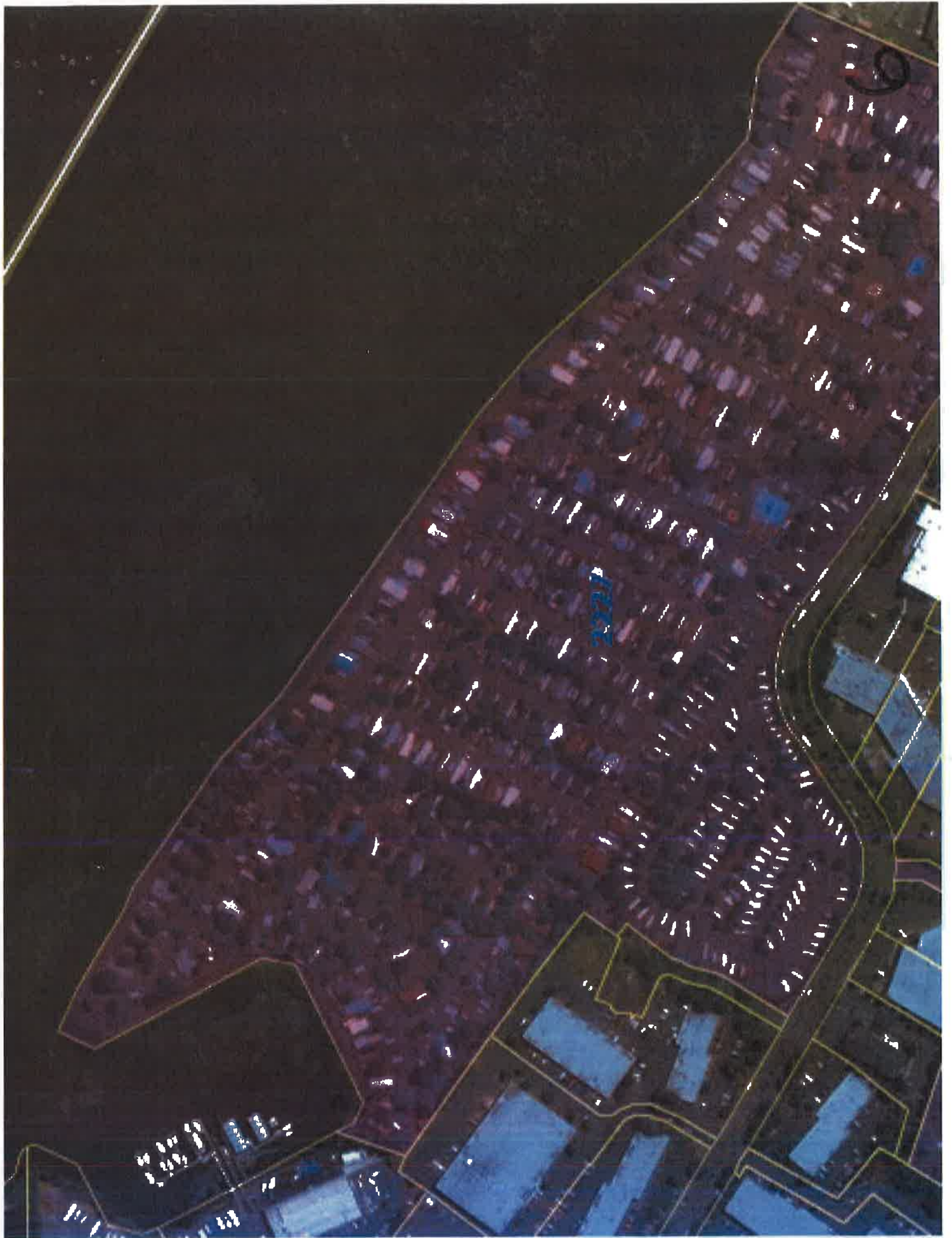
Woodridge Apartments is a Section 42 Tax Credit Project which means that federal tax credit subsidies were given to help finance the property. Because of the subsidies received, the owner is required to hold the maximum rent charged at or below a level considered appropriate for the households that have incomes at or below 60% of the median household income for the county. This maximum rent that can be charged is calculated at 30% of the 60% of the median monthly household income less a utility allowance which is determined by the Department of Housing and Urban Development. Applicants must also qualify to live in the community by demonstrating that their annual household income is at or below 60% of the median income for the county where the community is located.

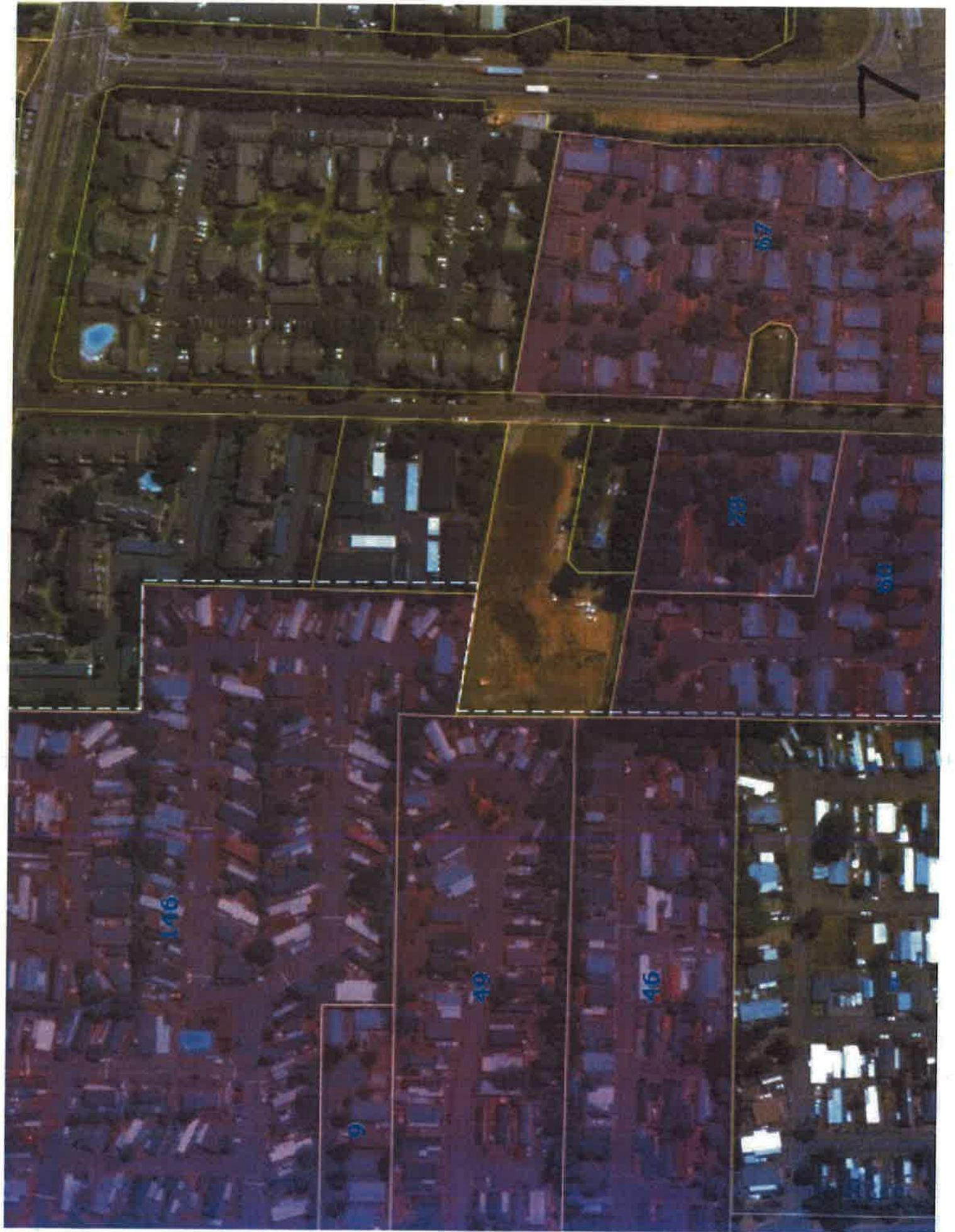
Below are two lists, one is the maximum household incomes allowed to qualify for residency based on the number of people in the household, and the second is the maximum allowable rent for the studio, one and two bedroom apartments.

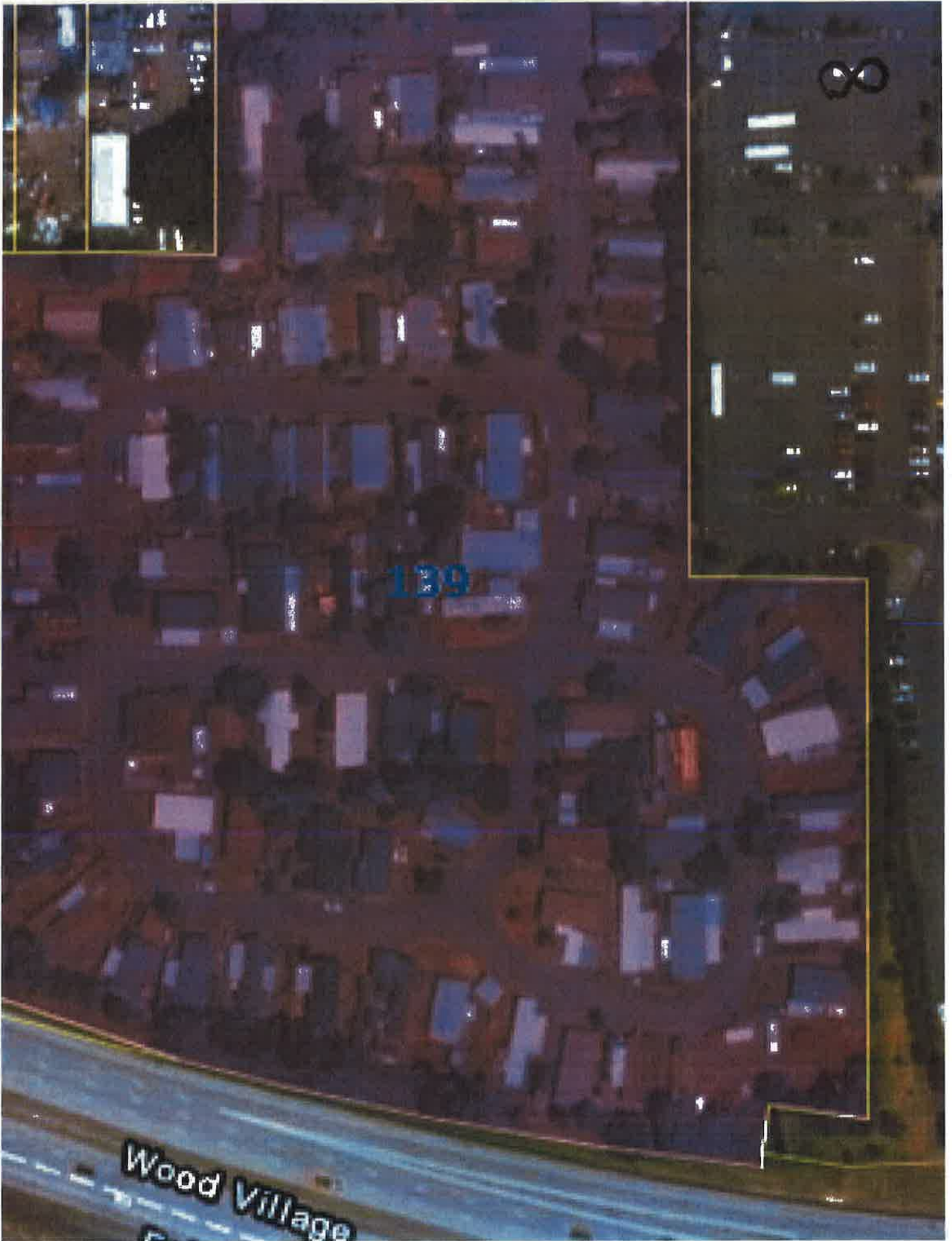
Number of Occupants	Maximum Household Income		Apartment Size	Maximum Allowable Rent Limit	
	50%	60%		50%	60%
1	\$28,700	\$34,440	1 Bedroom	\$677	\$825
2	\$32,800	\$39,360	2 Bedroom	\$809	\$986
3	\$36,900	\$44,280	3 Bedroom	\$929	\$1,135
4	\$40,950	\$49,140			
5	\$44,250	\$53,100			
6	\$47,550	\$57,060			

4(b)







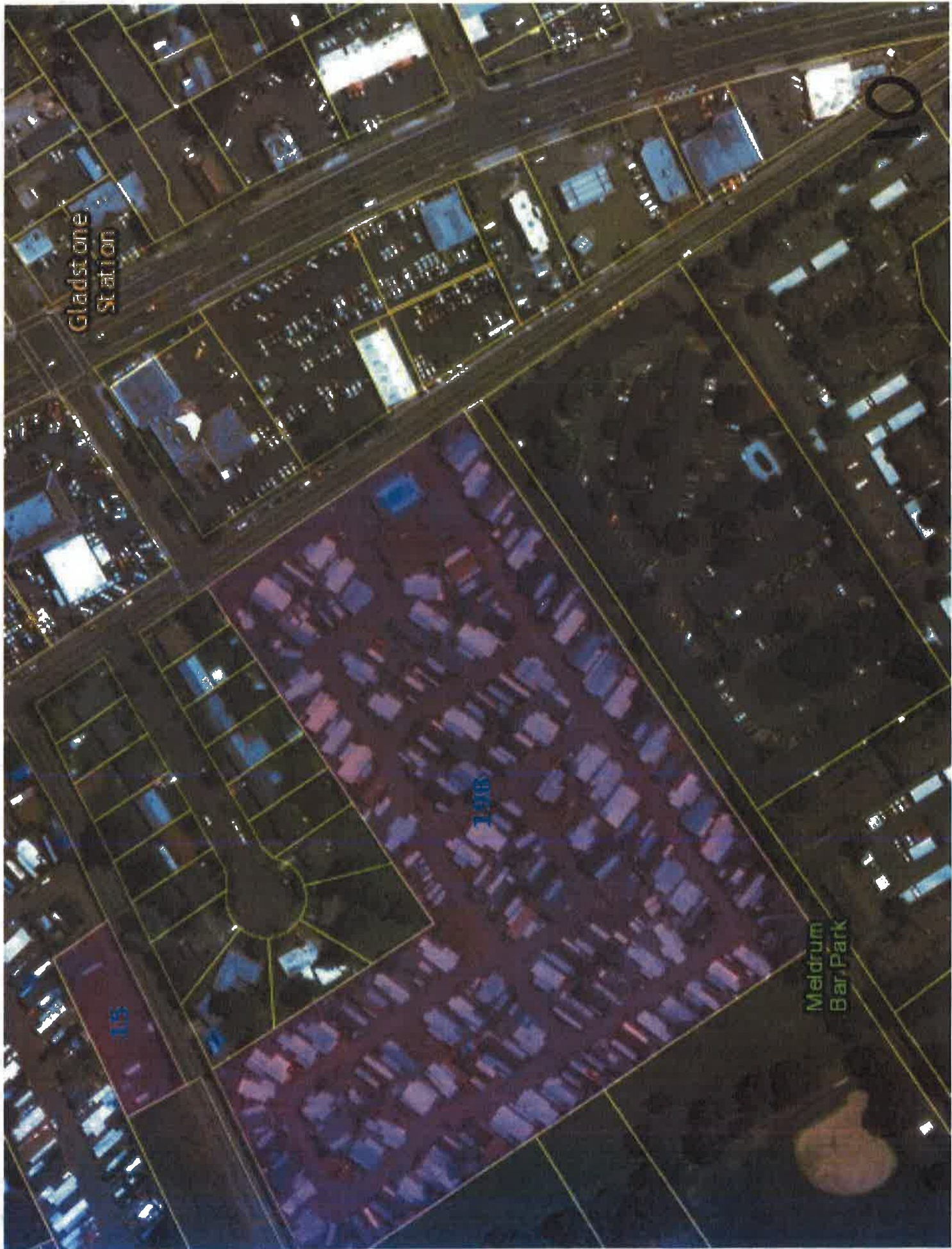


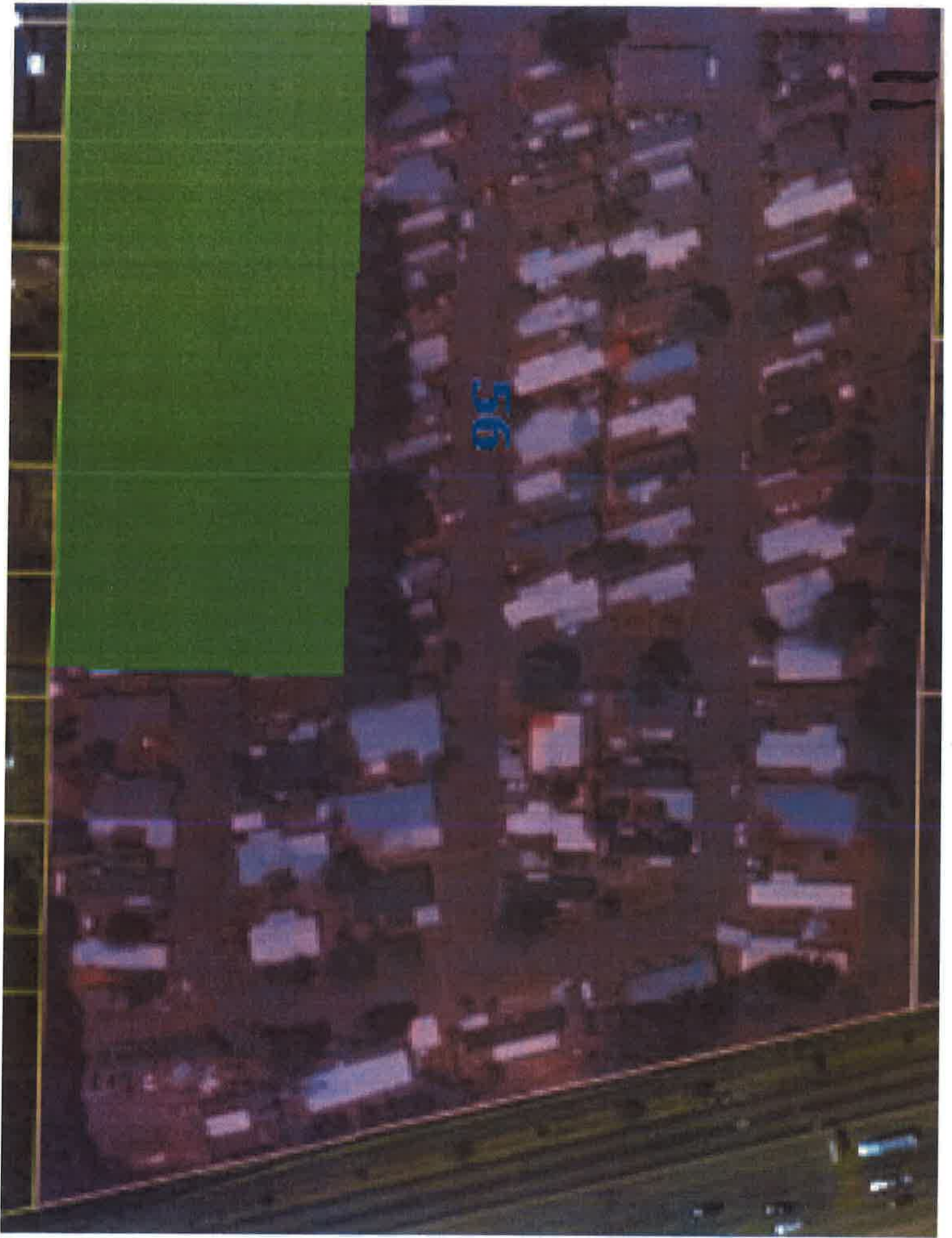
139

Wood Village









56

11

419

6

Lexington

Park

21

Qua Pa

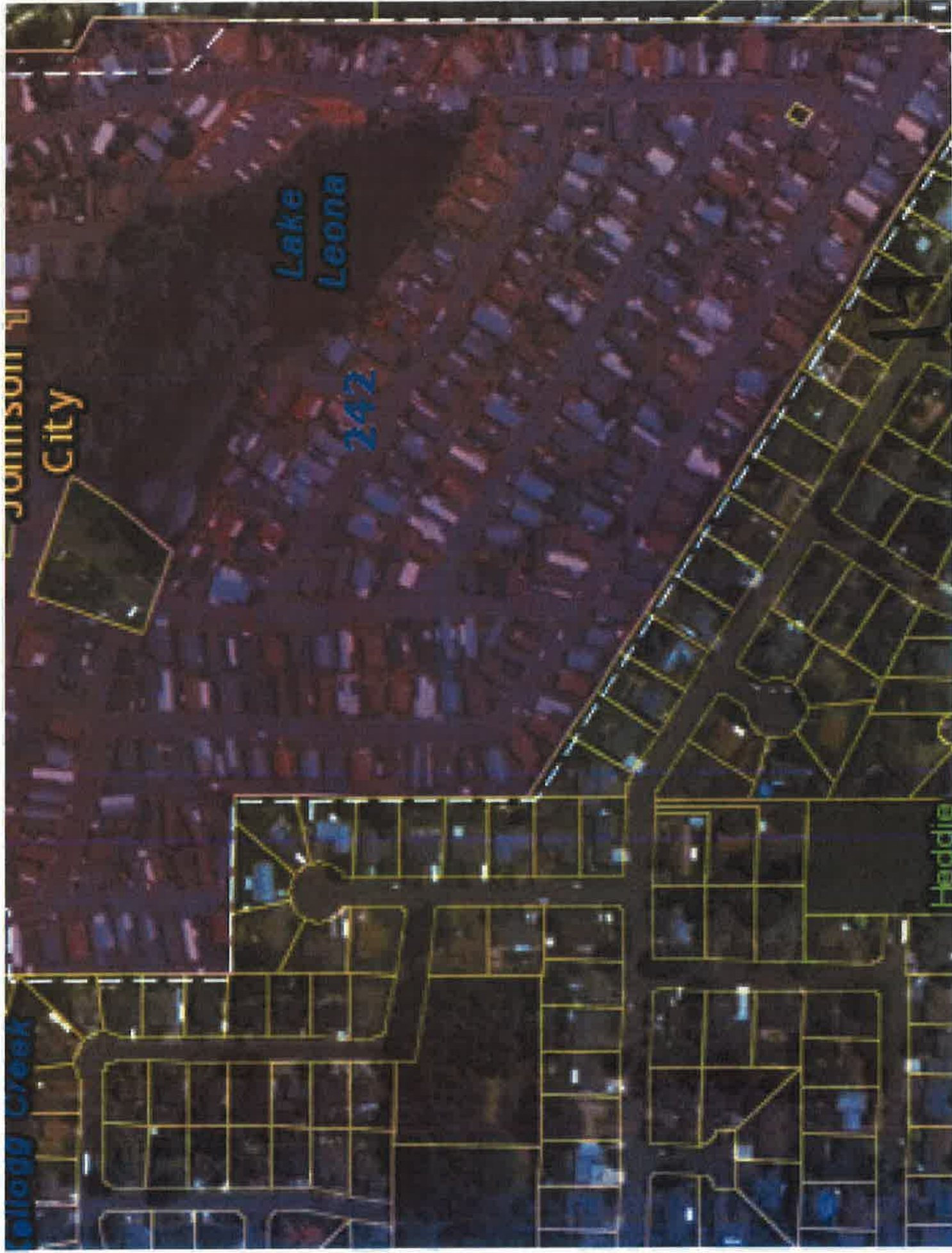




461

Beaverlon Creep

13



Kellagh Creek

Johnson City

Lake  
Leona

242

Haddia



15

Dear Mayor Bubenik and Members of the Council,

I wanted to offer the following data, which I believe will inform the city's choices related to both Basalt Creek and Stafford.

The City of Tualatin's Buildable Land Inventory identifies the potential for 76 single family units on vacant land (25 acres), as well as the potential for 336 units on infill land (59 acres), for a total of 412 units. *See Attachment 1.* The majority of infill parcels are large single-family parcels that might subdivide in the future. I have included the map as *Attachment 2*, the map does not include areas that are outside of the city of Tualatin (unincorporated Washington County), with the exception of the Basalt Creek Planning Area.

Unfortunately, as illustrated in the enclosed Attachments, a majority of the units counted in the Tualatin BLI will not be available for housing, for a variety of reasons including: less dense development; hospital land banking; floodplain; lack of access; and irregularly shaped lots. 226 of Tualatin's units are located adjacent to Meridian Park Hospital. *See Attachment 3.* Although, Metro's BLI projects 102 units for the Sagert Farm Subdivision, the actual subdivision is currently being built at a density of 79 units.

The two parcels immediately East of the Meridian Park Hospital are owned by the hospital for future expansions. *See Attachments 4 and 5.* This results in the loss of 109 units. And, the three units on the Stafford Hills site North of the hospital are within the floodplain, and not eligible for development. *See attachment 6.* Finally, the parcel adjacent to Sagert Farms, is bisected by Saum Creek, and unlikely to develop for a loss of 12 units. *See Attachment 7.* Sagert Farm's current 79 units combined with the other 147 units, result in 226 (out of 412) units that won't be available for development over the next 20 years.

Others areas counted in the BLI are similarly not likely to develop. The 14 units east of the Tualatin Country Club are almost entirely within a floodplain. *See Attachment 8.* The 9 units in the area South of Victoria Woods Natural Area, do not have ingress/egress, and are steeply sloped. *See Attachment 9.*

The BLI appears to look at the size of parcels without regard to the shape of the lots, which impact the ability to develop the parcels. For instance, the .94 acre lot at 21950 SW Boones Ferry Rd., is counted as having room for 4 additional units of infill development. *See Attachment 10.* That density is not feasible given the site constraints.

In other instances, a large single-family replacement dwelling has been built on a parcel making further density unlikely. An example of this is 22915 SW Graham's Ferry Rd, where an approximately 4,000 sq. ft. house has been added to a 1 acre lot, making four additional dwellings unlikely. *See Attachment 11.*



I worked with First American Title to determine how many Single Family units were built over the last three years. There were 98 in 2018, 22 in 2017, and 45 in 2016, or 165 over the three-year period. With that kind of demand, Tualatin will be out of buildable land shortly.

In addition to current city limits Basalt Creek via latest Scenario/Concept Plan has the potential for 553 units on vacant land (85 acres). *See Attachment 12.* However, only 134 of those units are Single Family/Low Density Residential.

Metro's BLI maps the entire Northern Portion of the Basalt Creek Planning Area including the Central Subarea as Low Density Residential. In total, 2003 single family units are planned for the area under the current BLI. *See Attachments 13, and 14.* Under the recommended zoning 1,869 of those 2003 single family units will not be built.

These 1,869 units are statistically significant they represent 7.845% of the units in unincorporated Washington County, and 2% of the units in the Metro Region. *See Attachment 1.*

The BLI issues identified in Tualatin are not unique to Tualatin. For instance, Wilsonville's sewage treatment plant is identified as having capacity for 56 Single Family units. *See Attachment 15.* While Jantzen Island, located on Oswego Lake, with structures on the National Register of Historic Places is measured to have room for 3 infill Single Family units. *See Attachment 16.*

Lack of land for Single Family units has become a regional crisis, but Tualatin has the ability to play a positive role in both Basalt Creek and Stafford. I urge you as members of the City Council to not agree to a moratorium in Stafford, and to zone Basalt Creek's central subarea based on the record, instead of Metro's preference.

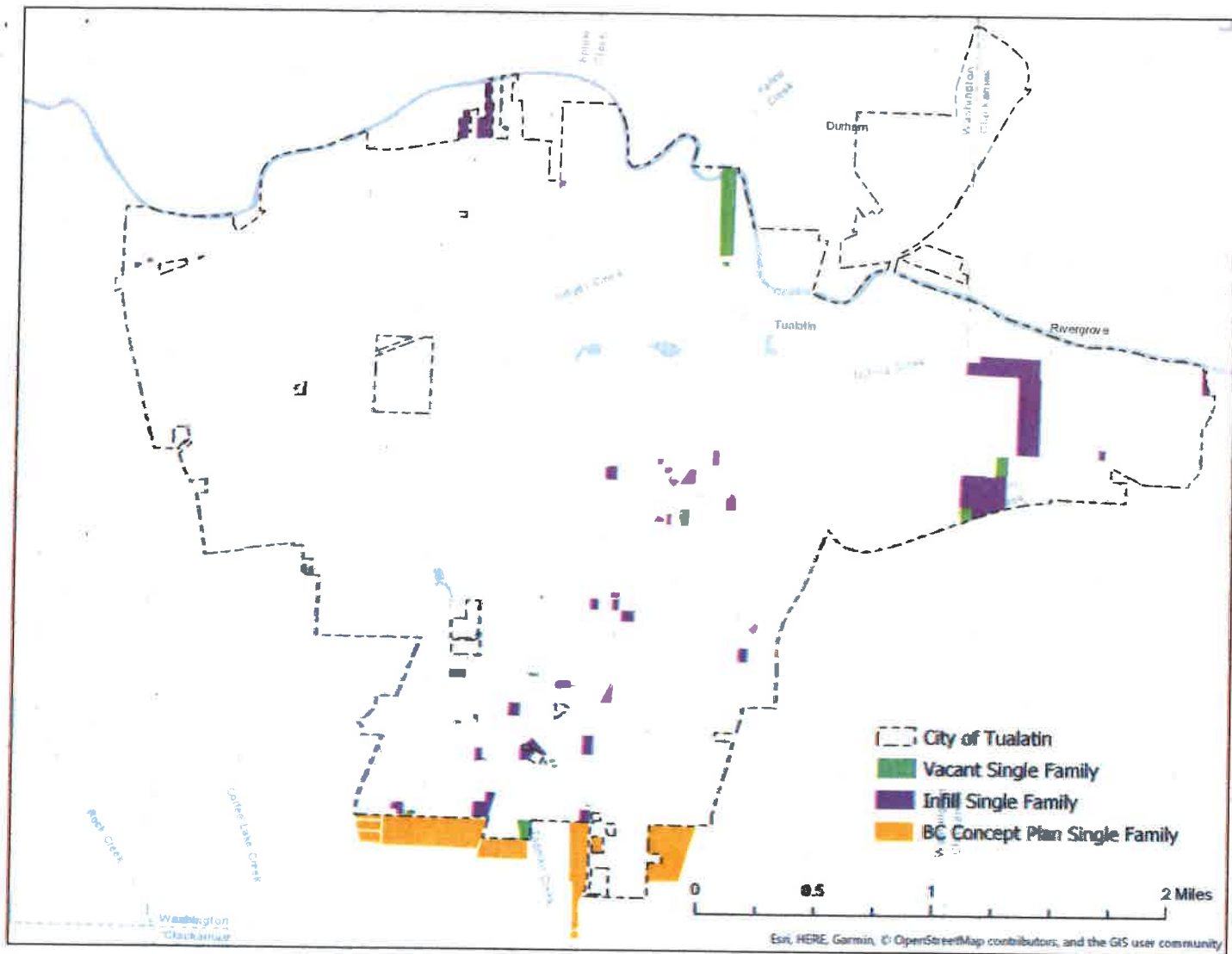
Sincerely,

A handwritten signature in blue ink that reads "Peter O. Watts". The signature is written in a cursive style with a clear, legible font.

Peter O. Watts

2018 Buildable Lands Inventory Housing Units Summary - Statistical Analysis Method

Local Government	Total DU	Single Family (SF)		Multi-Family (MF)		MF - Low (<75DU/acre)		MF - High (>75DU/acre)		Total Capacity by Building Type				Percent of Capacity by Building Type					
		Vacant	Intill	Vacant	Redev	Vacant	Redev	Vacant	Redev	SF	MF - Low	MF - High	Recdev Total	% SF	% MF - Low	% MF - High	Recdev Total	% Vacant	% Recdev
GLADSTONE	435	29	158	42	206	42	206	42	206	187	248	114	549	43%	54%	11%	3,044	43%	57%
HAPPY VALLEY	17,492	2,049	3,363	6,617	5,463	6,164	5,446	453	17	5,412	11,610	470	51%	66%	9%	8,826	50%	84%	
LAKE OSWEGO	1,230	335	348	148	399	148	398	-	2	683	546	2	0%	100%	0%	138	0%	50%	
MILWAUKEE	8,935	1,174	1,086	518	523	937	121	181	409	1,565	458	590	56%	48%	0%	747	39%	100%	
OREGON CITY	11	6	5	2,507	3,518	614	526	1,893	2,992	2,910	1,140	4,885	80%	18%	33%	1,615	38%	62%	
RIVERGROVE	889	456	321	21	85	21	85	-	-	11	106	6	35%	13%	55%	5,254	41%	59%	
WEST Linn	2,175	609	471	773	922	773	319	3	-	777	106	-	100%	0%	0%	5	55%	45%	
WILSONVILLE	25,629	8,243	12,258	1,491	3,857	1,491	3,346	311	3	1,080	1,092	3	88%	12%	0%	477	54%	46%	
UNINCORP-CLACK	35,822	11,861	15,861	5,825	5,825	5,825	5,825	11,651	4,825	20,481	4,837	311	50%	50%	0%	1,382	64%	36%	
UNINCORP-WASH	884	120	155	390	219	390	219	156	-	275	609	638	80%	19%	1%	9,734	38%	62%	
FAIRVIEW	12,237	1,504	3,119	2,893	4,721	2,797	4,239	156	482	4,623	6,976	5	11%	23%	58%	15,885	38%	62%	
GRESHAM	5	5	-	-	-	-	-	-	-	5	-	-	31%	69%	0%	374	26%	74%	
MAYWOOD PARK	74,815	4,738	6,893	12,406	50,779	1,534	8,436	10,872	42,343	11,631	9,970	53,215	38%	57%	5%	7,840	58%	42%	
PORTLAND	1,436	663	239	288	246	288	246	-	-	902	584	-	100%	0%	0%	5	36%	64%	
TRIGUDALE	633	12	13	113	495	113	495	-	-	25	608	-	16%	13%	71%	17,144	23%	77%	
WOOD VILLAGE	5,820	1,411	1,242	835	2,832	835	2,332	-	-	2,653	3,167	-	63%	37%	0%	485	66%	34%	
UNINCORP-HMULT	7,835	1,013	2,627	1,131	2,832	1,131	2,332	811	-	40,075	30,524	1,131	4%	96%	0%	508	20%	80%	
BEAVERTON	13,071	2,582	1,909	3,316	5,264	2,714	4,598	602	666	4,491	7,312	1,268	48%	54%	11%	3,574	39%	61%	
CORNELLIS	2,109	37	88	1,734	250	1,734	250	-	-	125	1,984	-	34%	66%	10%	5,898	37%	63%	
DURHAM	4,882	24	17	7	7	7	7	-	-	41	7	-	56%	44%	0%	713	45%	55%	
FOREST GROVE	9,377	1,338	1,754	576	1,574	576	1,574	-	-	2,732	2,150	-	8%	92%	0%	538	48%	52%	
HILLSBORO	108	24	61	2,672	4,234	2,672	4,234	-	-	2,471	6,906	-	85%	15%	0%	1,771	84%	16%	
KING CITY	727	86	297	227	117	227	117	-	-	85	23	-	26%	74%	0%	1,554	50%	50%	
SHERWOOD	12,851	1,909	3,604	1,933	5,415	1,908	4,578	25	837	383	344	-	28%	72%	0%	4,010	37%	63%	
TIGARD	704	76	336	122	170	122	170	-	-	551	6,486	862	79%	21%	0%	24	43%	57%	
TUALATIN	29,847	7,564	16,258	2,931	3,794	2,147	2,913	184	881	23,822	5,060	1,065	53%	47%	0%	3,842	22%	78%	
UNINCORP-WASH	22,200	3,631	5,244	3,253	3,253	3,253	3,253	184	881	23,822	5,060	1,065	50%	50%	0%	9,019	30%	70%	
<b>Grand Total</b>																			



2

Washington

Clackamas

Children's  
Creative  
Learning Center

KinderCare At  
Work - Legacy -  
Meridian Prk #1449

Saum Creek



(2 of 2)



OWNER1 LEGACY HEALTH SYSTEM

OWNER2

SITESTRNO 6,031

SITEADDR 6031 SW BORLAND RD

SITECITY TUALATIN

SITEZIP 97062

Zoom to

Children's  
Crawford  
Learning Center

Legacy  
Meridian  
Park

1449

(2 of 2)



OWNER1 LEGACY HEALTH SYSTEM

OWNER2

SITESTRNO 6,001

SITEADDR 6001 SW BORLAND RD

SITECITY TUALATIN

SITEZIP 97062

Zoom to

Children's  
Creative  
Learning Center

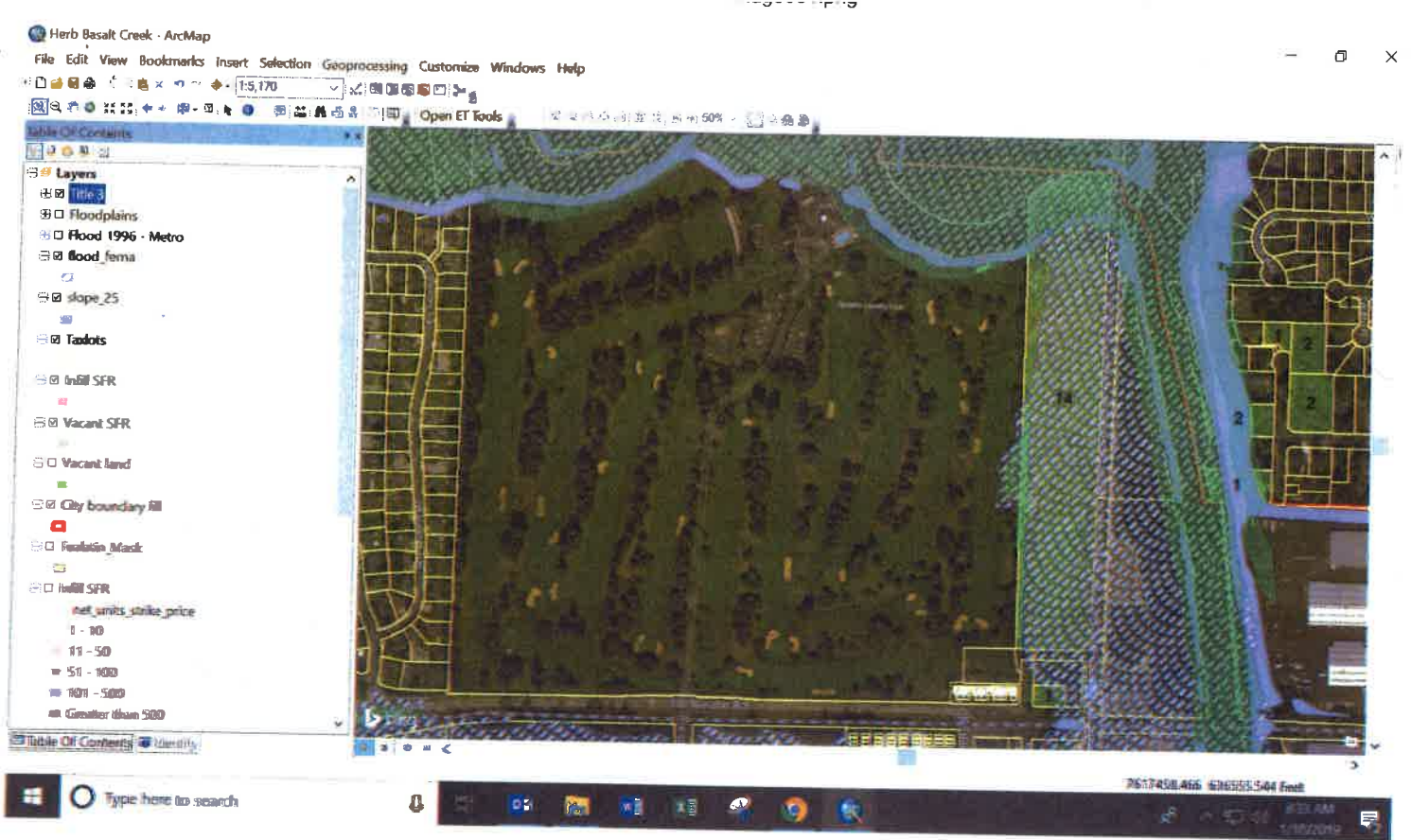
KinderCare  
At Work, Legacy  
Meridian Prk #1 449

Legacy  
Meridian  
Park

18

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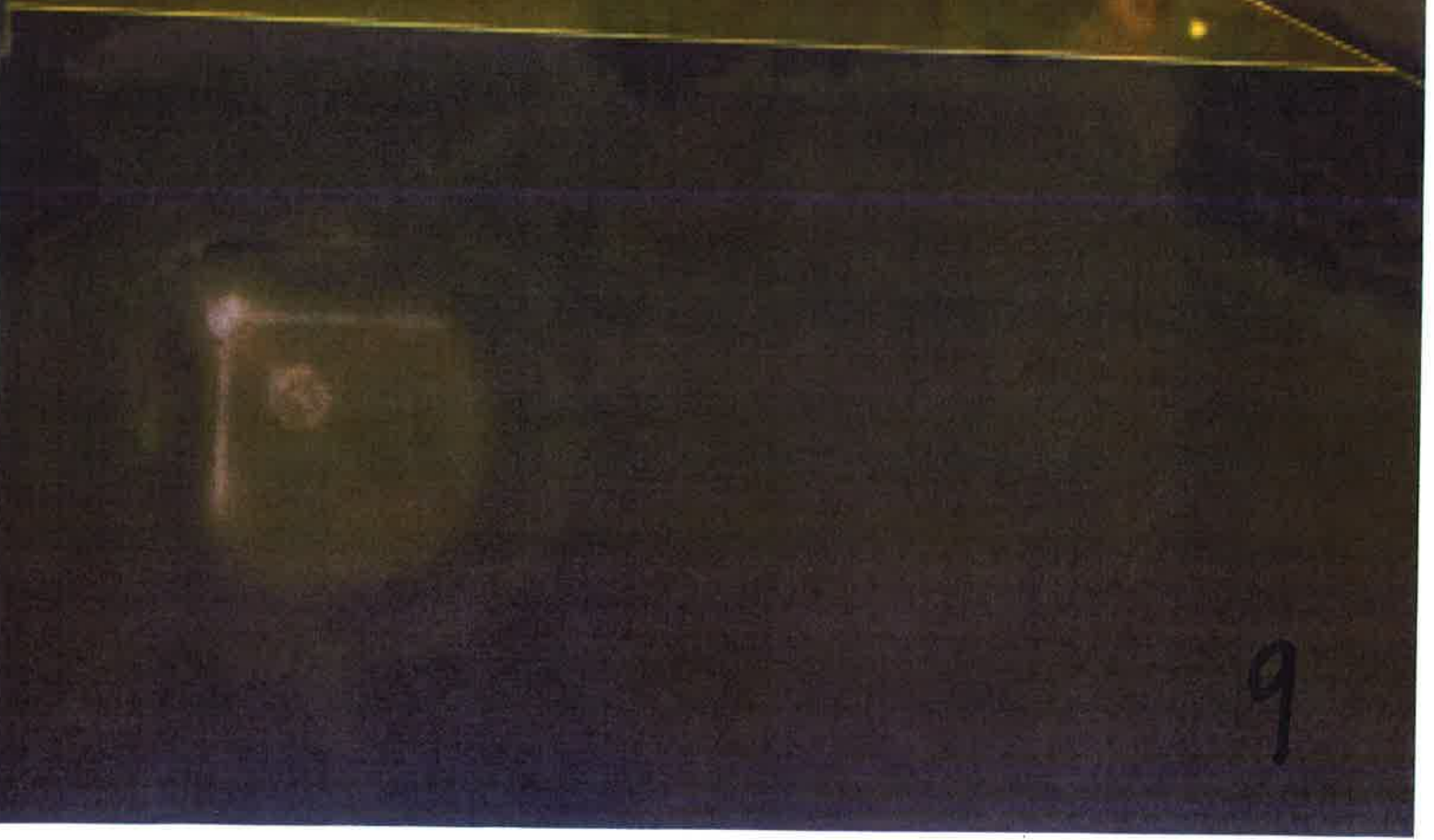
7





Victoria  
Woods  
Natural Area

18



9



4

10

## Development Types

Table 3 Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction

Jurisdiction	Land Use Designation	Buildable Acreage	Households		Employment	
			Count	Density per Gross Acre	Count (jobs)	Jobs per Gross Acre
Tualatin	High Density Residential	3.36	67	19.9	-	-
	Medium-Low Density Residential	59.83	374	6.3	-	-
	Low Density Residential	24.83	134	5.4	-	-
	Neighborhood Commercial	2.89	-	-	33	11.3
	Manufacturing Park	92.95	-	-	1,897	20.4
	Functionally Unbuildable	10.37	-	-	-	-
	<b>Tualatin Subtotal</b>	<b>194.23</b>	<b>575</b>		<b>1,929</b>	
Wilsonville	Craft Industrial	1.25	6	4.8	27	21.7
	Light Industrial District	35.30	-	-	581	16.5
	High Tech Employment District	94.47	-	-	1,916	20.3
	Functionally Unbuildable	5.62	-	-	-	-
	<b>Wilsonville Subtotal</b>	<b>136.64</b>	<b>6</b>		<b>2,524</b>	
<b>Total</b>		<b>330.87</b>	<b>581</b>		<b>4,453</b>	

### Tualatin

**Employment.** The Concept Plan allocates substantial land as Manufacturing Park, which is expected to accommodate 1,897 new jobs, calculated based on the expected square footage of development in this area and the average square footage needed per employee. The Manufacturing Park is located along the northern edge of the future Basalt Creek Parkway on the land west of Basalt Creek Canyon, including both sides of Tonquin Road and Graham's Ferry (as shown on the above map).





12



**Topm Creek**

**Horizon High School**

13

208

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27

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31

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27

33

9

43

118

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2

3

6

5

6

36

11

32

20

25

159

60



Boones

5

(2 of 2)

Existing Units 1

Additional Units 3

🔍 Zoom to



Dear Members of the Wilsonville Planning Commission,

Thank you for accepting this testimony. My testimony concerns property which is expected to be in Tualatin, when all of this is said and done. It has been referred to as the Basalt Creek Subarea, and has been the subject of a Metro determination as well as a LUBA Appeal. Although, Metro recommended that the area receive an Industrial designation the LUBA Board made it clear that the property should be zoned based on the substantial record. I would also like to enter a letter into the record that has previously been provided to the Tualatin Mayor and City Council, regarding their Buildable Land Inventory, as it speaks to what property in the Central Subarea should be designated as.

With that said, I would like to enter the following abbreviated comments and attachments into the record. I have previously provided written testimony to Metro, which your city attorney has a copy of, and I would like to incorporate that testimony by reference. As part of its Title 4 process, during adoption of Ordinance No. 04-1040B Metro mapped prospective Employment Land, Industrial Land, and Regionally Significant Industrial Areas. To qualify, the slope suitability that Metro used was "less than 10%" *See attachment 1(a)*. As previously provided, the subject properties in the Central Subarea have slope of over 20%. Metro has recently released a draft of its Urban Growth Report (UGR), which I have *See attachment 2*. Page 11 the UGR forecasts a "net decrease of 9,000 industrial jobs during the 2018 to 2038 time period" and concludes that there is "no need for additional industrial land to support employment growth." If no additional land is needed in the region over the next two decades it is unclear why land that did not meet the slope criteria would receive a Industrial designation, particularly when that land is needed and counted as necessary to meet the Buildable Land Inventory for Housing. This is particularly true given the immediate need for residential land in our region.

Metro has also released a Buildable Land map for the 2018 UGR. Metro has mapped the Basalt Central Area, at issue here, as Single Family Residential. Its map shows capacity for 380 single family housing units, in Basalt Central Area. *See attachments 3 and 3(a)*.

Although the Chief Operating Officer and Metro Council have identified the issue of housing affordability in our region, Metro's BLI is predicated on significant redevelopment/gentrification of affordable housing in our region. For instance, the apartments owned by Central City Concern at 8018-8066 SE Taggart St., in Portland are slated for redevelopment. *See attachment 4.* Metro plans for many of our region's manufactured parks to be redeveloped, including the property in Cully that the City of Portland has taken steps to keep from redeveloping. *See attachment 5.* Additionally, manufactured housing on Hayden Island, *See attachment 6,* Fairview, *See attachment 7,* Wood Village, *See attachment 8,* Gresham *See attachment 9,* Gladstone, *See attachment 10,* unincorporated Clackamas County *See attachment 11,* Washington County *See attachment 12 and 13* are some of the properties slated for redevelopment. It is unclear whether the Johnson City City Council is aware that all homes in their city are slated for redevelopment *See attachment 14.*

The U.S. Department of Housing and Urban Development (HUD) has an Office of Policy Development and Research. It prepared a Comprehensive analysis for our seven county region on May 1, 2016. *See attachment 15.* The analysis showed there was a total demand of 27,225 for sales units between 5/1/16 and 5/1/19, and that 2,810 units were under construction. Of the 19,925 rental units needed to meet regional demand, 6,995 were under construction. *See attached report p.1-p.2.* This illustrates an immediate need for housing units in our region. A breakdown of the Washington County, titled Hillsboro Beaverton sub-region is on p. 14 - p.18

Additionally, HUD calculated housing demand in the Salem HMA. *See attachment 16.* Of the 3,075 sales units needed 260 were under construction, and of the 2,025 rental units needed, 520 were under construction. As a result, we cannot rely on Marion or Polk counties to pick up the additional housing need which is not being met in the 7 County Portland HMA.

The correlation between insufficient new housing inventory and increased prices is well documented as economist Joe Cortright wrote in the article I have attached, "demand for new housing that isn't met by the construction of new high-end units doesn't disappear, it spills over into more modest housing, driving up rents for everyone." *See attachment 17.* While the housing

anticipated for the Central Basalt Area isn't necessarily predicted to be high end, the fact that it is not being built will impact housing prices and affordability around our region.

A look at historic census data for Tualatin and Wilsonville shows that both jurisdictions have experienced significant population growth. While population growth was far more modest during and immediately after the great recession, both jurisdictions are far exceeding Metro's projected growth, illustrating a need for buildable lands.

Tualatin:

1970 - 750  
1980 - 7,348  
1990 - 15,013  
2000 - 22,791  
2010 - 26,054  
2020 - TBD

Wilsonville:

1980 - 2,920  
1990 - 7,106  
2000 - 13,991  
2010 - 19,509  
2020 - TBD

The record in front of this Council, and Metro's own documents illustrate that this land was never planned to have an employment or industrial designation, there is no need for additional land in our region, and there is an acute need for housing in our region.

Thank you for adding my documents into the record.

Sincerely,

A handwritten signature in blue ink that reads "Peter O. Watts". The signature is written in a cursive style with a long horizontal stroke at the end.

Peter O. Watts

**E. Alternatives: Expand the UGB**

These findings address ORS 197.732(c)(B), (C) and (D) and Goal 2, Exceptions; ORS 197.298(1); Goal 11; Goal 14, Factors 3-7; OAR 660-004-0010(1) and 660-004-0020(2); RFP Policies 1.2, 1.3.1, 1.4, 1.4.1, 1.7, 1.7.2, 1.9, 1.12.1, 1.12.2 and 5.1.1; Regional Transportation Plan Policy 3.0 and Metro Code 3.01.020(b)(3) through (7) and 3.01.020(d)

The measures taken by the Council to increase the capacity of the existing UGB for industrial use, described above leave an unmet need for industrial land of 1,180 acres.

Metro began the search for the most appropriate land for inclusion in the UGB by applying the priorities in ORS 197.298(1). Because Metro has not re-designated "urban reserve" land since its 1997 designation was invalidated on appeal, the highest priority for addition of land is exception land.

Metro first included for consideration all exception land that was studied for inclusion in the December, 2002, ordinances, but not included at that time (59,263 acres). Metro then expanded the search to consider all other land, resource land included, that met the siting characteristics that help define the need for industrial land (less than 10 percent slope and within two miles of a freeway interchange or one mile of an existing industrial area (9,071 acres). In all, Metro looked at approximately 68,000 acres to find the most appropriate land.

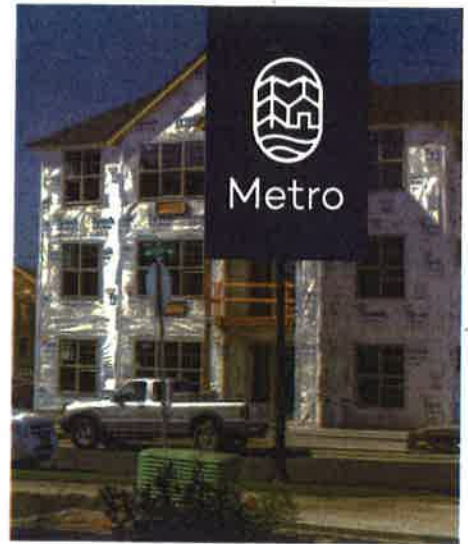
Once Metro mapped land by its statutory priority, Metro analyzed the suitability of the land for industrial use, considering the locational factors of Goal 14, the consequences and compatibility criteria of the Goal 2 and statutory exceptions process, the policies of the Regional Framework Plan (RFP) and the criteria in the Metro Code that are based upon Goal 14. This analysis is set forth in the Alternatives Analysis Study, Item (c) in Appendix A of Ordinance No. 04-1040B and subsequent staff reports [Appendix A, Items (a) and (y)].

The Alternatives Analysis and testimony from the hearings gave the Council few easy or obvious choices among the lands it considered. The land most suitable for the types of industrial use forecast in the region for the next 20 years is flat land near freeway interchanges or near existing industrial areas. In addition, the region needs parcels 50 acres or larger for the warehouse and distribution and tech/flex sectors. The land most likely to meet these needs at the perimeter of the UGB is agricultural land, the last priority for inclusion under ORS 197.298(1).

The highest priority for inclusion, under the priority statute, where no urban reserves have been designated, is exception land. But the character of most exception areas makes them unable to fill the region's needs for industrial use. The great majority of exception land outside the UGB is designated for residential use, and most of that is settled with residences. Parcels are generally small (five acres and smaller), the topography is usually rolling and often steep, and streams, small floodplains and wildlife habitat are common. And residents, as evidenced by testimony at Council hearings, are often vigorously opposed to industrial intrusions into what they consider their neighborhoods.

The Council excluded from further consideration those exception lands that lie further than two miles from a freeway interchange and more than one mile from existing industries for the reason that these areas cannot meet the identified need for industrial land. The Staff Report [Appendix A, Item (a)] describes these specific areas in detail at pages 13 to 18.

The Council excluded other study areas (or portions of them) from further consideration even though they could meet the identified need (less than 10 percent slope and either within two miles from a freeway interchange or within one mile from existing industries) because they are unsuitable for industrial use. Further analysis showed that some combination of parcelization, existing development, limitations on use



2018 GROWTH MANAGEMENT DECISION

# Urban Growth Report

December 13, 2018

[oregonmetro.gov/ugb](http://oregonmetro.gov/ugb)

2

**Metro manages the boundary that separates urban land from rural land in the Portland region** and works with communities to plan for future population growth and meet needs for housing, employment, transportation and recreation.

Under Oregon law, greater Portland must have enough land inside its urban growth boundary for 20 years of growth. Land inside that boundary is available for construction of homes, employment centers and shopping areas for our region's residents. That means that even if the boundary wasn't expanded for two decades, all of the growth we expect in greater Portland can fit inside the existing boundary.

Every six years, the Metro Council looks at growth forecasts and development trends and decides whether to expand the boundary to meet its 20-year supply obligation.

**Project web site:** [oregonmetro.gov/ugb](http://oregonmetro.gov/ugb)

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# Executive summary

## **A tradition of shaping the future to protect the quality of life**

As people move here and businesses create jobs, greater Portland's urban growth boundary (UGB) protects farms and forests, promotes economic development, encourages equitable housing and supports development of new neighborhoods when needed.

Metro is working with residents, elected leaders, community groups and researchers to evaluate whether communities and existing land inside the growth boundary have enough room for the people and jobs we expect in 20 years. If we need to expand our urban footprint, we'll work with communities to grow where growth makes sense.

By the end of 2018, the Metro Council will decide whether there is enough land in greater Portland's urban area for 20 years of growth. If not, the council will decide what areas are the best suited to handle future development.

## **We need more housing and jobs to prepare for population growth**

We need more housing, particularly housing that is affordable to people with modest means; we need a greater variety of housing to match our changing demographics; we need more middle-income jobs; and, we need to do a better job of engaging diverse communities in decision making.

Solutions won't be as simple as adding land to the UGB and hoping for the best. Real solutions lie in choices made at the federal, state, regional, county, city, neighborhood, and private sector levels. In that difficulty there's also good news – we each have choices we can make to improve things even when that progress feels incremental.

## **An outcomes-based approach**

Land alone can't address housing needs, particularly for people making lower wages. Seeing this, the Metro Council has reoriented its growth management decisions to find the most viable and desirable ways to produce needed housing and job growth. For growth at the urban edge, it all starts with a strong city proposal for an expansion into an urban reserve.

For the 2018 decision, four cities have submitted proposals for UGB expansions into urban reserves. All four proposals are for housing.

## **Achieving desired outcomes**

To guide its decision-making, the Metro Council, on the advice of the Metro Policy Advisory Committee (MPAC), adopted six desired outcomes, characteristics of a successful region:

- People live, work and play in vibrant communities where their everyday needs are easily accessible.
- Current and future residents benefit from the region's sustained economic competitiveness and prosperity.
- People have safe and reliable transportation choices that enhance their quality of life.
- The region is a leader in minimizing contributions to global warming.
- Current and future generations enjoy clean air, clean water and healthy ecosystems.
- The benefits and burdens of growth and change are distributed equitably.



The merits of these four proposals will be the focus of policy discussions in the summer of 2018. Generally, cities are expected to show that:

- The housing needs of people in the region, county and city have been considered.
- Development of the proposed expansion area is feasible and supported by a viable plan to pay for needed pipes, parks, roads and sidewalks.
- The city has reduced barriers to mixed-use, walkable development in their downtowns and main streets.
- The city has implemented best practices for preserving and increasing the supply and diversity of affordable housing in its existing urban areas.
- The city has taken actions to advance Metro's six desired outcomes, with a particular emphasis on meaningful engagement of communities of color in community planning processes.

### **Next steps**

Through discussions in the summer of 2018, the Metro Council will come to a determination as to whether any of the four proposed expansions are needed to accommodate population growth.

- **July 2018:** Overview of draft 2018 Urban Growth Report at Council, the Metro Policy Advisory Committee, and the Metro Technical Advisory Committee
- **July 2018:** City Readiness Advisory Group provides feedback on the strengths and weaknesses of city-proposed expansions to Council and the Metro Policy Advisory Committee
- **Sept. 4, 2018:** Metro's Chief Operating Officer recommendation
- **Sept. 12, 2018:** Metro Policy Advisory Committee recommendation to the Metro Council
- **Sept. 20 and 27, 2018:** Metro Council public hearings and direction to staff on whether and where the UGB will be expanded (and any other policy direction)
- **Dec. 6, 2018:** Metro Council public hearing
- **Dec. 13, 2018:** Metro Council decision on growth boundary expansion

# Introduction

## A tradition of shaping the future to protect quality of life

As people move here and businesses create jobs, greater Portland's urban growth boundary (UGB) protects farms and forests, promotes economic development, encourages equitable housing and supports development of new neighborhoods when needed.

Oregonians have a long history of thinking ahead, trying to shape our destiny rather than simply reacting. This planning tradition demands good information about our past, present and future.

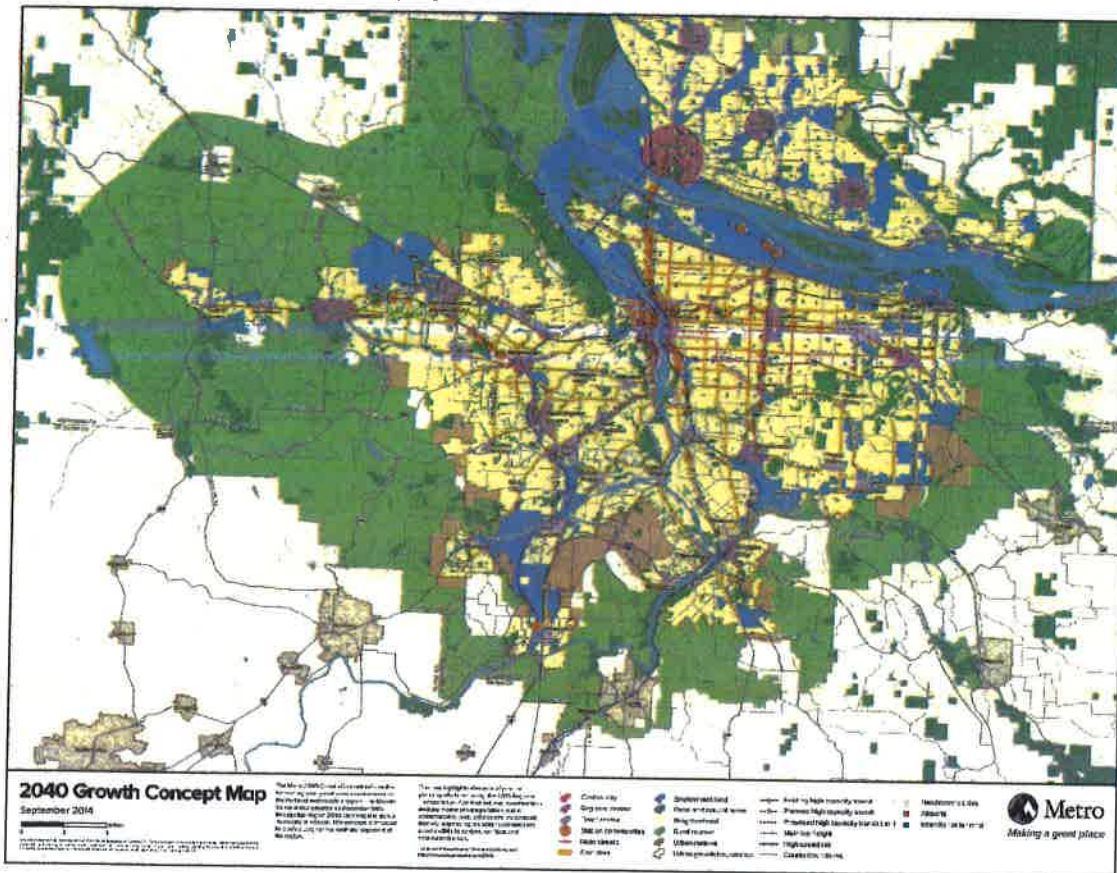
Metro is working with residents, elected leaders, community groups and researchers to evaluate whether communities and existing land inside the growth boundary have enough room for the people and jobs

we expect in 20 years. If we need to expand our urban footprint, we'll work with communities to grow where growth makes sense.

By the end of 2018, the Metro Council will decide whether there is enough land in greater Portland's urban area for 20 years of growth. If not, the council will decide what areas are the best suited to handle future development.

These periodic decisions are an opportunity to continue our work on the 2040 Growth Concept, which calls for focusing most growth in existing urban centers and making UGB expansions into urban reserves – areas suitable for future development – after careful consideration of whether those expansions are needed.

Figure 1: The 2040 Growth Concept, the regional plan for focusing growth in existing urban centers and employment areas

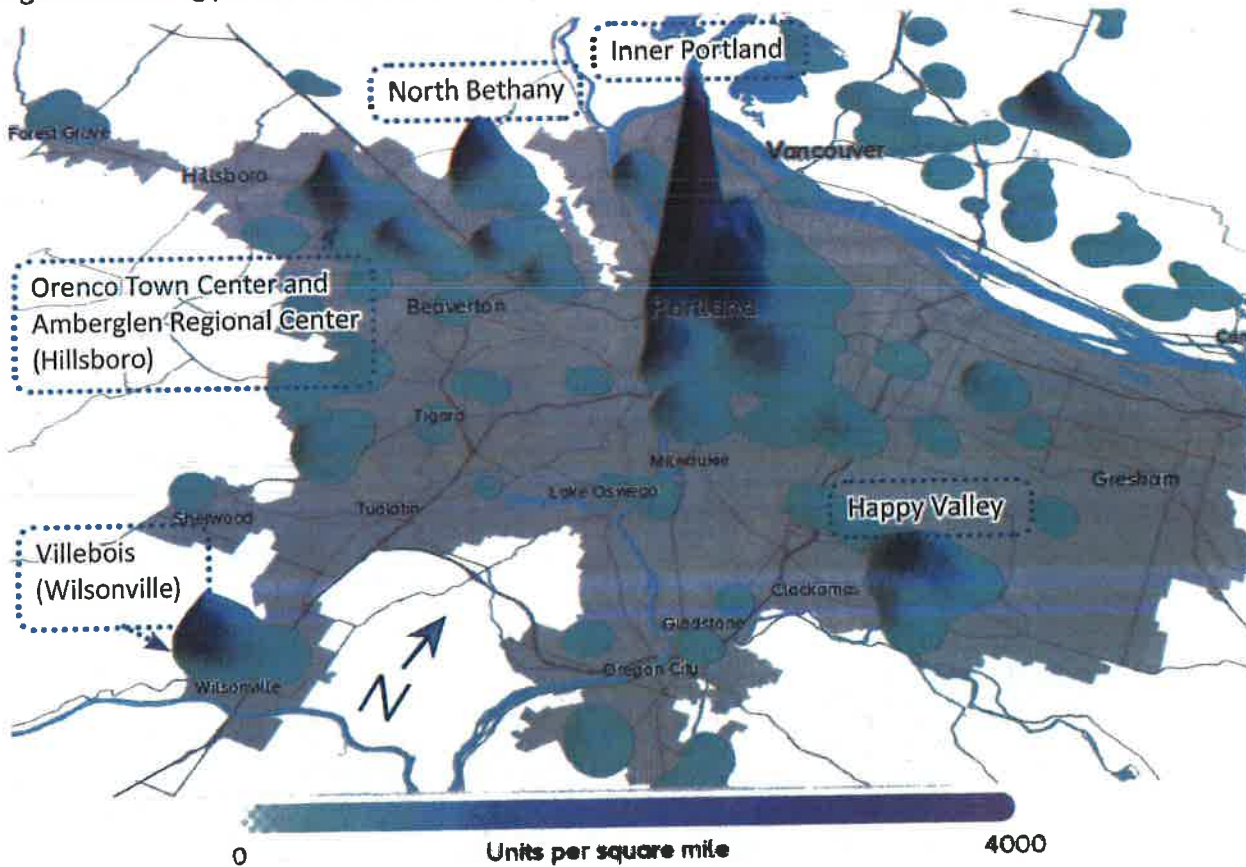


# An outcomes-based approach

## Learning from experience

In past growth management decisions, the process focused on theoretical projections, leading participants to debate the numbers rather than assessing the viability of development in UGB expansion areas. Discussions of the merits of actual UGB expansion options took a back seat. UGB expansions that lacked city governance and an infrastructure strategy failed to produce housing or jobs. Conversely, those that had those issues sorted out got developed into communities and job centers. At the same time, regional and local plans were being realized – record amounts of housing and job growth happened in existing urban areas, far outpacing previous estimates of redevelopment and infill potential.

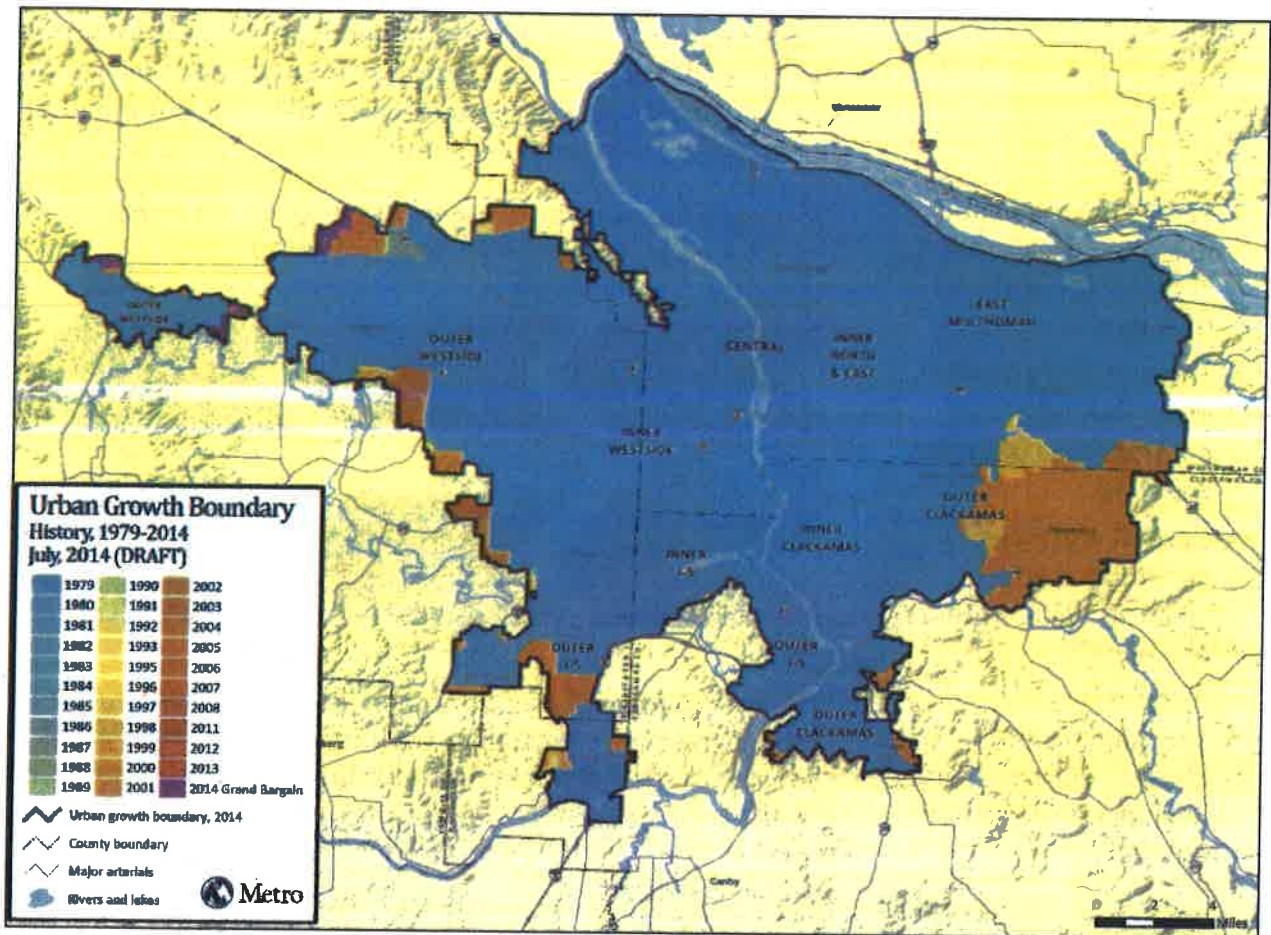
Figure 2: Housing permits in the Portland Metro area, 2009-2017 - units per square mile



The region's UGB was originally put into place in 1979. Since then, about 31,000 acres have been added to the boundary, mostly from 1998 onward. What has happened in those expansions has been informative. Homes and businesses were built in areas that addressed market demand and had governance and a means of paying for pipes, pavement and parks. Without those elements, little or no development happened. In the post-1998 UGB expansion areas, 16 percent of the planned housing has been built. It is clear that land readiness is more important than land supply for producing housing and job growth.

All of this leads to one big lesson that guides this year's growth management decision process: land alone can't address housing needs, particularly for people making lower wages. Seeing this, the Metro Council has reoriented its growth management decision process to implement the most viable ways to produce needed housing and job growth. For growth at the urban edge, it all starts with a strong city proposal for an expansion.

Figure 3: UGB expansions since adoption of the Metro UGB in 1979



### Achieving desired outcomes

To guide its decision-making, the Metro Council, on the advice of the Metro Policy Advisory Committee (MPAC), adopted six desired outcomes, characteristics of a successful region:

- People live, work and play in vibrant communities where their everyday needs are easily accessible.
- Current and future residents benefit from the region's sustained economic competitiveness and prosperity.
- People have safe and reliable transportation choices that enhance their quality of life.
- The region is a leader in minimizing contributions to global warming.
- Current and future generations enjoy clean air, clean water and healthy ecosystems.
- The benefits and burdens of growth and change are distributed equitably.

### A better approach to making decisions

In 2010, based on those experiences and other factors, the Metro Council adopted a policy of taking an outcomes-based approach to urban growth management decisions. In each subsequent decision, the Council has moved closer to implementing this approach.

A basic conceptual underpinning of this approach is that growth could be accommodated in a number of ways that may or may not involve UGB expansions. Each alternative presents considerations and tradeoffs, but there is not one "correct" answer. For instance, different decisions could lead to somewhat different numbers of households choosing to locate inside the Metro UGB versus neighboring cities such as Vancouver or Newberg. Other decisions could lead to a slightly different housing mix.

An outcomes-based approach acknowledges that development will only occur when there is adequate governance, infrastructure finance, and market demand, and, therefore, any discussion of adding land to the UGB should focus on identifying areas with those characteristics. To further implement its policy direction, the Council will only expand the UGB into urban reserves that have been concept planned<sup>1</sup>. This report is grounded in the actual UGB expansions being proposed by cities.

Evolution of the Metro region's growth management process towards an outcomes-based approach

#### Old system



#### New system



With an outcomes-based approach, there is also a greater recognition that – consistent with regional and local plans – most growth will happen in existing urban areas and that growth management decisions are an opportunity to gauge whether more could be done to remove barriers to housing and job creation.

1. This policy was adopted by the Metro Council in 2010.

## What are cities proposing for UGB expansions?

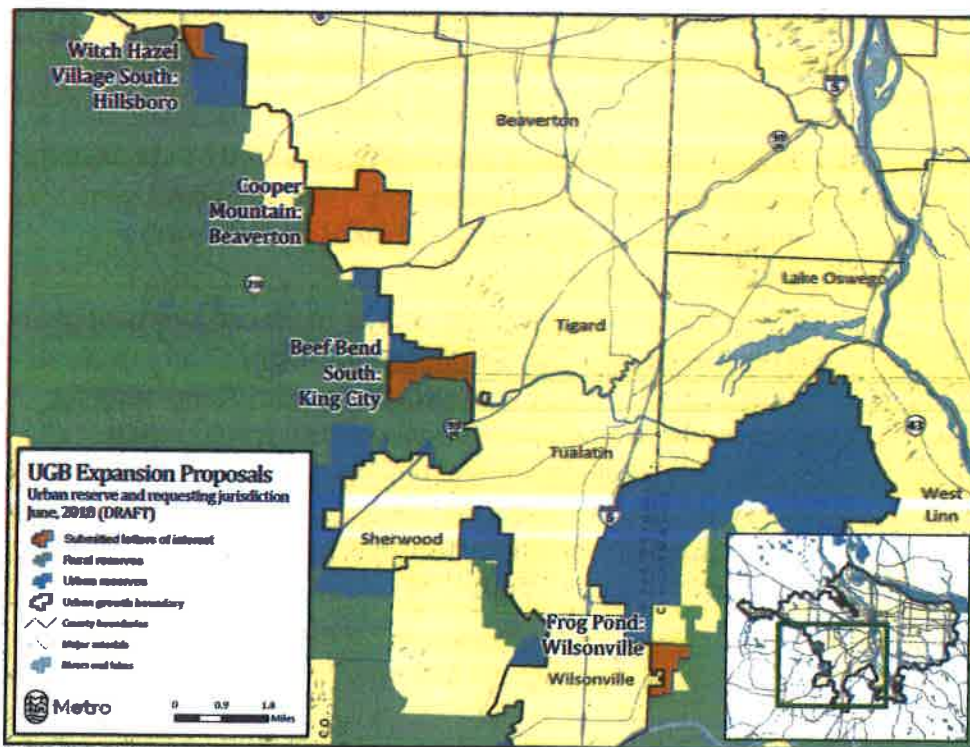
For the 2018 decision, four cities have submitted proposals for UGB expansions into urban reserves. All four proposals are for housing. Cities' narrative proposals can be found in Appendix 9. The four proposed expansions would total about 2,200 gross acres. After accounting for environmentally-sensitive areas, they include about 1,270 net buildable acres. The four cities' plans include about 9,200 homes at full build-out.

In the past, the region has added, on average, about 10,000 new households per year in the Metro UGB. The 9,200 homes in proposed expansion areas would address about an average year's household growth. Experience shows that adding more land

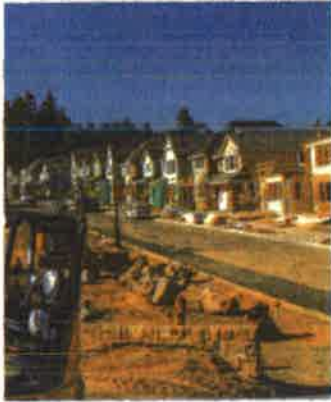
beyond what cities are proposing would not produce more housing. This emphasizes the need to do all we can to encourage more housing production in existing urban areas.

Statewide Planning Goal 14 (Urbanization) lays out several factors that must be considered when determining where to expand the UGB. The Goal 14 "locational factor" analysis can be found in Appendix 7. The four urban reserve areas proposed for expansion by cities all compare favorably according to the factors described in Statewide Planning Goal 14. In light of those factors, it is appropriate for all four to advance for further consideration by the Metro Council.

Figure 4/Table 1: City-proposed UGB expansions for consideration in the 2018 decision



Proposing city	Name of urban reserve	Gross acres	Buildable acres	Homes planned
Beaverton	Cooper Mountain	1,232	600	3,760
Hillsboro	Witch Hazel Village South	150	75	850
King City	Beef Bend South	528	400	3,300
Wilsonville	Advance Rd. (Frog Pond)	271	192	1,325



*“The U.S. is no longer a nation of pioneers building log cabins on the Western frontier. Nor is it a post-WWII nation of nuclear families buying tract homes in Levittown. We can’t indefinitely rely on new construction of low density, single-family housing to accommodate population growth.”*

*—Brookings Institution, 2018*

The merits of these four proposals will be the focus of policy discussions in the summer of 2018. On the advice of the Metro Policy Advisory Committee (MPAC), the Metro Council has adopted code factors that describe expectations for cities proposing residential expansions. Those factors speak to the elements of the proposed expansion and to actions being taken by cities in their existing urban areas. Metro issued administrative guidance to assist cities in preparing proposals that address these code factors<sup>2</sup>. Generally, cities are expected to show that:

- The housing needs of people in the region, county and city have been considered
- Development of the proposed expansion area is feasible and supported by a viable plan to pay for needed pipes, parks, roads, and sidewalks
- The city has reduced barriers to mixed-use, walkable development in their downtowns and main streets
- The city has implemented best practices for preserving and increasing the supply and diversity of affordable housing in its existing urban areas
- The city has taken actions to advance Metro’s six desired outcomes, with a particular emphasis on meaningful engagement of populations of color in community planning processes.

To provide new perspectives on the merits of city proposals, Metro convened a City Readiness Advisory Group in June. The group, which included experts in affordable housing, multi-modal transportation, mixed-use development, residential development and equity, discussed the strengths and weaknesses of city proposals. Those discussions will be summarized for the Metro Council, MPAC and the Metro Technical Advisory Committee (MTAC) in July.

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2. See Appendix 9 for administrative guidance.



# Possible outcomes of different growth options

Over the years, Metro has sought to improve its growth management analyses. In earlier iterations, the calculation of land need was relatively straightforward: land supply minus land demand equals land need. While that simple approach has an appeal, it glosses over a number of policy questions and market factors that deserve greater discussion. Inevitably, that approach led to debates about numbers and ideologies rather than discussions of practical options.

This analysis strives to highlight policy questions and make the practical options – a decision whether to make any of the four proposed UGB expansions – more evident.

## **Is there a need for more land to support job growth?**

### **Commercial land demand**

Commercial employment is a broad category that includes all non-industrial employment, such as teachers, cooks, doctors, sales clerks, nurses, real estate agents, architects, counselors, coffee shop workers, insurance agents, and bankers. What all of these sectors have in common is that to prosper, they need to locate close to where clusters of people live. From a growth management perspective, this means that the needs of these sectors will be best met in existing urban locations either on vacant land or through increased redevelopment and infill.

For the 2018 decision, no cities have proposed UGB expansions for commercial uses aside from select nodes that would provide neighborhood services in proposed residential expansion areas. There is no indication that adding land to the UGB when it has not been proposed by a city would result in commercial employment. For these reasons, there does not appear to be a need for additional land to be added to the UGB for commercial employment.

### **Industrial land demand**

As our nation's economy has evolved from farming roots through the industrial revolution and into a knowledge-based economy, several dynamics have been at play that influence the nature of industrial land demand:

- As technology has improved over the last century, industrial workers have become more productive. This means that industrial job growth is stagnant and that demand for space is driven less by employment than it was in the past.
- E-commerce has driven demand for close-in warehousing and distribution facilities to enable quick deliveries. This may increase the likelihood of redevelopment of some sites.
- Data centers have emerged as users of industrial land, but they provide relatively few jobs (instead, they pay franchise fees that benefit cities).
- Large industrial firms seeking new locations consider sites all around the country or world, making it impossible to forecast regional land demand for large industrial sites.
- Site requirements for industrial uses can be very specific. For instance, some industrial users require rail access, others require redundant power sources, others require an educated workforce, and others require manual laborers. Forecasting those specific requirements would imply more certainty about the future than is possible.
- Providing raw land is just one step of many for producing industrial jobs. Typically, infrastructure investments and site assembly are also required. Brownfield cleanup and wetland mitigation are also common needs.

These dynamics mean that it is challenging to estimate land needs based on an employment forecast. This difficulty is amplified by the additional uncertainty surrounding employment forecasts since job growth can be influenced – for better or worse – by international relations, monetary policy and many other factors that lie outside the control of cities, counties, the region or state.

For these reasons, determining industrial land needs is best understood as an exercise in economic development goal setting rather than forecasting. This is true at the regional level and even more so at the local level.

The peer-reviewed baseline employment forecast for the seven-county area shows a net decrease of about 9,000 industrial jobs during the 2018 to 2038 time period. While some new industrial firms may emerge and some existing industrial firms may grow, those gains are outweighed by expected employment decreases at other industrial firms. The expected net decrease in regional employment in industrial sectors such as manufacturing, warehousing and distribution means that there is not a regional need for more industrial land to support employment growth. Even under the high growth forecast, industrial employment remains essentially unchanged from 2018 to 2038, again pointing to no need for additional industrial land to support employment growth.

Likewise, for the 2018 decision, no cities have proposed UGB expansions for industrial uses. There is no indication that adding land to the UGB when it has not been proposed by a city would result in industrial employment. For all of these reasons, there is not a regional need for additional land to be added to the UGB for industrial employment, including employment on large industrial sites.

The Metro Council has put into place a process for considering specific non-residential UGB expansion proposals outside of the standard growth management cycle. If cities develop an employment concept plan for an urban reserve area, that “major amendment” process can address needs that aren’t anticipated in the 2018 growth management decision.

## **Is there a need for more land to support household growth?**

### **Urban growth scenarios**

To inform the Metro Council’s determination of whether there is a need for residential UGB expansions in 2018, Metro staff produced a number of scenarios that tested different permutations of a few assumptions:

- varying levels of population, household and employment growth (using the range forecast for the seven-county metropolitan area)
- different amounts of buildable land in the Metro UGB (varying amounts of redevelopment capacity)
- UGB expansions as proposed by four cities vs. no UGB expansion.

The scenarios are described in more detail in Appendix 3. Several general observations can be made about the scenarios:

*The region is on track to continue using land efficiently*

- Most capacity for housing production within the existing UGB comes through redevelopment and infill.
- Redevelopment and infill construction thrives when there is strong economic and population growth.

*Increased spillover growth to neighboring cities does not appear to be a threat*

- The original Metro UGB was adopted in 1979. Since then, about 61 percent of the new households in the larger seven-county metropolitan area have located inside the Metro UGB.
- In all scenarios, the share of the seven-county area’s new households that locate in the Metro UGB (the “capture rate”) is higher than historic rates, ranging from 63 to 72 percent.

- Barring unanticipated changes in the growth capacity of neighboring jurisdictions, a decision not to expand the UGB will not cause excessive spillover growth into neighboring jurisdictions like Sandy, Newberg, or Clark County, Washington.

*More housing production is needed to keep up with household growth*

- The region needs more housing production to keep up with population growth, particularly for households earning lower incomes.
- If development of the four proposed UGB expansions is viable, they can modestly increase housing production in the region.
- Regional scale analysis is not sensitive enough to distinguish between the effects of the individual proposed expansions.

*Housing affordability will remain a challenge*

- As in other regions around the country, housing affordability will remain a challenge.
- Encouraging more redevelopment and infill is the most effective means of keeping housing prices in check for renters.
- If developed, the four proposed UGB expansions would moderate housing price increases for owner-occupied housing by providing additional housing supply<sup>3</sup>.
- If developed, the four proposed UGB expansions would have little impact on prices for renter-occupied housing given that one-third of the planned housing in those areas would be multifamily.

*Most housing will remain single-family housing, but most growth capacity is for apartments and condominiums*

- Currently, about 68 percent of all housing is single-family housing. All scenarios show that share decreasing in the future, with most resulting in about 60 percent single-family housing (still a majority).
- In keeping with regional and local plans, infrastructure funding realities and smaller household sizes, most growth capacity is for apartments and condominiums.
- If developed, the four proposed UGB expansions would result in a modest increase in choices for single-family housing for ownership.
- While demand for owned and single-family housing is strong, households appear willing to substitute rental and multifamily housing to a certain extent.

*The region is on track to stay within the urban reserves "budget"*

- There are approximately 23,000 gross acres of urban reserves that are candidates – if needed – for UGB expansions through the year 2045 (to address regional land needs to the year 2065).
- If urban reserves were added to the UGB at the average rate of about 850 acres per year, all urban reserves would be used (added to the UGB) by the year 2045.
- The four city-proposed expansions total 2,200 gross acres. At the above-described "budget" of 850 acres per year, this amounts to about 2.5 years of usage.

3. The amount of potential housing price reduction varies depending on other assumptions about redevelopment potential, household growth, and future UGB expansions (beyond the 2018 decision). All other things being equal, however, the proposed expansions could help moderate housing prices somewhat.

# Changes in where we live and work

## Where we stand today with housing

Greater Portland came roaring out of the Great Recession. In less than 10 years, the region grew its economy and added high-wage jobs at higher rates than almost any other large U.S. metro area. Median incomes went up. The poverty rate went down. Thousands of young, educated workers migrated to the region drawn by the high quality of life and the opportunity of a booming economy.

This influx of new affluence and new people brought both economic growth and new challenges, changing the dynamics of our housing market and shifting the geography of affordability in a short period of time.

But longer-term trends also shaped our housing supply, and those trends continue to challenge our ability to create housing choices that meet the needs of our changing region<sup>4</sup>.

### Housing construction came to a halt in the Great Recession, driving up housing costs

All around the country, housing construction came to a halt during the Great Recession. As the population continued to grow, demand intensified and housing prices rose – slowly at first, but gaining momentum with each passing year. Rent and home price increases were among the highest in the nation; vacancy rates, the share of unoccupied rental units, were among the lowest. This was true in greater Portland and dozens of other cities around the country.

Long-term residents living in rental housing found themselves priced out of their neighborhoods, while would-be homebuyers struggled to save for down

payments that seemed to double overnight. Renters suffered the most, often facing substantial rent increases with little notice.

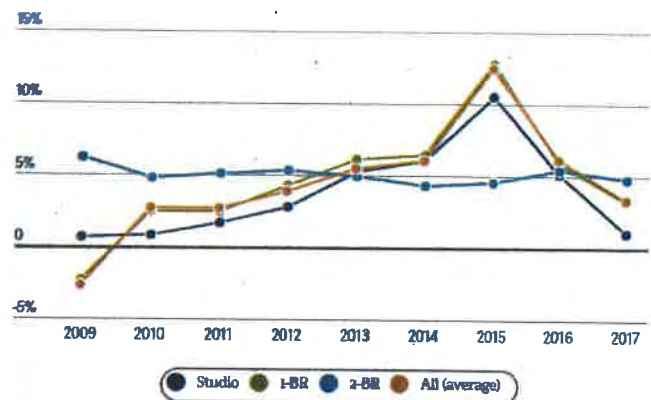
### Like most regions, we are playing catch-up with housing construction

Housing construction took off again as the region emerged from the Great Recession. Increased housing supply has begun to temper housing rents and prices, which are still rising, but not as quickly.

Though it's of little consolation to people who work and struggle to keep a roof over their heads, rents here are similar to those in cities around the country. For one-bedroom apartments, the Portland region is in the same rental price range as Atlanta, Minneapolis, Nashville, Denver and Chicago. Rents are more expensive here than a number of other cities, but still represent a value compared to other coastal cities.

When it comes to rents, location matters. To live close to jobs, amenities, and transit, people have to pay a premium that is often out of reach.

Figure 5: Annual percentage change in rental unit costs by size, Portland metro area, 2009-2017.



Source: Data courtesy of CoStar commercial real estate company

4. See Appendix 5 for more information on historic residential development trends.

Figure 6: Median rent for a one bedroom apartment in 2009 (source: Rainmaker Insights)

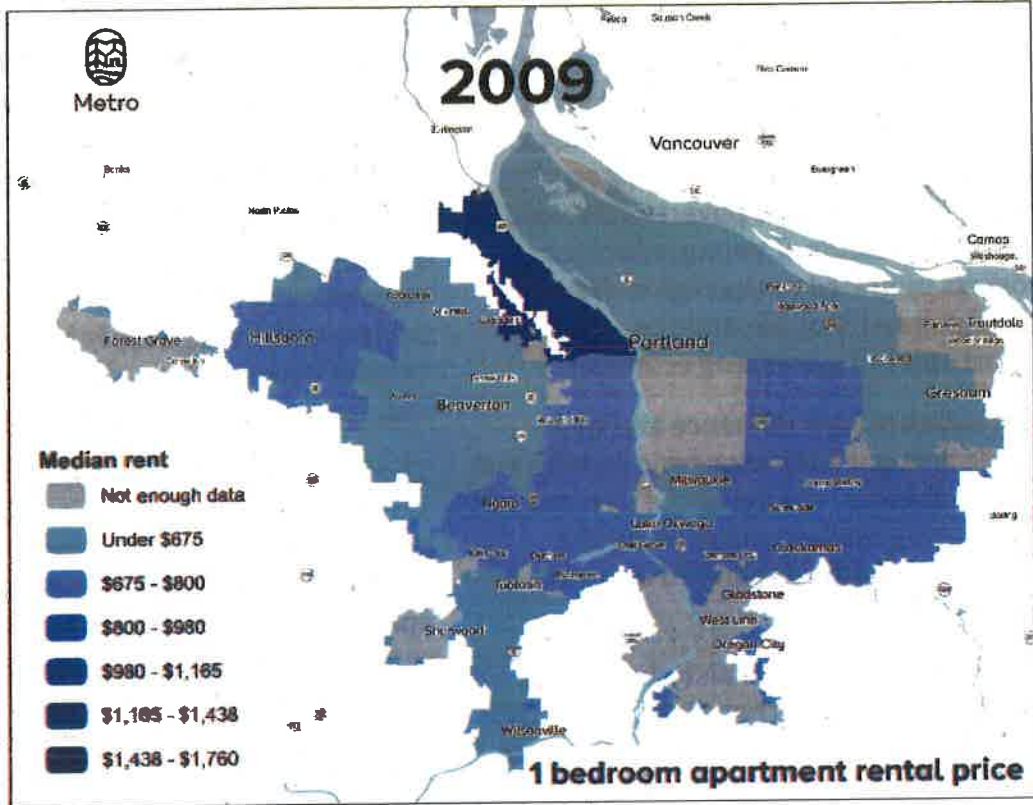
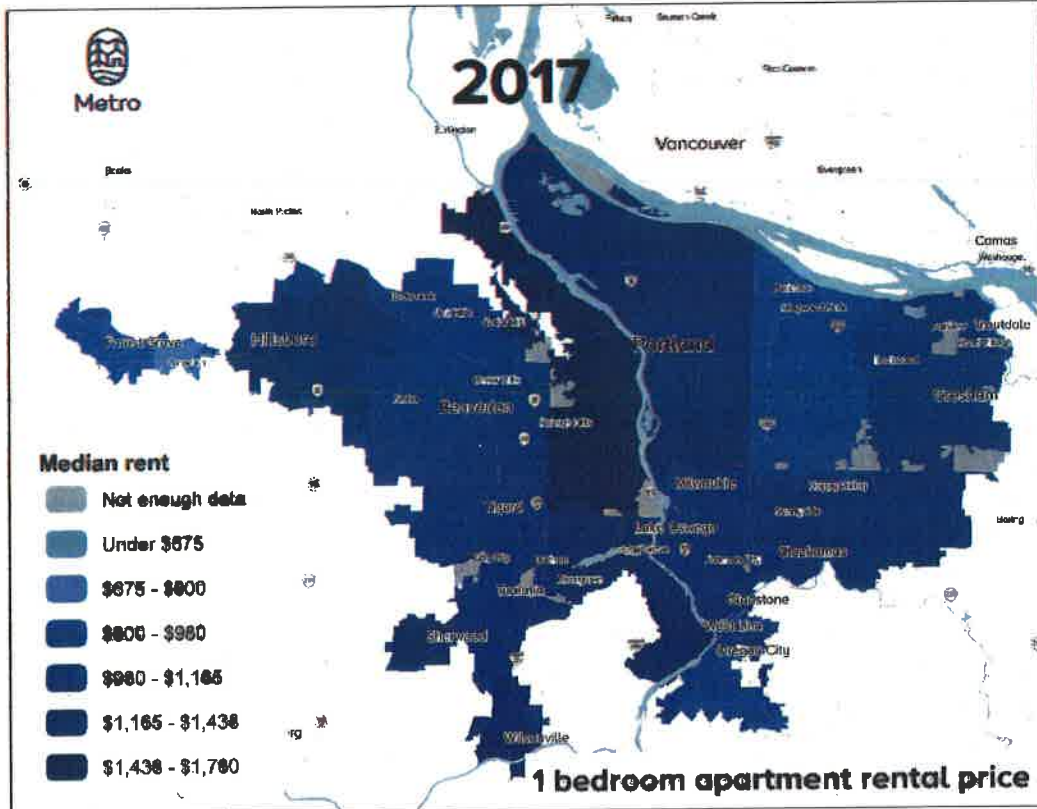


Figure 7: Median rent for a one bedroom apartment in 2017 (source: Rainmaker Insights)



## What's helping to keep housing prices under control?

Simply put, the most straightforward way to keep housing prices in check is to build more housing. Without that housing supply, an ever-increasing population competes for a limited pool of housing, driving up prices. This is especially true in central locations with access to jobs, transit, services and amenities.

More than 20,000 new units of multifamily housing have been completed in the Portland metropolitan area since 2010<sup>5</sup>. More than half of those units were built in the past two and a half years.

Since 2015, developers submitted 25,000 permits for future multifamily buildings in greater Portland, meaning more apartments are in the pipeline<sup>6</sup>.

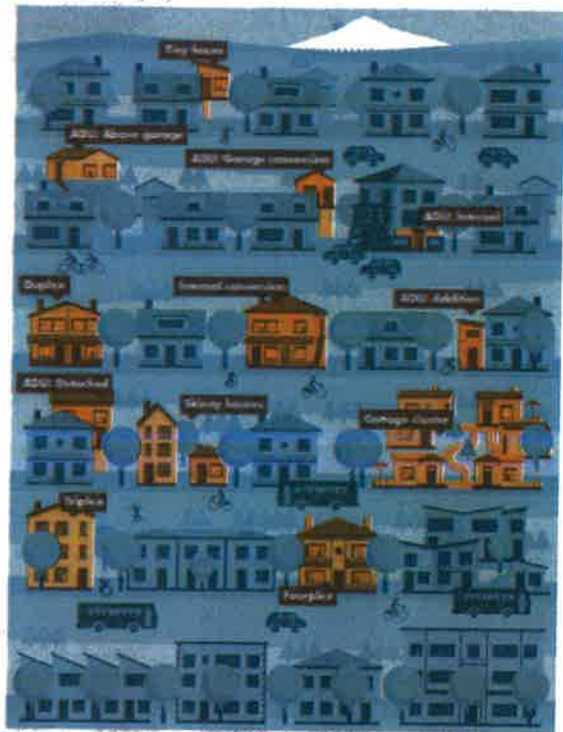
The increased available supply loosened regional apartment vacancy rates from a tight 4.6 percent in 2014 to a somewhat more comfortable 5.5 percent in 2017<sup>7</sup>. This growing availability of housing gives apartment-seekers more choices, generating competition among property managers who have moderated their asking rents accordingly.

Nearly 30,000 permits for new single-family units, including duplexes and triplexes, were submitted between 2010 and mid-2017<sup>8</sup>.

## "Missing middle" housing

Our grandparents, parents, kids, friends and neighbors have diverse housing needs, but for too long there has been little housing diversity.

There are solutions for diversifying housing options in our communities. "Missing Middle" housing refers to options that lie on the spectrum between single-family homes with yards and mid-rise housing, for example, accessory dwelling units, cottage housing, and triplexes. However, these choices are often not widely available in the locations that provide the greatest access to jobs, services and amenities.



Source: [https://www.oregonmetro.gov/sites/default/files/2018/02/02/Small-homes-typology-graphic\\_1.pdf](https://www.oregonmetro.gov/sites/default/files/2018/02/02/Small-homes-typology-graphic_1.pdf)

5. Source: CoStar

6. Construction Monitor

7. Source: CoStar

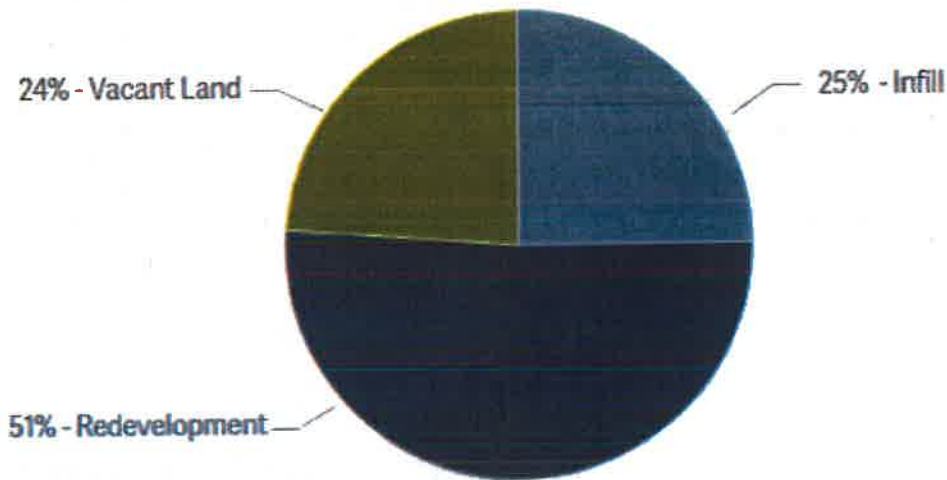
8. Source: Construction Monitor

### Most new housing is being built in existing areas

Long-standing plans, investments, and market conditions have resulted in three-quarters of new homes being built through

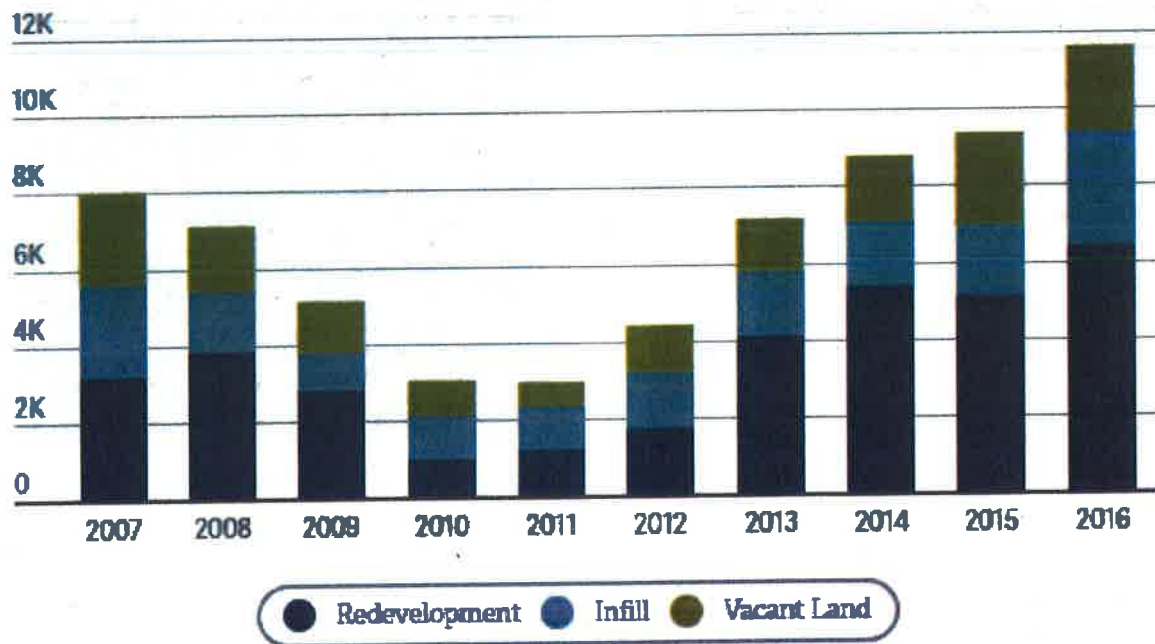
redevelopment and infill in existing urban areas (in the Metro UGB from 2007 through 2016). This means that, as housing is built, we are making efficient use of land and public resources.

Figure 8: New units (total) built by development type, Metro UGB, 2007-2016



Source: Metro Land Development Monitoring System output dataset from May 2018 RLIS data input

Figure 9: New units built by year and development type, Metro UGB, 2007-2016



Source: Metro Land Development Monitoring System output dataset from May 2018 RLIS data input



### The emergence of ADUs

Since the mid-1990s, Metro has required that all cities in the region allow accessory dwelling units (also known as “ADUs,” “granny flats” or “in-law” cottages) in single-family neighborhoods. Though it took several years, construction has taken off, particularly in the City of Portland, with several hundred ADUs built per year in the Metro UGB for several years now.

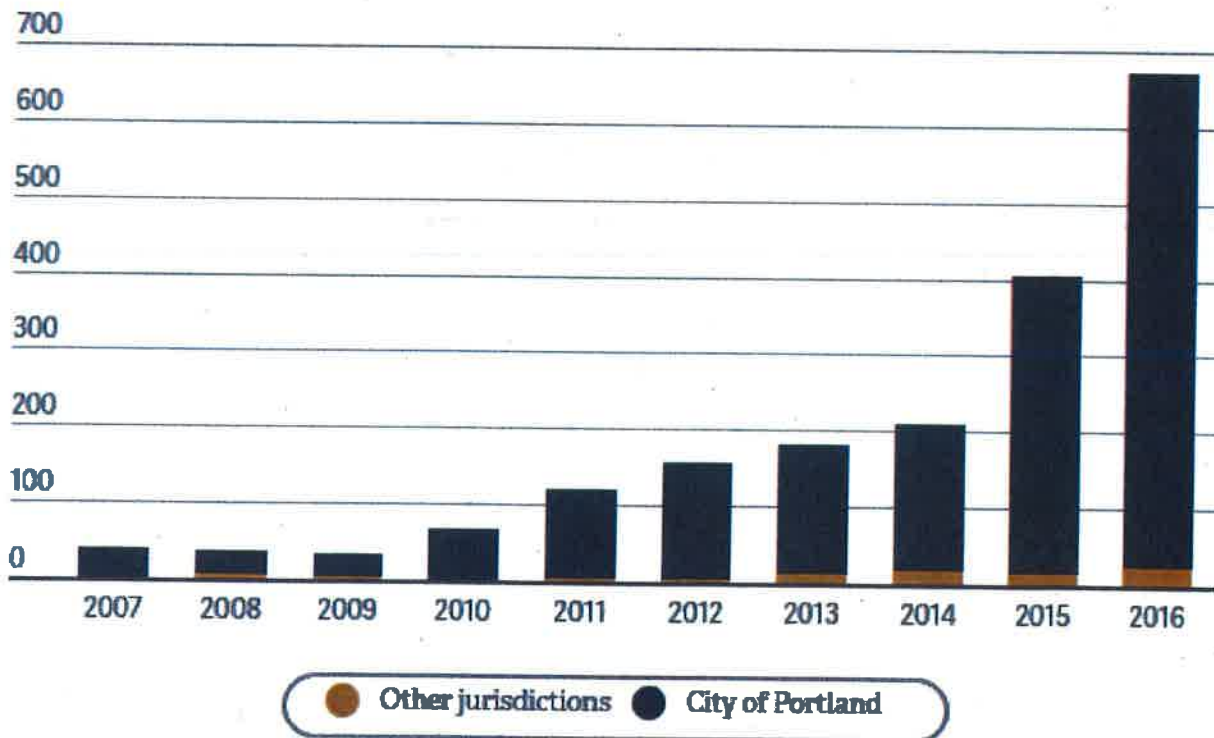
In 2017, ADUs made up 7 percent of the region’s new housing. Among other factors, the City of Portland’s waiver of system development charges for ADUs is credited with this uptick.

A common refrain about ADUs is that they only get used for short-term rentals such as Airbnb, so they don’t contribute to the

regional housing supply for residents. A 2017 survey of Portland ADU owners and tenants indicates that this is largely not the case. The survey was commissioned by Portland State University’s Institute for Sustainable Solutions. Sixty percent of ADU owners surveyed reported that their ADU is used by someone as a primary residence, while 26 percent reported that the ADU is used as a short term rental<sup>9</sup>.

Even when used as short-term rentals, ADUs may become long-term rentals over time as owners pay off ADU construction loans or grow tired of managing ever-changing guests. In a year-over-year comparison, about half of the Airbnb listings in Portland were no longer active (Brown, 2017).

Figure 10: Accessory dwelling units (ADUs) by year, Metro UGB, 2007-2016



Source: Metro Land Development Monitoring System output dataset from May 2018 RLIS data input

<sup>9</sup> 14 percent reported that their ADU is vacant, used as extra space, or “other”.

## We're using land more efficiently for single-family housing

Today, a new single-family home uses about half as much land as one built in 1980. This trend of using land inside the UGB efficiently helps us to protect farms and forests. It also makes it more feasible to provide single-family neighborhoods with transit and other services.

## What's holding housing back?

Getting enough housing built is not without its challenges and the reasons are varied, including:

- a lack of funding for pipes, pavement, parks and other facilities to make vacant lands development-ready
- neighborhood opposition to change that can slow or stop housing proposals
- uncertainty in permitting processes
- difficult access to financing for developers
- zoning codes that restrict "missing middle" housing

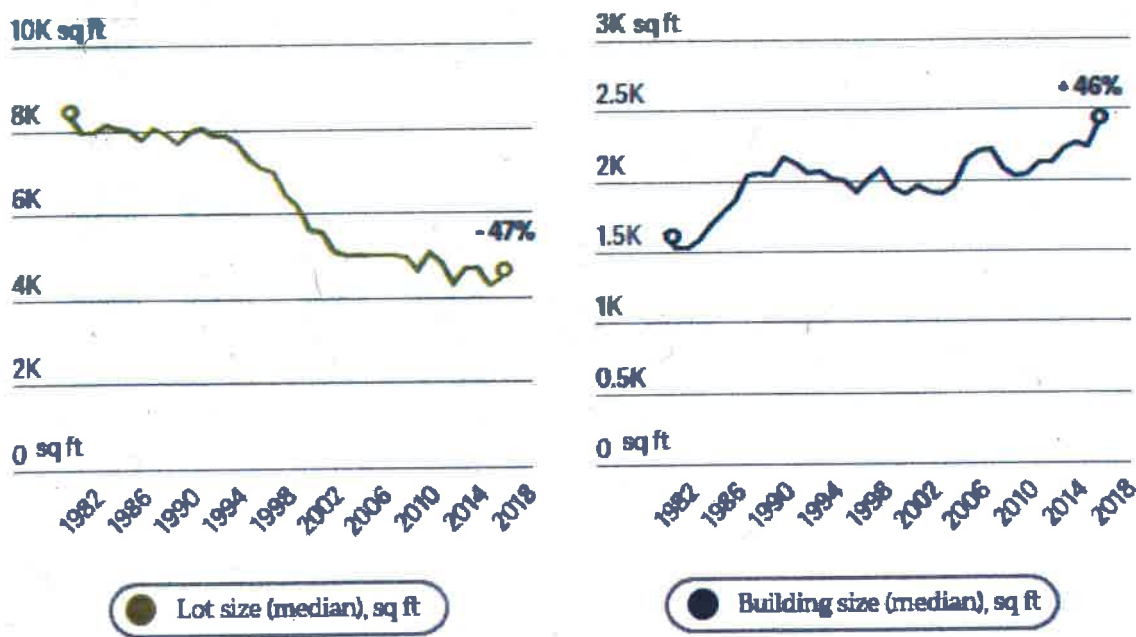
- depending on the location, achievable rents that are sometimes insufficient to spur redevelopment
- site specific challenges such as lot sizes and configurations, access, contamination, or property owners that don't want to develop or sell.

## Land alone doesn't result in housing

The Metro Council made most of its UGB expansions from 1998 onward. Since then, the Metro Council has added about 27,000 acres or about 42 square miles to the UGB. For context, that's an area the about the size of two Beavertons, or 420 Oregon Zoos.

New construction in these expansion areas is a challenge. In addition to overcoming the normal financing and permitting hurdles, a city or developer must also build streets, sidewalks, sewers and other basic infrastructure to support a neighborhood. Infrastructure easily costs hundreds of millions of dollars. Since they were brought into the UGB, these areas have produced 16 percent of their planned housing

Figure 11: Single-family lot size and building size (annual medians), Metro UGB, 1980-2016



Source: Metro Land Development Monitoring System output dataset from May 2018 RLIS data input

(fewer than 11,000 approved or pending permits out of the expected 67,000).

In those cases where development readiness has been resolved – for example, Happy Valley, North Bethany, River Terrace, Villebois, Witch Hazel – housing has been built.

Aside from getting land ready for development, our region shares another challenge facing regions around the country: the private market often can't profitably build new housing that is affordable to people earning lower incomes. Without that potential for profit, affordable housing doesn't get built even if our community plans allow for it.

Cities proposing UGB expansions have been asked to describe how they are encouraging construction and preservation of affordable housing in their existing urban areas.

### **A shortage of cities**

It matters, not just how much housing gets built, but where housing gets built. People in the greater Portland region were forward-thinking in the mid-1990s when they called for focusing most growth in existing downtowns and transportation corridors. That vision made our region more prepared for recent growth trends.

Cities around the country have seen a reversal of decades-long pattern of people moving away from urban centers (Edlund, Machado, & Sviatschi, 2015). Sales prices for central locations now reflect people's preference to live close to urban amenities like restaurants, grocery stores and cafes (Couture & Handbury, 2015). Construction of new housing in those locations is not keeping up with demand, leading economists and others to point to a "shortage of cities" (Cortright, *Our Shortage of Cities*, 2014).

This trend isn't restricted to central cities. Many people that live in the suburbs are seeking urban amenities – restaurants and transit, for instance – like those offered in Orenco and Tanasbourne in Hillsboro and The Round in Beaverton.

In the end, no one can predict future housing preferences, particularly when so much seems in flux. Regardless of preferences, there are significant headwinds for keeping up with population growth by building single-family homes. Those challenges include record levels of student loan debt, tighter lending standards, and high costs for new pipes and pavement that show up on a house's price tag.

### **Finding home**



Cheranda Curtis calls her studio apartment her "sanctuary." Having an affordable place to live has given Curtis the opportunity to stay sober, hold a steady job and save for a house.



Patti Jay felt "exhausted with having to move again" after she received a no-cause eviction. She's grateful she found a place to live close to her son's high school, which means he didn't have to switch schools.

## Displacement of people of color

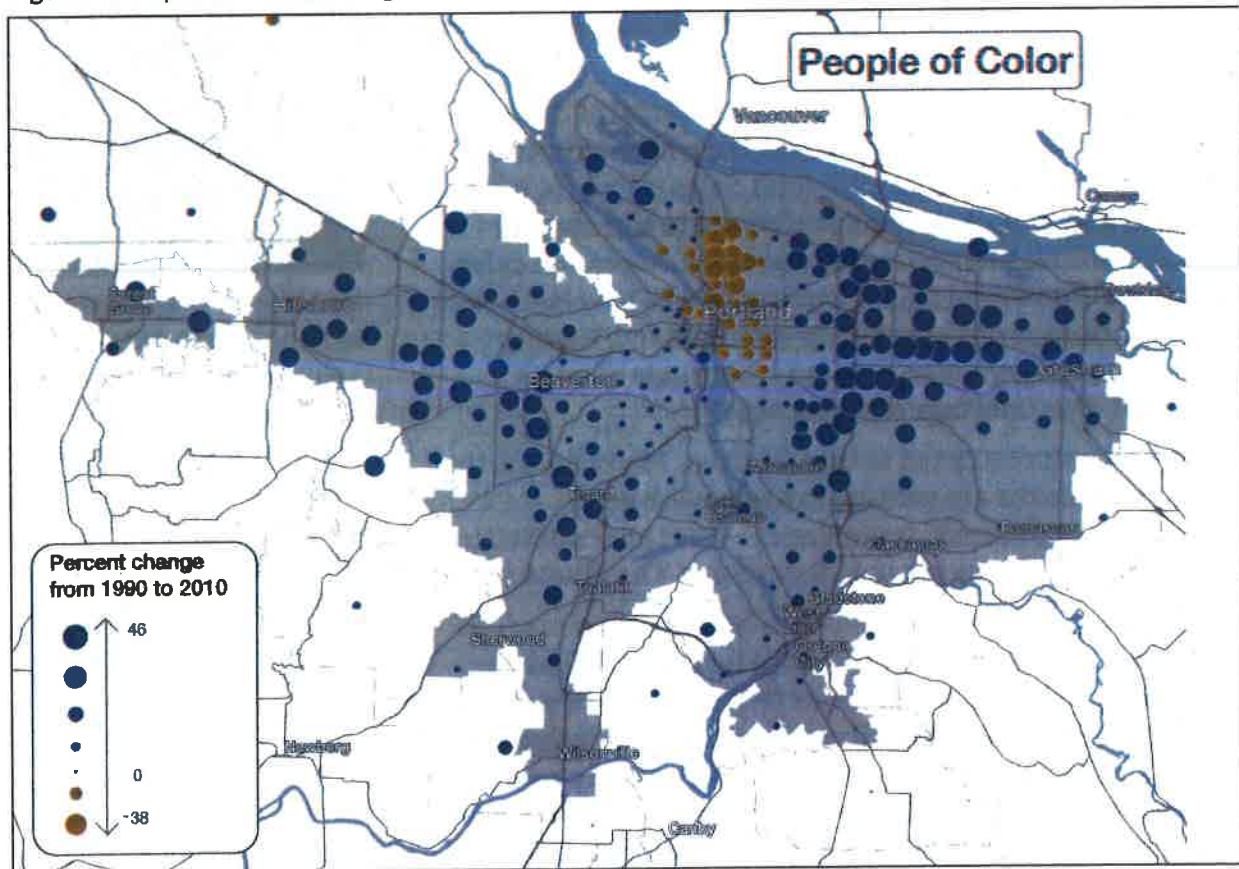
Unable to afford living in the region's urban centers, many people have moved to areas of the region with cheaper housing. Cheap housing comes with hidden costs, though. When you factor in the additional transportation costs – the increased costs of gas and car expenses or the extra time to bike, walk or take transit – a significant portion of the affordability benefits are lost if it requires long commutes.

Displacement has disproportionately affected communities of color, leading to a shift in the racial geography of the region over the last decade.

Displacement is a geographic consequence of a series of systemic inequities that would not be entirely solved with more abundant, affordable housing close to the region's city centers. But, not providing it exacerbates community divisions, by putting some people further from resources, jobs and opportunities readily available in more walkable, transit-served areas. Likewise, it disrupts the social institutions and networks that bind communities together.

And the impacts can be long-term. Displacement and housing stress can have wide-ranging impacts on health and well-being – impacts that can span generations.

Figure 12: Displacement and migration of communities of color, 1990-2010



Source: US Census

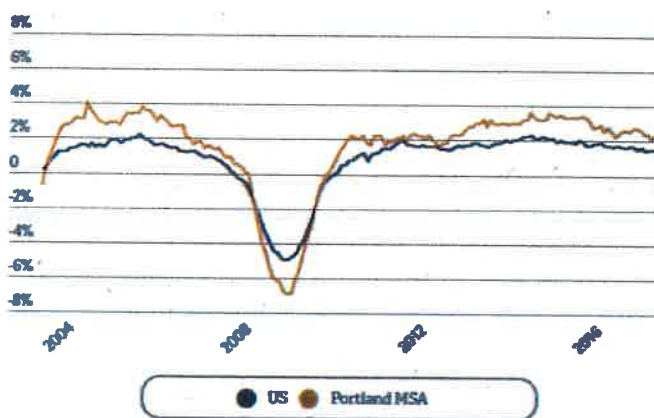
## Where we stand today with jobs

### Ascending out of the Great Recession

Our regional economy is the envy of many others. Educated, working-age people continue to migrate here in increasing numbers, providing local employers with a steady pool of skilled workers while also attracting employers in other regions to consider locating here<sup>10</sup>. And with a strong 4.6 percent increase in a measure of regional economic activity called gross domestic product (GDP), greater Portland had the 10th-fastest growing economy out of the nation's 100 largest metro areas in 2015 (State of Oregon Employment Department, 2016).

Job growth in the greater Portland region exceeds the national rate of job growth. In 2015, our region's jobs increased by 3.3 percent while the nation saw a 2 percent increase.

Figure 13: Annual percentage change in job growth, Portland metro area compared to the national average, 2004.-2018



Source: US Bureau of Labor Statistics

### Manufacturing plays an outsized role in our economy

More than a quarter of greater Portland's economic output comes from the manufacturing sector. Nationally, manufacturing accounts for less than half that – just 12 percent of the nation's total economy (United States Bureau of Economic Analysis, 2018).



*"In a region like this I don't think that there are a lot of barriers [to job growth]. You know, people want to live in a nice environment – you can't get much nicer than Portland. People want to live someplace where housing is affordable – let's hope we can keep it affordable.*

*By and large, across the board, these are people that are conscious of their communities, they like green energy systems, they like public transportation. These are all very important issues for our audience that we're targeting [for employee recruitment]."*

—Dr. Lisa Coussens, OHSU,  
Knight Cancer Institute

10. See Appendix 4 for more information about employment trends.

But economic activity doesn't always equal jobs: manufacturing accounts for just over a tenth of greater Portland's jobs.

Thanks largely to production of high-value products such as semiconductors and electronics, the manufacturing sector contributes an oversized amount to the regional economy relative to its share of the workforce.

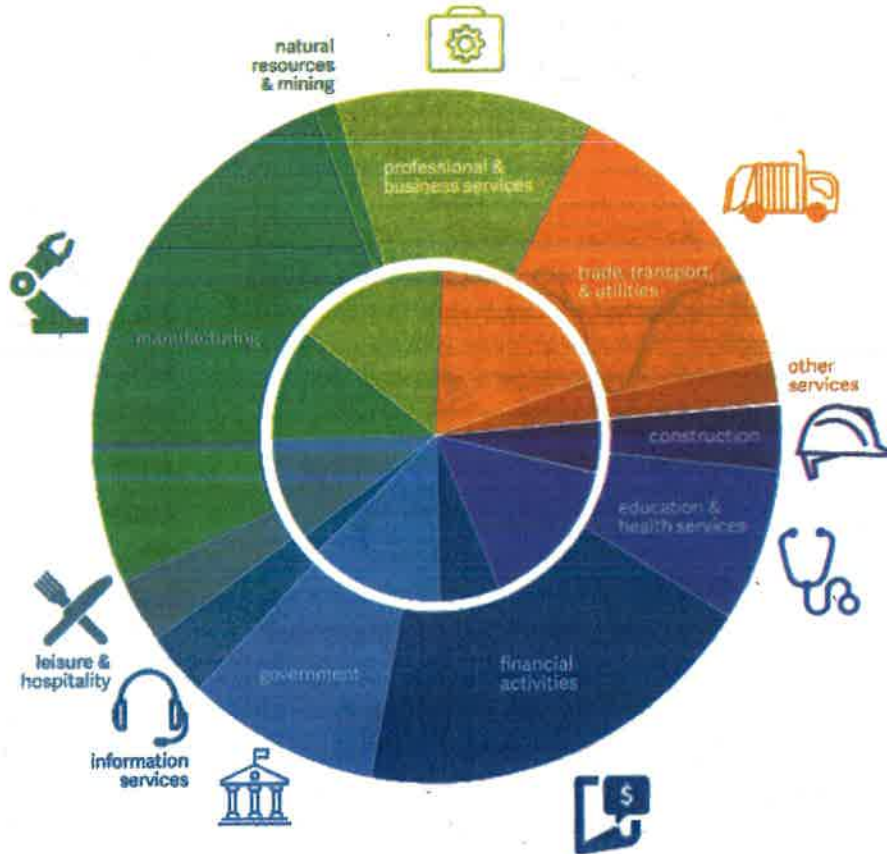
But despite its strong contribution to the region's economy, jobs in the manufacturing sector stagnated in 2016 – by December 2016, the industry had lost 1.4 percent of its Portland-area jobs relative to the year before.

Still, the large profit margins of the region's high-tech manufacturing exports means that the sector's earnings are substantial, even as the size of the manufacturing workforce is somewhat stagnant.

Figure 14: Employment and gross domestic product (GDP), Portland metropolitan area, 2015

Employment and GDP in the Portland metropolitan area

**Manufacturing:**  
11 percent of greater Portland's jobs, 26 percent of economic activity



Note: For total nonfarm full- and part-time employment.  
Sources: Bureau of Economic Analysis, Table CA25N, 2015 Total Full-Time and Part-Time Employment by NAICS Industry, and 2015 Gross domestic product (GDP) by metropolitan area (millions of current dollars).  
Both accessed Dec. 2016.

**Most jobs are in population-serving and other non-manufacturing employment**

As in the past, a large portion of future employment is expected in jobs that serve the public: education and medicine, for instance. As the population grows, so too will employment in these sectors.

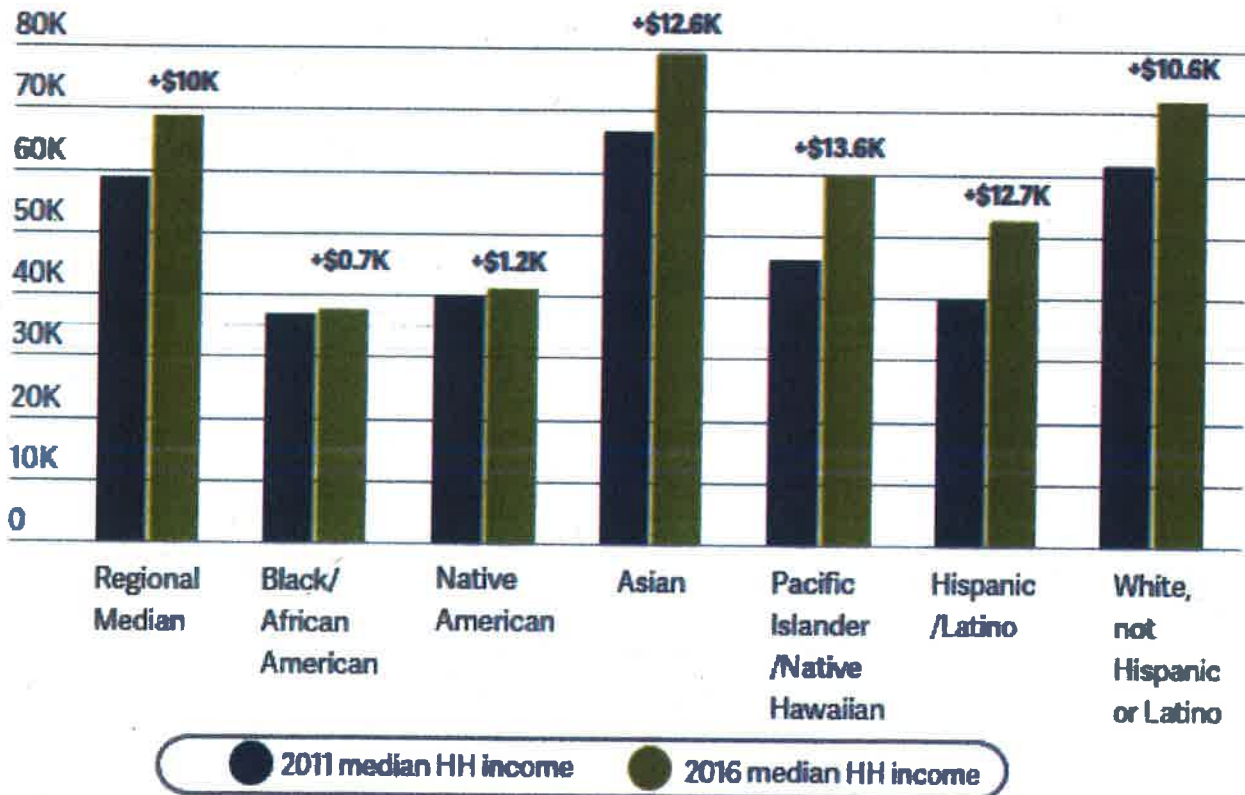
Likewise, sectors like professional and business services (attorneys, engineers, and architects, for example) and financial services (insurance agents, real estate agents, and bankers, for instance) will continue to make up much of our region's employment. What all of these sectors have in common is that they need to locate close

to clusters of where people live. From a growth management perspective, this means that the needs of these sectors are best met in existing urban locations

**Not everyone is benefiting from economic growth**

Though the headlines about unemployment rates and productivity are good, not everyone is prospering. From 2011 through 2016, median household income in the greater Portland region increased by \$10,000. However, Black and Native American households only saw an increase of about \$1,000.

Figure 15: Change in median household income by race, seven-county Portland-Vancouver-Hillsboro MSA, 2011 vs. 2016



Source: 2011 and 2016 American Community Survey (1-year estimates)



### Help wanted

"Last year, Millennials became the largest component of the American workforce. For many companies, attracting and retaining millennial workers seems to require having a downtown office. "Probably for the first time in history, instead of people moving where jobs are," says Tom Murphy, a senior fellow at the Urban Land Institute, "jobs are moving where the talent is." (Wogan, 2016)

Photo credit: autodesk.  
blogs.com/between\_the\_lines/

## Middle income jobs were slow to recover from the Great Recession

Wage polarization has been a long-term trend both locally and nationally and the recent recession only accelerated the shift toward more high and low wage jobs and a smaller share of middle wage jobs. As of 2007, middle wage occupations comprised nearly 65 percent of the jobs in the Portland metropolitan area, but that share was less than 58 percent by 2017.

Middle wage job growth has picked up in the last couple of years. As of 2017, the region finally recovered the number of middle wage jobs lost during the recession. But low and high wage jobs have fared much better, both during and after the recession, leading to increasing wage polarization. The polarization trend is expected to continue in the future for the region and the U.S. as a whole, in large part due to globalization and technological change.

Occupations within the middle wage category have also seen different trajectories over the last ten years. In the Portland metropolitan area, around 13,200 manufacturing production jobs were lost during the recession and only 4,600 of those jobs had been recovered as of 2017. Production workers face continuing pressure from globalization and automation in the manufacturing industry.

Administrative and office support occupations also saw significant job losses and weak recovery as advances in technology change the nature of office work and the need for support staff.

On the other hand, employment in several middle wage occupations that are primarily driven by population and demographic change continued to grow during and after the recession, including healthcare support workers, police officers, and teachers.

## Changes in where businesses locate

As we plan for future employment, we need to be aware of changes in where businesses locate and how they use space. Most of these trends point to more efficient use of land.

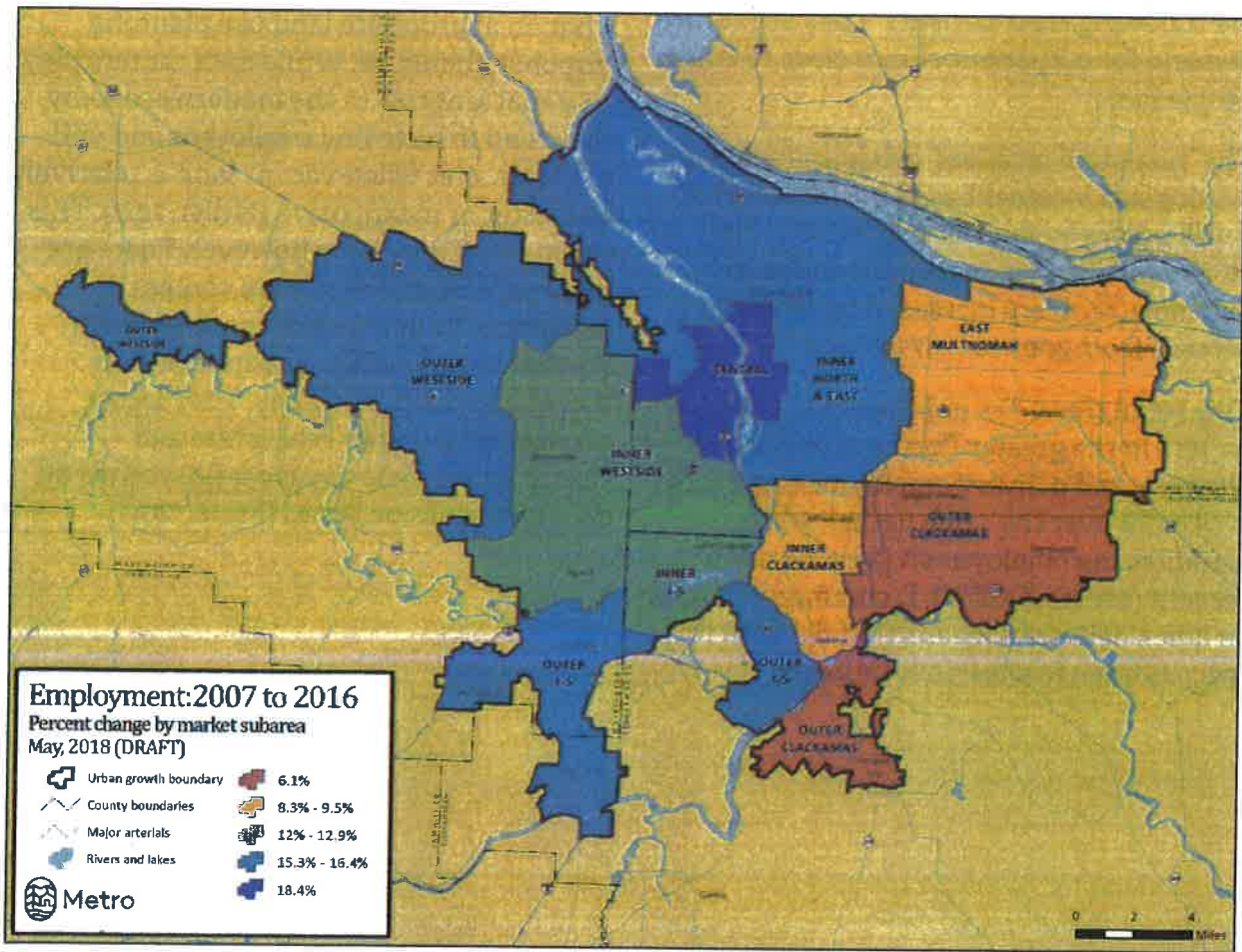
Nationwide, there has been a trend of businesses relocating from more remote campus settings to downtowns. Businesses are doing this to attract and retain an educated workforce that wants access to urban amenities like restaurants, bars, cafés and transit.



This is now a mainstream trend. In recent years, G.E. moved its headquarters from a suburban campus in Connecticut to a downtown Boston location. The new G.E. headquarters won't have a parking lot. McDonald's and Kraft Heinz both moved from suburban Chicago locations to downtown.

In the greater Portland region, these trends are evident. The highest rate of job growth in the region from 2007 to 2016 was in central Portland at 18.4 percent growth. This was followed by the outer west side, inner north and east, and the outer I-5 areas at 15.3 to 16.4 percent growth. Job growth in east Multnomah County and Clackamas County has lagged behind at 6.1 percent.

Figure 16: Percent change of employment by market subarea, 2007-2016



## **Our workplaces look different than they used to**

Inside office buildings, workers are taking up less space than they used to. In many professions, gone are the days of private offices. Instead, a laptop and a chair are often more typical.

Among the increasing ranks of the “gig economy” (self-employed), work space can be co-working space that is leased by the hour or a seat at a coffee shop for the price of coffee refills.

In the medical sector, health care providers are following their patients. They see future demand for outpatient clinics close to where people live.

The “non-store retailers” category includes catalog and internet-based businesses that fulfill orders by mail as well as other non-store vendors. Regional employment by non-store retailers increased by nearly 27 percent from 2007 to 2017 (source: QCEW).

This retail trend has implications for other sectors in the greater Portland region. Shipping and delivery employment grew by 31 percent over the same period, while warehousing employment grew nearly 9 percent (source: QCEW). E-commerce’s focus on quick deliveries means that demand for space is often in close-in locations.

For “brick and mortar” retail, the emergence of e-commerce and people shifting their consumption habits from retail goods to meals and entertainment portends the closing of malls and retail businesses in commercial corridors (Thompson, 2017). This trend can be seen in the closure of many Sears, J.C. Penney, Macy’s, and Kmart stores and all Toys R Us stores in the U.S. Between 2007 and 2009, 400 of the U.S.’s largest 2,000 malls closed (Esri, 2014).

The construction of data centers has recently created more demand for industrial land. Policy makers may wish to consider what an appropriate land use planning response should be. While data centers play an important role in the modern economy, they tend to have few employees and will use large sites when vacant land is relatively abundant or inexpensive (Miller, 2017). This is not out of necessity, however. There are numerous examples of data centers in multistory buildings such as downtown Portland and Chicago and in northern Virginia and Silicon Valley. They locate there despite higher real estate and construction costs to save milliseconds on data transmission times (Miller, 2017).

# From home to work and back

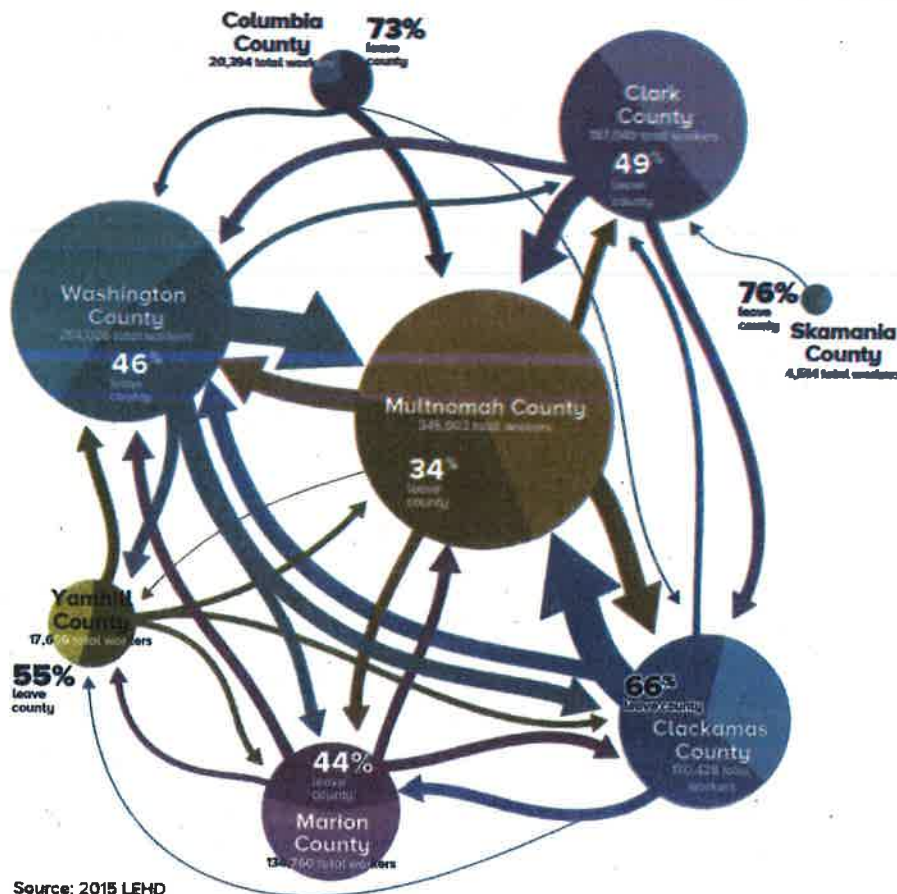
Ours is a regional economy that doesn't stop and start at state lines, the UGB, or county and city boundaries. People make complex decisions about where to live and work. Few of us choose the job closest to home or the home closest to our job. Rather, we consider other factors, which might include:

- whether jobs are a good match for our skills
- whether jobs pay enough
- whether our spouse or partner is also employed, but in a different location
- whether homes match our budget
- whether homes and neighborhoods match our preferences
- whether we can tolerate or afford longer commutes
- whether local schools meet our needs and preferences.

These choices are borne out in the data on commute patterns that show people commuting across city and county lines. Those patterns will not be changed by any UGB expansion for housing or jobs. The best course of action is to plan communities with a mix of uses that shorten our other trips – going to the grocery store, for example – and provide reliable and safe multimodal transportation options to link different parts of the region.

In the context of growth management decisions, these patterns influence the amount of housing and job growth that is likely to locate in the Metro UGB. Historically (since 1979), about 61 percent of the new households in the seven-county metropolitan area and 82 percent of the new jobs have located in the Metro UGB.

Figure 17: Where greater Portland area residents work by county, 2015 (source: US Census LEHD)



# Regional outlook

## Good sources

Metro bases its forecast on the best sources available:

- U.S. Census
- U.S. Bureau of Labor Statistics
- U.S. Bureau of Economics
- Federal Reserve Board
- Portland State University's Population Research Center
- IHS Markit

## Handling uncertainty

There is uncertainty in any forecast. Metro recognizes uncertainty by producing a probabilistic range forecast. The midpoint of the range is the most likely outcome. However, migration trends, federal monetary policy, technological change, recessions and international relations are all factors that may move actual growth higher or lower in the range.

The communities inside the Metro UGB are a major part of a larger regional economy that extends over seven counties and across state lines. To understand housing and employment needs in the Metro UGB, we need to first understand what's happening in the larger seven-county metropolitan area. This larger area is the starting point for Metro's population, household and employment growth forecasts. This seven-county forecast is documented in Appendix 1.

Metro subjects its forecast model and the forecast results to a peer review process that includes public and private partners who are experts in economics and demographics. In the case of the draft forecast, the peer review panel found the forecast to be reasonable and in line with other projections. Documentation for the peer review process is included in Appendix 1.

To check how we're doing, Metro also provides comparisons of past forecasts and actual growth (see Appendix 1). Those comparisons show that Metro's forecasts have been accurate and reliable. Metro's 2010 forecast has held up well, slightly underestimating population growth and slightly overestimating employment growth in the seven-county area. After five years, the forecast was within three percent of actual estimates for population and employment, less than a one percent annual difference. It is also worth noting that the year 2015 "actual" numbers are estimates and also subject to error.

## We expect more people in the region

Between 2018 and 2038, there could be between 365,000 (low) to 659,000 (high) additional people residing in the seven-county region. The most likely amount of growth is 524,000 more people in the seven-county region.

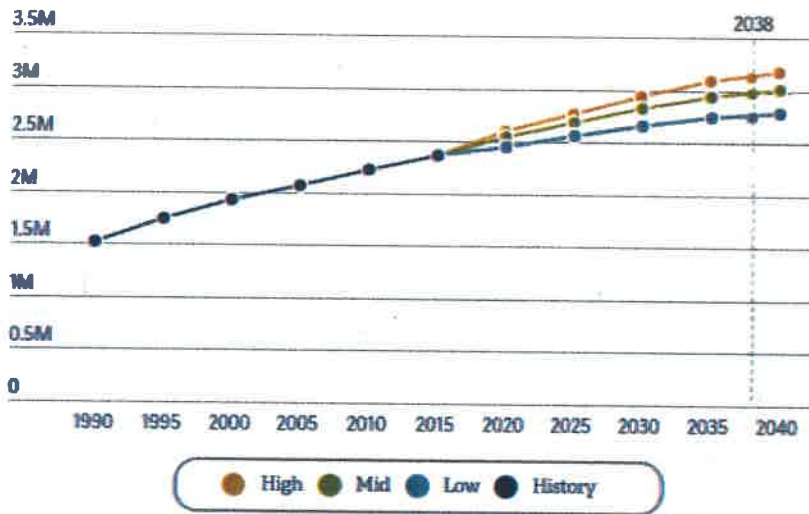
Table 2: Population forecast for the seven-county Metropolitan Statistical Area (2018 to 2038)

	2018	2038	Difference
<b>Low growth</b>	2,414,000	2,779,000	365,000
<b>Most likely growth</b>	2,481,000	3,005,000	524,000
<b>High growth</b>	2,516,000	3,175,000	659,000

The primary source of population growth in the region will continue to be migration. Births represent an ever-shrinking source of population growth in our region and nation. In 2017, the U.S. saw the fewest births in 30 years and its lowest general fertility rate in history. (U.S. Department of Health and Human Services, 2018)

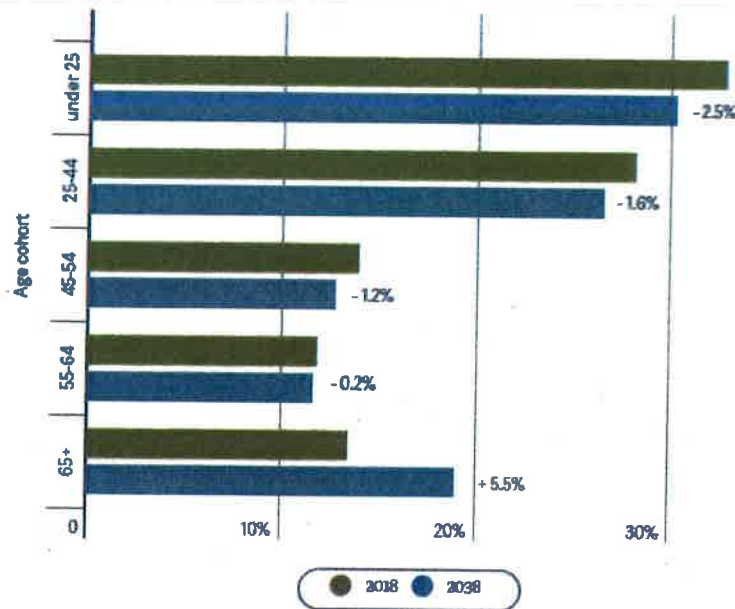
Along with declining birth rates, the region's population is aging. In 2018, about 13 percent of the population is 65 years or older. By 2038, about 19 percent of the population will be 65 years or older.

Figure 18: Population history and range forecast, seven-county Portland-Vancouver-Hillsboro MSA, 1990-2038.



Source: 2018-38 Portland-Vancouver-Hillsboro, OR-WA MSA Forecast, Metro Research Center, Nov 2017

Figure 19: Age cohorts as a percentage of total population, seven-county Portland-Vancouver-Hillsboro MSA, 2018 and 2038



Source: 2018-38 Portland-Vancouver-Hillsboro, OR-WA MSA Forecast, Metro Research Center, Nov 2017

Note: Age bracket size (i.e. the number of years per age bracket) varies by cohort.

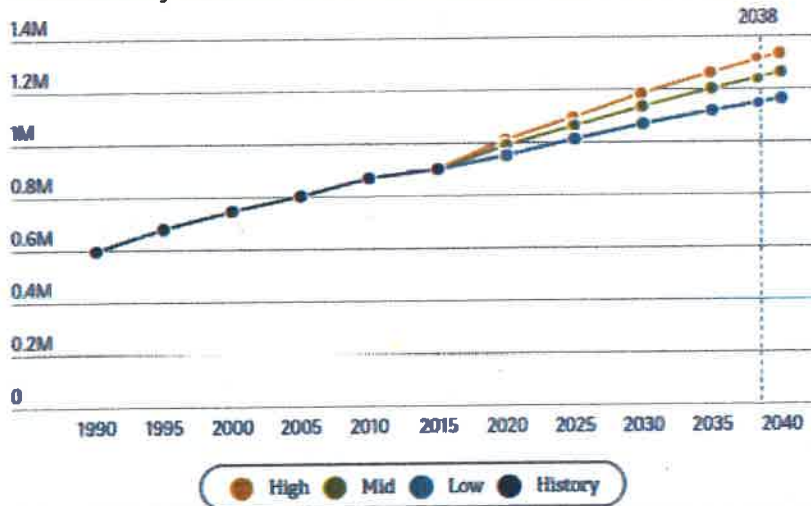
### We expect more households in the region

Between 2018 and 2038, there could be between 212,000 (low) to 335,000 (high) additional households in the seven-county region. The most likely amount of growth is 279,000 more households in the seven-county region.

Table 3: Household forecast for the seven-county Metropolitan Statistical Area (2018 to 2038)

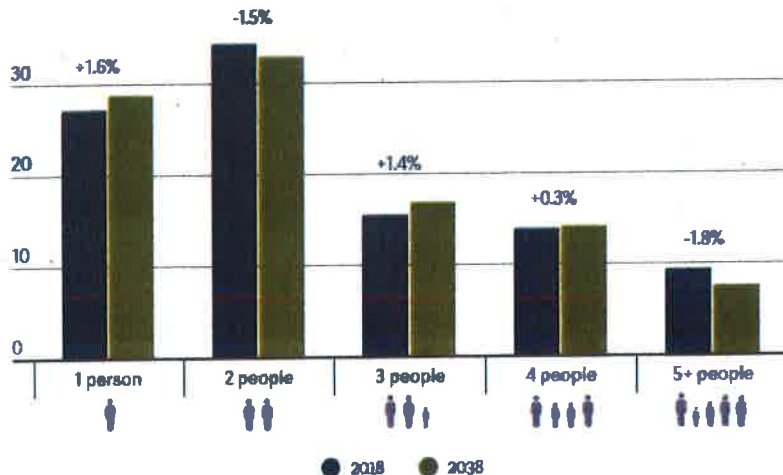
	2018	2038	Difference
Low growth	932,000	1,144,000	212,000
Most likely growth	958,000	1,237,000	279,000
High growth	972,000	1,307,000	335,000

Figure 20: Household history and range forecast seven-county Portland-Vancouver-Hillsboro MSA, 1990-2038



Source: 2018-38 Portland-Vancouver-Hillsboro, OR-WA MSA Forecast, Metro Research Center, Nov 2017

Figure 21: Household size history and forecast by share of total, seven-county Portland-Vancouver-Hillsboro MSA, 2018 to 2038



Source: 2018-38 Portland-Vancouver-Hillsboro, OR-WA MSA Forecast, Metro Research Center, Nov 2017

Because people are staying single longer and having fewer children, the average household size for the seven-county metropolitan area is expected to drop from 2.6 people per household in 2018 to about 2.4 people per household in 2038. Today (and in 2038), almost two-thirds of households consist of one or two people.

In 2018, about 23 percent of heads of households are 65 and older. By 2038, about 30 percent of heads of households will be 65 and older.

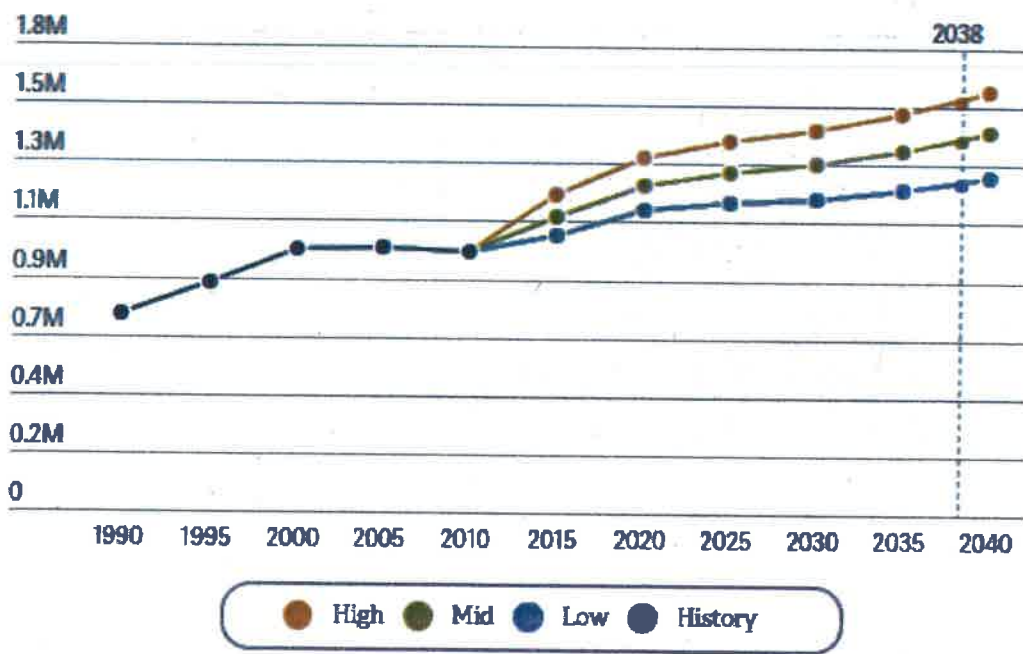
### We expect more jobs in the region

Between 2018 and 2038, there could be between 135,000 (low) to 258,000 (high) additional jobs in the seven-county region. The most likely amount of growth is 209,000 more jobs in the seven-county region.

Table 4: Employment forecast for the seven-county Metropolitan Statistical Area (2018 to 2038)

	2018	2038	Difference
Low growth	1,108,000	1,243,000	135,000
Most likely growth	1,193,000	1,402,000	209,000
High growth	1,293,000	1,551,000	258,000

Figure 22: Employment history and range forecast seven-county Portland-Vancouver-Hillsboro MSA, 1990-2038



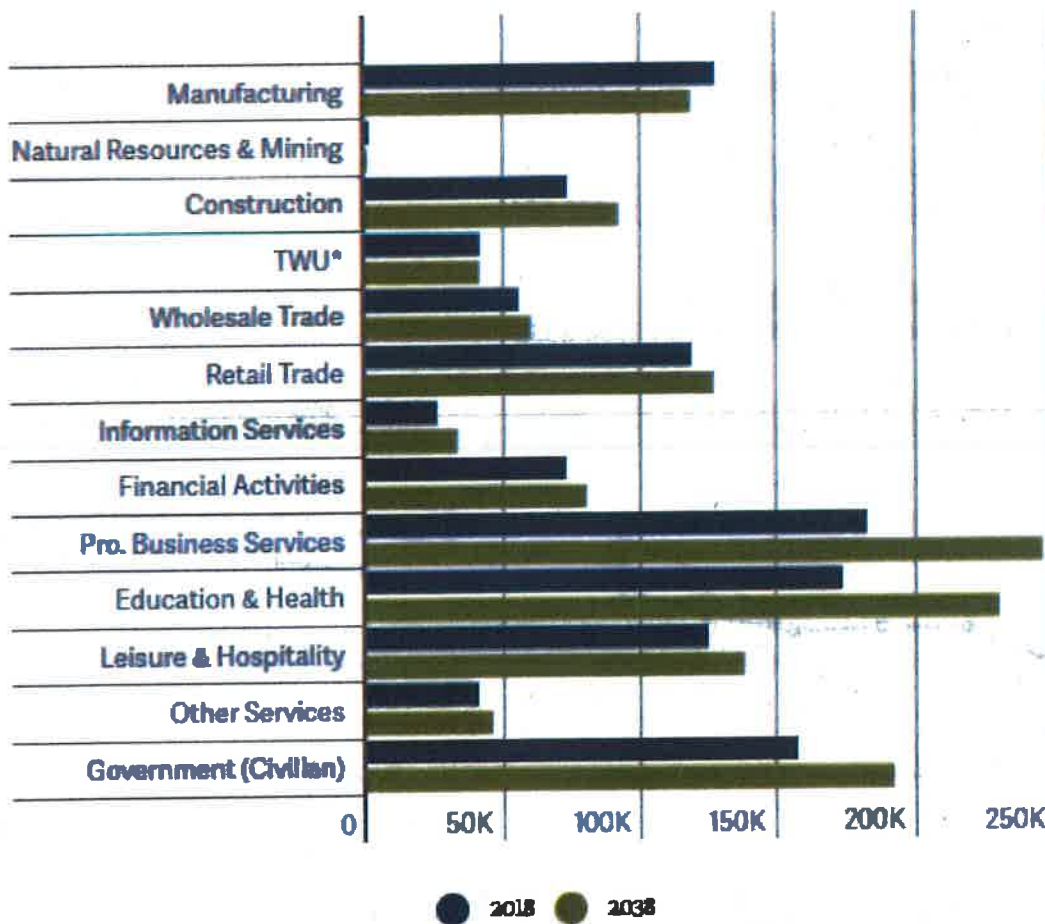
Source: 2018-38 Portland-Vancouver-Hillsboro, OR-WA MSA Forecast, Metro Research Center, Nov 2017

There is more uncertainty around the job forecast than the population forecast since the economy may be positively or negatively impacted by global events, innovations, and decisions that can't be predicted. Actual growth will not follow a smooth trend line, but will have ups and downs with business cycles.

There is yet more uncertainty when it comes to forecasting employment by sector, but most economists see continued strength in sectors like education and medicine that serve the growing population.

On the flip side, because of automation and other factors, many economists see slow or no job growth for industrial sectors – such as high-tech manufacturing and wood products – that have traditionally been strengths for Oregon (Lehner, Oregon's Industrial Structure and Outlook, 2018). Instead, going forward, employment growth in the high-tech sector is expected in software development (Lehner, Oregon High-Tech Outlook, 2018).

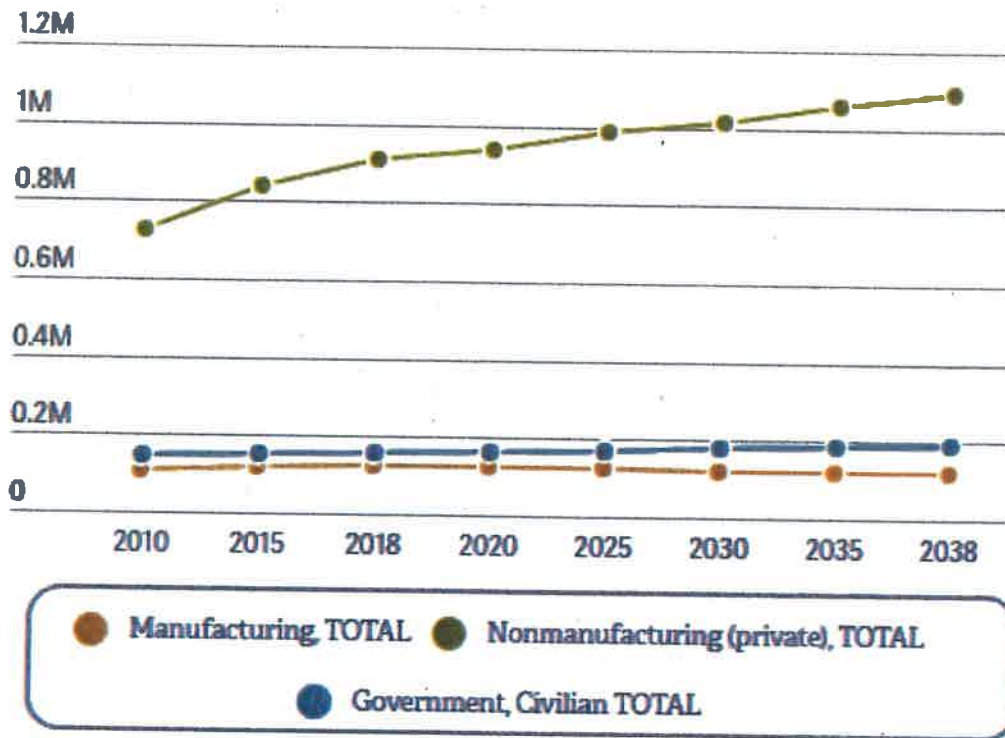
Figure 23: Employment by sector, current and baseline (likely) forecast seven-county Portland-Vancouver-Hillsboro MSA, 2018 and 2038



Source: 2018-38 Portland-Vancouver-Hillsboro, OR-WA MSA Forecast, Metro Research Center, Nov 2017  
 \*TWU" = Transport, Warehousing and Utilities



Figure 24: Employment history and projections (by major sector).  
 seven-county Portland-Vancouver-Hillsboro MSA, 1990-2038



Source: 2018-38 Portland-Vancouver-Hillsboro, OR-WA MSA Forecast, Metro Research Center, Nov 2017  
 Forecast is for mid-range projection.

# How much room is there for housing and job growth inside the UGB?

## Where growth can happen

### Redevelopment

Development on a tax lot where the original structure has been demolished and there is a net increase in housing units or jobs.

**Infill** Additional development on a tax lot where the original structure has been left intact and the lot is considered developed.

**Vacant land** Land inside the UGB that's not developed.

**Urban reserves** Areas outside the current UGB designated by Metro and the three counties as the best places for future growth if urban growth expansions are needed over the next 50 years.

**Neighbor cities** Cities in the larger metropolitan area, but outside of Metro's jurisdiction: Vancouver, Newberg, Sandy, etc.

## Committed to using land efficiently

To protect farms and forests, Oregon law encourages the efficient use of land already inside the UGB. This focus on making the most of what we have also keeps jobs, housing, shopping and services closer by. Future development will happen – not only on vacant land – but also through redevelopment or infill.

Redevelopment and infill have demonstrated their importance in recent years, accounting for 76 percent of the net new housing units in the Metro UGB in the 2007 to 2016 time period, far exceeding previous forecasts. This is an important reminder of several points:

- Existing urban locations that are close to services and amenities are in high demand, so much so that economists have coined the phrase “a shortage of cities” (Cortright, Dow of Cities: Big data on the urban price premium, 2018).
- Encouraging redevelopment and infill is the means to address the shortage of cities and to reduce housing prices in these locations.
- Redevelopment and infill are not static. They are more likely in locations that are in high demand.

## Buildable land inventory review process

Metro inventories buildable land through a comprehensive process that includes extensive review by city and county planning staff. Many local staff participated in Metro's Land Use Technical Advisory Group (LUTAG), which assisted in the inventory. LUTAG began meeting in the summer of 2017 and met regularly through spring of 2018.

Appendix 2 describes the methods that Metro used to estimate how much buildable land is inside the UGB. All cities and counties in the region had an opportunity to review the buildable land inventory used in this analysis. The inventory results are described in Appendix 2.

Though the inventory assumes that current zoning regulates allowable uses, it does not assume that all of that zoned capacity is viable in the next 20 years (there is zoned capacity for over 1.3 million homes in the UGB).

The inventory begins with aerial photos locating vacant land. Subsequent steps account for environmental constraints such as steep slopes and wetlands.

Aside from vacant land, additional housing and jobs are also expected on some already-developed lands. There are a variety of uncertain market factors that may influence long-term redevelopment and infill potential. For that reason, redevelopment and infill potential are expressed as a range.

### **Buildable residential land inside the UGB**

The buildable land inventory for the Metro UGB includes capacity for 228,200 to 363,300 additional homes. The difference in the two numbers is attributable to redevelopment potential. Because of a variety of factors (infrastructure, market, neighborhood opposition, etc.), not all of this capacity may be development-ready in the 20-year planning period.

Table 5: Residential buildable land range (source: Metro, in coordination with cities and counties)

	<b>Single-family homes</b>	<b>Multi-family homes</b>	<b>Total homes</b>
<b>Low</b>	92,300	135,900	228,200
<b>Medium</b>	92,300	227,700	320,000
<b>High</b>	92,300	271,000	363,300

Note: single-family housing capacity is shown as a static number rather than a range since there are fewer market uncertainties than with multifamily redevelopment

### **Buildable employment land inside the UGB**

Metro categorizes employment land as commercial or industrial according to adopted zoning. As documented in the 2014 Urban Growth Report, these categories are somewhat flexible and it is common to find commercial employment on industrial land.

#### **Commercial (non-industrial) employment land**

There are 2,150 to 2,530 net buildable acres of commercial employment land inside the Metro UGB. Because there is uncertainty around redevelopment of land in mixed-use zones, these buildable acres are expressed as a range.

## **Industrial employment land**

There are 8,600 net buildable acres of industrial employment land inside the Metro UGB.

## **Large industrial sites**

Expanding and attracting traded-sector businesses are important aspects to creating middle-income jobs. As an income tax dependent state, Oregon's higher wage jobs generate revenue to fund schools, parks and other public services. The greater Portland region competes globally to attract these coveted jobs, so it is important to have development-ready sites where businesses can locate.

The 2017 update of the Regional Industrial Site Readiness project inventoried large, vacant industrial sites (over 25-net buildable acres per site) and is included as Appendix 8. The inventory is a subset of the previously described industrial land inventory. It finds 65 large industrial sites inside the UGB and at varying stages of development readiness:

- There are 45 large industrial sites inside the UGB that may be available to the general market<sup>11</sup>.
- An additional 20 large industrial sites inside the UGB that are held by existing firms for potential future expansion.

The focus of the Regional Industrial Site Readiness project is to identify actions that must be taken to make these sites development-ready to produce jobs. The project finds that many large industrial sites have extensive needs including:

- infrastructure needs, particularly transportation improvements
- site assembly
- brownfield cleanup
- wetland mitigation

- annexation by cities
- willing seller.

These challenges mean that, of the 45 large sites that aren't being held by existing businesses for future expansion:

- 10 sites are developable within a 6-month timeframe (Tier One)
- 11 sites will require 7 to 30 months to be made development-ready (Tier Two)
- 4 sites will require more than 30 months to be made development-ready (Tier Three).

Any sites added to the UGB would be Tier Three, requiring months of effort and substantial investment to make them development-ready.

---

<sup>11</sup>. The inventory identified 47 sites, but two of them outside the UGB, so they are not included here.

## Conclusion

Since the draft UGR was released in July 2018, the Metro Council provided direction to Metro staff in Resolution No. 18-4914, which accepts the Chief Operating Officer recommendation regarding the proposed expansion areas and directs staff to include conditions of approval that will ensure an appropriate mix of housing types in those areas. Based on that direction, staff has completed a regional Housing Needs Analysis, which can be found in Appendix 5A.

The Housing Needs Analysis identifies a need for additional land in the UGB to address single-family housing demand (attached and detached housing). The Housing Needs Analysis assumes the baseline (midpoint of the forecast range) household forecast as documented in Appendix 1 and the midpoint of the buildable land inventory range as documented in Appendix 2.

It also assumes that the Metro UGB will “capture” a share of the larger 7-county household growth that is in keeping with historic and modeled rates. The analysis also assumes that 50 percent of the new housing will be single-family housing (attached and detached), a rate that represents a continued long-term shift towards multifamily and single-family attached housing. The Housing Needs Analysis summarizes the regional need for additional single-family housing as follows:

<b>7-county MSA new households, 2018 to 2038 (midpoint of range)</b>	<b>279,000</b>
<b>7-county MSA new dwelling units (apply 5% vacancy rate)</b>	<b>293,000</b>
<b>Metro UGB new dwelling units (capture rate range = 67.2%)</b>	<b>196,900</b>
<b>Metro UGB new single family dwelling units (SF rate = 50%)</b>	<b>98,400</b>
<b>Metro UGB existing single family capacity (attached and detached)</b>	<b>92,300</b>
<b>Unmet single family dwelling unit (attached and detached) need</b>	<b>6,100</b>

The proposed 2,181 gross acres of UGB expansions will provide a total of approximately 6,100 single-family housing units along with approximately 3,100 multifamily units, for a total of approximately 9,200 homes. The proposed 6,100 single-family units in expansion areas will address the need for 6,100 single-family homes. The proposed conditions of approval for the UGB expansion seek to enhance the variety of single-family attached housing that will be allowed in the expansion areas. It is possible that the number of allowed housing units in each area will increase as a result.

As documented in the range buildable land estimates in Appendix 2 and scenario modeling described in Appendix 3, the existing UGB has ample land planned for multifamily housing. Today, 36 percent of existing housing is multifamily housing. That share is likely to increase over time as allowed under city and county zoning.

While no UGB expansion is required to accommodate multifamily housing growth, most of the proposed UGB expansions include some amount of multifamily housing to ensure that these areas provide a variety of housing choices and comply with the state Metropolitan Housing Rule.

Likewise, cities have often included multifamily housing as a means of decreasing infrastructure costs per home and to make more efficient use of land. To ensure that people of varied backgrounds can find housing in these new communities, the conditions of approval require each city to allow additional single-family attached housing options in locations planned for single-family housing in the expansion areas.

The draft Urban Growth Report included the Goal 14 Locational Factor Analysis of Urban Reserves in Appendix 7. Based in part on the results of the Goal 14 Analysis, staff has completed an evaluation (Appendix 7A) of a smaller set of urban reserves using the Metro Code requirements. These analyses support the Metro Council findings that the four urban reserve areas under consideration provide the best locations for expansions under the applicable factors and should be included in the UGB.



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If you picnic at Blue Lake or take your kids to the Oregon Zoo, enjoy symphonies at the Schnitz or auto shows at the convention center, put out your trash or drive your car – we've already crossed paths.

**So, hello. We're Metro – nice to meet you.**

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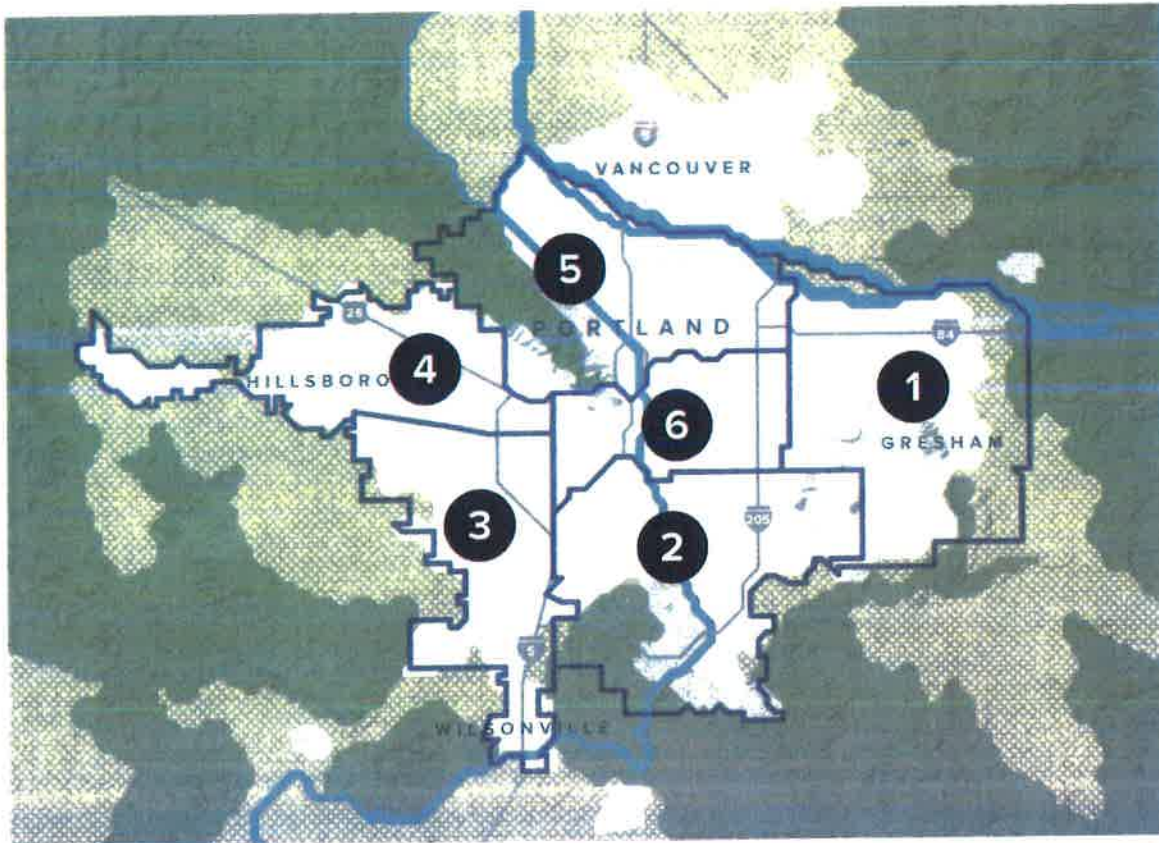
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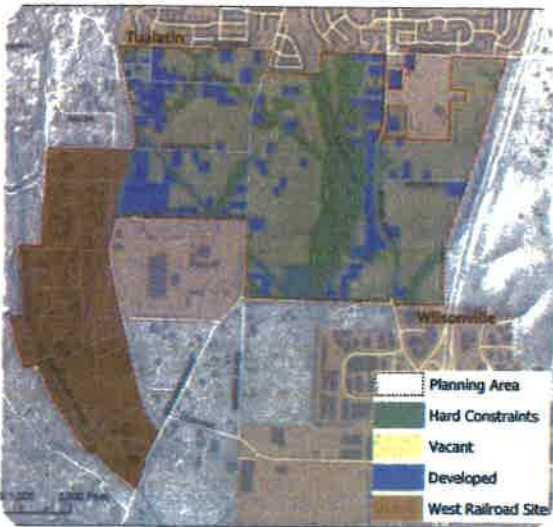




**GOAL 1: EXPAND ACCESSIBLE AND INCLUSIVE PARKS AND FACILITIES TO SUPPORT COMMUNITY INTERESTS AND RECREATION NEEDS.**

To achieve Goal 1, the Master Plan recommends providing well-maintained parks, greenways,

natural areas and a diversity of recreation opportunities to fill existing gaps and serve future development areas. Thoughtfully designed facilities and activities will be accessible and meet the needs of Tualatin's diverse, growing and changing community.



Develop a new park in the Basalt Creek area to serve new residents and address unmet facility needs in south Tualatin.



Prioritize deferred maintenance projects and renovate aging amenities in parks



Improve existing sport fields, acquire new parks for sports, and evaluate the financial feasibility of a tournament complex.



Design parks to be accessible and respond to demographic, cultural and neighborhood needs.

## Proposed New Parks

Implementing the following recommendations for new parks and partnerships will help achieve all seven Master Plan goals:



### Jurgens Park Addition (P1)

Site recommendations for Jurgens Park include expanding the park by acquiring an adjacent space to introduce new uses.

- Acquire adjacent property as available.
- Master plan and develop this site in conjunction with the existing park.

### Tualatin Community Park Addition (P2)

Tualatin Community Park is the City's largest park located at the heart of the city on the Tualatin River. The City should take advantage of opportunities to acquire adjacent land that would improve park access and site use.

- Acquire additional land (if the opportunity exists) to enhance the role of the park as the heart of the Tualatin community.
- Master plan and develop this site in conjunction with the existing park.

### Basalt Creek Park (P3)

A new large neighborhood park is proposed for the Basalt Creek Concept Plan Area in south Tualatin to serve residents and employees. Prior to acquisition, opportunities should be evaluated to acquire additional land to support community-wide

recreation needs and protect natural resources in the Basalt Creek Canyon. A larger park in the Basalt Creek Concept Plan area would help address traffic congestion by developing the City's second community park, connected to the local and regional trail system, providing tourism attractions and space for community events, large and small group gatherings, sports (fields or a sports complex), as well as other active and passive recreation uses.

- Acquire 10-20+ acres of park space through an area master plan process.
- Acquire additional land for greenways and natural parks to support planned trail connectivity and protect creek canyon habitat and natural resources.
- Master Plan and develop park site as a community park to meet neighborhood, employee, and community needs.

### East Tualatin/Bridgeport Elementary Partnership (P4)

Residents in east Tualatin lack access to a nearby neighborhood park. The City should explore a partnership or joint-use agreement with the Tigard-Tualatin School District for the use and/or improvement of recreation facilities of Bridgeport Elementary. The partnership would expand the range of park lands available in east Tualatin, which is now limited to greenways and natural areas.

- Pursue a school partnership with Bridgeport Elementary to formalize the joint use of the outdoor play areas, lawn, sports field, basketball courts, and track during out-of-school hours.
- Add programming for Hispanic/Latino community in partnership with Bridgeport Elementary.



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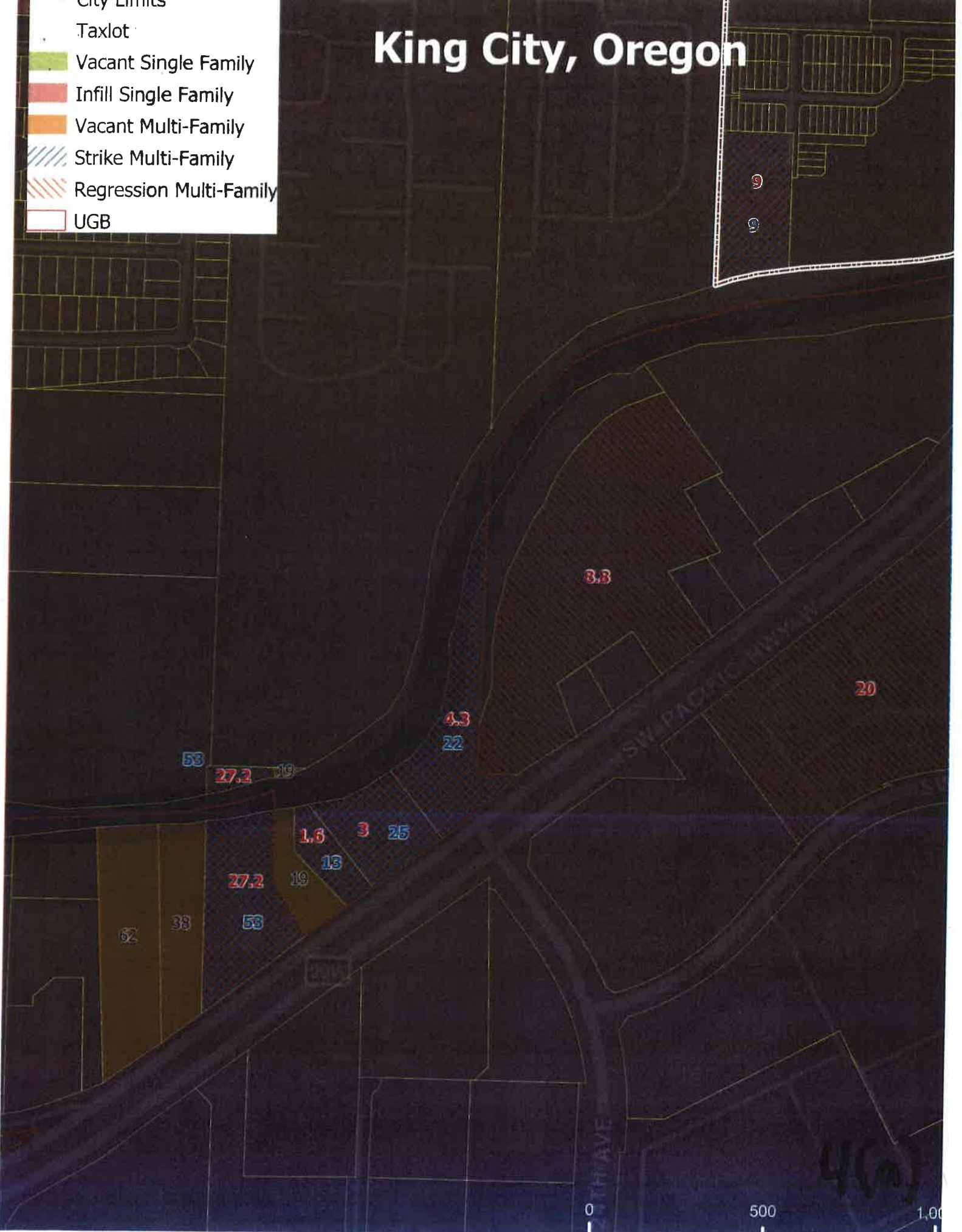
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# King City, Oregon

- City Limits
- Taxlot
- Vacant Single Family
- Infill Single Family
- Vacant Multi-Family
- Strike Multi-Family
- Regression Multi-Family
- UGB



# WOODRIDGE APARTMENTS



## LIHTC Program Income Guidelines

Woodridge Apartments is a Section 42 Tax Credit Project which means that federal tax credit subsidies were given to help finance the property. Because of the subsidies received, the owner is required to hold the maximum rent charged at or below a level considered appropriate for the households that have incomes at or below 60% of the median household income for the county. This maximum rent that can be charged is calculated at 30% of the 60% of the median monthly household income less a utility allowance which is determined by the Department of Housing and Urban Development. Applicants must also qualify to live in the community by demonstrating that their annual household income is at or below 60% of the median income for the county where the community is located.

Below are two lists, one is the maximum household incomes allowed to qualify for residency based on the number of people in the household, and the second is the maximum allowable rent for the studio, one and two bedroom apartments.

Number of Occupants	Maximum Household Income		Apartment Size	Maximum Allowable Rent Limit	
	50%	60%		50%	60%
1	\$28,700	\$34,440	1 Bedroom	\$677	\$825
2	\$32,800	\$39,360	2 Bedroom	\$809	\$986
3	\$36,900	\$44,280	3 Bedroom	\$929	\$1,135
4	\$40,950	\$49,140			
5	\$44,250	\$53,100			
6	\$47,550	\$57,060			

4(b)



If your annual household income from all sources is at or below the amounts shown above, you may qualify to be a resident and pay the below market rent. Before a final determination regarding your eligibility can be made, you need to fill out an application and go through the certification process. The process is simple and is handled by the on site management staff. Please see the site staff for more information. They will be happy to explain the program in more detail.

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## Contact

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Woodridge Apartments  
11999 SW Tualatin Rd  
Tualatin, OR 97062  
p: (503) 691-9085  
f: (503) 691-9009

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## Office Hours

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Monday - Saturday: 9am - 6pm  
Closed on Sundays

6, 12 Month Leases Available

Managed By



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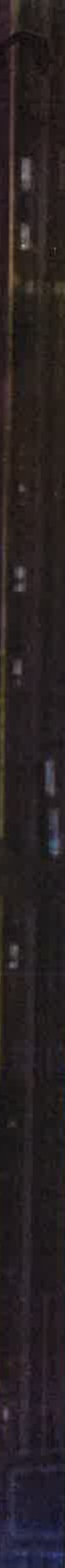
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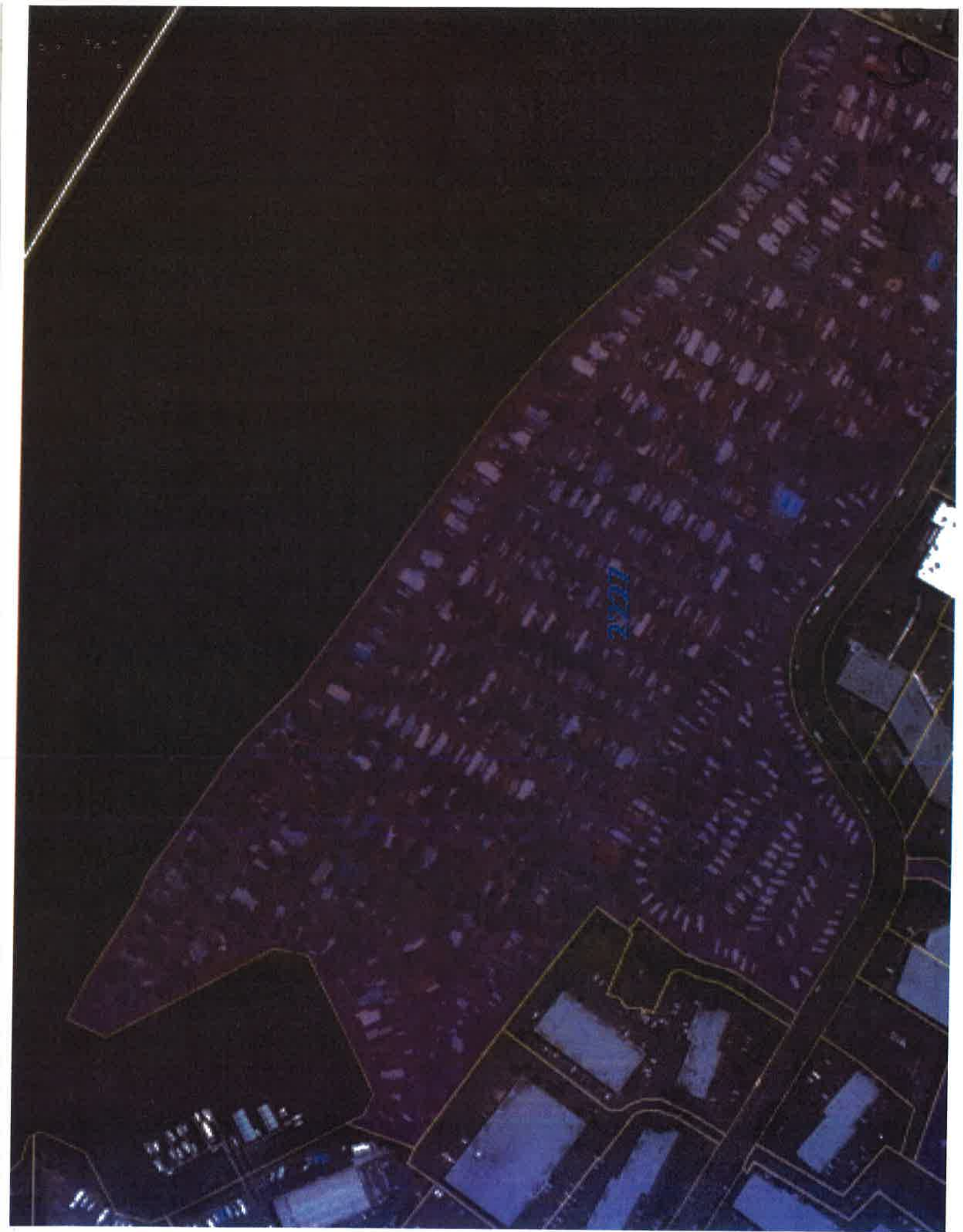


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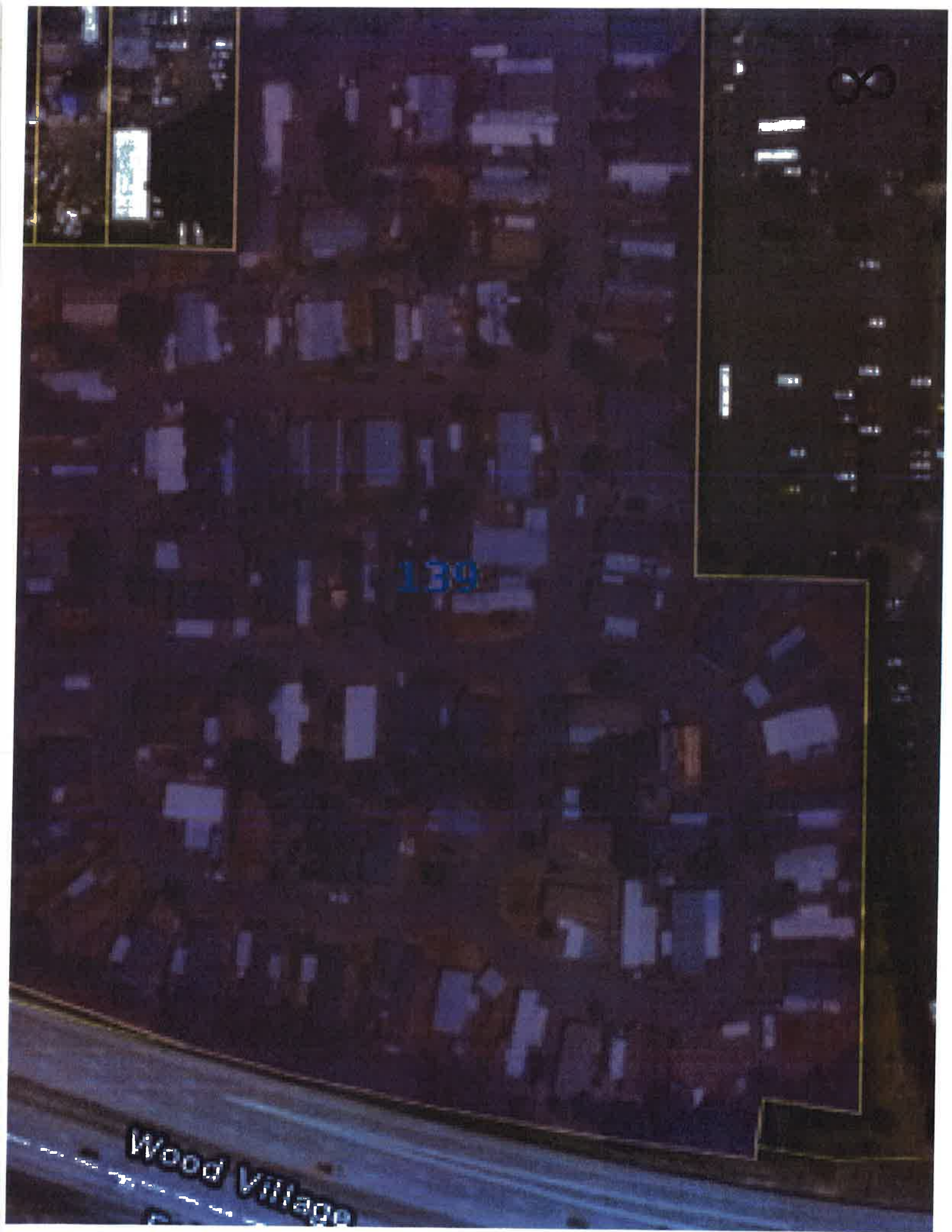


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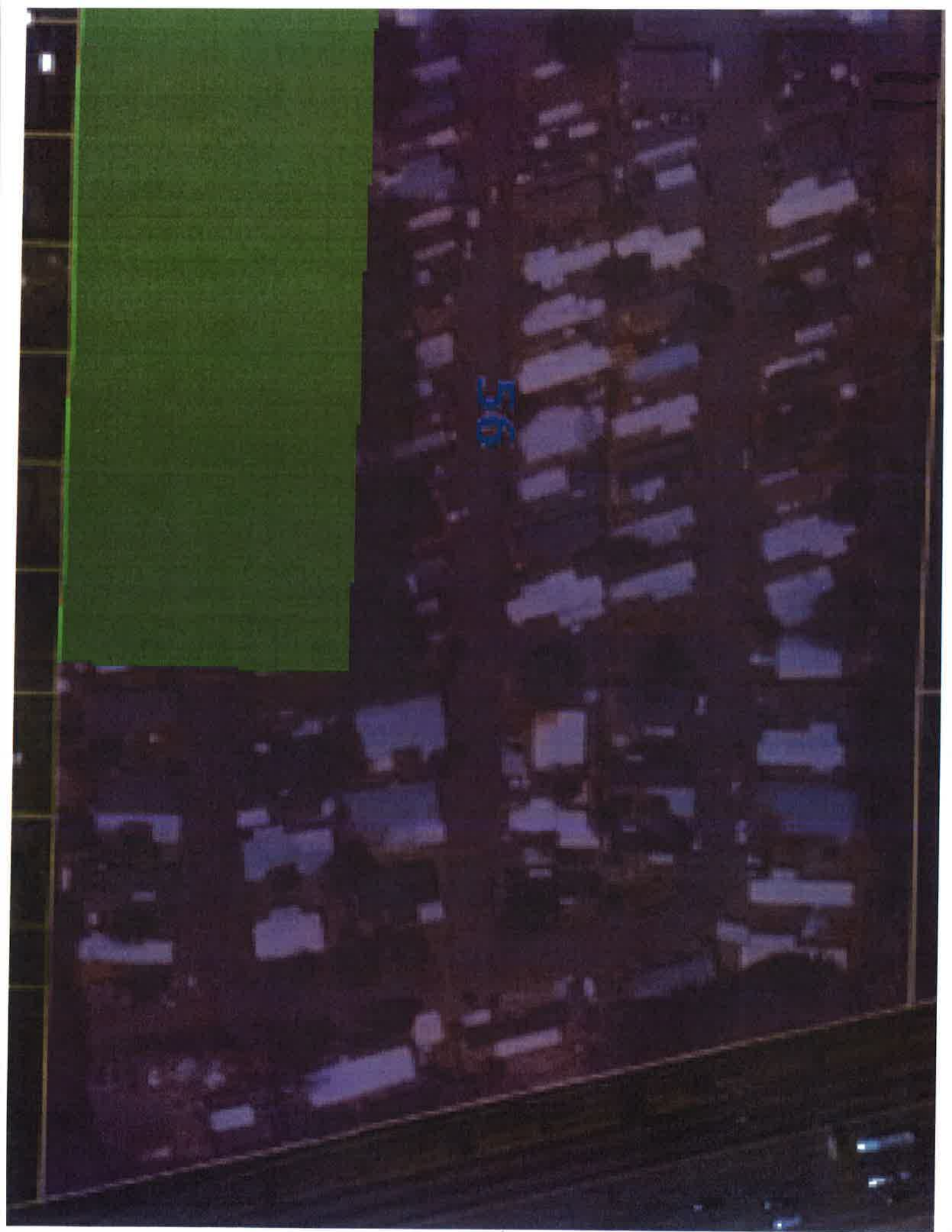
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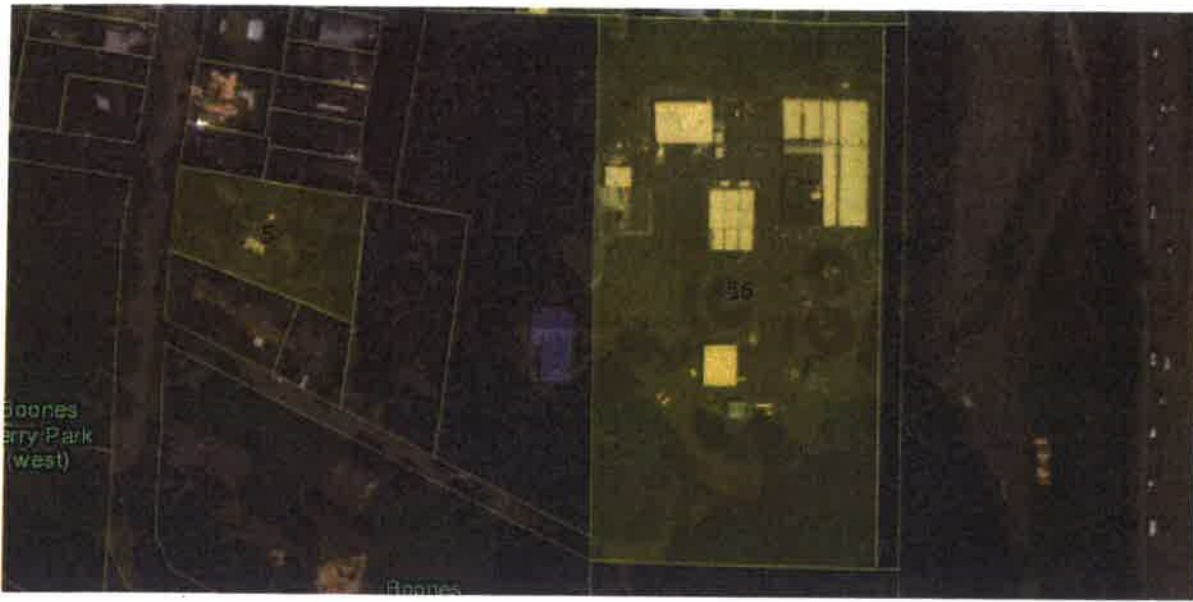
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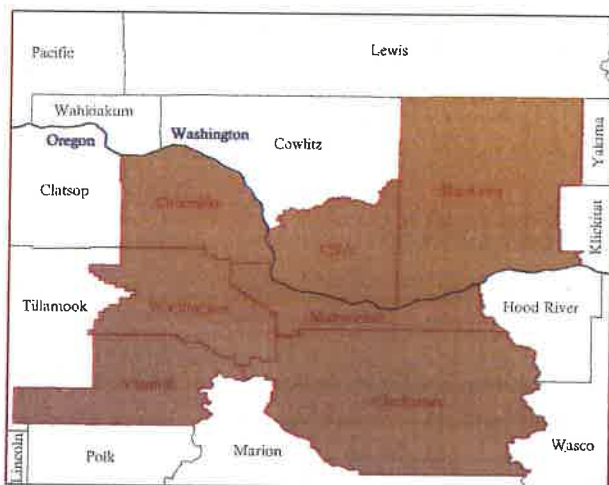




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# Portland-Vancouver-Hillsboro, Oregon-Washington

U.S. Department of Housing and Urban Development | Office of Policy Development and Research | As of May 1, 2016



## Housing Market Area

The Portland-Vancouver-Hillsboro Housing Market Area (hereafter, the Portland HMA) consists of seven counties located at the confluence of the Columbia and Willamette Rivers in northwestern Oregon and southwestern Washington. The HMA is coterminous with the Portland-Vancouver-Hillsboro, OR-WA Metropolitan Statistical Area. For purposes of this analysis, the HMA is divided into three submarkets: (1) the Portland submarket, consisting of Clackamas, Columbia, and Multnomah Counties in Oregon; (2) the Beaverton-Hillsboro submarket, consisting of Washington and Yamhill Counties in Oregon; and (3) the Vancouver submarket, which consists of Clark and Skamania Counties in Washington.

## Summary

### Economy

After losing jobs from 2008 through 2010, nonfarm payrolls in the Portland HMA have expanded every year since 2011 as a result of strong economic conditions. During the 12 months ending April 2016, nonfarm payrolls in the HMA increased by 35,200 jobs, or 3.2 percent, to 1.12 million jobs compared with a gain of 32,400 jobs, or 3.1 percent, during the 12 months ending April 2015. During the same time, the unemployment rate declined from 5.8 to 5.0 percent. Nonfarm

payrolls are projected to increase at an average annual rate of 2.7 percent during the 3-year forecast period.

### Sales Market

The current sales housing market in the HMA is tight, with an estimated vacancy rate of 1.0 percent, down from 2.2 percent in April 2010 (Table DP-1 at the end of this report). New and existing home sales totaled 52,900 during the 12 months ending March 2016, up 19 percent from a year earlier (CoreLogic, Inc., with adjustments by the analyst). As of April 2016, a 1.4-month supply of homes was available for sale, down from a 1.8- and 2.8-month supply in April 2015 and 2014, respectively, in the HMA (RMLS™). During the next 3 years, demand is expected for 27,225

new single-family homes (Table 1). The 2,810 homes under construction and some of the 20,700 other vacant units that may return to the market will satisfy a portion of the demand.

### Rental Market

Rental housing market conditions in the HMA are tight, with an estimated vacancy rate of 2.9 percent compared with 5.9 percent in April 2010 (Table DP-1). The apartment vacancy rate was 3.0 percent during the first quarter of 2016, up from 2.5 percent a year ago; however, the average rent increased 13 percent to \$1,185 (MPF Research). During the 3-year forecast period, demand is expected for 18,925 market-rate rental units. The 6,995 units under construction will meet a portion of that demand (Table 1).

### Market Details

Economic Conditions .....	2
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Housing Market Trends .....	9
Data Profiles .....	22

**Table 1. Housing Demand in the Portland HMA\* During the Forecast Period**

	Portland HMA*		Portland Submarket		Beaverton-Hillsboro Submarket		Vancouver Submarket	
	Sales Units	Rental Units	Sales Units	Rental Units	Sales Units	Rental Units	Sales Units	Rental Units
Total demand	27,225	18,925	12,750	10,650	7,675	5,325	6,800	2,950
Under construction	2,810	6,995	1,050	4,900	820	970	940	1,125

\*Portland-Vancouver-Hillsboro HMA.

Notes: Total demand represents estimated production necessary to achieve a balanced market at the end of the forecast period. Units under construction as of May 1, 2016. A portion of the estimated 20,700 other vacant units in the HMA will likely satisfy some of the forecast demand. The forecast period is May 1, 2016, to May 1, 2019.

Source: Estimates by analyst

## Economic Conditions

Economic conditions in the Portland HMA are strong, with the rate of job growth having outpaced growth in the nation since 2011. Nonfarm payroll growth in the HMA averaged 2.6 percent a year from 2011 through 2015, far exceeding the national average of 1.7 percent. During the 12 months ending April 2016, job growth accelerated, increasing by an average of 35,200 jobs, or 3.2 percent, to 1.12 million

jobs compared with job gains during the 12 months ending April 2015 (Table 2). Job gains occurred in every nonfarm payroll sector during the past 12 months. The unemployment rate averaged 5.0 percent during the 12 months ending April 2016, down from 5.8 percent a year earlier, because growth in employment far outpaced growth in the labor force (Figure 1). Top employers in the HMA include Intel Corporation, Providence Health Systems, and Oregon Health & Science University, with 17,500, 15,239, and 14,616 employees, respectively (Table 3).

**Table 2. 12-Month Average Nonfarm Payroll Jobs in the Portland HMA,\* by Sector**

	12 Months Ending		Absolute Change	Percent Change
	April 2015	April 2016		
Total nonfarm payroll jobs	1,087,700	1,122,900	35,200	3.2
Goods-producing sectors	176,100	180,100	4,000	2.3
Mining, logging, & construction	56,600	57,700	1,100	1.9
Manufacturing	119,500	122,400	2,900	2.4
Service-providing sectors	911,600	942,800	31,200	3.4
Wholesale & retail trade	167,300	171,200	3,900	2.3
Transportation & utilities	36,100	37,300	1,200	3.3
Information	23,700	25,100	1,400	5.9
Financial activities	64,800	67,200	2,400	3.7
Professional & business services	166,500	172,900	6,400	3.8
Education & health services	157,500	163,500	6,000	3.8
Leisure & hospitality	109,500	114,700	5,200	4.7
Other services	38,500	39,800	1,300	3.4
Government	147,800	151,100	3,300	2.2

\*Portland-Vancouver-Hillsboro HMA.

Notes: Numbers may not add to totals because of rounding. Based on 12-month averages through April 2015 and April 2016.

Source: U.S. Bureau of Labor Statistics

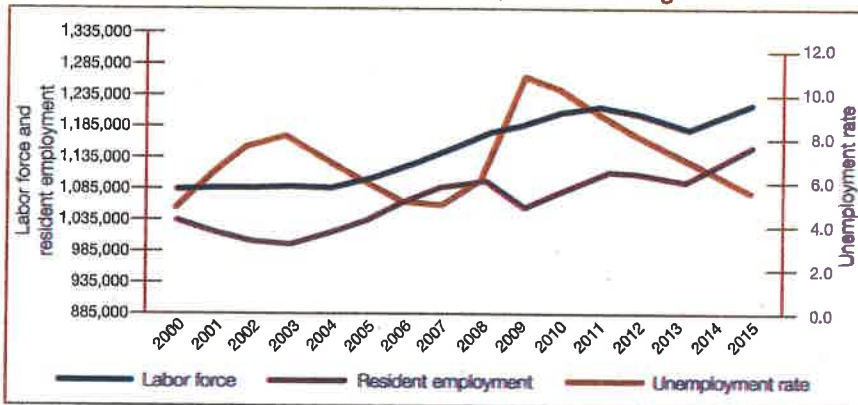
The economy of the HMA experienced two separate periods of substantial job losses during the 2000s—from 2001 through 2003, when the dot.com bubble burst, and from 2009 through 2010, when the economy experienced the nationwide economic recession and housing market collapse. The HMA is a regional center for the high-technology (hereafter, high-tech) industry, earning the region the nickname “Silicon Forest.” During the 1990s, the HMA experienced particularly strong economic

growth because the high-tech industry was expanding rapidly (referred to as the dot.com bubble); however, when the dot.com bubble burst, it disproportionately impacted firms in the high-tech industry, causing a more

severe downturn in the HMA compared with the economic downturn in the nation. From 2001 through 2003, payrolls in the HMA declined by an average of 13,300 jobs, or 1.4 percent, annually; nationwide, payrolls fell an average of 0.4 percent a year. Economic growth returned from 2004 through 2007, with payroll gains averaging 25,500 jobs, or 2.6 percent, annually compared with the national rate, which averaged 1.4 percent a year. The national recession and housing market collapse subsequently caused economic conditions in the HMA to weaken. After reaching a plateau of 1.04 million jobs in 2007 and 2008, nonfarm payrolls fell by 60,000 jobs, or 5.8 percent, in 2009 and the unemployment rate spiked to 10.9 percent; national payrolls fell 4.3 percent. The weak economy caused a sharp reduction in planned spending, both from households and businesses, causing job losses in nearly every sector of the economy. Payrolls continued to decline in 2010, but at a much slower rate, down 4,200 jobs, or 0.4 percent, to 979,200 jobs.

The professional and business services sector, the largest in the HMA economy, represents slightly more than 15 percent of total nonfarm payrolls (Figure 2). During the 12 months ending April 2016, the sector added more jobs than any sector, increasing by 6,400 jobs, or 3.8 percent, to 172,900 jobs, compared with an increase of 7,800 jobs, or 4.9 percent, during the previous 12 months. Growth in this sector has been boosted by hiring in the high-tech industry, including computer systems design and scientific, professional, and technical services, and also by increased administrative hiring with the presence of corporate headquarters such as adidas North America,

**Figure 1. Trends in Labor Force, Resident Employment, and Unemployment Rate in the Portland HMA,\* 2000 Through 2015**



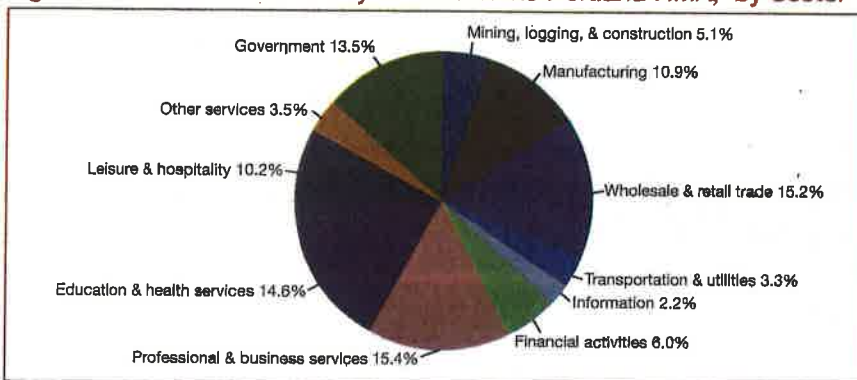
\*Portland-Vancouver-Hillsboro HMA.  
Source: U.S. Bureau of Labor Statistics

**Table 3. Major Employers in the Portland HMA\***

Name of Employer	Nonfarm Payroll Sector	Number of Employees
Intel Corporation	Manufacturing	17,500
Providence Health Systems	Education & health services	15,239
Oregon Health & Science University	Government	14,616
Kaiser Permanente	Education & health services	11,881
Legacy Health Systems	Education & health services	10,436
Fred Meyer Stores	Wholesale & retail trade	10,237
Nike, Inc.	Professional & business services	8,000
Wells Fargo & Co.	Financial activities	4,617
Portland State University	Government	4,153
U.S. Bank	Financial activities	4,000

\*Portland-Vancouver-Hillsboro HMA.  
Note: Excludes local school districts.  
Sources: Moody's Economy.com; Portland Business Journal: Book of Lists 2015

**Figure 2. Current Nonfarm Payroll Jobs in the Portland HMA,\* by Sector**



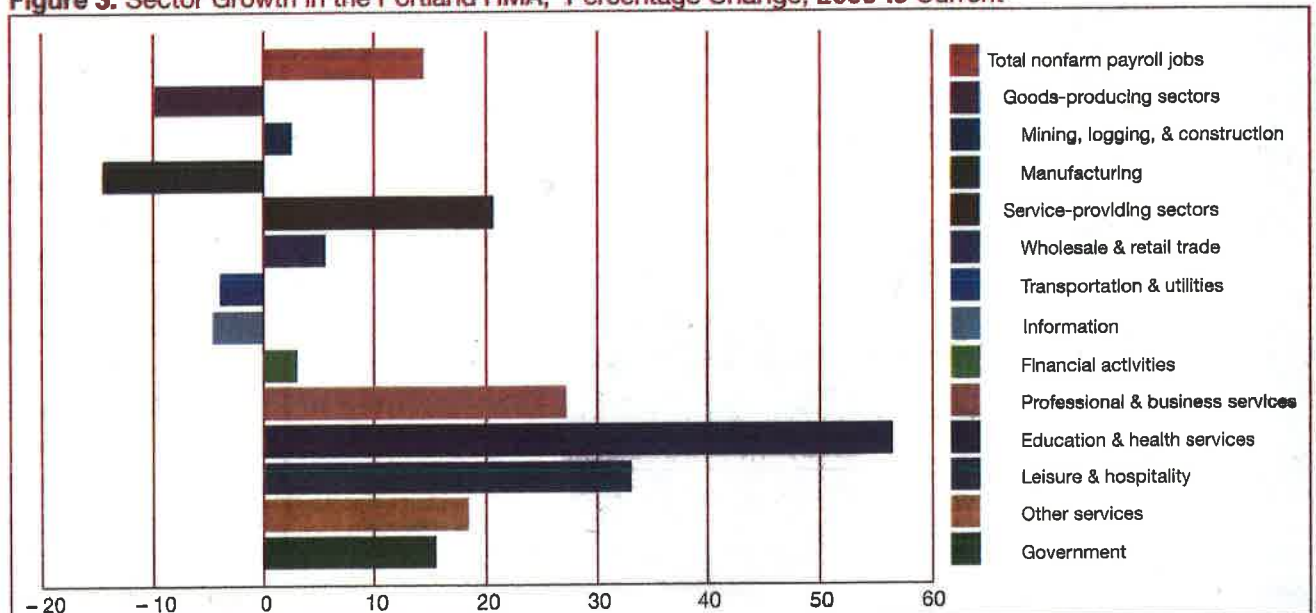
\*Portland-Vancouver-Hillsboro HMA.  
Note: Based on 12-month averages through April 2016.  
Source: U.S. Bureau of Labor Statistics

Columbia Sportswear Company, Daimler Trucks North America, Intel Corporation, and NIKE, Inc. Growth trends in this sector mirrored overall economic conditions in the HMA, with strong growth during the buildup of the dot.com bubble, followed by a sharp drop as it burst. The sector rebounded quickly, partially because business openings and expansions required increased administrative hiring, but also because of increased demand for computer systems design and information technology improvements. The onset of the nationwide economic recession caused a 1-year decline in sector payrolls, which fell by 11,600 jobs, or 8.0 percent, in 2009. Job growth in the professional and business services sector recovered faster than any sector in the HMA, and, from 2011 through 2014, payrolls increased by an average of 7,000 jobs, or 4.8 percent, annually. In April 2016, NIKE, Inc., announced a \$380 million expansion of its corporate headquarters campus in the Beaverton-Hillsboro submarket. With a target completion

date of 2018, the expansion will add approximately 3.2 million square feet of office, mixed-use, and parking facilities to the campus, with the potential to create thousands of jobs during the 3-year forecast period.

The manufacturing sector continues to play a significant role in the economy of the HMA, despite a decline in employment of 15.0 percent since 2000 (Figure 3). During the 12 months ending April 2016, manufacturing payrolls increased by 2,900 jobs, or 2.4 percent, to 122,400 jobs, compared with a gain of 3,200 jobs, or 2.5 percent, during the previous 12 months. Nearly 60 percent of the jobs in the manufacturing sector are in the computer and electronic product manufacturing or semiconductor and other electronic component manufacturing industries. Both these industries are considered part of the high-tech industry; consequently, the collapse of the dot.com bubble caused a major decline in manufacturing jobs. From 2001

**Figure 3. Sector Growth in the Portland HMA,\* Percentage Change, 2000 to Current**



\*Portland-Vancouver-Hillsboro HMA.

Note: Current is based on 12-month averages through April 2016.

Source: U.S. Bureau of Labor Statistics



through 2003, manufacturing sector payrolls declined by an average of 8,400 jobs, or 6.2 percent, annually, the largest payroll decline of any sector. Manufacturing payroll growth resumed from 2004 through 2006, during a period of economic expansion in the HMA, but the average growth of 2,800 jobs, or 2.3 percent, annually was not enough to compensate for all the job losses during the previous recession. The most recent economic recession caused payrolls to decline even further, losing an average of 4,900 jobs, or 4.1 percent, annually from 2007 through 2010. The manufacturing sector began to recover in 2011, when the high-tech industry began to expand; from 2011 through 2014, payrolls increased by an average of 2,800 jobs, or 2.5 percent, a year. This trend is expected to moderate during the forecast period because of planned layoffs at Intel Corporation, the largest employer in the HMA and in Oregon, which specializes in semiconductor manufacturing. In April 2016, the company announced plans to cut its global workforce by 11 percent, or 12,000 workers, beginning immediately. Already, nearly 800 employees have been laid off in Oregon, but that could climb to an estimated 2,150 jobs if the 11-percent cut is applied evenly across all locations. Reducing its workforce is not uncommon for Intel Corporation, however, and is not necessarily indicative of industry performance. It is likely that a large portion of these highly skilled workers will find employment at other high-tech firms that are expanding within the HMA.

During the past 5 years, the HMA has gained national attention for its lifestyle and culture, with numerous accolades, including being ranked number 1 in 2015 on the *Washington*

*Post's* list of "The 10 Best Food Cities in America." Recognition such as that has contributed to strong growth in the leisure and hospitality sector, which largely comprises jobs in the accommodations and food services industry. During the 12 months ending April 2016, sector payrolls increased by an average of 5,200 jobs, or 4.7 percent, to 114,700 jobs, compared with an increase of 3,900 jobs, or 3.7 percent, during the previous 12 months. Sector payrolls declined sharply in response to both economic downturns but have fully recovered, adding an average of 3,300 jobs, or increasing 3.3 percent, annually from 2011 through 2014. Part of this growth can be attributed the HMA's growing beer industry. The number of brewing companies in the HMA increased from 83 in 2014 to 91 in 2015, and the industry had an economic impact of \$2.83 billion in Oregon in 2014 (Oregon Craft Beer). Job growth in the leisure and hospitality sector is expected to continue at a strong pace during the forecast period as the HMA continues to be nationally highlighted, boosting population growth and tourism and elevating the demand for accommodations and drinking and dining establishments.

The recent and future growth in the local high-tech industry is expected to positively affect employment in the manufacturing and the professional and business services sectors. Other sectors, such as the leisure and hospitality and the wholesale and retail trade sectors, are expected to indirectly benefit from growth in core industries. Nonfarm payrolls are expected to increase at an average annual rate of 2.7 percent, or by 29,950 jobs, annually during the 3-year forecast period.

# Population and Households

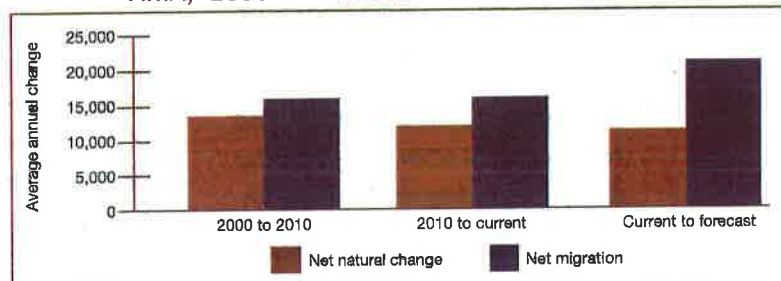
As of May 1, 2016, the population of the Portland HMA is estimated at 2.4 million, increasing at an average annual rate of 1.2 percent, or 27,800, since 2010, with net in-migration accounting for 15,800 people a year, or approximately 57 percent of the increase (Figure 4). Population growth averaged 1.5 percent a year from 2000 to 2004, despite the collapse of the dot-com bubble, with net in-migration accounting for 51 percent of the increase. Economic growth rebounded, and population growth accelerated moderately from 2004 to 2007, averaging 1.7 percent, or 35,050 people, annually; approximately 63 percent of the growth came from net in-migration. Population growth in the HMA slowed sharply in response to the nationwide economic recession that began in 2007, and, from 2007 to 2012, growth averaged 20,900 people, or 0.9 percent; net in-migration decreased, comprising 32 percent of the increase. Strengthening economic conditions boosted population growth to an average of 26,700 people, or 1.2 percent, from 2012 to 2013, because of increased net in-migration, which averaged 15,000 people and comprised 56 percent of the increase. Since 2013, population growth in the HMA has averaged 35,800 people, or

1.5 percent, annually, and strong labor market conditions helped boost net in-migration, which has accounted for nearly 69 percent of total population growth, or 24,800 people, annually. During the next 3 years, population growth is expected to slow slightly because of moderating economic growth, reaching an estimated 2.49 million people by May 1, 2019, reflecting an average annual increase of 32,000 people, or 1.3 percent, a year.

The Portland submarket is the most populous of the three submarkets in the HMA, with an estimated population of 1.24 million, followed by the Beaverton-Hillsboro submarket with an estimated population of 683,400, and the Vancouver submarket with approximately 472,200, increasing at average annual rates of 1.1, 1.4, and 1.3 percent, respectively, since 2010. Net in-migration in the HMA has averaged 15,800 people annually since 2010, with nearly 50 percent being in the Portland submarket, 28 percent in the Beaverton-Hillsboro submarket, and 22 percent in the Vancouver submarket. From 2000 to 2004, suburban growth was more prevalent, and net in-migration was strongest in the Vancouver submarket, which comprised 46 percent of total net in-migration to the HMA. The Vancouver submarket historically has been a bedroom community for the city of Portland, attracting new residents because of its relatively low cost of living compared with the other two submarkets. The Portland submarket captured approximately 32 percent of total net in-migration during this period, and the Beaverton-Hillsboro submarket accounted for 22 percent.

Population growth in the HMA increased from 2004 to 2007 because of strong economic conditions that

**Figure 4. Components of Population Change in the Portland HMA,\* 2000 to Forecast**



\*Portland-Vancouver-Hillsboro HMA.

Notes: The current date is May 1, 2016. The forecast date is May 1, 2019.

Sources: 2000 and 2010–2000 Census and 2010 Census; current and forecast—estimates by analyst

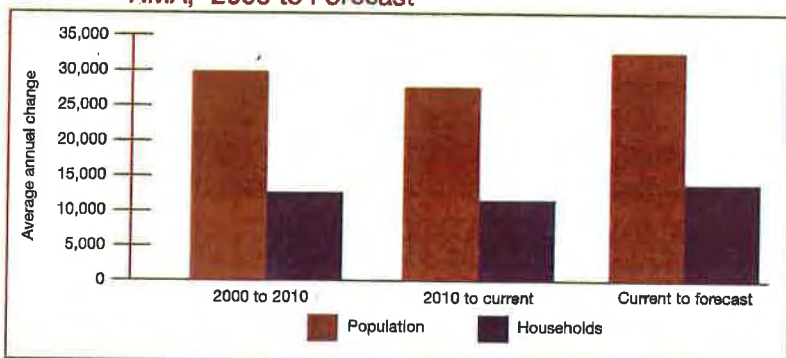
bolstered net in-migration, which averaged 22,150 people annually. During this period of economic expansion, household preferences shifted toward more urban areas that tend to be closer to job opportunities, and the share of net in-migration attributable to the Portland submarket increased from 32 to 43 percent. In the Beaverton-Hillsboro submarket, net in-migration increased, accounting for 30 percent of the total, largely a result of job growth in the high-tech industry, which is more concentrated in the submarket. Population growth slowed in the Vancouver submarket, and its share of net in-migration declined from 46 to 27 percent. The trend of moving into urban centers continued during the nationwide economic recession, although total population growth in the HMA slowed substantially and net in-migration declined to an average of 6,750 people annually from 2007 to 2012. The Portland submarket captured 52 percent of total net in-migration to the HMA during this time. The Beaverton-Hillsboro submarket accounted for 35 percent of all net in-migration, mainly because it has a stronger economic base than does the Vancouver submarket and it has easier access to the city of Portland, which is the economic center

for the HMA. The recession caused population growth in the Vancouver submarket to plummet and net in-migration fell to 13 percent of the HMA total from 2007 to 2012. Since 2013, improving economic conditions in the HMA have led to increased net in-migration, averaging 24,800 people annually, with the Portland, Beaverton-Hillsboro, and Vancouver submarkets comprising 47, 28, and 25 percent of the HMA total, respectively.

During the next 3 years, population growth is expected to accelerate slightly compared with the 2010-to-current period in the Portland submarket, increasing by an average of 15,350 people, or 1.2 percent, annually, reaching 1.29 million people by May 1, 2019. The population of the Vancouver submarket is also anticipated to grow at a faster rate than the 2010-to-current period, increasing by an average of 7,000, or 1.5 percent, annually, to 493,200, by May 1, 2019, largely because job growth in the submarket has been strong since 2013 and the cost of living continues to be relatively less than in the other two submarkets. Population growth in the Beaverton-Hillsboro submarket is anticipated to continue at the same rate, gaining 9,975 people, or 1.4 percent, a year, reaching 713,300 people by the end of the 3-year forecast period.

An estimated 936,700 households currently reside in the HMA, with 504,500, 254,800, and 177,350 being in the Portland, Beaverton-Hillsboro, and Vancouver submarkets, respectively. From 2010 to the current date, the number of households in the HMA increased by an average of 11,350, or 1.3 percent, annually compared with an average annual increase of 12,250 households, or 1.5 percent, from 2000 to 2010 (Figure 5). From 2000 to 2010,

**Figure 5. Population and Household Growth in the Portland HMA,\* 2000 to Forecast**

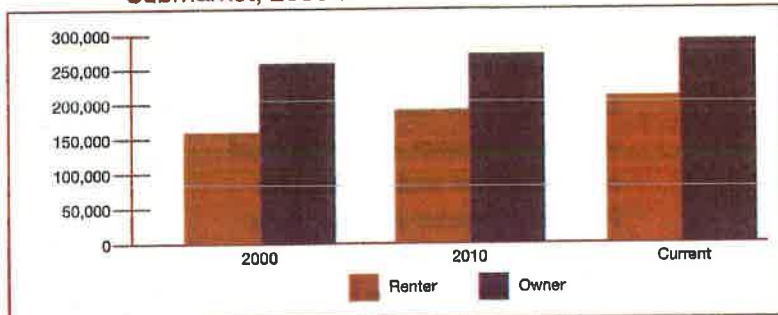


\*Portland-Vancouver-Hillsboro HMA.

Notes: The current date is May 1, 2016. The forecast date is May 1, 2019.

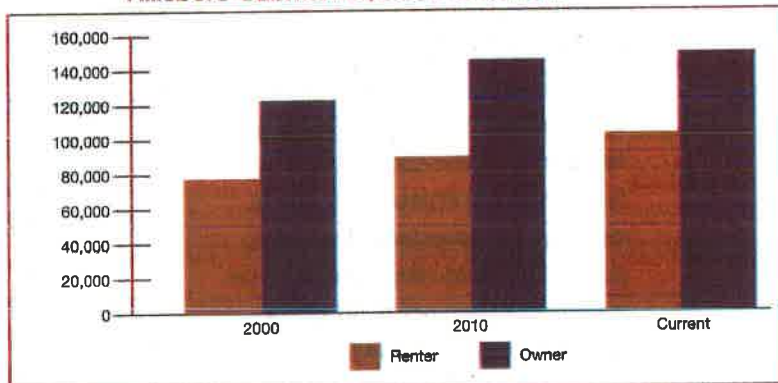
Sources: 2000 and 2010–2000 Census and 2010 Census; current and forecast—estimates by analyst

**Figure 6. Number of Households by Tenure in the Portland Submarket, 2000 to Current**



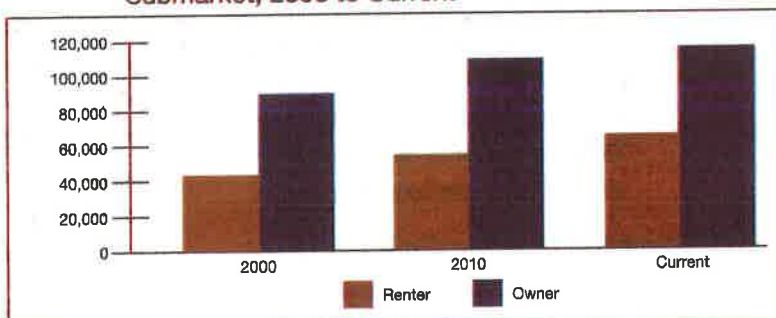
Note: The current date is May 1, 2016.  
Sources: 2000 and 2010–2000 Census and 2010 Census; current—estimates by analyst

**Figure 7. Number of Households by Tenure in the Beaverton-Hillsboro Submarket, 2000 to Current**



Note: The current date is May 1, 2016.  
Sources: 2000 and 2010–2000 Census and 2010 Census; current—estimates by analyst

**Figure 8. Number of Households by Tenure in the Vancouver Submarket, 2000 to Current**



Note: The current date is May 1, 2016.  
Sources: 2000 and 2010–2000 Census and 2010 Census; current—estimates by analyst

the rate of household growth was highest in the Vancouver submarket, at 3,175 households, or 2.2 percent, followed by the Beaverton-Hillsboro submarket, at 3,775 households, or 1.8 percent, and the Portland submarket at 5,275 households, or 1.2 percent. Household growth slowed from 2010 to the current date in the Beaverton-Hillsboro and Vancouver submarkets because of the prolonged effects from the national recession and the shift toward urban living, with average annual increases of 3,150 households, or 1.3 percent, and 2,425 households, or 1.4 percent, respectively. The household growth rate in the Portland submarket remained unchanged, increasing by an average of 5,750 households, or 1.2 percent. During the 3-year forecast period, the number of households in the HMA is estimated to increase to 978,200, reflecting an average annual increase of 13,850 households, or 1.5 percent. The household growth rate is anticipated to increase in each submarket, reaching 525,400, 266,500, and 186,200 households in the Portland, Beaverton-Hillsboro, and Vancouver submarkets, respectively. Figures 6, 7, and 8 illustrate the number of households by tenure in each submarket from 2000 to the current date.

## Sales Market—Portland Submarket

Current sales housing market conditions in the Portland submarket are tight, with an estimated vacancy rate of 1.0 percent, down from 2.4 percent in April 2010 (Table DP-2 at the end of this report). The decline reflects increased demand because household finances and access to credit continue to improve, and much of the excess inventory that resulted from the foreclosure crisis has been absorbed.

During the 12 months ending March 2016, 24,300 existing single-family homes, townhomes, and condominiums (hereafter, existing homes) sold in the submarket, up 17 percent from a year ago (CoreLogic, Inc., with adjustments by the analyst). By comparison, existing home sales totaled 20,700 during the 12 months ending March 2015, representing a 9-percent increase from a year earlier. Existing home sales peaked from 2003 through 2005 during a period of strong economic expansion following the collapse of the dot.com bubble, averaging 28,650 sales annually. The nationwide recession and housing market collapse subsequently caused existing sales to decline at an average annual rate of 19 percent, or 4,525 homes sold, a year from 2006 through 2009, to a low of 13,750 homes sold. Existing sales increased modestly in 2010 when job losses moderated and again in 2011 when job growth gradually returned. As the economic recovery accelerated and access to credit improved, existing home sales increased, averaging 18,150 homes sold annually from 2012 through 2014. The average sales price of an existing home increased 9 percent, to \$356,000, during the 12 months ending March 2016 compared with the previous 12 months when the average

sales price increased 5 percent, to \$325,000. The current average sales price is approximately 9 percent higher than the previous peak of \$326,400 in 2007. The national recession caused a significant amount of strain on household finances and tighter mortgage lending standards. Combined, these two factors caused a sharp reduction in the number of potential homebuyers, and demand and prices fell quickly. From 2008 through 2011, the average sales price declined at an average annual rate of 6 percent, to a low of \$254,500. The average sales price began increasing in 2012 in response to increased demand as the economy improved, and, from 2012 through 2014, the average sales price increased at an average annual rate of 8 percent.

Seriously delinquent (90 or more days delinquent or in foreclosure) loans and real estate owned (REO) properties have become a less significant part of the sales market in the submarket than they were during the worst of the housing crisis from 2009 through 2012. During March 2016, 2.2 percent of mortgages were seriously delinquent or had transitioned into REO status, down from 3.1 percent in March 2015, but still above the average rate of 1.2 percent from 2000 through 2007 (CoreLogic, Inc.). By comparison, the delinquency rate averaged 5.4 percent from 2009 through 2012. During the 12 months ending March 2016, REO sales totaled 1,175, comprising 5 percent of all existing sales. By comparison, REO sales accounted for 21 percent of total existing sales from 2009 through 2012 and only 3 percent from 2000 through 2007. The average sales price of an REO home was \$225,000 during the

12 months ending March 2016, approximately 38 percent less than the sales price of a regular resale home.

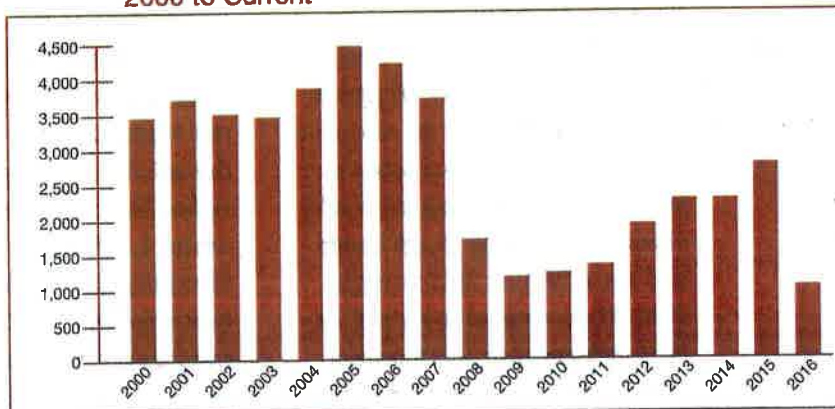
Approximately 2,175 new single-family homes, townhomes, and condominiums (hereafter, new homes) sold during the 12 months ending March 2016, up 18 percent from the 1,850 new homes sold during the previous 12 months (CoreLogic, Inc., with adjustments by the analyst). New home sales averaged 4,075 homes sold annually from 2001 through 2006, before declining at an average annual rate of 25 percent from 2007 through 2011 to a low of 1,275 new homes sold, a direct result of the nationwide recession and housing market crisis. As the economic recovery strengthened, the demand for new homes returned; sales increased an average of 25 percent a year from 2012 through 2014, averaging 1,600 homes sold annually. During the 12 months ending March 2016, the average sales price of a new home increased 5 percent from a year ago, to \$401,200, surpassing the previous peak of \$361,500 in 2008 by more than 11 percent. Sales prices increased at an average annual rate of 9 percent from 2003 through 2008 and, as a result of the national

recession, subsequently declined by an average of 10 percent a year in 2009 and 2010, to a low of \$295,100. Strong economic conditions from 2011 through 2014 led to an increase in the demand for new homes, and the average sales price increased at an average annual rate of 6 percent during this time.

New home construction, as measured by the number of single-family homes permitted, was relatively stable from 2000 through 2004, despite the economic impact of the dot.com bubble collapse; an average of 3,600 new homes were permitted annually (Figure 9). The buildup during the growth of the housing market bubble was fairly mild in the submarket, with new home construction increasing to an average of 4,150 homes permitted a year in 2005 and 2006; the limited amount of developable land in the submarket helped to constrain the amount of new home construction during this time. Conversely, the nationwide recession and housing crisis had a severe impact on new home construction in the submarket, causing permitting activity to decline an average of 35 percent annually from 2007 through 2009, to a low of 1,150 homes in 2009. New home construction stabilized in 2010 and increased gradually from 2011 through 2014, averaging 1,925 single-family homes permitted annually. During the 12 months ending April 2016, 2,725 single-family homes were permitted, up 11 percent from the 2,450 homes permitted during the 12 months ending March 2015 (preliminary data).

Nearly all new home construction in the Portland submarket is in smaller subdivisions with fewer than 50 homes, because available land is becoming harder to acquire. As

**Figure 9. Single-Family Homes Permitted in the Portland Submarket, 2000 to Current**



Notes: Includes townhomes. Current includes data through April 2016.

Sources: U.S. Census Bureau, Building Permits Survey; estimates by analyst

**Housing Market Trends**

*Sales Market—Portland Submarket Continued*

the average sales prices continues to climb, the most common target market for new single-family homes is second- and third-time homebuyers looking to upgrade into a larger home, rather than the first-time homebuyer demographic that was most prevalent during the early stage of the housing market recovery (local developers). Numerous communities are under construction throughout the submarket, mainly concentrated in suburban cities that surround the city of Portland, and prices range considerably. New homes are typically priced higher in the city of

Portland; for example, home prices in the new subdivision of Cedar Mills in northwest Portland start in the mid-\$600,000s, whereas new homes in Legend at Villebois in Wilsonville in the southeastern part of the submarket start in the high \$200,000s. In the city of Happy Valley in the eastern portion of the submarket, two communities have new homes for sale, both with starting prices in the high \$300,000-to-mid-\$400,000 range.

During the 3-year forecast period, demand is expected for 12,750 new homes in the Portland submarket (Table 1). The 1,050 homes currently under construction and a portion of the 13,000 other vacant units that may return to the market will satisfy some of the forecast demand. Table 4 illustrates the estimated demand for new sales housing in the submarket by price range. Demand is expected to increase modestly during each year of the forecast period as economic conditions remain strong and as household finances and access to credit improve.

**Table 4. Estimated Demand for New Market-Rate Sales Housing in the Portland Submarket During the Forecast Period**

Price Range (\$)		Units of Demand	Percent of Total
From	To		
200,000	299,999	1,525	12.0
300,000	399,999	3,175	25.0
400,000	499,999	3,175	25.0
500,000	599,999	2,550	20.0
600,000	699,999	1,275	10.0
700,000	and higher	1,025	8.0

*Notes: The 1,050 homes currently under construction and a portion of the estimated 13,000 other vacant units in the submarket will likely satisfy some of the forecast demand. The forecast period is May 1, 2016, to May 1, 2019.*

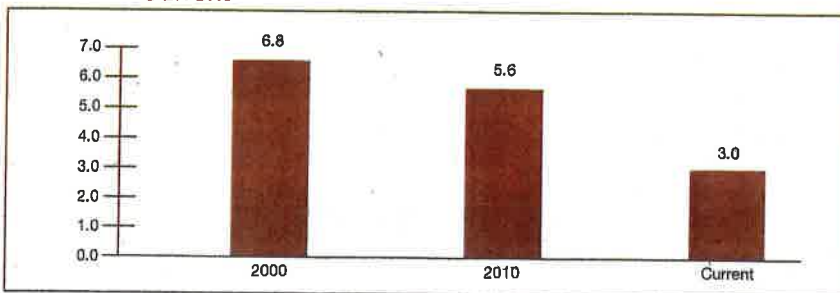
*Source: Estimates by analyst*

**Rental Market—Portland Submarket**

The current rental housing market in the Portland submarket is tight, with an overall estimated vacancy rate of 3.0 percent, down from 5.6 percent

in April 2010 (Figure 10). Along with increasingly high sales prices, strong economic growth and net in-migration in the submarket since 2010 have contributed to increased demand for rental housing. The apartment market is also tight, despite the addition of an estimated 3,200 units since the first quarter of 2015 (MPF Research). By comparison, approximately 1,125 units were added to the inventory during the first two quarters of 2014, and only 510 units during the first two quarters of 2015. Within the seven MPF-defined areas (hereafter areas) in the Portland

**Figure 10. Rental Vacancy Rates in the Portland Submarket, 2000 to Current**



*Note: The current date is May 1, 2016.*

*Sources: 2000 and 2010—2000 Census and 2010 Census; current—estimates by analyst*

## Housing Market Trends

Rental Market—Portland Submarket Continued

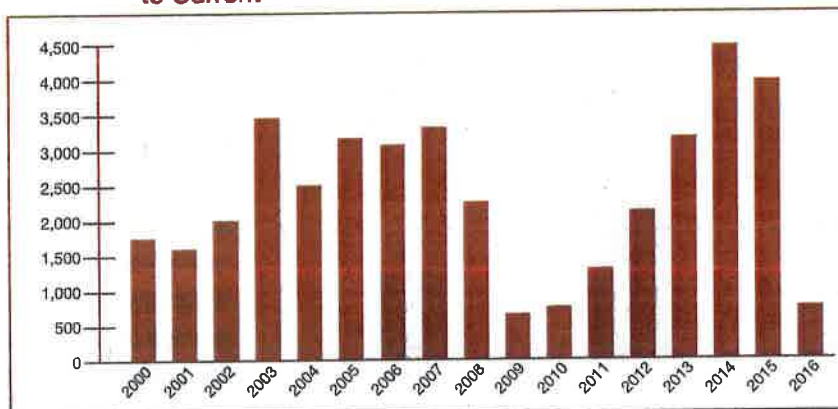
submarket, the apartment vacancy rates range from a high of 4.4 percent in the Central Portland area, up from 3.0 percent a year ago, to a low of 1.9 percent in the Gresham area, up from 1.4 percent a year ago. The increase in the vacancy rate in the Central Portland area is mainly because it is the location of more than one-third of the recently completed units in the submarket. Multifamily construction has been relatively limited in the Gresham area, contributing to the very low vacancy rate. Of the 3,200 units completed in the submarket during the past year, approximately 42 percent, or 1,325 units, were in the East Portland area, which reported a vacancy rate of 3.8 percent during the first quarter of 2016, up from 2.0 percent a year ago. Since 2010, the only area to have a vacancy rate above 5.0 percent was Central Portland during the first quarter of 2011.

Rent growth occurred in each MPF-defined area from the first quarter of 2015 to the first quarter of 2016. Except for the Central Portland area, which reported rent growth of 9 percent, all other areas in the submarket reported increases of more than 10 percent, with the largest increase in the Gresham area, at 17 percent.

The highest average asking rent was \$1,506 in the Central Portland area. Average asking rents by unit type were \$1,066 for a studio unit, \$1,406 for a one-bedroom unit, \$1,961 for a two-bedroom unit, and \$2,341 for a three-bedroom unit. The lowest average asking rent was \$1,037 in the Gresham area, where asking rents by unit type were \$867 for a studio unit, \$878 for a one-bedroom unit, \$1,067 for a two-bedroom unit, and \$1,296 for a three-bedroom unit. Average rent growth was more moderate in the submarket from 2011 through 2014, with no area reporting average annual rent growth above 10 percent. Properties offering concessions were more common in 2011 and 2012, when market conditions were not as tight; as of the first quarter of 2016, the Southwest Portland area was offering the most in concessions, at slightly more than 2 percent.

Because of job losses and reduced rental demand in the Portland submarket, multifamily construction, as measured by the number of multifamily units permitted, slowed to an average of 710 units a year in 2009 and 2010 compared with an average of 3,100 units permitted annually from 2003 through 2007, when economic growth was strong (Figure 11). Multifamily permitting began to increase after 2010 in response to increased rental demand, partially because the foreclosure crisis caused households to shift toward renting, but also because of rapidly increasing net in-migration. From 2011 through 2015, multifamily permitting increased at an average annual rate of 39 percent, averaging 3,000 units permitted each year. During the 12 months ending April 2016, approximately 4,775 multifamily units were permitted, up 25 percent

**Figure 11. Multifamily Units Permitted in the Portland Submarket, 2000 to Current**



Notes: Excludes townhomes. Current includes data through April 2016.

Sources: U.S. Census Bureau, Building Permits Survey; estimates by analyst



## Housing Market Trends

Rental Market—Portland Submarket Continued

from the 3,825 units permitted during the previous 12 months (preliminary data). Since 2010, condominium construction has comprised less than 8 percent of total multifamily construction compared with the peak period of 2000 through 2007, when approximately 37 percent of multifamily construction was intended for condominiums. Currently under construction is the 28-story condominium tower Cosmopolitan On the Park, which will feature 150 units in downtown Portland's most popular neighborhood, the Pearl District. The development is expected to be complete in August 2016, with sales prices ranging from the low \$400,000s for a one-bedroom/one-bathroom unit to \$3.8 million for the largest penthouse suites.

Within the submarket, apartment development is most popular in areas close to the downtown Portland core, including the Central Portland and the East Portland areas. Examples of developments currently under construction include the three-tower, 657-unit Hassalo on Eighth in the East Portland area and the 267-unit Modera Pearl apartments, in the Central Portland area. The first tower of Hassalo on Eighth opened in the summer of 2015, and the other two

are preleasing, with expected completion dates in late 2016 and early 2017; asking rents range from \$990 to \$1,809 for studio units, \$1,680 to \$3,225 for one-bedroom units, \$2,380 to \$3,850 for two-bedroom units, and \$3,043 to \$3,722 for three-bedroom units. Unit rents for Modera Pearl apartments are not available yet, because it will not be finished until late 2017. At the 244-unit Waterline Apartments, which was recently completed in the Central Portland area, asking rents are \$1,469 for studio units and range from \$1,560 to \$1,883 for one-bedroom units and from \$1,945 to \$2,422 for two-bedroom units.

During the 3-year forecast period, demand is expected for 10,650 new market-rate rental units in the Portland submarket (Table 1). The 4,900 units estimated to be under construction will satisfy part of the forecast demand. Demand is expected to be strongest in the first year of the forecast period and moderate in the second and third years as the new inventory is absorbed and market conditions become more balanced. Table 5 shows the estimated demand by rent level and number of bedrooms for new market-rate rental housing in the submarket during the forecast period.

**Table 5. Estimated Demand for New Market-Rate Rental Housing in the Portland Submarket During the Forecast Period**

Zero Bedrooms		One Bedroom		Two Bedrooms		Three or More Bedrooms	
Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand
1,000 to 1,199	470	1,100 to 1,299	1,275	1,300 to 1,499	1,675	1,500 to 1,699	230
1,200 to 1,399	530	1,300 to 1,499	1,700	1,500 to 1,699	2,150	1,700 to 1,899	85
1,400 or more	180	1,500 or more	1,275	1,700 or more	960	1,900 to 2,099	65
						2,100 or more	45
<b>Total</b>	<b>1,175</b>	<b>Total</b>	<b>4,275</b>	<b>Total</b>	<b>4,800</b>	<b>Total</b>	<b>430</b>

Notes: Numbers may not add to totals because of rounding. Monthly rent does not include utilities or concessions. The 4,900 units currently under construction will likely satisfy some of the estimated demand. The forecast period is May 1, 2016, to May 1, 2019.

Source: Estimates by analysts

## Sales Market—Beaverton-Hillsboro Submarket

The current sales housing market in the Beaverton-Hillsboro submarket is tight as the demand for homes increases and prices continue to appreciate, a trend that has been sustained since 2012. The current estimated sales vacancy rate is 1.0 percent, down from 2.1 percent in April 2010 (Table DP-3 at the end of this report). During the 12 months ending March 2016, 12,650 existing homes sold in the submarket, up 29 percent from a year ago (CoreLogic, Inc., with adjustments by the analyst). By comparison, existing home sales totaled 10,100 homes sold during the 12 months ending March 2015, up 13 percent from a year earlier. The high-tech industry recovered from the dot.com bubble collapse, and the submarket experienced strong job growth from 2004 through 2005, which resulted in strong household growth. An average of 14,750 homes sold annually from 2004 through 2005. Although existing home sales remained elevated in 2006, it marked the first year of declining sales; from 2006 through 2009, existing home sales fell by an average of 28 percent annually, to a low of 6,000 homes sold. Existing home sales increased modestly in 2010, boosted by the first-time homebuyers tax credit program, but fell again in 2011 when the program expired. The economic recovery accelerated from 2012 through 2014, causing household finances to improve and banks to ease their lending standards, which resulted in increased demand for homes; an average of 9,400 homes sold annually.

The average sales price of an existing home increased 8 percent, to \$318,300, during the 12 months

ending March 2016, exceeding the previous peak of \$309,600 in 2007 by nearly 3 percent. By comparison, the average sales price increased 3 percent, to \$295,100, during the 12 months ending March 2015. The national recession caused the demand for homes to drop substantially, which put downward pressure on sales prices. From 2008 through 2011, the average sales price declined at an average annual rate of 6 percent to a low of \$241,400. Housing market conditions started to improve as the economic recovery accelerated, and, from 2012 through 2014, the average sales price increased 7 percent a year.

During 2005 and 2006, before the housing market downturn, the rate of home loans that were seriously delinquent or had transitioned into REO status in the submarket averaged 0.5 percent, and REO sales accounted for 1 percent of all existing home sales (CoreLogic, Inc.). The foreclosure crisis that resulted from the national recession had a damaging impact on the housing market, however, and the percentage of home loans that were seriously delinquent or in REO status averaged almost 5.0 percent from 2009 through 2011, and REO sales accounted for 23 percent of total existing home sales. By comparison, the delinquency rate averaged 0.9 percent from 2000 through 2007, during a period of strong housing market conditions, and REO sales accounted for only 2 percent of existing home sales. Housing market conditions have improved consistently since 2011 as a result of the strong economic recovery, and, as of March 2016, 1.9 percent of home loans in the submarket were seriously delinquent or in REO status, down from 2.8 percent in

## Housing Market Trends

Sales Market—Beaverton-Hillsboro Submarket *Continued*

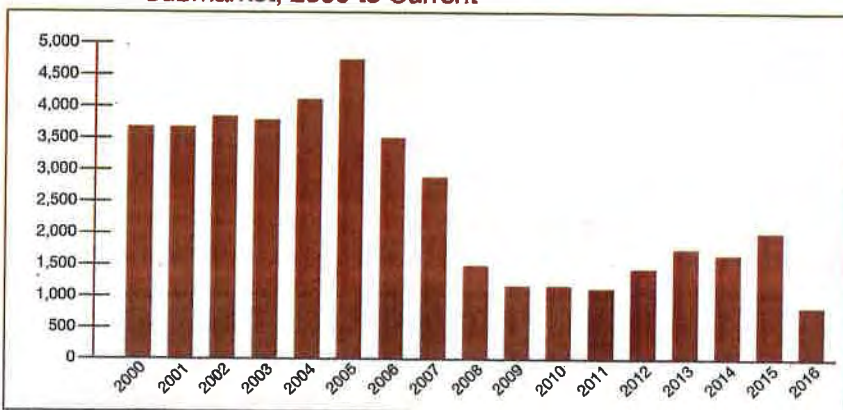
March 2015, and REO sales totaled 850, falling to 7 percent of all existing home sales. The average sales price of an REO home was \$226,500 during the 12 months ending March 2016, approximately 30 percent less than the sales price of a regular resale home.

The volume of new home sales in the submarket increased 14 percent, to 1,675 homes sold during the 12 months ending March 2016. By comparison, new home sales totaled 1,475 homes sold during the 12 months ending March 2015, up 3 percent from a year earlier. The economic expansion that occurred in the HMA from 2004 through 2007 especially benefited the submarket because of the relatively large number of rapidly expanding high-tech firms located in the submarket. New home sales peaked at an average of 4,125 homes sold annually in 2004 and 2005 and declined to an average of 3,300 homes sold a year in 2006 and 2007. Sales declined further as the housing market crisis worsened, averaging 1,335 homes sold a year from 2008 through 2010, before reaching a record low of 1,000 homes sold in 2011. The number of new home sales increased to an annual average of

1,375 homes sold from 2012 through 2014 because of strong economic growth. During the 12 months ending March 2016, the average sales price of a new home increased 4 percent from a year ago, to \$382,700, exceeding the previous peak of \$339,400 in 2008 by 13 percent. By comparison, the average sales price increased 16 percent during the 12 months ending March 2015 compared with prices during the previous 12 months. New home sales prices increased at an average annual rate of 9 percent from 2004 through 2008 and subsequently declined by an average of 5 percent a year from 2009 through 2012, to a low of \$277,200. Strong job growth and access to mortgage financing boosted the demand for new homes, causing prices to increase at an average annual rate of 13 percent from 2012 through 2014.

New home construction, as measured by the number of single-family homes permitted, has increased in the Beaverton-Hillsboro submarket since 2011 but remains below historical averages. During the 12 months ending April 2016, 2,250 single-family homes were permitted, a 36-percent increase from the 1,650 new homes permitted during the previous 12 months (preliminary data). New home construction was strong from 2000 through 2004, averaging 3,775 homes permitted annually despite the economic downturn that resulted from the collapse of the dot.com bubble, and permitting peaked in 2005, when 4,700 homes were permitted (Figure 12). Single-family home construction fell at an average annual rate of 30 percent from 2006 through 2009, to a low of 1,125 homes permitted, as a result of weakening housing market conditions and job losses brought on by the national recession.

**Figure 12. Single-Family Homes Permitted in the Beaverton-Hillsboro Submarket, 2000 to Current**



Notes: Includes townhomes. Current includes data through April 2016.

Sources: U.S. Census Bureau, Building Permits Survey; estimates by analyst

## Housing Market Trends

Sales Market—Beaverton-Hillsboro Submarket Continued

From 2010 through 2014, an average of 1,400 new homes were permitted annually. New home construction in the submarket has generally concentrated in the cities of Beaverton and Hillsboro. The most common target

market for new single-family homes is second- and third-time homebuyers looking to upgrade into a larger home or new families earning high-tech industry wages that are typically much higher than the Area Median Income (local real estate agents).

**Table 6. Estimated Demand for New Market-Rate Sales Housing in the Beaverton-Hillsboro Submarket During the Forecast Period**

Price Range (\$)		Units of Demand	Percent of Total
From	To		
150,000	249,999	770	10.0
250,000	349,999	1,925	25.0
350,000	449,999	2,300	30.0
450,000	549,999	1,525	20.0
550,000	649,999	770	10.0
650,000	and higher	380	5.0

*Notes: The 820 homes currently under construction and a portion of the estimated 3,800 other vacant units in the submarket will likely satisfy some of the forecast demand. The forecast period is May 1, 2016, to May 1, 2019.*

*Source: Estimates by analyst*

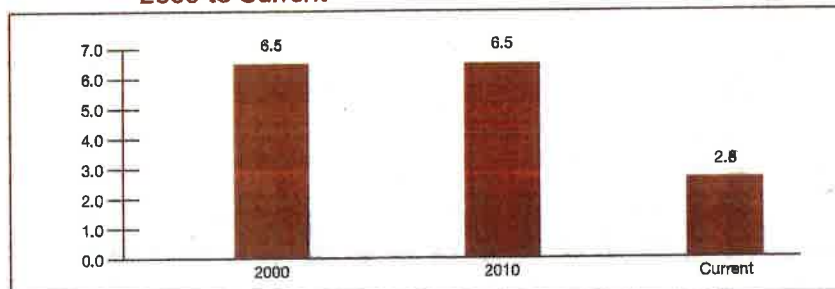
Demand is expected for 7,675 new homes in the Beaverton-Hillsboro submarket during the next 3 years (Table 1). The 820 homes currently under construction and a portion of the 3,800 other vacant units that may return to the market will satisfy some of the forecast demand. Table 6 illustrates the estimated demand for new sales housing in the submarket by price range. Demand is expected to be evenly distributed during each year of the forecast period.

## Rental Market—Beaverton-Hillsboro Submarket

As a result of increased population growth since 2010, the rental housing market in the Beaverton-Hillsboro submarket remains tight, with an overall estimated vacancy rate of 2.8 percent compared with 6.5 percent in April 2010 (Figure 13). Despite a spike in multifamily rental construction since 2012, the apartment market has also remained tight. MPF Research defines three areas in the Beaverton-Hillsboro submarket: East

Beaverton, Aloha/West Beaverton, and Hillsboro. The apartment vacancy rate increased from 2.4 to 2.9 percent in the East Beaverton area and from 3.0 to 4.8 percent in the Hillsboro area, largely because household preferences have shifted toward the Aloha/West Beaverton area, which has experienced the largest gain in new inventory during the past 3 years and is closest to the Intel Corporation and NIKE, Inc. campuses. Of the 1,900 new units that have entered the market since the first quarter of 2014, 1,200 have been in the Aloha/West Beaverton area, but the vacancy rate has continued to decline and is estimated at 2.4 percent during the first quarter of 2016, down from 3.3 percent in the first quarter of 2015. Since 2010, the vacancy rates in all three areas have remained below 5.0 percent.

**Figure 13. Rental Vacancy Rates in the Beaverton-Hillsboro Submarket, 2000 to Current**



*Note: The current date is May 1, 2016.*

*Sources: 2000 and 2010—2000 Census and 2010 Census; current—estimates by analyst*

## Housing Market Trends

Rental Market—Beaverton-Hillsboro Submarket Continued

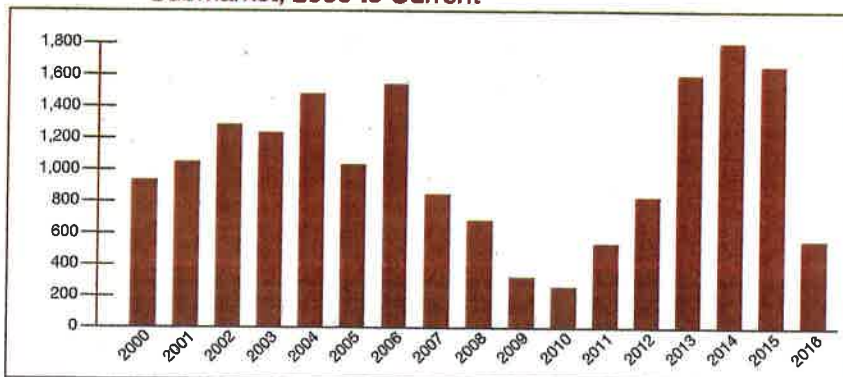
In percentage terms, the submarket has reported the strongest rent growth in the HMA from the first quarter of 2015 to the first quarter of 2016. The fastest rate of rent growth occurred in the East Beaverton area, at 19 percent, to an average of \$1,128; asking rents averaged \$848 for a studio unit, \$989 for a one-bedroom unit, \$1,182 for a two-bedroom unit, and \$1,411 for a three-bedroom unit. The average asking rent in the Hillsboro area increased 16 percent, to \$1,383, despite an increase in the vacancy rate; rents averaged \$1,180 for studio units, \$1,187 for one-bedroom units, \$1,425 for two-bedroom units, and \$1,719 for three-bedroom units. The smallest rent growth recorded in the submarket was in the Aloha/West Beaverton area, up 12 percent to \$1,226; rents averaged \$1,239 for studio units, \$1,081 for one-bedroom units, \$1,275 for two-bedroom units, and \$1,499 for three-bedroom units. Rent growth in the Aloha/West Beaverton area averaged 10 percent annually from the first quarter of 2013 through the first quarter of 2015. The East Beaverton and Hillsboro areas experienced milder average annual rent increases of 2 and 9 percent, respectively, during the same time. Studio units are most popular in newer developments,

with three-bedroom units taking the longest to lease (local property managers).

An average of 1,175 multifamily units were permitted in the Beaverton-Hillsboro submarket annually from 2000 through 2005, during a period of strong population growth (Figure 14). Multifamily permitting peaked in 2006, at 1,525 units, but subsequently declined at an average annual rate of 37 percent through 2010, to a low of 250 units permitted, because weak economic conditions resulted in reduced demand for condominiums and rental units. The foreclosure crisis fueled an increased demand for rental units, and multifamily permitting increased, averaging 670 units permitted a year in 2011 and 2012. As rental market conditions tightened further, builders responded by increasing multifamily building activity, which averaged 1,700 units annually in 2013 and 2014. During the 12 months ending April 2016, multifamily permitting decreased 6 percent, to 1,650 units permitted, compared with the number permitted during the previous 12 months (preliminary data). From 2004 through 2007, condominium construction peaked at nearly 40 percent of all multifamily building activity, as measured by the number of multifamily units permitted, in the submarket. The housing market collapse, however, caused a shift in preferences toward renting, increasing the demand for new apartment construction, and, since 2010, condominiums have comprised less than 10 percent of all multifamily units permitted.

Rental developments currently under construction or recently completed in the submarket include both affordable

**Figure 14. Multifamily Units Permitted in the Beaverton-Hillsboro Submarket, 2000 to Current**



Notes: Excludes townhomes. Current includes data through April 2016.

Sources: U.S. Census Bureau, Building Permits Survey; estimates by analyst

## Housing Market Trends

Rental Market—Beaverton-Hillsboro Submarket Continued

and market-rate apartment projects. Sunset View Apartments is currently under construction with an expected completion date in the summer of 2016. The development will consist of 236 affordable apartment units close to the NIKE, Inc. headquarters campus in the city of Beaverton. The 352-unit Amberglen West apartments in the Aloha/West Beaverton area is currently under construction and expected to be complete in August 2017; asking rents will range from \$1,266 to \$1,598 for one-bedroom units, \$1,352 to \$2,033 for two-bedroom units, and \$1,904 to \$1,961 for three-bedroom units. Construction of the 255-unit Rowlock Apartments was completed in August 2015 in the Hillsboro area, with rents starting at

\$1,425 for studio units and ranging from \$1,425 to \$1,580 for one-bedroom units and from \$1,915 to \$2,070 for two-bedroom units.

During the next 3 years, demand is expected for 5,325 new market-rate rental units in the Beaverton-Hillsboro submarket (Table 1). The 970 units under construction will meet a portion of the forecast demand. Demand is expected to be strongest in the first year of the forecast period and moderate in the second and third years as the new inventory is absorbed and the market becomes more balanced. Table 7 shows the estimated demand by rent level and number of bedrooms for new market-rate rental housing in the submarket during the forecast period.

**Table 7. Estimated Demand for New Market-Rate Rental Housing in the Beaverton-Hillsboro Submarket During the Forecast Period**

Zero Bedrooms		One Bedroom		Two Bedrooms		Three or More Bedrooms	
Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand
1,000 to 1,199	160	1,150 to 1,349	930	1,250 to 1,449	1,325	1,550 to 1,749	370
1,200 or more	110	1,350 to 1,549	470	1,450 to 1,649	800	1,750 or more	160
		1,550 or more	370	1,650 or more	400		
<b>Total</b>	<b>270</b>	<b>Total</b>	<b>1,775</b>	<b>Total</b>	<b>2,525</b>	<b>Total</b>	<b>530</b>

Notes: Numbers may not add to totals because of rounding. Monthly rent does not include utilities or concessions. The 970 units currently under construction will likely satisfy some of the estimated demand. The forecast period is May 1, 2016, to May 1, 2019.

Source: Estimates by analysts

## Sales Market—Vancouver Submarket

The current sales housing market in the Vancouver submarket is tight, with an estimated vacancy rate of 1.0 percent, down from 2.1 percent in 2010 (Table DP-4 at the end of this report). Similar to trends in the other two submarkets, housing market conditions in the submarket have tightened rapidly since the economic recovery began, and most of the excess vacancies that resulted from the housing market collapse have been absorbed.

During the 12 months ending March 2016, 9,450 existing homes sold in the submarket, up 22 percent from a year ago, marking the largest number of existing homes sold since 2006 (CoreLogic, Inc., with adjustments by the analyst). From 2003 through 2005, relatively affordable sales housing in the submarket attracted new households, with an average of 11,950 existing homes sold annually. Existing home sales fell 22 percent in 2006, when economic growth began

to slow, and, from 2007 through 2010, existing home sales fell by an average of 17 percent a year, to a low of 4,925 homes sold. Economic conditions moderated in 2010, and new home sales remained unchanged. Growth in existing home sales resumed as the economy fully recovered, and, from 2011 through 2014, an average of 6,400 existing homes sold annually. The average sales price of an existing home increased 8 percent, to \$283,300, during the 12 months ending March 2016, approximately 20 and 10 percent less than the average existing home sales prices in the Portland and Beaverton-Hillsboro submarkets, respectively. The current average sales price remains 2 percent less than the peak sales price of \$289,400 in 2007. From 2008 through 2011, the average sales price declined at an average annual rate of 8 percent, to a low of \$210,500, because substantial job losses caused a sharp drop in the demand for sales homes. When job growth recovered and the demand for homes increased, the average sales price increased an average of 8 percent annually from 2012 through 2014.

Strong job growth and increasing home values during the past 3 years helped reduce seriously delinquent loans and REO properties in the Vancouver submarket and the HMA. During March 2016, 1.8 percent of all home loans in the submarket were seriously delinquent or had transitioned into REO status, down from 2.6 percent in March 2015, and REO sales declined from 6 to 4 percent of total existing home sales (CoreLogic, Inc., with adjustments by the analyst). By comparison, the delinquency rate, including homes in REO status, averaged approximately 7.0 percent from 2009 through 2011, during the

worst of the foreclosures crisis, and REO sales comprised almost one-fourth of all existing home sales. By comparison, from 2000 through 2007, the delinquency rate averaged 1.3 percent and REO sales accounted for less than 2 percent of existing home sales. The average sales prices of an REO home sale in the submarket was \$232,000 during the 12 months ending March 2016, approximately 18 percent less than the sales price of a regular resale home.

The new home sales market has improved dramatically since 2011, with home sales increasing an average of 25 percent annually. During the 12 months ending March 2016, new home sales totaled 1,700 homes sold, up 32 percent from the 1,300 new homes sold during the 12 months ending March 2015. An average of 2,875 new homes sold annually from 2003 through 2005, when economic conditions were strong and access to financing was more readily available. Following the national and regional trend, however, new home sales declined with the onset of the recession, and, from 2006 through 2011, new home sales fell at an average annual rate of 23 percent, to a low of 650 homes sold. The average sales price of a new home increased 10 percent, to \$328,400, during the 12 months ending March 2016 compared with a 7-percent increase during the previous 12 months. Sales prices increased at an average annual rate of 3 percent from 2004 through 2006 and subsequently declined an average of 9 percent a year from 2007 through 2009, to a low of \$237,600. Prices increased at an average annual rate of 5 percent from 2010 through 2014, when economic conditions improved and demand for new homes returned.

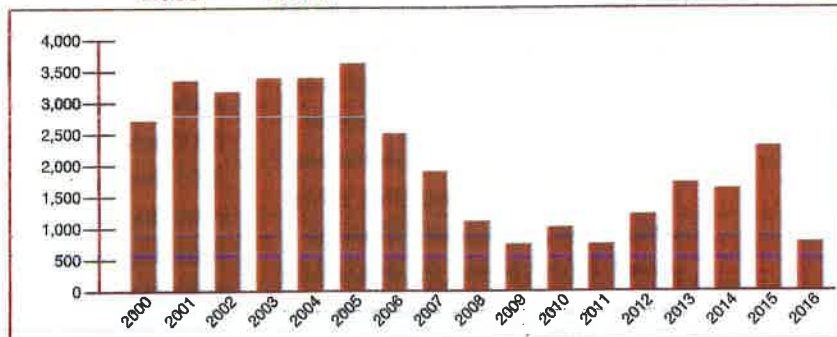
## Housing Market Trends

Sales Market - Vancouver Submarket Continued

Strong housing demand and increasing sales prices have led to an increase in new home construction in the Vancouver submarket since 2011. During the 12 months ending April 2016, 2,525 single-family homes were permitted, up 45 percent from the 1,750 homes permitted during the previous 12 months (preliminary data). Single-family homebuilding was robust from 2000 through 2005, when population growth in the submarket was strongest, and an average of 3,250 single-family homes were permitted annually (Figure 15). Homebuilding dropped dramatically following the onset of the national

recession as net in-migration to the submarket plummeted. From 2006 through 2009, homebuilding activity declined at an average annual rate of 33 percent, to a low of 720 single-family homes permitted. After the economic recovery was fully under way, homebuilding increased and an average of 1,525 new single-family homes were permitted a year from 2012 through 2014. Most buyers are second- and third-time homebuyers looking to upgrade to larger homes; however, more first-time homebuyers are purchasing in the Vancouver submarket than in the Portland or Beaverton-Hillsboro submarkets because housing in the submarket is still relatively affordable (local developers and real estate agents). Single-family development is concentrated in Ridgefield in the northeastern portion of the submarket and in Camas in the eastern section of the submarket. In Ridgefield, new home prices range from the mid-\$200,000s to the upper \$600,000s. New homes in Camas start in the mid-\$300,000 range and increase to the mid-\$900,000s.

**Figure 15. Single-Family Homes Permitted in the Vancouver Submarket, 2000 to Current**



Notes: Includes townhomes. Current includes data through April 2016.

Sources: U.S. Census Bureau, Building Permits Survey; estimates by analyst

**Table 8. Estimated Demand for New Market-Rate Sales Housing in the Vancouver Submarket During the Forecast Period**

Price Range (\$)		Units of Demand	Percent of Total
From	To		
150,000	249,999	680	10.0
250,000	349,999	1,350	20.0
350,000	449,999	2,375	35.0
450,000	549,999	1,350	20.0
550,000	649,999	680	10.0
650,000	and higher	340	5.0

Notes: The 940 homes currently under construction and a portion of the estimated 3,900 other vacant units in the submarket will likely satisfy some of the forecast demand. The forecast period is May 1, 2016, to May 1, 2019.

Source: Estimates by analyst

Demand is expected for 6,800 new homes in the Vancouver submarket during the next 3 years (Table 1). The 940 homes currently under construction and a portion of the 3,900 other vacant units that may return to the market will satisfy some of the forecast demand. Table 8 illustrates the estimated demand for new sales housing in the submarket by price range. Demand is expected to be evenly distributed during each year of the forecast period.



## Rental Market—Vancouver Submarket

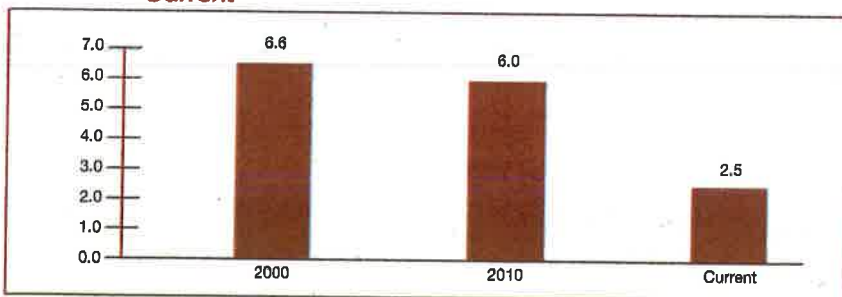
The current rental housing market in the Vancouver submarket is tight, with an overall estimated vacancy rate of 2.5 percent, down from 6.0 percent in April 2010 (Figure 16). The nationwide recession and housing market collapse caused a decrease in homeownership and a surge in demand for rental units since 2011. Although apartment construction has increased substantially during the past several years, it has not been strong enough to compensate for the record low level of construction from 2008 through 2012, and market conditions remain tight, with an estimated apartment vacancy rate of 2.5 percent during the first quarter of 2016, up from 1.7 percent a year ago (MPF Research). During the same time, the average asking rent in the submarket increased 10 percent, to \$1,068,

despite the uptick in the vacancy rate. Rents averaged \$777 for studio units, \$919 for one-bedroom units, \$1,150 for two-bedroom units, and \$1,294 for three-bedroom units. By comparison, rent growth averaged 8 percent annually from the first quarter of 2011 through the first quarter of 2014.

An average of 570 multifamily units were permitted annually in the Vancouver submarket from 2000 through 2007 (Figure 17). The national recession and housing market collapse caused multifamily construction to plummet from 2008 through 2011, when an average of 150 multifamily units were permitted annually. With increased rental demand stemming from the effects of the housing market crisis, the apartment market began to tighten quickly, and builders responded by increasing apartment construction 35 percent in 2012, to 370 units permitted. Apartment construction spiked in 2013, when 1,250 units were permitted, followed by a drop to 660 units permitted in 2014. During the 12 months ending April 2016, 1,050 multifamily units were permitted, up 33 percent from the 790 units permitted during the 12 months ending April 2015 (preliminary data). Condominium construction has accounted for less than 5 percent of total multifamily building activity in the submarket since 2010. By comparison, from 2004 through 2007, when financing was easier to obtain, condominium construction peaked at 37 percent of all multifamily building activity, as measured by the number of multifamily units permitted in the submarket.

Two of the larger developments currently under construction in the submarket are the 155-unit Columbia

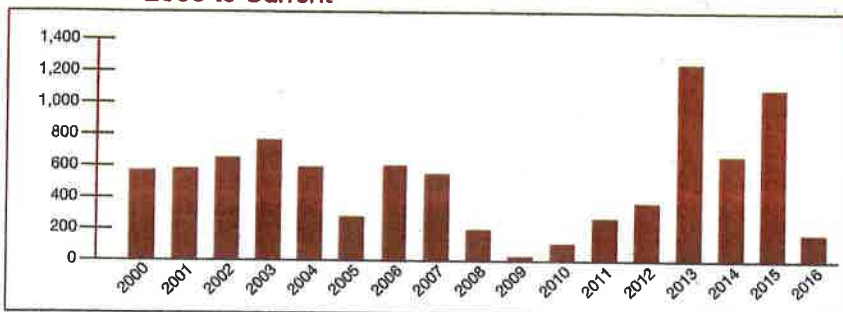
**Figure 16. Rental Vacancy Rates in the Vancouver Submarket, 2000 to Current**



Note: The current date is May 1, 2016.

Sources: 2000 and 2010—2000 Census and 2010 Census; current—estimates by analyst

**Figure 17. Multifamily Units Permitted in the Vancouver Submarket, 2000 to Current**



Notes: Excludes townhomes. Current includes data through April 2016.

Sources: U.S. Census Bureau, Building Permits Survey; estimates by analyst

## Housing Market Trends

Rental Market—Vancouver Submarket Continued

View Apartments Phase 2 and the 156-unit Four Seasons Central. The mix of units for the Columbia View Apartments includes one-, two-, and three-bedroom units; the anticipated completion date is in late 2017, and asking rents are unavailable. Construction of the Four Seasons Central is expected to be complete in October 2016; asking rents range from \$1,199 to \$1,575 for one-bedroom units and from \$1,544 to \$1,699 for two-bedroom units and are \$1,705 for three-bedroom units.

During the next 3 years, demand is expected for 2,950 new market-rate rental units in the Vancouver submarket (Table 1). The 1,125 units under construction will meet a portion of the forecast demand. Demand is expected to be evenly distributed during each year of the forecast period. Table 9 shows the estimated demand by rent level and number of bedrooms for new market-rate rental housing in the submarket during the forecast period.

**Table 9. Estimated Demand for New Market-Rate Rental Housing in the Vancouver Submarket During the Forecast Period**

Zero Bedrooms		One Bedroom		Two Bedrooms		Three or More Bedrooms	
Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand
800 to 999	95	850 to 1,049	580	1,100 to 1,299	1,050	1,350 to 1,549	190
1,000 or more	50	1,050 or more	310	1,300 or more	570	1,550 or more	100
Total	150	Total	890	Total	1,625	Total	300

Notes: Numbers may not add to totals because of rounding. Monthly rent does not include utilities or concessions. The 1,125 units currently under construction will likely satisfy some of the estimated demand. The forecast period is May 1, 2016, to May 1, 2019.

Source: Estimates by analysts

## Data Profiles

**Table DP-1. Portland HMA\* Data Profile, 2000 to Current**

	2000	2010	Current	Average Annual Change (%)	
				2000 to 2010	2010 to Current
Total resident employment	1,031,816	1,084,124	1,179,000	0.5	1.6
Unemployment rate	4.5%	10.2%	5.0%		
Nonfarm payroll jobs	981,500	979,200	1,123,000	0.0	2.6
Total population	1,927,881	2,226,009	2,395,000	1.4	1.2
Total households	745,531	867,794	936,700	1.5	1.3
Owner households	469,156	535,433	559,500	1.3	0.7
Percent owner	62.9%	61.7%	59.7%		
Renter households	276,375	332,361	377,200	1.9	2.1
Percent renter	37.1%	38.3%	40.3%		
Total housing units	790,876	925,076	974,100	1.6	0.9
Owner vacancy rate	2.2%	2.2%	1.0%		
Rental vacancy rate	6.7%	5.9%	2.9%		
Median Family Income	\$52,400	\$70,000	\$73,300	2.9	0.9

\*Portland-Vancouver-Hillsboro HMA.

Notes: Numbers may not add to totals because of rounding. Employment data represent annual averages for 2000, 2010, and the 12 months through April 2016. Median Family Incomes are for 1999, 2009, and 2014. The current date is May 1, 2016.

Sources: U.S. Census Bureau; U.S. Department of Housing and Urban Development; estimates by analyst

**Table DP-2. Portland Submarket Data Profile, 2000 to Current**

	2000	2010	Current	Average Annual Change (%)	
				2000 to 2010	2010 to Current
Total population	1,042,437	1,160,677	1,239,000	1.1	1.1
Total households	416,674	469,513	504,500	1.2	1.2
Owner households	258,366	281,474	294,100	0.9	0.7
Percent owner	62.0%	60.0%	58.3%		
Rental households	158,308	188,039	210,400	1.7	1.9
Percent renter	38.0%	40.0%	41.7%		
Total housing units	443,087	502,475	527,000	1.3	0.8
Owner vacancy rate	2.2%	2.4%	1.0%		
Rental vacancy rate	6.8%	5.6%	3.0%		

Notes: Numbers may not add to totals because of rounding. The current date is May 1, 2016.

Sources: U.S. Census Bureau; U.S. Department of Housing and Urban Development; estimates by analyst

**Table DP-3. Beaverton-Hillsboro Submarket Data Profile, 2000 to Current**

	2000	2010	Current	Average Annual Change (%)	
				2000 to 2010	2010 to Current
Total population	530,334	628,903	683,400	1.7	1.4
Total households	197,894	235,660	254,800	1.8	1.3
Owner households	122,467	146,604	152,800	1.8	0.7
Percent owner	61.9%	62.2%	60.0%		
Rental households	75,427	89,056	102,000	1.7	2.3
Percent renter	38.1%	37.8%	40.0%		
Total housing units	209,183	249,560	263,100	1.8	0.9
Owner vacancy rate	2.3%	2.1%	1.0%		
Rental vacancy rate	6.5%	6.5%	2.8%		

Notes: Numbers may not add to totals because of rounding. The current date is May 1, 2016.

Sources: U.S. Census Bureau; U.S. Department of Housing and Urban Development; estimates by analyst

**Table DP-4. Vancouver Submarket Data Profile, 2000 to Current**

	2000	2010	Current	Average Annual Change (%)	
				2000 to 2010	2010 to Current
Total population	355,110	436,429	472,200	2.1	1.3
Total households	130,963	162,621	177,350	2.2	1.4
Owner households	88,323	107,355	112,600	2.0	0.8
Percent owner	67.4%	66.0%	63.5%		
Rental households	42,640	55,266	64,750	2.6	2.6
Percent renter	32.6%	34.0%	36.5%		
Total housing units	138,606	173,041	184,000	2.2	1.0
Owner vacancy rate	2.0%	2.1%	1.0%		
Rental vacancy rate	6.6%	6.0%	2.5%		

Notes: Numbers may not add to totals because of rounding. The current date is May 1, 2016.

Sources: U.S. Census Bureau; U.S. Department of Housing and Urban Development; estimates by analyst

## Data Definitions and Sources

2000: 4/1/2000—U.S. Decennial Census

2010: 4/1/2010—U.S. Decennial Census

Current date: 5/1/2016—Analyst's estimates

Forecast period: 5/1/2016–5/1/2019—Analyst's estimates

The metropolitan statistical area definition in this report is based on the delineations established by the Office of Management and Budget (OMB) in the OMB Bulletin dated February 28, 2013.

**Demand:** The demand estimates in the analysis are not a forecast of building activity. They are the estimates of the total housing production needed to achieve a balanced market at the end of the 3-year forecast period given conditions on the as-of date of the analysis, growth, losses, and excess vacancies. The estimates do not account for units currently under construction or units in the development pipeline.

**Other Vacant Units:** In the U.S. Department of Housing and Urban Development's (HUD's) analysis, other vacant units include all vacant units that are not available for sale or for rent. The term therefore includes units rented or sold but not occupied; held for seasonal, recreational, or occasional use; used by migrant workers; and the category specified as "other" vacant by the Census Bureau.

**Building Permits:** Building permits do not necessarily reflect all residential building activity that occurs in an HMA. Some units are constructed or created without a building permit or are issued a different type of building permit. For example, some units classified as commercial structures are not reflected in the

residential building permits. As a result, the analyst, through diligent fieldwork, makes an estimate of this additional construction activity. Some of these estimates are included in the discussions of single-family and multifamily building permits.

For additional data pertaining to the housing market for this HMA, go to [huduser.gov/publications/pdf/CMARtables\\_Portland\\_Vancouver\\_HillsboroOR\\_WA\\_16.pdf](http://huduser.gov/publications/pdf/CMARtables_Portland_Vancouver_HillsboroOR_WA_16.pdf).

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This analysis has been prepared for the assistance and guidance of HUD in its operations. The factual information, findings, and conclusions may also be useful to builders, mortgagees, and others concerned with local housing market conditions and trends. The analysis does not purport to make determinations regarding the acceptability of any mortgage insurance proposals that may be under consideration by the Department.

The factual framework for this analysis follows the guidelines and methods developed by HUD's Economic and Market Analysis Division. The analysis and findings are as thorough and current as possible based on information available on the as-of date from local and national sources. As such, findings or conclusions may be modified by subsequent developments. HUD expresses its appreciation to those industry sources and state and local government officials who provided data and information on local economic and housing market conditions.

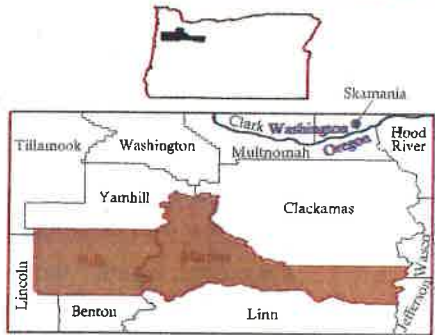
For additional reports on other market areas, please go to [huduser.gov/portal/ushmc/chma\\_archive.html](http://huduser.gov/portal/ushmc/chma_archive.html).

# Salem, Oregon

U.S. Department of Housing and Urban Development | Office of Policy Development and Research | As of August 1, 2016



## Housing Market Area



The Salem Housing Market Area (HMA), coterminous with the Salem, OR Metropolitan Statistical Area, consists of Marion and Polk Counties in the Willamette Valley region of Oregon, midway between Portland and Eugene along Interstate 5. The principal city, Salem, is the state capital.

## Market Details

- Economic Conditions ..... 2
- Population and Households ..... 5
- Housing Market Trends ..... 7
- Data Profile ..... 11

## Summary

### Economy

The economy of the Salem HMA has steadily improved since 2012 and has recovered all jobs lost as a result of the national recession. Nonfarm payrolls averaged 158,500 jobs during the 12 months ending July 2016, an increase of 4,800 jobs, or 3.1 percent, from the previous 12 months. During the same period, the unemployment rate declined from 6.4 to 5.4 percent. Nonfarm payrolls are expected to expand by an average of 4,800 jobs, or 3.0 percent, a year during the 3-year forecast period, led by growth in industries related to health care and business services.

### Sales Market

Sales housing market conditions in the Salem HMA are currently tight, with an estimated vacancy rate of 2.0 percent, down from 2.4 percent in 2010. During the 12 months ending July 2016, sales of new and existing single-family homes, townhomes, and condominiums increased more than 15 percent from the previous 12-month period, and the average sales price was up almost 9 percent (CoreLogic, Inc., with adjustments by the analyst). Demand is expected for 3,075 new homes in the HMA during the 3-year forecast period (Table 1). The 260 units currently under construction and a

portion of the 4,000 estimated other vacant units in the HMA will fulfill some of the forecast demand.

### Rental Market

Overall rental housing market conditions in the Salem HMA are currently slightly tight, with an estimated 4.5-percent vacancy rate as of August 1, 2016, down from 7.0 percent in April 2010. The decline in the vacancy rate is largely because the foreclosure crisis caused a shift in household preferences toward renting, and the rate of new apartment construction and conversion of single-family homes to rentals has not kept up with the rate of renter household growth. During the 3-year forecast period, demand is estimated for 2,025 rental units; the 520 units currently under construction will satisfy part of that demand (Table 1).

**Table 1. Housing Demand in the Salem HMA During the Forecast Period**

Salem HMA		
	Sales Units	Rental Units
Total demand	3,075	2,025
Under construction	260	520

*Notes: Total demand represents estimated production necessary to achieve a balanced market at the end of the forecast period. Units under construction as of August 1, 2016. A portion of the estimated 4,000 other vacant units in the HMA will likely satisfy some of the forecast demand. The forecast period is August 1, 2016, to August 1, 2019. Source: Estimates by analyst*

# Economic Conditions

The economy of the Salem HMA has been expanding since 2012, and the current level of non-farm payrolls, 158,500 jobs, surpasses by nearly 4 percent the peak before the downturn of 152,600 jobs, recorded in

2008. During the 12 months ending July 2016, nonfarm payrolls increased by an average of 4,800 jobs, or 3.1 percent, from a year earlier (Table 2), which was higher than the average annual growth of 3,500 jobs, or 2.4 percent, from 2012 through 2015. The current economic expansion is also significantly stronger than the previous period of expansion from 2004 through 2008, when nonfarm payroll growth averaged 2,500 jobs, or 1.8 percent, annually. These recent job gains are in sharp contrast to annual declines of 3,600 jobs, or 2.4 percent, from 2009 through 2011 as a result of the national recession and sluggish consumer spending. The unemployment rate averaged 5.4 percent during the 12 months ending July 2016, down from 6.4 percent a year prior, the lowest rate recorded since 2007. Figure 1 shows trends in the labor force, resident employment, and the unemployment rate from 2000 through 2015.

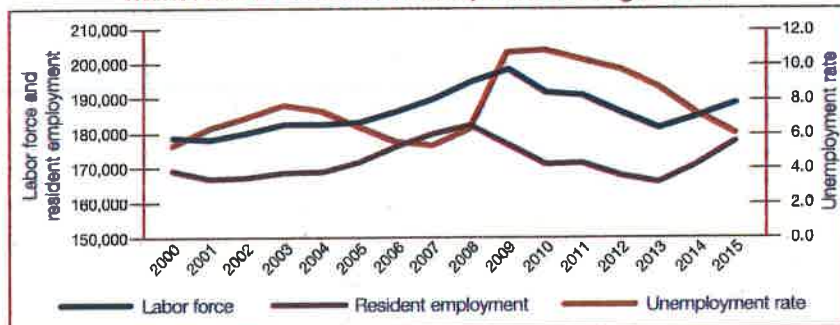
**Table 2. 12-Month Average Nonfarm Payroll Jobs in the Salem HMA, by Sector**

	12 Months Ending		Absolute Change	Percent Change
	July 2015	July 2016		
Total nonfarm payroll jobs	153,700	158,500	4,800	3.1
Goods-producing sectors	22,300	23,300	1,000	4.5
Mining, logging, & construction	9,600	10,200	600	6.3
Manufacturing	12,700	13,100	400	3.1
Service-providing sectors	131,400	135,200	3,800	2.9
Wholesale & retail trade	21,700	22,200	500	2.3
Transportation & utilities	3,900	3,900	0	0.0
Information	1,000	1,000	0	0.0
Financial activities	6,900	6,900	0	0.0
Professional & business services	13,000	14,200	1,200	9.2
Education & health services	24,300	25,200	900	3.7
Leisure & hospitality	14,000	14,600	600	4.3
Other services	5,200	5,300	100	1.9
Government	41,400	42,000	600	1.4

Notes: Numbers may not add to totals because of rounding. Based on 12-month averages through July 2015 and July 2016.

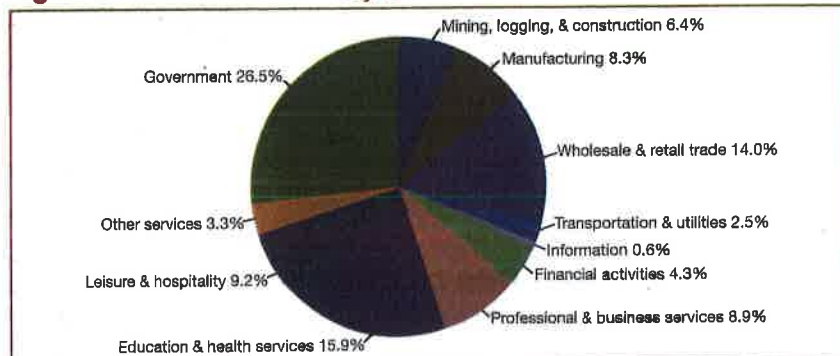
Source: U.S. Bureau of Labor Statistics

**Figure 1. Trends in Labor Force, Resident Employment, and Unemployment Rate in the Salem HMA, 2000 Through 2015**



Source: U.S. Bureau of Labor Statistics

**Figure 2. Current Nonfarm Payroll Jobs in the Salem HMA, by Sector**



Note: Based on 12-month averages through July 2016.

Source: U.S. Bureau of Labor Statistics

The government sector serves as the foundation of the economy, representing more than one-fourth of all nonfarm payroll jobs in the HMA (Figure 2) due to the presence of the Oregon state capital and assorted state and local agencies, including the Oregon State Hospital, Oregon State Penitentiary, the Mill Creek Correctional Facility and Santiam Correctional Institution, Spirit Mountain Casino, and Chinook Winds Casino Resort. Also included in the government sector are public colleges Western Oregon University and Chemeketa Community College, which in 2014 had enrollments of 6,050 and 11,100 students and employed 900 and 1,150 workers, respectively. The HMA's largest employer (Table 3), the State of Oregon, employs approximately

**Table 3. Major Employers in the Salem HMA**

Name of Employer	Nonfarm Payroll Sector	Number of Employees
State of Oregon	Government	22,500
Salem Health	Education & health services	3,900
Dex Medla	Professional & business services	3,000
Association of Salem Keizer Education Support Professionals	Education & health services	2,100
Fred Meyer Stores	Wholesale & retail trade	1,710
Spirit Mountain Casino	Government	1,500
NORPAC Foods, Inc.	Manufacturing	1,106
SAIF Corporation	Financial activities	854
Wal-Mart Stores, Inc.	Wholesale & retail trade	820
Chinook Winds Casino Resort	Government	785

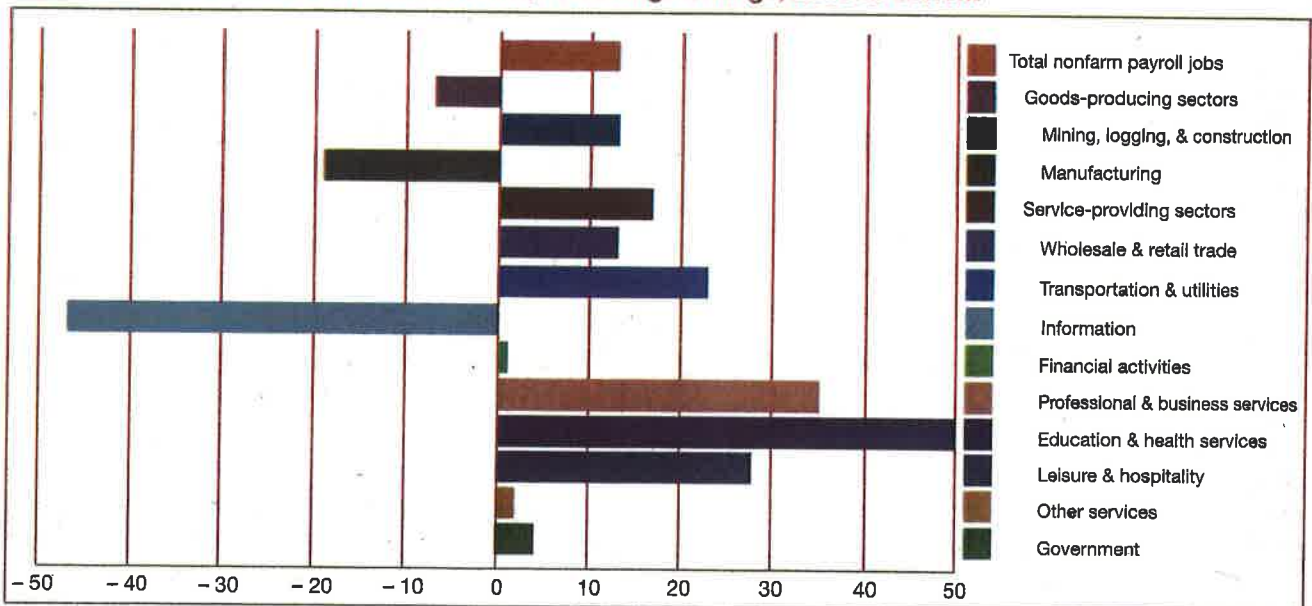
Note: Excludes local school districts.

Source: Moody's Economy.com

22,500 people, accounting for more than one-half of all government sector jobs in the HMA. The effects of the national recession that began in 2007 did not start to negatively impact the HMA until 2009, in large part because of the relative stability of employment in the government sector, which added an average of 900 jobs, or 2.3 percent, a year from 2007 through 2009 before declining by an average of 900 jobs, or 2.0 percent, annually from 2010 through 2011. Taxable incomes increased as job growth returned to the HMA in

2012, allowing increased government hiring, which further advanced the economic recovery. During the 12 months ending July 2016, government sector payrolls increased by 600 jobs, or 1.4 percent, including gains of 300 jobs each in the local government and state government subsectors. Job growth in the government sector is anticipated to continue at a similar pace during the 3-year forecast period as the economy continues to expand.

The education and health services sector has grown the most of any sector since 2000 (Figure 3) and currently accounts for 25,200 jobs, or 16 percent of total nonfarm payrolls. During the 12 months ending July 2016, payrolls increased by 900 jobs, or 3.7 percent, compared with a gain of 1,100 jobs, or 4.5 percent, during the 12 months ending July 2015. Part of the growth can be attributed to increased demand for healthcare services as the population continues to grow and age; from 2010 to 2015, the population of residents ages 62 years and older was the fastest-growing

**Figure 3. Sector Growth in the Salem HMA, Percentage Change, 2000 to Current**

Note: Current is based on 12-month averages through July 2016.

Source: U.S. Bureau of Labor Statistics

cohort in the HMA, increasing from 16.6 to 18.7 percent of the total population (American Community Survey 1-year data [ACS]). In addition, Salem Health, the HMA's second largest employer, opened a \$15 million outpatient clinic in February 2016, employing approximately 50 new providers servicing an estimated 250 clients per day. Unlike the cyclical nature of other sectors, the education and health services sector has added jobs every year since 2000, increasing by an average of 500 jobs, or 2.6 percent, annually from 2001 through 2015. The sector is expected to continue growing at a healthy rate during the forecast period as the healthcare industry expands to meet the increasing need for services as a result of strong population growth and an aging population.

The greatest nonfarm payroll gains during the 12 months ending July 2016 occurred in the professional and business services sector, which added 1,200 jobs, or 9.2 percent, increasing to 14,200 jobs compared with an increase of 300 jobs, or 2.6 percent, during the previous 12 months. Job gains in the sector have been caused by a mix of increased hiring at staffing agencies within the administrative and support services industry and in the management of companies industry, a result of the broad-based economic expansion occurring in the HMA. From 2001 through 2008, the professional and business services sector added an average of 300 jobs, or 2.8 percent, a year. As with most other sectors in the economy, the professional and business services sector lost jobs as a result of the national recession, declining by an average of 700 jobs, or 5.7 percent, annually from 2009 through 2011. Growth resumed in 2012 and, from 2012

through 2015, sector payrolls increased by an average of 600 jobs, or 4.7 percent, per year. The professional and business services sector is expected to continue to grow during the next 3 years as local firms increasingly make use of temporary workers and contract out work that is not part of their core product.

Several other sectors benefit from the strong performance in the core sectors discussed previously. The mining, logging, and construction, the leisure and hospitality, and the wholesale and retail trade sectors increased by 600, 600, and 500 jobs—or 6.3, 4.3, and 2.3 percent, respectively—during the 12 months ending July 2016. These sectors are the most responsive to changing economic conditions, because they rely heavily on consumer confidence and spending habits. All three sectors lost a substantial amount of jobs as a consequence of the national recession but have added jobs consistently since the economic expansion began in 2012. Payrolls in the wholesale and retail trade sector have finally recovered all jobs lost during the recession, and those in the leisure and hospitality sector have surpassed their prerecession peak by 15 percent. Although a recent boom in residential and commercial construction has bolstered job growth in the mining, logging, and construction sector, payrolls remain 11 percent below their prerecession level. No payroll sector reported job losses during the most recent 12 months, but three sectors—the transportation and utilities, information, and financial activities sectors—were stagnant. These three sectors combine to account for only 7 percent of nonfarm payrolls in the HMA; therefore, their impact on overall economic growth is minimal.



Strong population growth is expected to positively affect employment in the education and health services sector during the next 3 years, while the large public sector will continue providing a stable foundation to the economy. Other sectors—such as the professional and business services, the wholesale and retail trade, the mining, logging,

and construction, and the leisure and hospitality sectors—are expected to indirectly benefit from growth in core sectors. Nonfarm payrolls are expected to expand by an average of 4,800 jobs, or 3.0 percent, a year during the forecast period. Table DP-1 at the end of this report provides additional employment data.

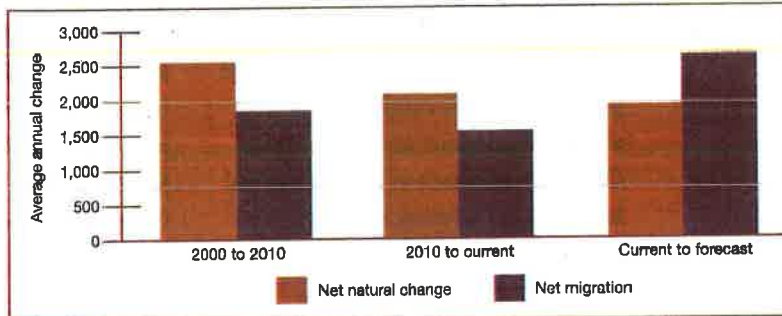
## Population and Households

As of August 1, 2016, the population of the Salem HMA is estimated at 413,500, increasing at an average annual rate of 0.9 percent, or by 3,600, since 2010, with net in-migration accounting for 1,525 people a year, or approximately 42 percent of the increase. Population growth was strongest from 2004 to 2009, during a time of economic expansion, averaging 4,700 people, or 1.3 percent, annually, with net in-migration comprising 46 percent of the growth, or 2,175 people each year (Portland State University July 1 estimates, with adjustments by the analyst). The HMA is a popular destination for retirees, and an influx during this time furthered population growth; the number of residents in the HMA 62 years and older increased at an average annual rate of almost 6.0 percent from 2005 to 2009, increasing from 14.5 to 16.4 percent of total population (2005 and 2009 ACS 1-year data). From 2009 to 2012, as economic conditions weakened because of the national recession, population growth fell to an average of 3,400 people, or 0.9 percent, annually. Net in-migration declined to an average of 1,025 people a year and comprised only 30 percent of population growth, partially because the

weak labor market kept jobseekers from moving to the HMA, and also because the housing market collapse left many homeowners with negative equity and unable to relocate. The growth rate in the retired-age population also slowed, averaging only 2.0 percent a year, but its share of the overall population still increased from 16.4 to 17.3 percent of total population.

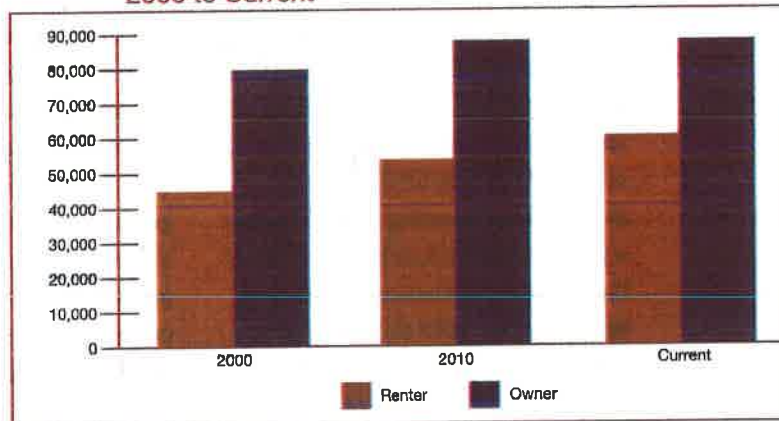
Since 2012, strengthening economic conditions have boosted population growth to an average of 4,000 people, or 1.0 percent, annually because of increased net in-migration, which has averaged 2,125 people annually, comprising 53 percent of the increase. The retired-aged population continued to increase from 2012 to 2015 at an average annual rate of nearly 4.0 percent, comprising 18.7 percent of total population, up from 17.3 percent. As economic conditions remain strong, inducing net in-migration from jobseekers, along with the continued attraction of retirees to the HMA, the population is expected to increase by an average of 4,475, or 1.1 percent, annually during the 3-year forecast period, with more than 58 percent of the growth resulting from net in-migration. The population of the

**Figure 4. Components of Population Change in the Salem HMA, 2000 to Forecast**



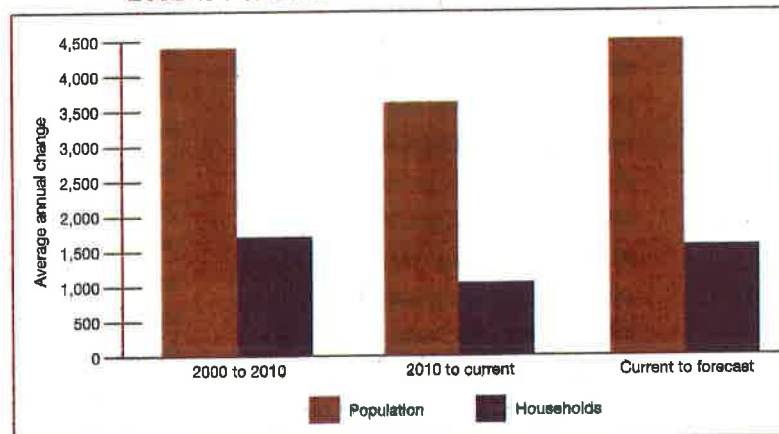
Notes: The current date is August 1, 2016. The forecast date is August 1, 2019.  
Sources: 2000 and 2010–2000 Census and 2010 Census; current and forecast—estimates by analyst

**Figure 5. Number of Households by Tenure in the Salem HMA, 2000 to Current**



Note: The current date is August 1, 2016.  
Sources: 2000 and 2010–2000 Census and 2010 Census; current—estimates by analyst

**Figure 6. Population and Household Growth in the Salem HMA, 2000 to Forecast**



Notes: The current date is August 1, 2016. The forecast date is August 1, 2019.  
Sources: 2000 and 2010–2000 Census and 2010 Census; current and forecast—estimates by analyst

HMA is expected to reach 426,900 by August 1, 2019. Figure 4 shows the components of population change from 2000 to the forecast date.

An estimated 147,700 households reside in the HMA, reflecting an average annual increase of 1,025 households, or 0.7 percent, since 2010. By comparison, from 2000 to 2010, when population growth was stronger because of increased net in-migration, the number of households expanded by an average of 1,650, or 1.3 percent, annually. An estimated 59.2 percent of current households, or 87,450 households, are homeowners and the remaining 60,250 are renter households, compared with homeownership rates of 62.1 and 64.0 percent in April 2010 and 2000, respectively (Figure 5). The decline in homeownership reflects the prolonged effects from the foreclosure crisis, including stricter lending standards and a shift in household preferences toward renting. Renter households accounted for slightly more than one-half of household growth from 2000 to 2010 but have accounted for all of household growth since 2010. The number of households in the HMA is expected to grow by 1,525, or 1.0 percent, annually during the next 3 years, reaching 152,300 households by August 1, 2019. During the forecast period, renter households are projected to comprise approximately 41 percent of new households, mainly because the strong economy has helped improve household finances and access to credit, allowing more households the opportunity to purchase homes. Figure 6 shows population and household growth trends from 2000 to the forecast date.

## Sales Market

Sales housing market conditions in the Salem HMA are currently tight, with an estimated vacancy rate of 2.0 percent, down from 2.4 percent in April 2010. The decline in new home production following the collapse of the housing market, combined with improving economic conditions, contributed to the absorption of excess vacancies and to the tight market conditions. The inventory of homes for sale represented a 2.9-month supply in August 2016 compared with a 4.5-month supply in August 2015. During the same time, the number of active listings increased 36 percent, to 286, while the total marketing time declined from 79 to 46 days (RMLS™).

During the 12 months ending July 2016, approximately 6,850 existing single-family homes, townhomes, and condominiums (hereafter, existing homes) sold, up 17 percent from the 6,000 existing homes sold during the previous 12 months (CoreLogic, Inc., with adjustments by the analyst).

By comparison, existing home sales averaged 8,175 during the buildup of the housing boom from 2003 through 2007 before declining from 2008 through 2011 at an average annual rate of 18 percent to a low of 3,475 existing home sales. Since 2013, demand for homes has increased faster than the available supply, putting upward pressure on home prices. The average sales price increased 8 percent during the 12 months ending July 2016 to \$225,300, which is 32 percent higher than the trough in 2012 and 3 percent higher than the prerecession peak of \$213,400 reached in 2007.

In response to strong economic conditions in the HMA, seriously delinquent (90 or more days delinquent

or in foreclosure) loans and real estate owned (REO) properties have become a less significant part of the sales market than they were during the worst of the housing crisis from 2009 through 2012. During July 2016, 2.8 percent of mortgages in the HMA were seriously delinquent or in REO status, down from 4.1 percent in July 2015 and well below a July high of 6.4 percent in 2012 (CoreLogic, Inc.). As a result of weak economic conditions and the foreclosure crises, REO home sales accounted for almost one-fourth of all existing home sales from 2009 through 2012; however, REO sales comprised only 10 percent of existing home sales during the 12 months ending July 2016. The average sales price of an REO home was \$162,600, almost 30 percent less than the average sales price of a regular resale home (CoreLogic, Inc., with adjustments by the analyst).

Sales of new single-family homes, townhomes, and condominiums (hereafter, new homes) have increased each year since 2013. Approximately 570 new homes sold during the 12 months ending July 2016, reflecting an increase of almost 20 percent from a year ago. By comparison, an average of 1,275 new homes sold annually from 2001 through 2007. After the housing bubble burst, the demand for new homes declined as a result of poor labor market conditions, decreased access to credit, and increased competition from existing homes. From 2008 through 2012, new home sales declined at an average annual rate of 26 percent to a low of 220 new homes sales. During the 12 months ending July 2016, the average sales price of a new home increased 10 percent

## Housing Market Trends

Sales Market *Continued*

to \$272,100, still 3 percent less than the precession peak of \$280,500 in 2008 but 42 percent higher than in 2013, when new home sales prices bottomed out.

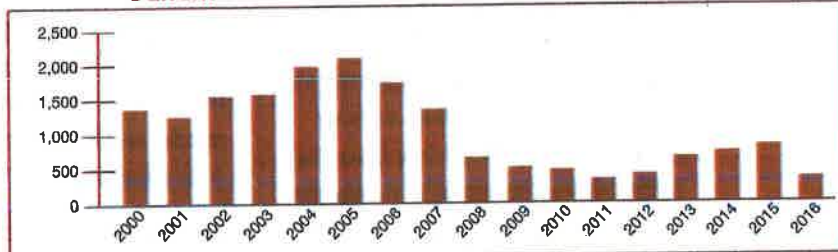
Single-family home construction, as measured by the number of single-family homes permitted, reached a 20-year low in 2011, when only 320 homes were permitted, in response to decreased demand for new homes as a consequence of the housing market collapse and national recession. Beginning in 2012, however, builders responded to the improving sales market by increasing new home construction (Figure 7). During the 12 months ending July 2016, 400 single-family

homes were permitted, a decline of approximately 5 percent compared with the preceding 12-month period; however, single-family permitting levels in 2015 were the highest recorded since 2007 (preliminary data subject to revisions). By contrast, an average of 1,600 homes were permitted annually from 2000 through 2007.

New home construction is occurring throughout the HMA, with a higher concentration in the southeast portion of the city of Salem. Examples of larger communities currently under construction include Cottonwood Lakes Phase III and Bailey Ridge Phase II. Cottonwood Lakes comprises 102 lots, with homes ranging from 1,425 to 2,300 square feet and an average list price of \$352,300. Bailey Ridge consists of 159 lots; Phase II is under construction with 5 homes available for purchase with an average list price of \$432,500, and 10 homes will be available within the coming year. Currently, an estimated 260 single-family homes are under construction in the HMA.

During the 3-year forecast period, demand is estimated for 3,075 new homes in the HMA, with increasing demand during the second and third years of the forecast period (Table 1). The 260 homes currently under construction and a portion of the 4,000 other vacant units that may reenter the sales market will satisfy some of the demand. Demand is expected to be greatest in the \$300,000-to-\$399,999 price range. Table 4 shows the estimated demand for market-rate sales housing by price range.

**Figure 7. Single-Family Homes Permitted in the Salem HMA, 2000 to Current**



Notes: Includes townhomes. Current includes data through July 2016.

Sources: U.S. Census Bureau, Building Permits Survey; estimates by analysts

**Table 4. Estimated Demand for New Market-Rate Sales Housing in the Salem HMA During the Forecast Period**

Price Range (\$)		Units of Demand	Percent of Total
From	To		
250,000	299,999	310	10.0
300,000	349,999	920	30.0
350,000	399,999	920	30.0
400,000	449,999	370	12.0
450,000	499,999	250	8.0
500,000	599,999	180	6.0
600,000	and higher	120	4.0

Notes: The 260 homes currently under construction and a portion of the estimated 4,000 other vacant units in the HMA will likely satisfy some of the forecast demand. The forecast period is August 1, 2016, to August 1, 2019.

Source: Estimates by analyst

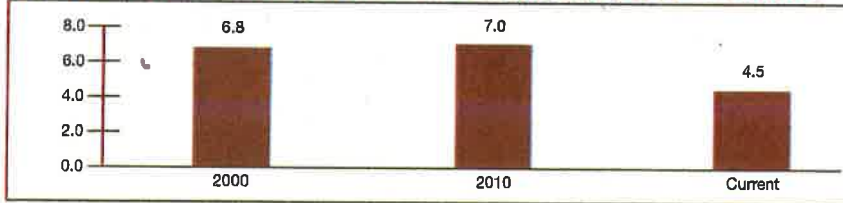
## Rental Market

Rental housing market conditions in the Salem HMA are currently slightly tight, with an overall rental vacancy rate estimated at 4.5 percent as of September 1, 2016, down from 7.0 percent in April 2010 when market conditions were soft (Figure 8). Rental market conditions in the Salem HMA have tightened considerably because growth in renter households has outpaced the increase in rental inventory since 2010. The apartment market, which comprises approximately 65 percent of renter-occupied units in the HMA, is very tight, but the vacancy rate increased to 2.7 percent during the second quarter of 2016, up from 1.3 percent a year prior, because approximately 320 new units entered the market in the past year (Reis, Inc.). Since 2005, limited apartment construction has kept the vacancy rate under 6 percent, even during periods when market conditions were soft, rent growth was slower, and concessions

were more prevalent (data available only beginning in 2005). The average apartment rent increased 9 percent from the second quarter of 2015 to the second quarter of 2016, to \$790, marking the fourth consecutive quarter with year-over-year rent growth of 9 percent or higher. Rents averaged \$578 for studios, \$658 for one-bedroom units, \$799 for two-bedroom units, and \$1,042 for three-bedroom units. As market conditions tightened, the percentage of units offering concessions declined from 100 percent during the second quarter of 2011 to 0 percent during the second quarter of 2016 (MPF Research).

Multifamily construction activity, as measured by the number of units permitted, has generally improved since the 2009-through-2011 period, when permitting was lower than during any other 3-year period since the late 1980s. Approximately 290 multifamily units were permitted in the HMA during the 12 months ending July 2016 compared with 110 units permitted during the previous 12 months (preliminary data subject to revisions). By comparison, an average of 450 multifamily units were permitted annually from 2000 through 2009 (Figure 9). The onset of the national recession and subsequent housing market collapse caused multifamily construction to decline at an average annual rate of 35 percent from 2009 through 2011, to a low of 110 multifamily units permitted. During this time, financing for new construction was particularly difficult to obtain, despite an increased demand for rental units brought on by the foreclosure crisis. This obstacle resulted in a very limited supply of new apartments, which, coupled with

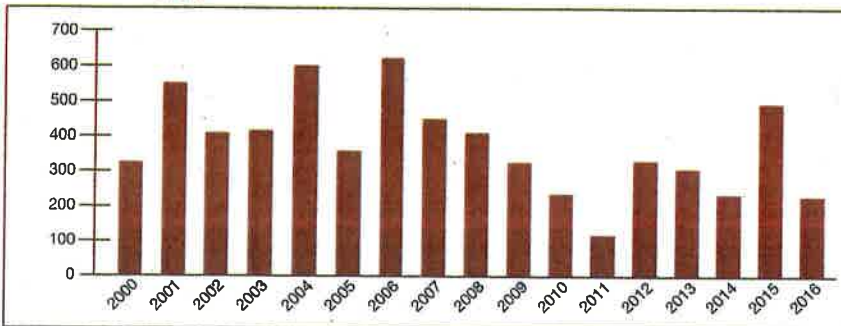
**Figure 8. Rental Vacancy Rates in the Salem HMA, 2000 to Current**



Note: The current date is August 1, 2016.

Sources: 2000 and 2010—2000 Census and 2010 Census; current—estimates by analyst

**Figure 9. Multifamily Units Permitted in the Salem HMA, 2000 to Current**



Notes: Excludes townhomes. Current includes data through July 2016.

Sources: U.S. Census Bureau, Building Permits Survey; estimates by analysts

## Housing Market Trends

### Rental Market *Continued*

increased demand, caused apartment market conditions to tighten. As lenders became increasingly confident in the economic recovery, financing returned and builders increased apartment construction to an average of 240 units annually from 2010 through 2014.

An estimated 520 multifamily units are currently under construction, 200 of which are units in assisted living facilities. The most recent market-rate apartment complex to open was the 108-unit Encore Apartments in January 2016 in downtown Salem. Rents start at \$900 for one-bedroom units, \$1,015 for two-bedroom units, and \$1,325 for three-bedroom units. The 115-unit South Block Apartments opened in August 2015 in downtown Salem. The property began preleasing in May 2015 and was fully occupied by December 2015, averaging an absorption rate of 16 units per month.

Monthly rents by bedroom range from \$995 to \$1,300 for studios, from \$1,100 to \$1,400 for one-bedroom units, and from \$1,300 to \$2,500 for two-bedroom units and start at \$2,000 for three-bedroom units. Phase II of South Block Apartments is under construction and will consist of 63 units on completion in December 2016. Currently, 75 percent of the units have been preleased, and unit rents are the same as those for Phase I.

During the next 3 years, demand is expected for 2,025 new market-rate rental units in the HMA (Table 1), with demand the highest in the first year and tapering off in the second and third years. The 520 units currently under construction will satisfy part of the demand. Table 5 shows the forecast demand for new market-rate rental housing in the HMA by rent level and number of bedrooms.

**Table 5. Estimated Demand for New Market-Rate Rental Housing in the Salem HMA During the Forecast Period**

Zero Bedrooms		One Bedroom		Two Bedrooms		Three or More Bedrooms	
Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand	Monthly Gross Rent (\$)	Units of Demand
800 or more	100	1,000 to 1,199	550	1,200 to 1,399	870	1,400 to 1,599	310
		1,200 or more	60	1,400 or more	95	1,600 or more	35
<b>Total</b>	<b>100</b>	<b>Total</b>	<b>610</b>	<b>Total</b>	<b>970</b>	<b>Total</b>	<b>340</b>

*Notes: Numbers may not add to totals because of rounding. Monthly rent does not include utilities or concessions. The 520 units currently under construction will likely satisfy some of the estimated demand. The forecast period is August 1, 2016, to August 1, 2019.*

*Source: Estimates by analyst*

**Table DP-1. Salem HMA Data Profile, 2000 to Current**

	2000	2010	Current	Average Annual Change (%)	
				2000 to 2010	2010 to Current
Total resident employment	169,023	170,874	182,900	0.1	1.2
Unemployment rate	5.3%	10.9%	5.4%		
Nonfarm payroll jobs	140,700	143,700	158,500	0.2	1.8
Total population	347,214	390,738	413,500	1.2	0.9
Total households	124,699	141,245	147,700	1.3	0.7
Owner households	79,746	87,643	87,450	0.9	0.0
Percent owner	64.0%	62.1%	59.2%		
Renter households	44,953	53,602	60,250	1.8	1.9
Percent renter	36.0%	37.9%	40.8%		
Total housing units	132,635	151,250	156,400	1.3	0.5
Owner vacancy rate	2.5%	2.4%	2.0%		
Rental vacancy rate	6.8%	7.0%	4.5%		
Median Family Income	\$43,200	\$58,200	\$57,200	3.0	-0.3

Notes: Numbers may not add to totals because of rounding. Employment data represent annual averages for 2000, 2010, and the 12 months through July 2016. Median Family Incomes are for 1999, 2009, and 2015. The current date is August 1, 2016.

Sources: U.S. Census Bureau; U.S. Department of Housing and Urban Development; estimates by analyst

## Data Definitions and Sources

2000: 4/1/2000—U.S. Decennial Census

2010: 4/1/2010—U.S. Decennial Census

Current date: 8/1/2016—Analyst's estimates

Forecast period: 8/1/2016–8/1/2019—Analyst's estimates

The metropolitan statistical area definition in this report is based on the delineations established by the Office of Management and Budget (OMB) in the OMB Bulletin dated February 28, 2013.

**Demand:** The demand estimates in the analysis are not a forecast of building activity. They are the estimates of the total housing production needed to achieve a balanced market at the end of the 3-year forecast period given conditions on the as-of date of the analysis, growth, losses, and excess vacancies. The estimates do not account for units currently under construction or units in the development pipeline.

**Other Vacant Units:** In the U.S. Department of Housing and Urban Development's (HUD's) analysis, other vacant units include all vacant units that are not available for sale or for rent. The term therefore includes units rented or sold but not occupied; held for seasonal, recreational, or occasional use; used by migrant workers; and the category specified as "other" vacant by the Census Bureau.

**Building Permits:** Building permits do not necessarily reflect all residential building activity that occurs in an HMA. Some units are constructed or created without a building permit or are issued a different type of building permit. For example, some units classified as commercial structures are not reflected in the residential building permits.

As a result, the analyst, through diligent fieldwork, makes an estimate of this additional construction activity. Some of these estimates are included in the discussions of **single-family and multifamily building permits**.

For additional data pertaining to the housing market for this HMA, go to [huduser.gov/publications/pdf/CMARtables\\_SalemOR\\_17.pdf](http://huduser.gov/publications/pdf/CMARtables_SalemOR_17.pdf).

## Contact Information

Holi Weaver, Economist

Seattle HUD Regional Office

206-220-5291

[holi.m.woods-weaver@hud.gov](mailto:holi.m.woods-weaver@hud.gov)

This analysis has been prepared for the assistance and guidance of HUD in its operations. The factual information, findings, and conclusions may also be useful to builders, mortgagees, and others concerned with local housing market conditions and trends. The analysis does not purport to make determinations regarding the acceptability of any mortgage insurance proposals that may be under consideration by the Department.

The factual framework for this analysis follows the guidelines and methods developed by HUD's Economic and Market Analysis Division. The analysis and findings are as thorough and current as possible based on information available on the as-of date from local and national sources. As such, findings or conclusions may be modified by subsequent developments. HUD expresses its appreciation to those industry sources and state and local government officials who provided data and information on local economic and housing market conditions.

**For additional reports on other market areas, please go to [huduser.gov/portal/ushmc/chma\\_archive.html](http://huduser.gov/portal/ushmc/chma_archive.html).**





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# SMART GROWTH

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### How Luxury Housing Becomes Affordable

[August 3, 2017](#)   [Heather Poston](#)

By Joe Cortright via **City Lab**



This compilation contains links to more than two dozen online collections with thousands of images that illustrate smart growth principles.

**Most Recent Blog Articles**



(Lucas Jackson/Reuters)

One of the most common refrains in the affordable housing discussion is "developers are targeting the high end of the market" and new apartments are just unaffordable.

Of course, it's not that simple. Demand for new housing that isn't met by the construction of new high-end units doesn't disappear, it spills over into more modest housing, driving up rents for everyone. Building more high-end housing helps with affordability, because it keeps those with high incomes from **outbidding** those with lower incomes for the existing housing stock. (Just imagine what would happen to housing prices if you **suddenly demolished** 10,000 units of expensive housing.) And often, today's luxury units become tomorrow's affordable homes.

To understand this, just look to Portland's recent history. Housing blogger **Iain MacKenzie**, who tracks new housing and commercial developments at the definitive **Next Portland** website, shared with us a couple of fascinating historical clips from the city's paper of record, *The Oregonian*. They show that today's affordable housing often started life as self-

described "luxury" housing when it was originally built.

The first example dates back a half century, to the 1960s, when in the wake of urban renewal the city was building a wave of new apartments. *The Oregonian* on January 9, 1966, described the city's booming market for new luxury accommodation:

Luxury apartments, which start at \$135 for a one bedroom unit and rapidly climb out of sight, have been sprouting in Portland at a breathless rate, and more are planned or abuilding. The total investment in such properties is certainly above the \$100 million mark here.

One of these complexes was the Timberlee in suburban Raleigh Hills, a close-in suburban neighborhood. According to *The Oregonian*, the Timberlee on SW 38th Place was one of the most prosperous of the 13 apartment complexes it examined in its story, with 97 percent of its 214 units rented.

The Timberlee Apartments are still around today. While none of the units are currently for rent, according to Apartments.com, rents in the area run from about \$1,000 for studios and one-bedroom units to \$1,300 and more for two-bedroom and larger apartments. By today's standards, the Timberlee seems modest, and a bit dated, rather than luxurious.

The Timberlee apartments are typical of those that were built around the country in the 1960s and 1970s. As I've **chronicled**, similar vintage apartments in the Atlanta suburb of Marietta, started life as the preferred housing of (mostly white) young couples and singles, but as they aged, became so affordable that they constituted low-income housing. The city spent \$65 million of taxpayer money to buy and demolish these apartments, displacing hundreds of families.

A second clipping goes back just more than a century, to Christmas Day, 1910, when Portland was enjoying a small construction boom—interestingly, triggered by the advent of a tougher building code that would have made apartments more expensive or impossible to build in some neighborhoods. Just as with today's **inclusionary housing ordinance**, there was a land rush as developers filed for building permits in advance of the deadline.

The 1910 article plays up the luxury of the new dwellings under construction.

The purpose of the builds is to establish a model for high-class apartments... The building will follow the latest style of construction in vogue in New York, and will embody the extreme of luxury with every possible attention given to comfort. Some new features in the way of modern conveniences will be introduced, the aim being to attract the desirable class of patrons, those

who will be willing to pay as high as \$150 a month for the five and six room apartments which they house will contain.

One of the new luxury apartment buildings constructed in 1910 was the Belmont Court, on the city's growing East Side. Plans called for a modern 24-unit apartment building with a range of conveniences.

Some fine dwellings of this class are being planned for the East Side. MacNaughton & Raymond have designed for E. L. Taylor a three-story brick veneer apartment-house 50x100, to be built at East Fifteenth and Belmont Streets and to cost \$30,000. It will have seven three-room apartments on each floor and 24 in all, including the janitor's quarters and two other suites in the basement.

More than a century later, the Belmont Court building still stands. In fact, two of its apartments are for rent just now. According to Zillow, average apartment rents in Portland are about \$1,600 per month. With studio apartments renting at just under \$1,100, they're not exactly cheap, but they cost less per square foot than newly built units, and with a Walk Score of 92, there located in a neighborhood where one can conveniently live without a car.

Another interesting historical change. Described as three-room apartments when

they were built, the Belmont Court apartments are **today described as studios**. They have a separate living area, kitchen and bathroom (each of which, a century ago, merited counting as a separate room). In an era when a large fraction of urban residents were boarders in boarding houses, a private kitchen and bathroom may indeed have been a luxury.

New housing is almost always built for and sold to the high end of the marketplace. It was that way 100 years ago and 50 years ago. But as it ages, housing depreciates and moves down market. The luxury apartments of two or three decades ago have lost most of their luster, and command relatively lower rents. And the truth is, that's how we've **always generated** more affordable housing, through the process that economists call "filtering." And the new self-styled "luxury" apartments we're building today will be the affordable housing of 2040 and 2050 and later.

What causes affordability problems to arise is when we stop building new housing, or build it too slowly to cause aging housing to filter down-market. When new high-priced housing doesn't get built, demand doesn't disappear, instead, those higher-income households bid up the price of the existing housing stock, keeping it from becoming more affordable. Which is why otherwise prosaic 1,500-foot **ranch houses in Santa Monica** sell for a couple of million bucks, while physically similar 1950's era homes in the rest of the country are either now highly affordable—or candidates for demolition.

View original article [here](#)

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**Blog, Create a Range of Housing Opportunities and Choices**

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## **A Look Into 2019: Smart Cities and Smart Buildings**

*24 Jan 2019*



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**What If Hip  
Hop Can Make  
Architecture  
And Planning  
Better?**

*19 Nov 2018*



By Audrey F.  
Henderson  
via Next City  
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witter0Googl  
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## Steve Koper

---

**From:** G Lucini <grluci@gmail.com>  
**Sent:** Monday, March 25, 2019 2:09 AM  
**To:** Council; Steve Koper  
**Subject:** Citizen Comments LUCINI Basalt Creek Comp Plan Maps for Tualatin Council Meeting 3-25-19 & Hearing 4-8-2019 PTA 19-0001 & PMA 1--0001

**Please accept my Citizens Comments regarding the City of Tualatin proposed Basalt Creek Comprehensive Plan, Maps and associated documents (PTA 19-0001 & PMA 1--0001) for the City of Tualatin City Council Meeting on 3-25-2019.**

---My Comments are included within a google drive PDF file:  
2019 3-25 Comments LUCINI Basalt Creek Com Plan Maps -City Council 3-25 4-8-19.PDF

A second google drive PDF file is a supporting document to my Citizen Comments- This is ATTACHMENT #2 to my Citizen Comments  
2016 11-2 Effects of Construction BFR Lucini Prop. PDF

It would be appreciated if both PDF files are provided to the Council for their consideration

**Please accept my Citizens Comments regarding the City of Tualatin proposed Basalt Creek Comprehensive Plan, Maps and associated documents (PTA 19-0001 & PMA 1--0001) to be included within the City Council packet for the public hearing of the Tualatin City Council Meeting and hearing scheduled for 4-8-2019.**

---My Comments are included within a google drive PDF file:  
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It would be appreciated if both PDF files are provided to the Council for their consideration

Please let me know if there is any difficulty opening either file.

 [2019 3-25 Comments LUCINI Basalt Creek Comp Pla...](#)

 [2016 11-2 Effects Of Construction BFR Lucini Pr...](#)

Regards,  
Grace Lucini  
23677 SW Boones Ferry Road  
Tualatin OR 97062

3-24-2019

**CITIZEN COMMENTS--- FOR TUALATIN CITY COUNCIL MEETING 3-25-2019**

**AND FOR THE RECORD- FOR CITY COUNCIL MEETING 4-8-2019**

(Submitted 3-22-2019 for inclusion "Within City Council Packet" For 4-8-2019 Hearing --per City Planning Department Instructions)

**PROPOSED CITY OF TUALATIN BASALT CREEK COMPREHESIVE PLAN**

**AS PART OF REVISION/ADDITION TO CITY OF TUALATIN COMPREHENSIVE PLAN**

**PTA 19-0001/PMA 19-0001**

I respectfully submit the following Citizen Comments to the City of Tualatin Planning Commission and to the City of Tualatin City Council.

I apologize in advance for the length of these Comments.

I believe if the City had provided greater opportunity for Citizen Involvement starting with the development phase of the proposed Comprehensive Plan and had addressed and been considerate of Citizen Comments during the development of the PTA 19-0001/PMA 19-0001 (before or after the only Public Open House), several of these issues could have been resolved.

As this did not happen, I provide the following comments with requests for the City of Tualatin City Council to address prior to adopting PTA 19-0001/PMA 19-0001 on April 8, 2019 or thereafter.

I present four issues:

- 1. Stormwater Management- Lack of Map within PMA 19-10001 and narratives**
- 2. Park and Ride Facility Map- Location West of SW Boones Ferry Road (Figure 11-5 Tualatin Transit Plan)**
- 3. "Planned Pedestrian Path" Bike and Pedestrian Plan (Figure 11-4) vs Conceptual Trail Opportunity-Not Site Specific**
- 4. Public Involvement- Pertaining to the Basalt Creek Comprehensive Plan and related maps and documents**

These issues are presented with supporting information from relevant Oregon's Statewide Planning Goals and other documents in the following pages.

In addition, I present a request to consider applying wetland mitigation funds (when necessary) to be made to benefit the local natural resources within the Basalt Creek Area that are impacted by development.

## **ISSUE #1 STORMWATER MANAGEMENT**

**LACK OF STORMWATER MANAGEMENT MAP within PMA 19-10001**

**Questionable compliance with:**

**STATEWIDE GOAL 2 LAND USE PLANNING- ZONING**

**STATEWIDE GOAL 5 NATURAL RESOURCES**

**STATEWIDE GOAL 6 AIR, WATER AND LAND REQOURCES QUALITY**

**STATEWIDE GOAL 11 PUBLIC FACILITIES AND SERVICES**

**STATEWIDE GOAL 14 URBANIZATION**

**STATEWIDE GOAL 1 PUBLIC INVOLVEMENT**

The only public Open House for the proposed Basalt Creek Comprehensive Plan held by the City on 1-22-2019 did not contain any information relating to Storm Water Management within the 4 posters presented.

### **PUBLIC UTILITY INFRASTRUCTURE---AS STATED Basalt Creek Comprehensive Plan Update EXHIBIT 1 SECTION A**

*“As illustrated within the Water Plan and Sanitary Sewer Plan (Maps 12-1 and 13-1, Exhibit 11), public utilities will be extended south of the existing city limit to serve the Basalt Creek Planning Area. **Because no storm water system currently exists in the area aside from existing conveyance adjacent to the street system, a new conveyance system will need to be installed along the new roadways. In addition, site development runoff will need to be treated and detained, if necessary, before being discharged to the public drainage systems consistent with Clean Water Services standards.**”*  
(emphasis added)

**PMA 19-0001** Does not include a map of stormwater infrastructure for utilization immediately upon adoption of the Basalt Creek Comprehensive Plan and receipt of applications from developers.

- The lack of a public facilities infrastructure map
  - is not consistent with Statewide Planning Goals for coordination of public services and infrastructure
  - creates a void of necessary information and path towards urbanization of the Basalt Creek Area as PMA 19-0001 does contain Water Map 12-1 and Sewer Map 13-1 (Attachment 1)
- Does not provide necessary information for addressing impact of Stormwater upon abundant natural resources within the Basalt Creek Area and into the Willamette Watershed for the Willamette River.

- Does not provide necessary information to address the significant topographical changes within the Basalt Creek Area.
- Does not address impact of urbanization on existing wetlands, water quality, impact on local aquifers and wells
- Does not address where stormwater retention, reabsorption, or treatment facilities will be located
  - “size of facilities will be proportional to the size of developments”
  - Basalt Creek Concept Plan indicates developments involving large numbers of acres
  - Existing large stormwater catchment basins, and wetlands will be significantly impacted with development- onsite stormwater management facilities are not identified
- Does not provide visual information to help identify potential conflicts between Zoning designations indicated within Basalt Creek Concept Plan, and existing stormwater catchment basins and known wetlands.

#### **The Findings Report within PTA 19-0001 for Stormwater Management**

- Appears to minimize amount of existing Stormwater infrastructure- some of which were installed with SW Boones Ferry Road Improvement and 124th Ave Project infrastructure
  - for street runoff and
  - existing infrastructure which does not handle street runoff
- Does not address actions needed to integrate stormwater management with other agencies/governments which have jurisdiction/management over some streets or Natural Areas within the area
- Does not address or resolve the conflict of existing conditions, natural resources, stormwater management with proposed zoning and development

#### **Other Governments- Coordination Planning & Implementation**

The Comprehensive Plan does not clearly identify how or when cooperative evaluation, planning and roles for implementation of stormwater management infrastructure with other local governments will be addressed prior to accepting development applications.

The proposed Comprehensive Plan relies upon compliance with CWS standards (possibly in revision) but does not provide guidance how these standards will be implemented when multiple local governments are involved and their regulations may exceed CWS standards.

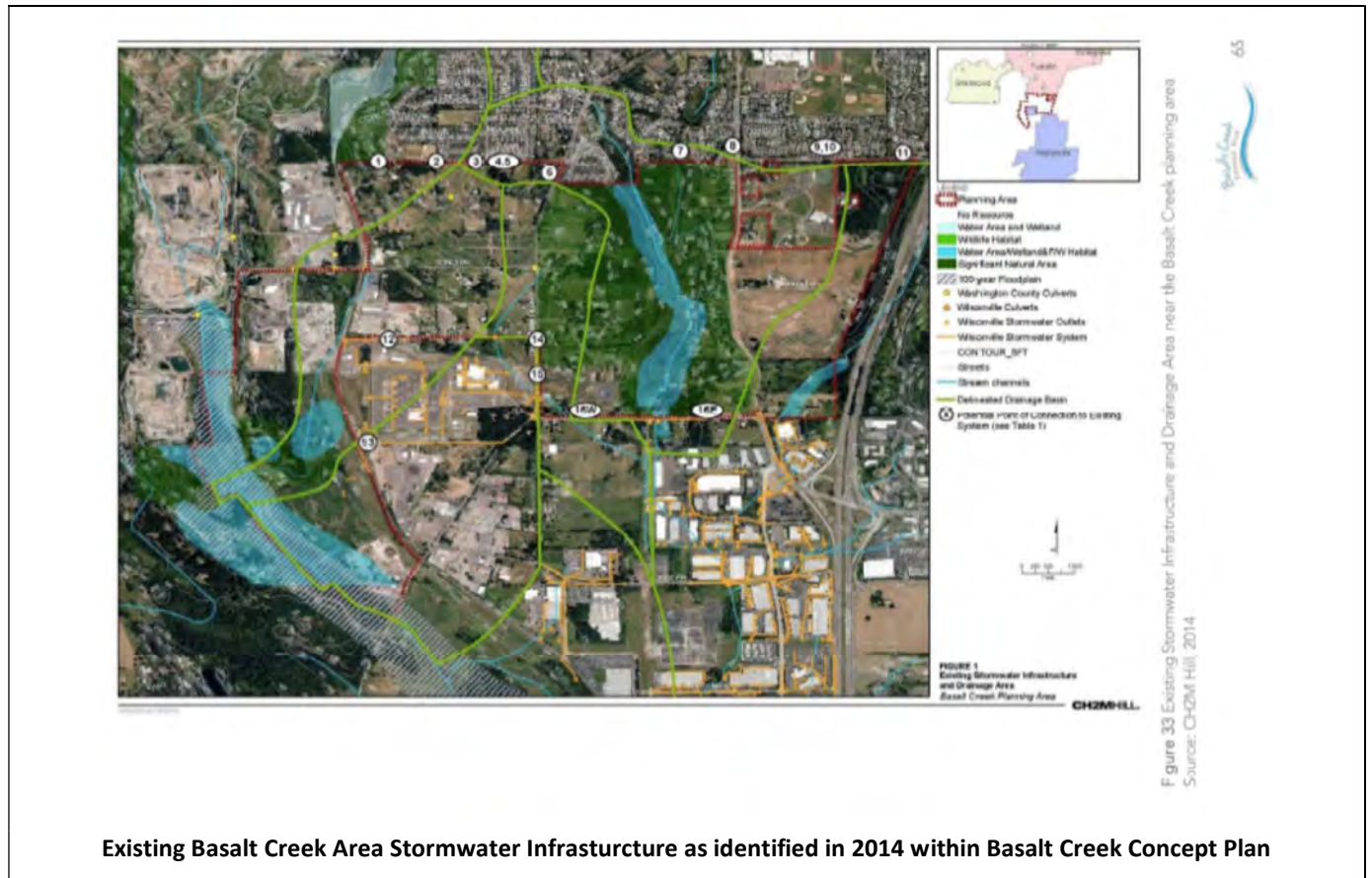
- Some stormwater treatment facilities within the Basalt Creek Area are at maximum capacity- even new stormwater infrastructure created with the SW Boones Ferry Road Improvement Project.

- The proposed Comprehensive Plan for stormwater management relies upon improvement caused by the creation of new streets. However, some major arterials including SW Boones Ferry Road remain under the jurisdiction of other local governments- may not be replaced concurrently with initial developments.
- Due to the joint management of the Basalt Creek “Natural Areas” stated within the Basalt Creek Concept Plan, a clear role of the cooperative management of stormwater from the northern portion of the Basalt Creek Area into the Willamette Watershed and into the City of Wilsonville has not been addressed.
- A clear plan of timing or role of other local governments in evaluating and addressing necessary stormwater management infrastructure improvements has not been provided-and should be functional prior to initiation of development of the Basalt Creek Area.

**Existing Conditions- Existing Stormwater Infrastructure**

**- Integration - New Zoning- Other Governments Prior To Development**

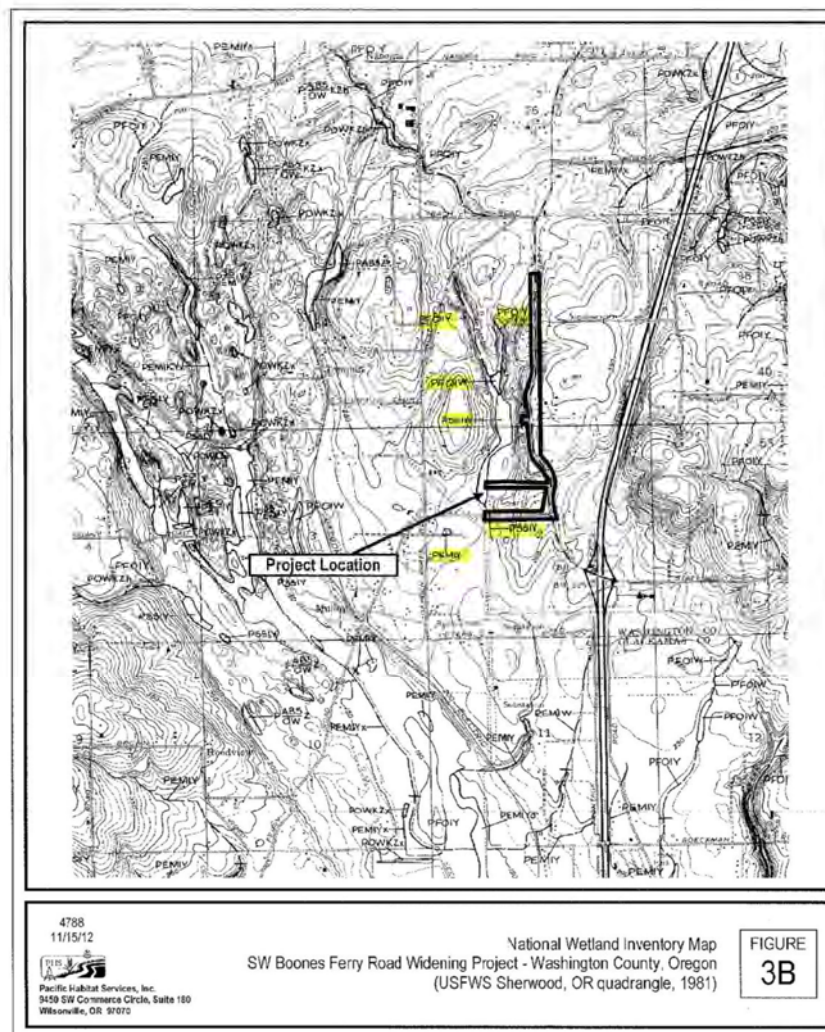
A functional Stormwater Management Plan for development and urbanization requires a current assessment of the existing infrastructure included within the Plan to lead decision making and planning. The Informational Packet on the proposed Basalt Creek Comprehensive Plan includes a map from 2014 within the Basalt Creek Concept Plan appendix..



**Existing Basalt Creek Area Stormwater Infrastructure as identified in 2014 within Basalt Creek Concept Plan**

The Since 2014, the SW Boones Ferry Road Improvement Project by Washington County has altered stormwater management within the Basalt Creek Area- particularly along the east and west sides SW Boones Ferry Road and stormwater catchment areas through changes to topography, removal of existing piping, removal of trees and vegetation, soil compaction, constructions of roads and sidewalks and/or infill of previously existing lowland catchment areas. Other recent public road projects have also changed the information contained within the 2014 report.

The Basalt Creek Area has several known large wetlands which may be under the jurisdiction of the State or Federal government only some of which are identified the Comprehensive Plan Informational Packet. The Basalt Creek Area has additional numerous smaller wetlands- some which still require wetland delineation to determine water jurisdiction. The quality and volume of stormwater runoff into these waters requires multigovernmental planning to established a cohesive effective plan for the entire Basalt Creek Area and Natural Areas.



**2012 National Wetland Inventory Map -SW Boones Ferry Road Improvement Project (Washington County)**

The State of Oregon has identified the need for a stormwater management plan which addressed the impact to wetlands and the need for coordination with other local governments as part of management (ORS 196.668). These factors need to be addressed when developing a Comprehensive Plan for urbanization of hundreds of acres with numerous wetlands.

(ORS 196.668)“Wetlands provide a natural means of flood and storm damage protection through the absorption and storage of water during high runoff periods, thereby reducing flood crests and preventing loss of life and property”;

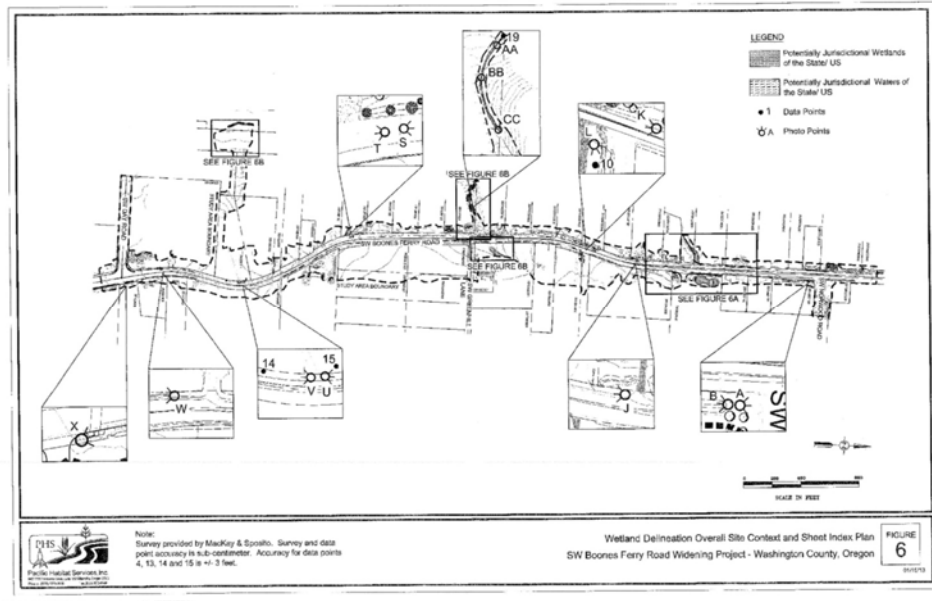
- “Wetlands act as accumulation areas for sediments which retain nutrients and other pollutants that may prevent entry of the pollutants into other waterways”;
- “Wetlands provide a valuable public service of maintaining clean water by retaining nutrients, metals and toxic materials from the water to protect water quality”
- “There is continuing development pressure on wetlands in Oregon”;
- “There are often conflicts between wetland protection and other resource values and uses”;
- “**Uncoordinated regulation of wetlands by local, state and federal agencies can cause confusion, frustration and unreasonable delay and uncertainty for the general public**” (emphasis added); <sup>FOOTNOTE 9</sup>

#### **Impacts of Construction- Development on Existing Wetlands and Stormwater Catchment Basins**

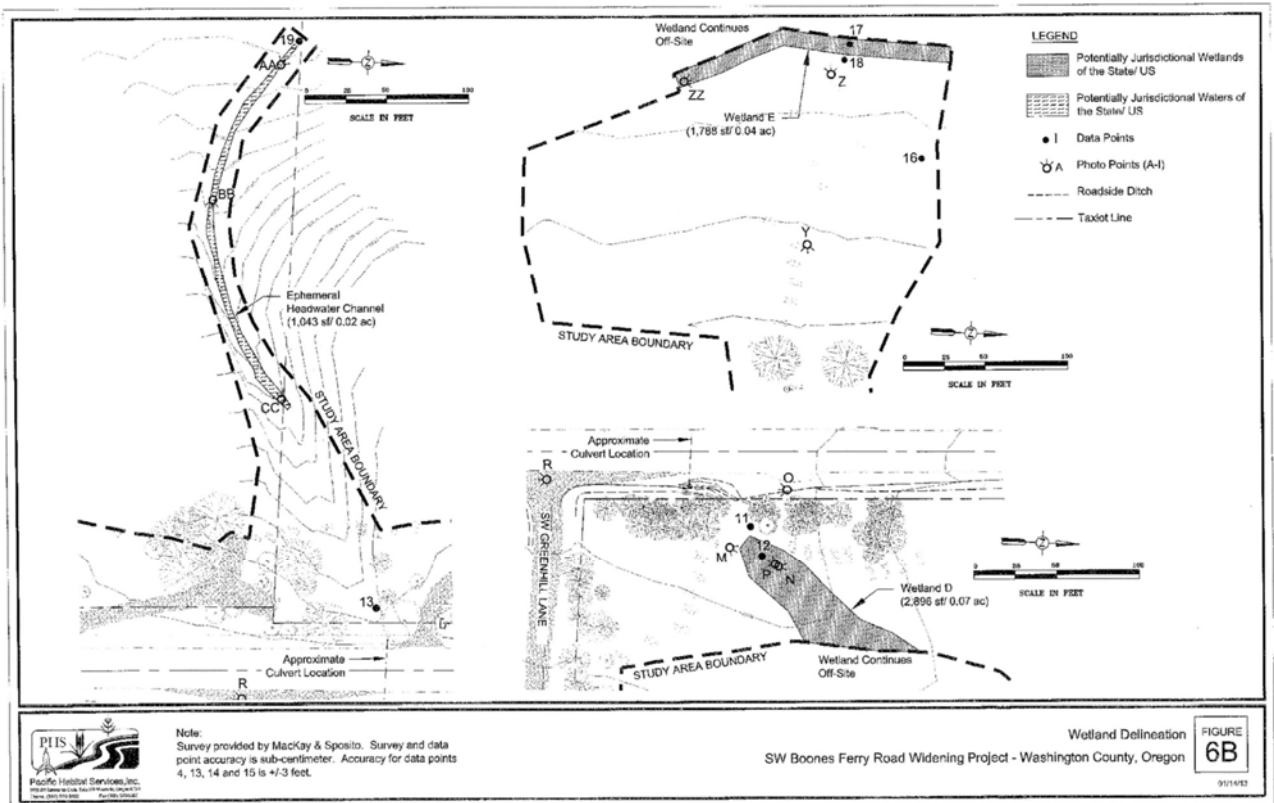
The construction of one project can cause significant stormwater impact downstream and upon properties at lower elevations-- which might only be realized over the course years.

The SW Boones Ferry Road Improvement Project by Washington County caused alterations to existing stormwater collection and drainage. The project infilled and removed of a portion of identified wetlands at the NE corner of SW Boones Ferry Road and Greenhill Lane to raise the level of the area for the placement of the new SW Boones Ferry Road.

Although the scope of the report below is narrow, it is apparent within the Wetland Delineation Report for the SW Boones Ferry Road Improvement Project Sheet 6 and 6 B (below) the wetland identified on the right side of Sheet 6B extends even further to the north and to the east than just within the scope of the Project study.



2013 Wetland Delineation Map from SW Boones Ferry Road Improvement Project  
 Indicating Identified Wetlands “Potentially Jurisdictional Wetlands of the State/US”



**Detail Map of Wetlands “Potentially Jurisdictional Wetlands of the State/US” which were infilled as part of the SW Boones Ferry Road Improvement Project” North of Greenhill Lane and East of SW Boones Ferry Road.**  
**Only part of the entire wetland within the scope of the Wetland Delineation Report for the Project.**  
**However Map indicates the extension of the wetland further north of Greenhill Lane.**



### Proposed Land Use Zoning over Drainage Basin and Wetlands

The proposed Basalt Creek Comprehensive Plan indicates zoning for the NE corner of SW Boones Ferry Road and Greenhill Lane dictates a “Comercial Neighborhood” zoning directly over the partially identified wetland in the SW Boones Ferry Road Improvement Project Wetland Deletion Report Sheets 6A and 6B (above).

The Basalt Creek Comprehensive Plan dictates the NE corner of SW Boones and Greenhill Lane will be a “Neighborhood Commercial” and the land north and east of the corner to be “Medium Low Residential” and also “High Residential” developments.

The lack of an integrated cohesive Stormwater Management Plan when planning for zoning, and other public service facilities does not address how the remaing wetlands which is part of the existing stormwater catchment basin for the 50+ acers to the north of Greenhill Lane, will be impacted when Comercial and Residential Development occures as identified within the Community Plan Map and the Basalt Creek Concept Plan Zoning Map.

- These types of development if required in the specified location will require the infill of the wetland, leveling of the land, and displacement of the existing stormwater catchment basin and wetlands.
- The Basalt Creek Comprehensive Plan does not provide a plan to address the conflicting uses and functions of Neighborhood Comercial Zoning and Residential Zoning over the main stormwater catchment basin for the majority of the acerage north of Greenhill Lane.
  - Removal of existing wetlands and catchment basin will impact the lands ability to retain and absorb stormwater.
  - Leveling of topography and removal of other existing factors which previously reduced volume and vilosity of stormwater to other areas throughout the area will no longer be available.
  - Addition of factors which reduce stormwater absorption and increase runoff are the impermeable surfaces, compaction of soil created with development.

The proposed Basalt Creek Comprehensive Plan Stormwater Management Plan does not indicate where storm water retention or stormwater treatment facilities will be located for 50+ acers north of Greenhill Lane. The Basalt Creek Comprehensive Plan Stormwater Management Plan does not indicate a plan how stormwater will be connected to existing infrastructure along streets – which may not be replaced; nor address the capacity of existing infrastrure to accept additional loads. As parts of SW Boones Ferry Road and their Right of Way is under the jurisdiction of other goverments, this issue becomes more complicated.

# Community Plan Map (Map 9-1)



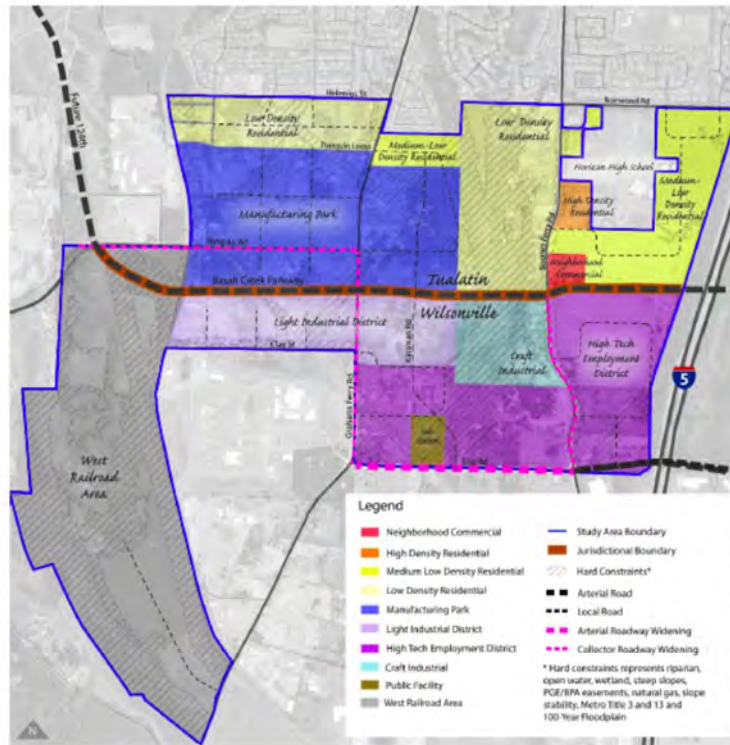
- |  |  |  |
|--|--|--|
| <b>Residential</b><br>RL Low Density (3-6-4)<br>RML Medium-Low Density (7-10)<br>RML Medium-High Density (11-15)<br>RH High-Density (16-25)<br>RHNR High Density/High Rise (26-30) | <b>Manufacturing</b><br>ML Light<br>MG General<br>MP Park<br>MBP Manufacturing Business Park | <b>Institutional</b><br>IN Institutional |
|--|--|--|
- 
- |   |   |
|---|---|
| <b>Commercial</b><br>CO Office<br>CC General<br>CG General<br>CN Neighborhood | CP Recreational<br>COMR Mid-Rise Office<br>MC Medical |
|---|---|
- Steering Area Boundary  
 City of Tualatin

## Basalt Creek Comprehensive Plan Update Overview



19

**Zoning Map for Acreage North of Greenhill Lane -Over Existing Large Stormwater Catchment Basin**



- Legend**
- |   |   |
|---|---|
| Neighborhood Commercial<br>High Density Residential<br>Medium Low Density Residential<br>Low Density Residential<br>Manufacturing Park<br>Light Industrial District<br>High Tech Employment District<br>Craft Industrial<br>Public Facility<br>West Railroad Area | Study Area Boundary<br>Jurisdictional Boundary<br>Hard Constraints*<br>Arterial Road<br>Local Road<br>Arterial Roadway Widening<br>Collector Roadway Widening |
|---|---|
- \* Hard constraints represents riparian, open water, wetland, steep slopes, PCE/BPA easements, natural gas, slope stability, Metro Title 3 and 13 and 100 Year Floodplain

**Basalt Creek Concept Zoning Map for Acreage North of Greenhill Lane**

**-Over Existing Large Stormwater Catchment Basin**

I would like to remind the City of Tualatin of previous written and verbal communications with the City as to the substantial stormwater flooding at my home and property which occurred on May 18, 2015 from water exiting from Outflow #5 created as part of the SW Boones Ferry Road Improvement Project- a Washington County project. These communications included a document, "Effects of SW Boones Ferry Road Construction (2013-2015) Stormflow Anaylyssis for the Lucini Property Washington County, Oregon by Liberte Enviornmental Associates, Inc. Wilsonville Oregon." (attachment 2- included as 2nd PDF with email )

The stormwater catchment area for Outflow #5 is the area east of SW Boones Ferry Road and north of Greenhill Lane. The two intake manholes created and located for Outflow #5 as part of the SW Boones Ferry Improvement Project are east of SW Boones Ferry Road and outside of the roadrunoff system created with the Project.

A large stormwater facility installed on the west side of SW Boones Ferry Road and west of Greenhill Lane as part of the SW Boones Ferry Road Improvement Project is already near capacity serving the street runoff from a portion of the project.

The City is already aware though public statements during Council Meetings and other communications, the owners of 45+ acers of the land east of SW Boones Ferry Road and north of Greenhill Lane are eager to start development. Yet the location of a detention, reabsorption or treatment facility/ies of the scale large enough to handel this very large block of aceage is not addressed within the Basalt Creek Comprehensive Plan or accompanying Maps.

## **REQUESTS TO THE CITY OF TUALATIN CITY COUNCIL- STORMWATER MANAGEMENT PLAN**

I request the City Council of Tualatin to include a Stormwater Management Plan within Basalt Creek Comprehensive Plan along with a Basalt Creek Stormwater Management Infrastructure Map and supporting information providing:

- Current information on existing stormwater management infrastructure within the Basalt Creek Area integrated with future infrastructure needs and plans
- Clear Stormwater Management Strategy Plan
  - Plan ready for implementation along with other necessary public facilities/services at start of urbanization
  - With participation of other affected governments- including integration of stormwater management into existing and planned infrastructure
  - Plan addressing protection of natural resources found in abundance within the area, and methods to incorporate existing stormwater infrastructure with increased needs from new development.
  - Which integrates proposed zoning and development with existing stormwater drainage basins and catchment areas- and evaluates/addresses consequential downstream impact upon existing development and natural resources.
- City to include an additional requirement to future development to include assessment and mitigation of Average Daily Water Volume discharge within their Stormwater Management Plan, to provide protection from constant impact downstream- including slopes, habitat, wetlands, existing development
- It is also requested the City of Tualatin Basalt Creek Comprehensive Plan specify a desire for stormwater management be addressed on site and/or as close to the upstream genesis of the stormwater as possible- as part of future developments.
- It is also requested the City of Tualatin Basalt Creek Comprehensive Plan be cognizant of the source of many existing Basalt Creek residents' water is from their wells and the local aquifers, and the existing wetlands and catchment basins assist with the recharging of the aquifers.
  - It is requested the City of Tualatin specify a desire with future development -for stormwater to be retained on site with intent for reabsorption to assist with charging the local aquifers-conveying stormwater to another location will reduce the ability to recharge local aquifers.
  - It is requested the Comprehensive Plan address the impact of development upon the quality/contamination and amount of water available to existing wells and residents, which may be caused by soil compaction or other mechanical/physical disruption to the wells or aquifers.

**SPECIFIC REQUEST FOR PMA 19-0001 FOR STORMWATER MANAGEMENT MAP:**

To facilitate the understanding of the multiple factors addressing stormwater management--It is requested PMA 19-0001 Stormwater Management Map include:

- 1) stormwater piping from developments and roads to outflows
- 2) locations for any regional stormwater detention/retention facilities
- 3) locations for any regional stormwater treatment facilities
- 4) include an overlay of the locations of known wetlands within stormwater management maps
- 5) include an overlay of the locations of creeks streams leading to known wetlands within stormwater management maps
- 6) include an overlay of the locations of steep slopes stormwater management maps

Statewide Goal #14 URBANIZATION 660-015-0000(14)

*..." To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.."*

*..."The type, location and phasing of public facilities and services are factors which should be utilized to direct urban expansion."*

Statewide Goal # 11 Public Facilities OAR 660-015-0000(11)

*"A Timely, Orderly, and Efficient Arrangement - refers to a system or plan that coordinates the type, locations and delivery of public facilities and services in a manner that best supports the existing and proposed land uses."*

*"The goal's central concept is that public services should to be planned in accordance with a community's needs and capacities rather than be forced to respond to development as it occurs"*

*..." A provision for key facilities shall be included in each plan"...*

*..."Urban Facilities and Services Refers to key facilities and to appropriate types and levels of at least the following: police protection; sanitary facilities; storm drainage facilities"...*

*"...The level of key facilities that can be provided should be considered as a principal factor in planning for various densities and types of urban and rural land uses..."*

*Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests in carrying out the goal*

Statewide Goal #2 Land Use Planning OAR 660-015-0000(2)

*"...To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions"*

*..." Affected Governmental Units -are those local governments, state and federal agencies and special districts which have programs, land ownerships, or responsibilities within the area included in the plan"...*

*..."Each plan and related implementation measure shall be coordinated with the plans of affected governmental units. Affected Governmental Units -are those local governments, state and federal agencies and special districts which have programs, land ownerships, or responsibilities within the area included in the plan"...*

***"...Opportunities shall be provided for review and comment by citizens and affected governmental units during preparation, review and revision of plans and implementation ordinances"** (emphasis added)...*

Statewide Goal # 5 Natural Resources OAR 660-015-0000(5)

Local governments shall adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. These resources promote a healthy environment and natural landscape that contributes to Oregon's livability....

The conservation of both renewable and non-renewable natural resources and physical limitations of the land should be used as the basis for determining the quantity, quality, location, rate and type of growth in the planning area.

Statewide Goal #6 Air, Water, and Land Resources Quality OAR 660-015-0000(6)

To maintain and improve the quality of the air, water and land resources of the state. All waste and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards. With respect to the air, water and land resources of the applicable air sheds and river basins described or included in state environmental quality statutes, rules, standards and implementation plans, such discharges shall not (1) exceed the carrying capacity of such resources, considering long range needs; (2) degrade such resources; or (3) threaten the availability of such resources.

Statewide Goals # 1 Citizen Involvement OAR 660-015-000(1).

*“To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process. The governing body charged with preparing and adopting a comprehensive plan shall adopt and publicize a program for citizen involvement that clearly defines the procedures by which the general public will be involved in the on-going land-use planning process”*

*“Citizen Influence -- To provide the opportunity for citizens to be involved in all phases of the planning process. Citizens shall have the opportunity to be involved in the phases of the planning process as set forth and defined in the goals and guidelines for Land Use Planning, including Preparation of Plans and Implementation Measures, Plan Content, Plan Adoption, Minor Changes and Major Revisions in the Plan, and Implementation Measures*

*Citizens shall have the opportunity to be involved in the phases of the planning process as set forth and defined in the goals and guidelines for Land Use Planning, including Preparation of Plans and Implementation Measures, Plan Content, Plan Adoption, Minor Changes and Major Revisions in the Plan, and Implementation Measures.”*

*“The general public, through the local citizen involvement programs, should have the opportunity to review and make recommendations on proposed changes in comprehensive land-use plans prior to the public hearing process to formally consider the proposed changes.”*

*The citizen involvement program shall be appropriate to the scale of the planning effort. The program shall provide for continuity of citizen participation and of information that enables citizens to identify and comprehend the issues*

*Communication -- To assure effective two-way communication with citizens. Mechanisms shall be established which provide for effective communication between citizens and elected and appointed officials*

## Water (Map 12-1) and Sewer (Map 13-1)



Basalt Creek Comprehensive Plan Update Overview



CITY OF  
**TUALATIN** OREGON

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Maps of Proposed Infrastructure of Public Services within Basalt Creek Comprehensive Plan  
Map of Stormwater Management Plan- not provided within Basalt Creek Comprehensive Plan



ATTACHMENT 2,

“Effects of SW Boones Ferry Road Construction (2013-2015) Stormwflow Anaylysis for the Lucini Property Washington County, Oregon by Liberte Enviornmental Associates, Inc. Wilsonville Oregon.”

(SEE ATTACHMENT PDF TO EMAIL) 2016 11-2 Effects of Construction BFR Lucini Prop

## **ISSUE #2 PROPOSED PARK AND RIDE FACILITY -West of SW Boones Ferry Road**

### **Questionable compliance with:**

**STATEWIDE GOAL 12 TRANSPORTATION**

**STATEWIDE GOAL 11 PUBLIC FACILITIES AND SERVICES**

**STATEWIDE GOAL 5 NATURAL RESOURCES**

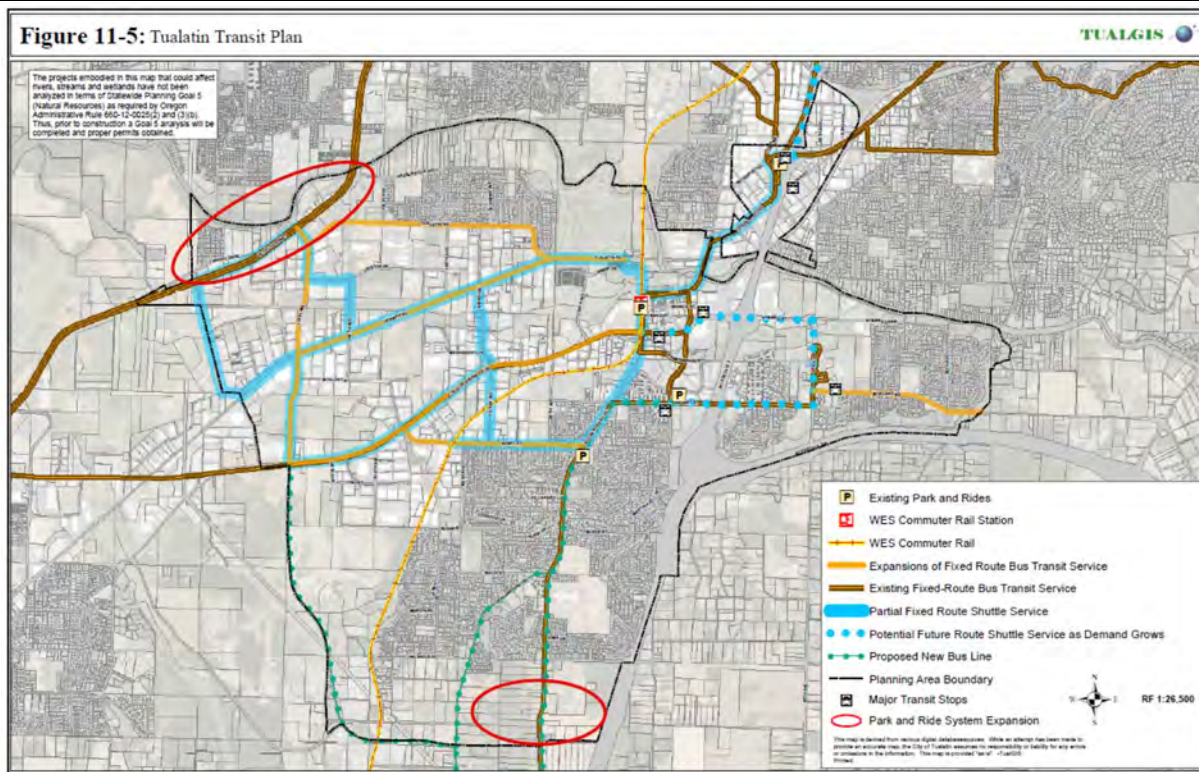
**STATEWIDE GOAL 6 AIR WATER AND LAND RESOURCES QUALITY**

**STATEWIDE GOAL 14 URBANIZATION**

**STATEWIDE GOAL 2 LAND USE PLANNING**

**STATEWIDE GOAL 1 PUBLIC INVOLVEMENT**

The document included within the Informational Packet for the proposed Basalt Creek Comprehensive Plan includes Figure 11-5: Tualatin Transit Plan



**Proposed Park and Ride Facility Identified East and West Sides SW Boones Ferry Road**



**Close Up View Proposed Park and Ride Facility- southern Tualatin**

The information on the proposed location of a Park and Ride Facility within the Basalt Creek Area was not presented during the only Public House for the proposed Basalt Creek Comprehensive Plan held by the City on 1-22-2019.

Lack of previous discussion on the possibility of this transit facility west of SW Boones Ferry Road within the southern portion of Tualatin during public presentations on Basalt Creek Concept Planning, nor after adoption of the Basalt Creek Concept Plan-- during public presentations on Basalt Creek Comprehensive Planning-- did not provide for Citizen Involvement prior to the posting of this information first week of March 2019.

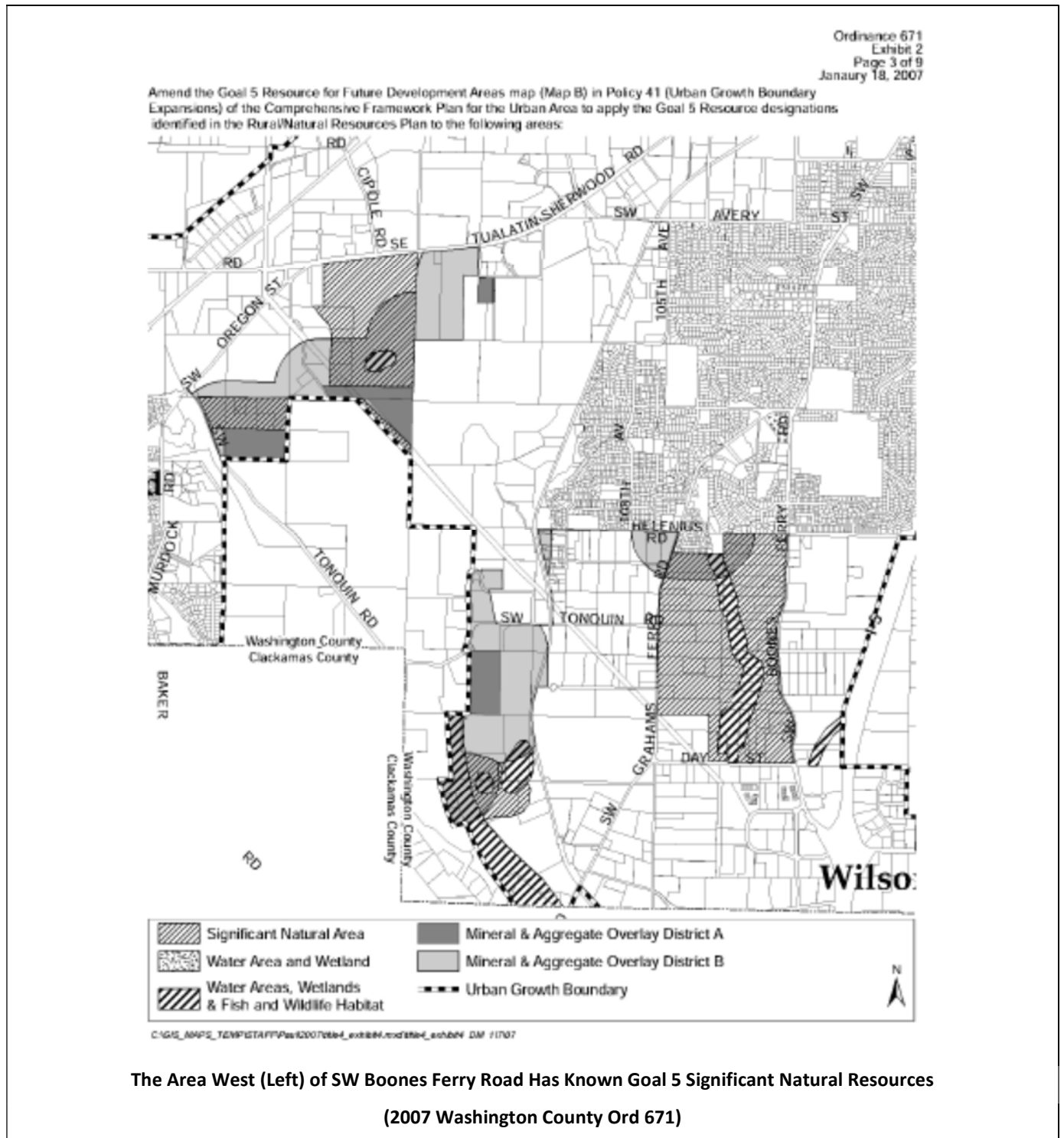
### **Known Existing Natural Resources**

The proposed location of a Park and Ride parking lot including the west side of SW Boones Ferry Road, does not appear to have considered:

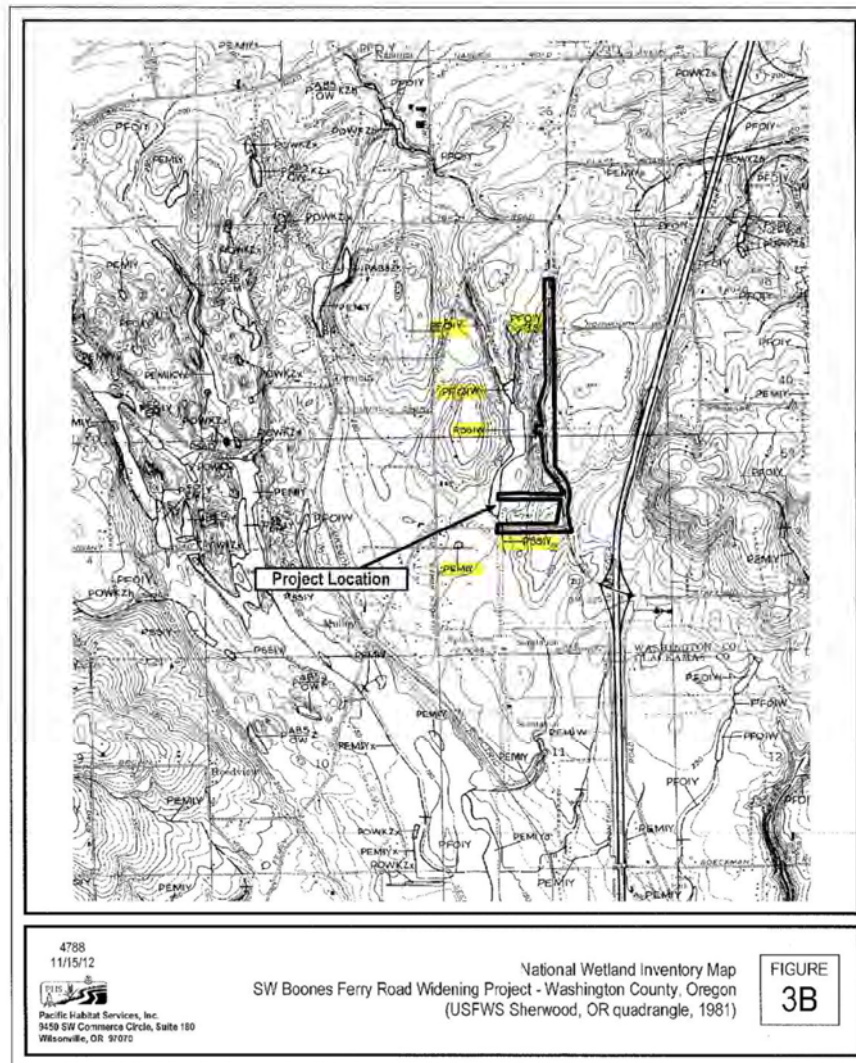
- the significant existing conditions and natural resources west of Boones Ferry Road
  - known steep slopes some in excess of 25%
  - known wetlands
  - known high value habitats
- the limited connectivity west of Boones Ferry Road
- the proposed zoning west of Boones Ferry Road with livability and safety issues

Metro 04-1040B – the governing document leading to the Basalt Creek Concept Plan, specified local governments were to protect natural resources within the “Tualatin Area” and specifically included a large list of the natural resources which were to be protected.

In 2007 Washington County as part of Ordinance 671, identified the area between SW Boones Ferry Road and SW Grahams Ferry Road, as Goal 5 Resource Designations and Significant Natural Area and/or Water Areas, Wetlands & Fish and Wildlife Habitat (see below)



In 2012 the Wetland Delineation Report for SW Boones Ferry Road Improvement Project (Washington County) identified several wetlands west of SW Boones Ferry Road



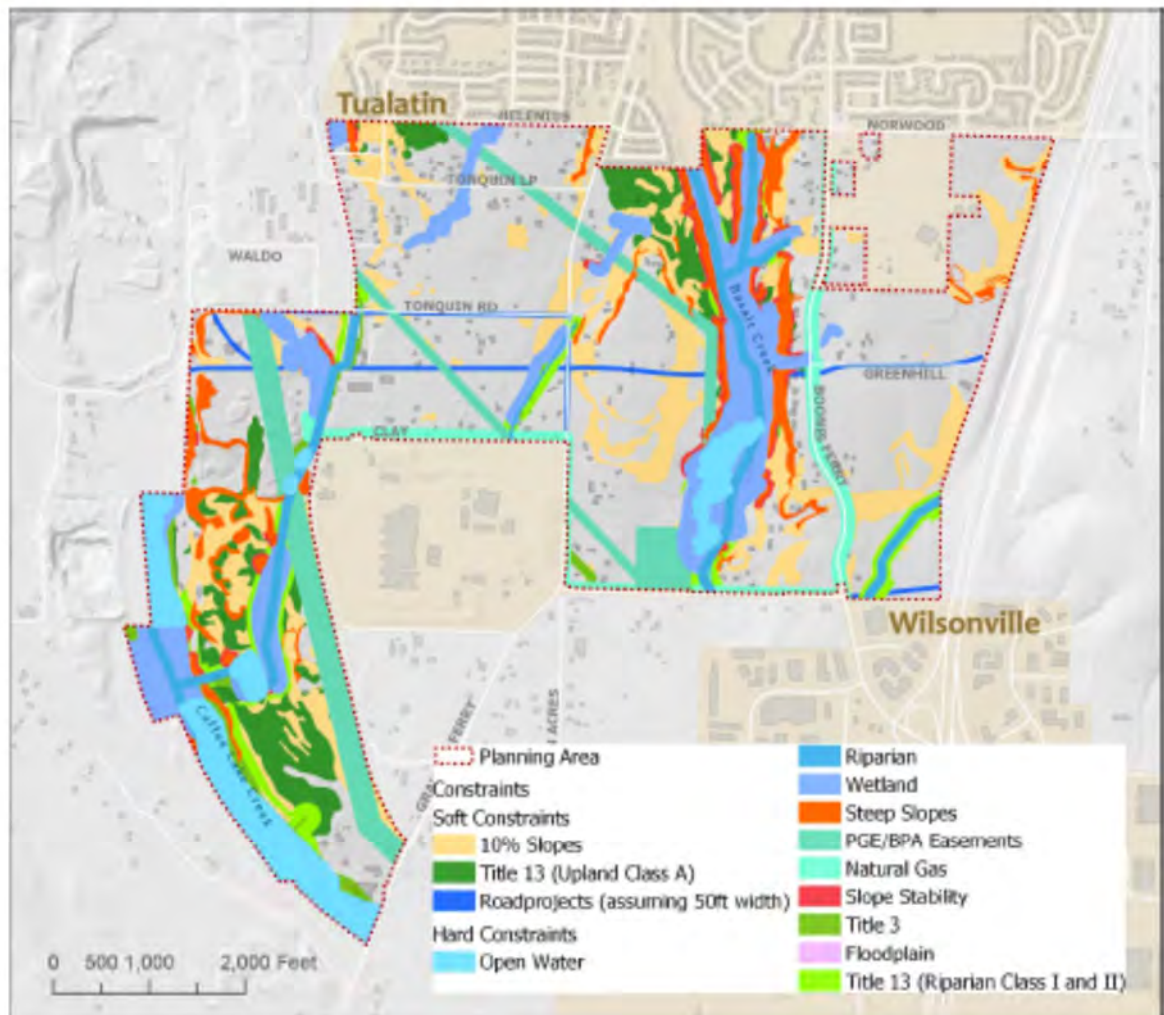
**2012 National Wetland Inventory Map -SW Boones Ferry Road Improvement Project  
-Known Wetlands West (Left) of SW Boones Ferry Road  
Within Area Identified for Park and Ride Facility within Proposed Comprehensive Plan**

Many supporting maps from the Informational Packet from the proposed City of Tualatin Comprehensive Plan clearly identify the area west of SW Boones Ferry Road contains many of the natural resources the Plan states will be protected.

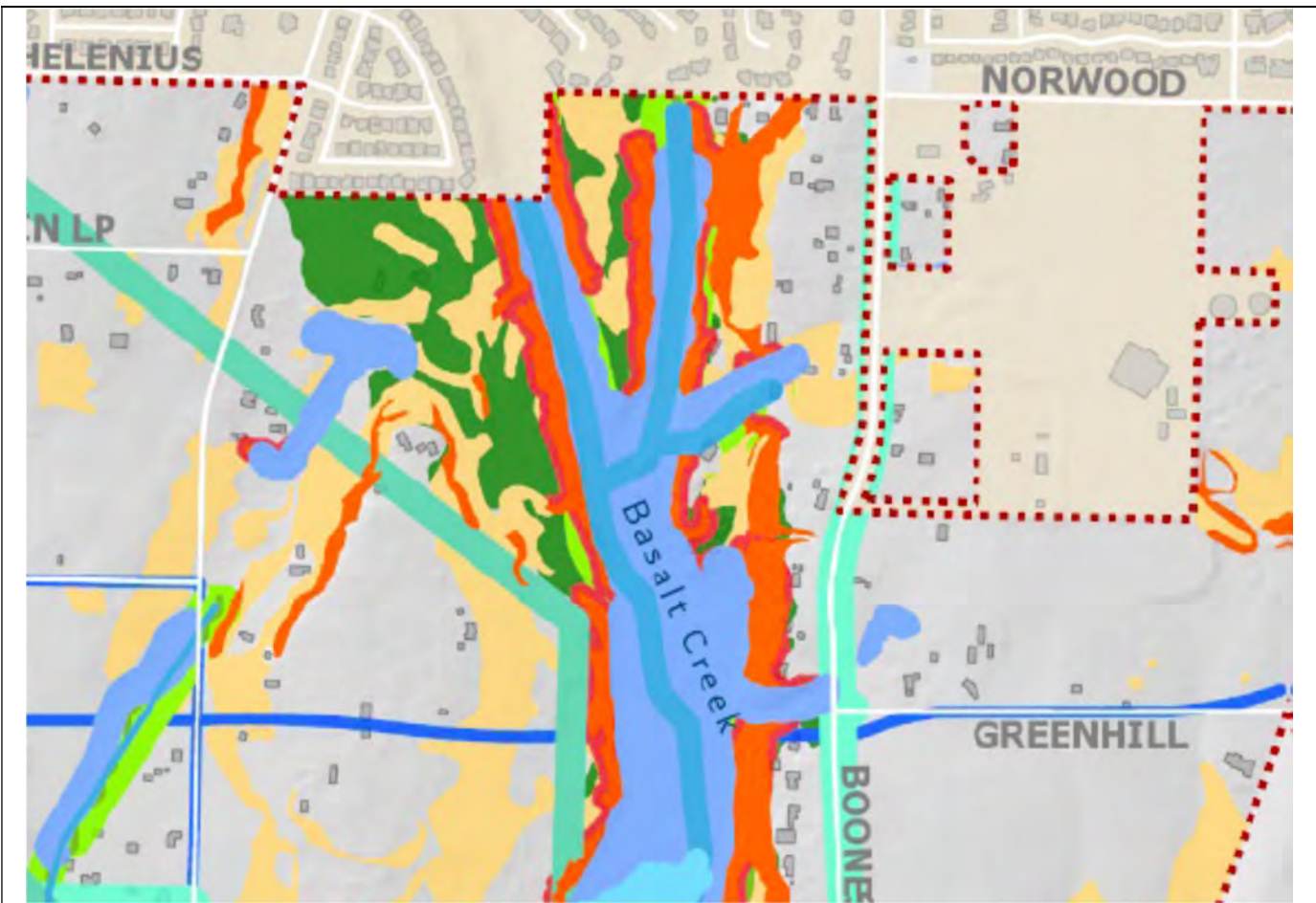
Environmental constraints are summarized below and unless otherwise noted were fully excluded from the developable land input in the scenario testing for the Basalt Creek Concept Plan:

- Open Water
- Streams
- Wetlands
- Floodplains (50% reduction of developable area)
- Title 3 Water Quality and Flood Management protections
- Title 13 Nature in Neighborhoods (20% reduction of developable area in areas designated Riparian Habitat Classes I and II)
- Steep Slopes (25% slopes and greater)

Figure 13 Natural Resources Map



**Known Significant Natural Resources Listed and Location Identified within Basalt Creek Area  
(Basalt Creek Concept/Plan Comprehensive Plan)**



**Closeup (from above) SW Boones Ferry Road of Known Significant Natural Resources Basalt Creek Area  
West Side (Left) of SW Boones Ferry Road Location of Proposed Park and Ride Facility  
Over Significant Natural Resources City Required to Protect**

## Steep Slopes

Steep slopes were analyzed using RLIS data and digitized slopes by Fregonese Associates using a 3-foot digital elevation model (DEM) provided by Metro (Figure 44). Using RLIS, only 41 acres of steep slopes were identified. The 3-foot DEM provides additional accuracy and added nine additional acres of steep slopes, for a total of 50 acres of slopes. The analysis includes non-isolated slopes, greater than half an acre, natural and or along a riparian area. These areas are excluded from the analysis.

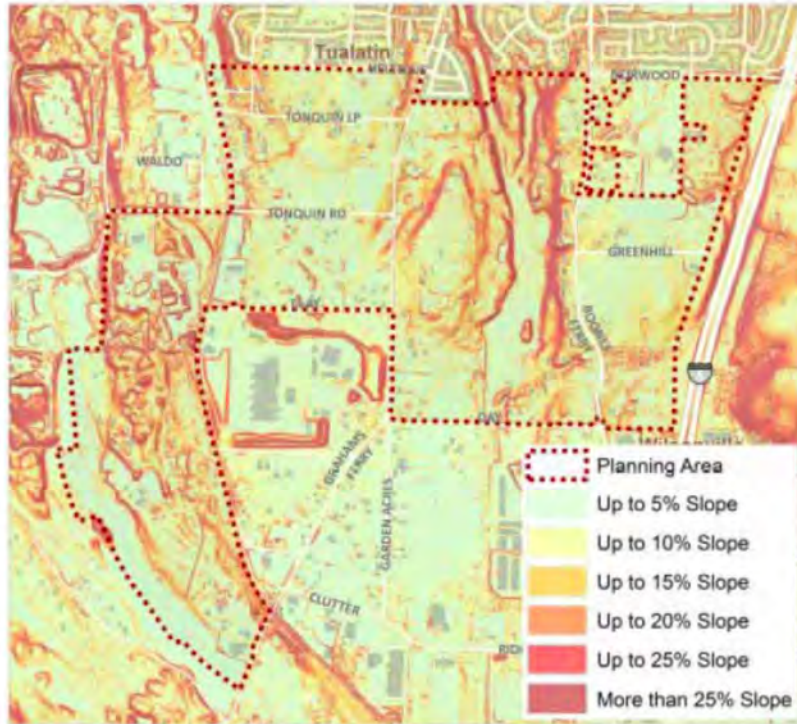


Figure 44 Map showing classification of slopes by steepness in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.



### Known Steep Slopes Within Basalt Creek Area (Basalt Creek Concept Plan)

Slopes More Than 25% Identified West (Left) of SW Boones Ferry Road

--Area of Proposed Park and Ride Facility



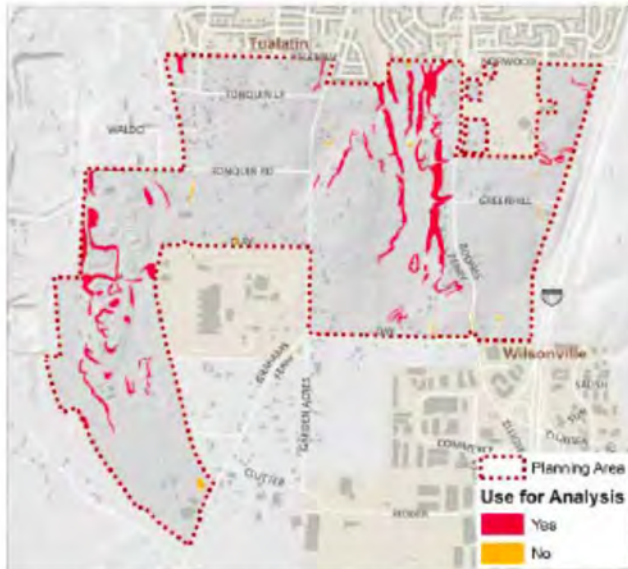


Figure 45 Slopes over 25% in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

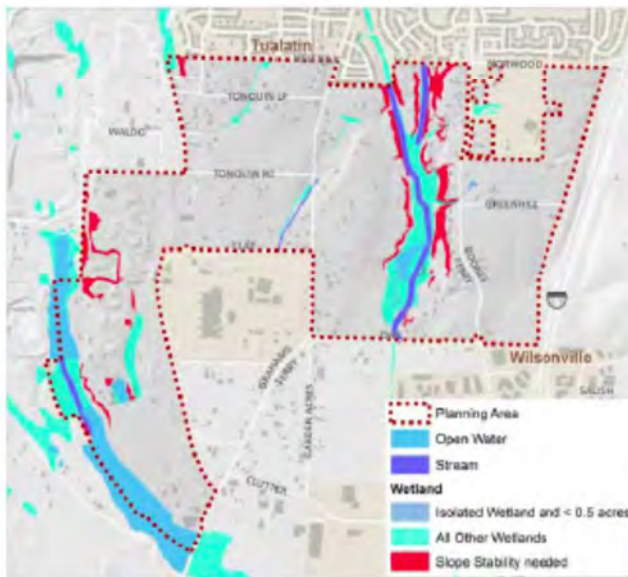


Figure 46 Slope stability in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

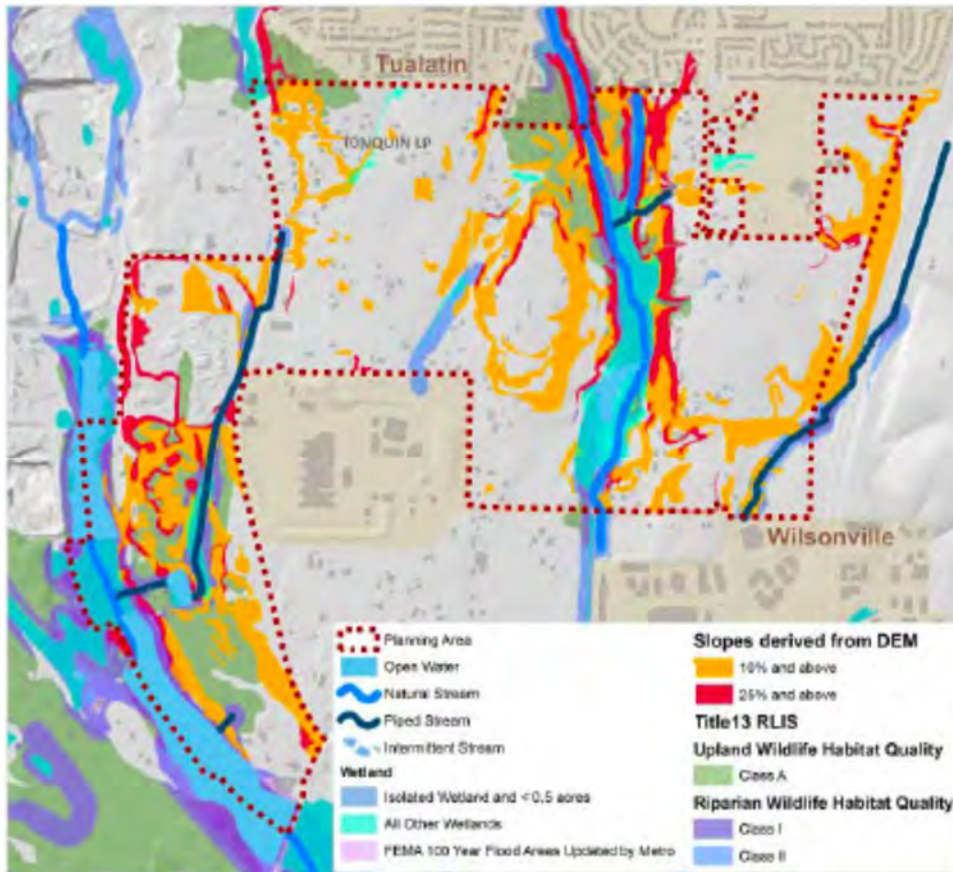
**Additional Maps of Known Steep Slopes Within Basalt Creek Area (Basalt Creek Concept Plan)**

**Slopes More Than 25% Identified West (Left) of SW Boones Ferry Road**

**--Area of Proposed Park and Ride Facility**

## Constraints Summary

Overall 35% (297 acres) of the total land area within the Basalt Creek planning area is constrained.



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### Known Constraints Within Basalt Creek Area (Basalt Creek Concept Plan) Identified West (Left) of SW Boones Ferry Road--Area of Proposed Park and Ride Facility

#### The Western Portion of Proposed Park and Ride Facility/ Parking Lot Location -West of SW Boones Ferry Road

#### Limits Utility -Function -Safety

#### Due to Impacts from Topography - Natural Resources -Proposed Zoning

- The Basalt Creek Canyon and the wetlands west of Boones Ferry Road
  - limit the buildable land available for the residential housing designated immediately west of Boones Ferry Road
  - limit connectivity from Boones Ferry Road to the west
  - the steep slopes west of Boones Ferry Road will add to cost
  - the steep slopes will add additional cost to be ADA compliant

- The entire left ½ of the proposed location of a Park and Ride facility -west of SW Boones Ferry Road is designated as Low Density Residential (1-6 4)
  - The utility of a Park and Ride facility within a low density neighborhood is less effective than when placed near higher density housing or commercial use
  - Introduces more safety factors when higher percentages of users will have to cross the main arterial to access higher density housing or commercial businesses.
  - Impacts the livability of residential zoning planned for west of Boones Ferry Road



Had the City of Tualatin utilized effective two way communication with local Basalt Creek Citizens at the beginning of Plan development, it would have been easy to provide important information to the Planners.

- The driveway to my house, which is on the west side of SW Boones Ferry Road within the Basalt Creek Area, has a 40% driveway due to topography.
- I have to be very cognizant of weather conditions for safety reasons when temperatures near the freezing level.
- The topography also makes walking up or down my driveway a strenuous event for the majority of people -- at all times of the year.

**REQUESTS TO THE CITY OF TUALATIN CITY COUNCIL- STORMWATER MANAGEMENT PLAN**

**I request the Tualatin City Council direct the area being designated as a proposed Park and Ride facility in the southern portion of Tualatin to be revised to remove the area west of SW Boones Ferry Road as a potential Park and Ride location- in narrative and/or depiction.**

Statewide Goal #12 Transportation OAR 660-015-0000(12)

... minimize adverse social, economic and environmental impacts and costs

facilitate the flow of goods and services so as to strengthen the local and regional economy...

...Plans for new or for the improvement of major transportation facilities should identify the positive and negative impacts on: (1) local land use patterns, (2) environmental quality, (3) energy use and resources, (4) existing transportation systems and (5) fiscal resources in a manner sufficient to enable local governments to rationally consider the issues posed by the construction and operation of such facilities.

Statewide Goal #11- Public Facilities and Services OAR 660-015-0000(11)

A Timely, Orderly, and Efficient Arrangement – refers to a system or plan that coordinates the type, locations and delivery of public facilities and services in a manner that best supports the existing and proposed land uses.

Statewide Goal #5 Natural Resources OAR 660-015-0000(5)

Local governments shall adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. These resources promote a healthy environment and natural landscape that contributes to Oregon's livability....

The conservation of both renewable and non-renewable natural resources and physical limitations of the land should be used as the basis for determining the quantity, quality, location, rate and type of growth in the planning area.

Statewide Goal # 6 Air, Water, and Land Resources Quality OAR 660-015-0000(6)

To maintain and improve the quality of the air, water and land resources of the state. All waste and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards. With respect to the air, water and land resources of the applicable air sheds and river basins described or included in state environmental quality statutes, rules, standards and implementation plans, such discharges shall not (1) exceed the carrying capacity of such resources, considering long range needs; (2) degrade such resources; or (3) threaten the availability of such resources.

Statewide Goal #14 Urbanization OAR 660-015-0000(14)

“To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities. Comprehensive plans and implementing measures for land inside urban growth boundaries should encourage the efficient use of land and the development of livable communities.

Statewide Goal # 2 Land Use Planning OAR 660-015-0000(2)

"...To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions"

..." Affected Governmental Units -are those local governments, state and federal agencies and special districts which have programs, land ownerships, or responsibilities within the area included in the plan" ...

..."Each plan and related implementation measure shall be coordinated with the plans of affected governmental units. Affected Governmental Units -are those local governments, state and federal agencies and special districts which have programs, land ownerships, or responsibilities within the area included in the plan" ...

"...**Opportunities shall be provided for review and comment by citizens and affected governmental units during preparation, review and revision of plans and implementation ordinances**" (emphasis added)...

Planning Goal #1 Citizen Involvement OAR 660-015-000(1).

*"To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process. The governing body charged with preparing and adopting a comprehensive plan shall adopt and publicize a program for citizen involvement that clearly defines the procedures by which the general public will be involved in the on-going land-use planning process"*

*"Citizens shall have the opportunity to be involved in the phases of the planning process as set forth and defined in the goals and guidelines for Land Use Planning, including Preparation of Plans and Implementation Measures, Plan Content, Plan Adoption, Minor Changes and Major Revisions in the Plan, and Implementation Measures."*

*"The general public, through the local citizen involvement programs, should have the opportunity to review and make recommendations on proposed changes in comprehensive land-use plans prior to the public hearing process to formally consider the proposed changes."*

**ISSUE #3 BIKE AND PEDESTRIAN PLAN – (Figure 11-4) PMA 19-0001**

**Questionable compliance with:**

**BASALT CREEK CONCEPT PLAN**

**CITY OF TUALATIN REVISED PARKS AND RECREATION MASTER PLAN UPDATE 11-2018**

**STATEWIDE GOAL 5 NATURAL RESOURCES**

**STATEWIDE GOAL 8 RECREATION NEEDS**

**STATEWIDE GOAL 12 TRANSPORTATION**

**STATEWIDE GOAL 11 PUBLIC FACILITIES AND SERVICES**

**STATEWIDE GOAL 2 LAND USE PLANNING**

**STATEWIDE GOAL 1 PUBLIC INVOLVEMENT**

It is recognized the proposed Comprehensive Plan must address and provide for safe and convenient pedestrian and bicycle access and circulation. The Basalt Creek Concept Plan addressed this need. The Basalt Creek Concept Plan includes a "conceptual" "Trail Opportunity" to connect the Cities of Tualatin and Wilsonville- feasibility and location to be determined by multiple local governments and agencies.

However, the Bike and Pedestrian Plan within the proposed Comprehensive Plan/PMA 19-0001 is more prescriptive and specific, and lacks implications of information included within:

- the Basalt Creek Concept Plan -including identified restraints and need to involve other governmental agencies with site selection.
- the newly revised City of Tualatin Parks and Recreation Master Plan 2018 (a revision which extended City of Tualatin jurisdiction over the northern portion of the Basalt Creek Area), and the policy stated by the City of Tualatin requiring appropriate due diligence and public involvement prior the site selection of parks and trails within the Basalt Creek Area- which has not yet been done.

## Map of Pedestrian Trail, Bike Trail as currently proposed within the draft of the Basalt Creek Comprehensive Plan

Bike and Pedestrian Plan (Figure 11-4)



The Bike and Pedestrian Plan (Figure 11-4) within the proposed City of Tualatin Basalt Creek Comprehensive Plan has now re-created the concerns and issues I had previously presented in writing and verbal testimony- which had been previously addressed and resolved within the following documents:

- the Basalt Creek Concept Plan
  - with the City of Wilsonville Planning Commission and City Council; and
  - with the City of Tualatin staff and City Council regarding the proposed public trail west of Basalt Creek Canyon.
  - My concerns regarding the proposed public trail were addressed and memorialized within the document.
- the City of Tualatin Parks and Recreation Master Plan Update
  - with the City of Tualatin staff and City Council regarding the proposed public trail west of Basalt Creek Canyon.
  - Concerns were addressed and memorialized within the document.

The issues I had expressed included the location of a public trail within an area known to have steep slopes and wetlands. Additional concerns included location, safety, negative impact to Natural Resources, maintenance, cost, funding, coordination between both cities having joint management of “Basalt Creek Natural Areas” other issues relating to a proposed continuous public trail between the two cities. Both cities acknowledged my concerns and revised verbiage and revised the Bike, Trails, and Pedestrian Network map memorializing the fact the Public Trail opportunity was “conceptual” and “not site specific”.

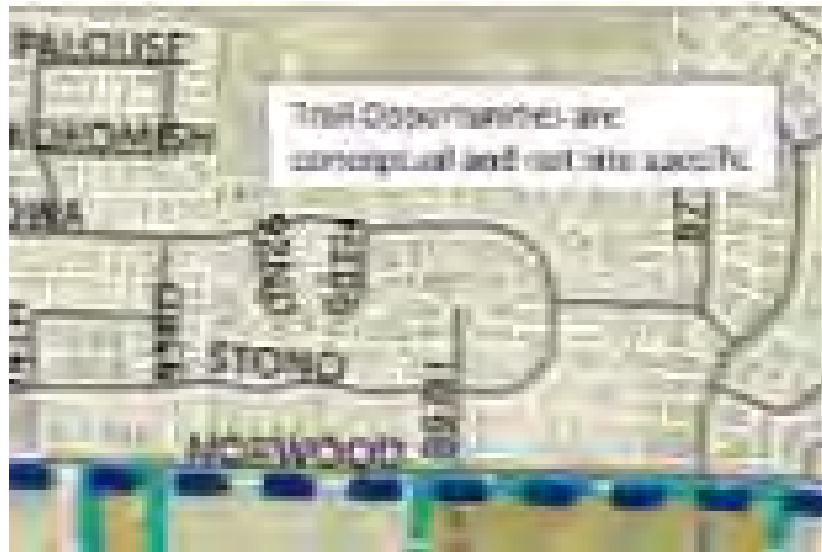


**BASALT CREEK CONCEPT PLAN - Bicycle and Pedestrian Framework**

**adopted in August 2018 by both City Councils**

The Basalt Creek Concept Plan Included Figure 11 Bikes, Trails and Pedestrian Network Map (below)

Figure 11 Bikes, Trails, and Pedestrian Network Map



**BASALT CREEK CONCEPT PLAN**

**City of Wilsonville and City of Tualatin Cities adopted Map in August 2018 Concept Plan**

**- after prior revisions were made**

**Closeup includes Narrative Included within the Map**

***“Trail Opportunities are conceptual and not site specific”.***

## AS STATED IN THE BASALT CREEK CONCEPT PLAN -----

- “The two main opportunities for trails within the Basalt Creek Planning Area are a Basalt Creek Canyon Ridge Trail and the I-5 easement Trail, which are shown in Figure 11 as Planning Area Trail Opportunities marked by large light green arrows. When trail alignments are considered in the future, access to the natural resource will not take priority over protection and enhancement.”
- “Currently, Basalt Creek Canyon is a barrier to east/west movement through the Planning Area. A north/south connection to the west of the Canyon would further improve the network and make connections to east/west roads that run north and south of the Canyon. The Basalt Creek Canyon Ridge Trail opportunity would be located upland, not within Basalt Creek, near or along the ridge of the Basalt Creek Canyon. This trail could be connected to the regional trail network by extending Tonquin Road with bike/pedestrian facilities across Graham’s Ferry to the new ridge trail.”
- “Decision-making on investments should prioritize connections that link pedestrian and bike networks to transit stops and near locations with higher planned density. Potential funding sources for improving the bike/pedestrian network include Washington County (MSTIP) and Metro (i.e. MTIP, RFFA, SW Corridor, Natural Area Bonds). Coordination with Metro, Tualatin Community Services Department, and the Wilsonville Parks and Recreation Department will be necessary to establish a local trail network with regional connections.”
- “Given the nature of the Basalt Creek Parkway, an over or underpass may be preferred or necessary to make the best bike/pedestrian connections in the Planning Area. Coordination between the cities, Washington County, Metro, ODOT, and possibly BPA will be necessary for a feasibility study, implementation and funding.” (emphasis added)

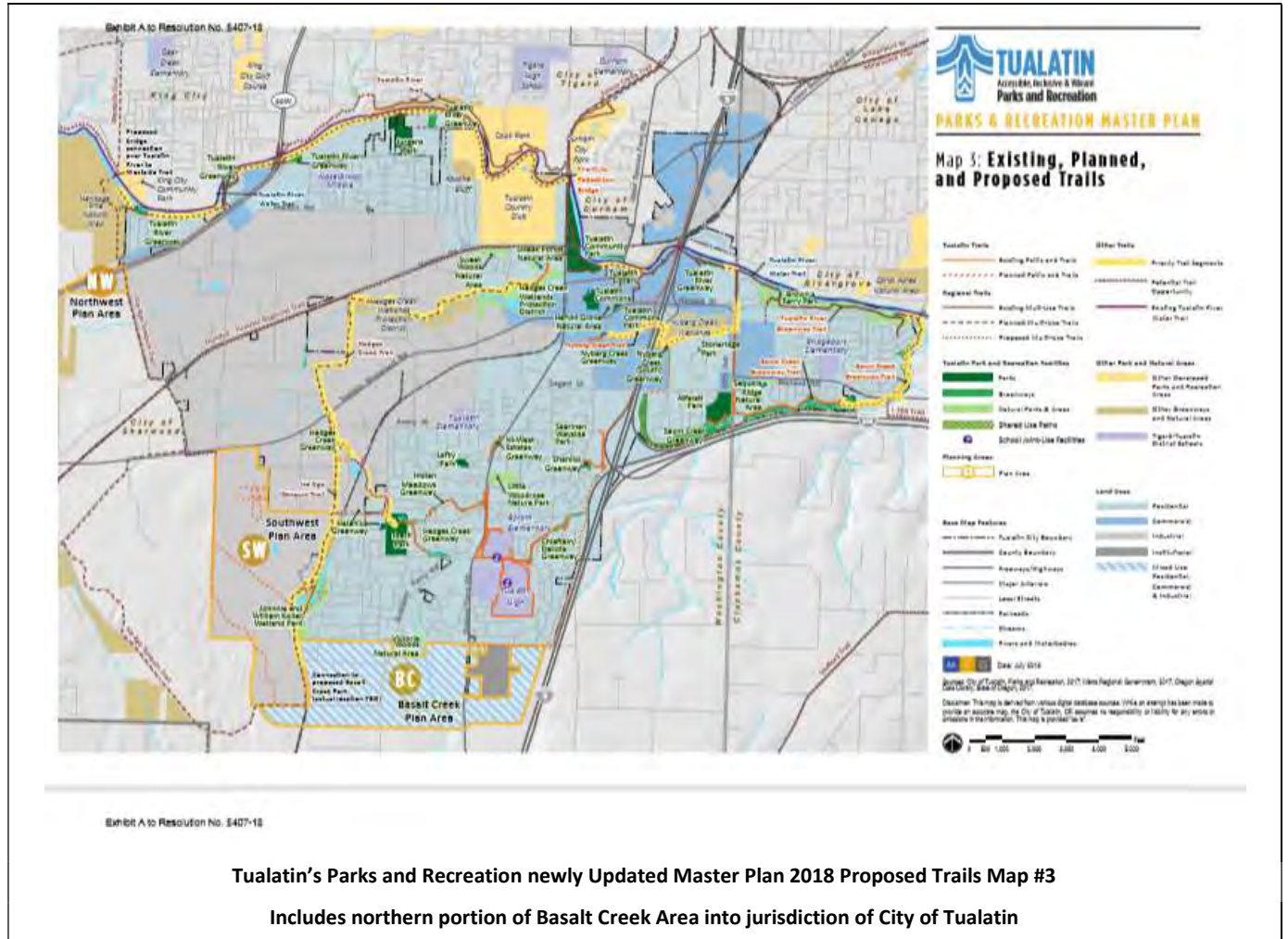
# CITY OF TUALATIN PARKS AND RECREATION MASTER PLAN UPDATE

## – BASALT CREEK AREA PARKS AND TRAILS MAP

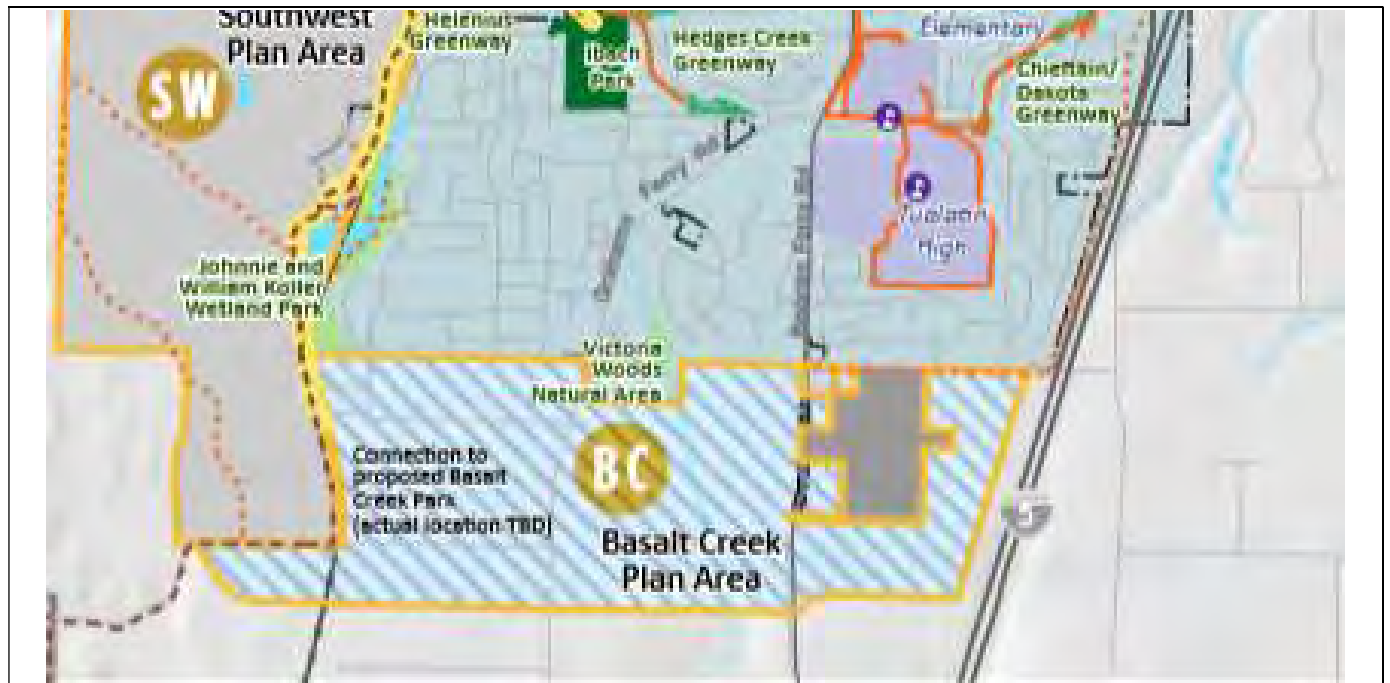
The City of Tualatin Parks and Recreation Master Plan 2018 Update (a revision which extended City of Tualatin jurisdiction over the northern portion of the Basalt Creek Area) was adopted by the Tualatin City Council on November 13, 2018 with Resolution No. 5407-18.

During the final phase of the revision to the City of Tualatin Parks and Recreation Master Plan (due to limited outreach and Public Involvement with affected Basalt Creek citizens during initial phases), I again presented written and verbal comments to the City staff, to the Tualatin Parks and Recreation Master Plan Advisory Committee, and to the City of Tualatin City Council.

The Update to the City of Tualatin Parks and Recreation Master Plan includes the map below.



**Tualatin's Parks and Recreation newly Updated Master Plan 2018 Proposed Trails Map #3**  
Includes northern portion of Basalt Creek Area into jurisdiction of City of Tualatin



**CLOSEUP BASALT CREEK AREA -**

**Tualatin’s Parks and Recreation newly Updated Master Plan 2018 Proposed Trails Map #3**

**Does not provide prescriptive indications for the future location of a Public Trail within the Basalt Creek Area**

**-----Map Includes statement” Connection to *proposed Basalt Creek Park (actual location TBD)*”**

The resulting City of Tualatin Parks and Recreation Master Plan map and narrative within the document:

- is less proscriptive than the Basalt Creek Concept Plan regarding a future location of a public trail
- includes a notation “Connection to Proposed Basalt Creek Park (Actual Location TBD)” as the only notation over the entire Basalt Creek Area
- the map does not depict any proposed or specific parks or trails within the Basalt Creek Area Map.

**CITY OF WILSONVILLE**

**- Parallel requirement to implement Basalt Creek Concept Plan- Trails into City's Comprehensive Plan**

The City of Wilsonville is developing their respective Basalt Creek Comprehensive Plan to implement their requirements within the Basalt Creek Concept Plan. The City of Wilsonville has retained and emphasized the “conceptual” and “not site specific” provisions from the Basalt Creek Concept Plan in their proposed Trails Map for the southern portion of the Basalt Creek Area.

The City of Wilsonville Map is less prescriptive than the City of Tualatin Bike and Pedestrian Path (Figure 11-4). The City of Wilsonville utilized a highly simplistic schematic to denote the general location of a north south trail within the Basalt Creek Area within their Basalt Creek Comprehensive Plan.

:



## OPEN HOUSE CITY OF TUALATIN - BASALT CREEK COMPREHENSIVE PLAN 1-22-2019

The first public presentation of a map for the proposed Public Trail for the Basalt Creek Comprehensive Plan.

- The draft of the "Transportation Map -Basalt Creek Comprehensive Plan" includes a public trail identified as "Trail Opportunity" within Basalt Creek Area.
- However, the depiction of what is to be a "conceptual trail" has now become more site specific – appearing to utilize landmarks within the middle of the Basalt Creek Canyon or wetlands as landmarks along which the meandering dotted green trail line conforms.



1 OF 4 POSTERS PRESENTED

FIRST AND ONLY OPEN HOUSE BY CITY 1-22-2019

5 MONTHS AFTER ADOPTION OF BASALT CONCEPT PLAN

2 MONTHS PRIOR TO SUBMISSION AND START FORMAL ADOPTION PROCESS

INCLUDES "TRAIL OPPORTUNITY" IN TRANSPORTATION MAP

DEPICTION OF TRAIL MORE SITE SPECIFIC AND DIFFERS FROM BASALT CREEK CONCEPT PLAN & PARKS & REC MASTER PLAN

On 1-22-2019, I discussed the discrepancies between the Basalt Creek Concept Plan and what was to be a "conceptual trail –not site specific" as compared to the manner depicted within the draft of the Transportation Plan with the staff present at the Open House.

On 1-25-2019, due to lack of a formal feedback mechanism to document comments or questions generated from the City's Open House 3 days prior, I submitted an email providing written concerns to the City—again addressing the discrepancies between the Basalt Creek Concept Plan and the Transportation Plan map regarding what had been previously memorialized as a Conceptual and not site Specific Trail Opportunity the City Planning Department three days later. (Please see Public Involvement Issue #4 presented later in document)

On 2-3-2019, I received the following response from the Tualatin Planning Department:

“RESPONSE: Both maps show a conceptual trail roughly west of Basalt Creek canyon. More specific trail alignments are generally determined through future development and/or acquisition.”

FIRST PUBLIC PRESENTATION OF DRAFT BIKE AND PEDISTRIAN PATH

POSTED TO CITY WEBSITE FIRST WEEK MARCH 2019

– SAME WEEK APPLICATION SUBMITTED TO START ADOPTION PROCESS

## Bike and Pedestrian Plan (Figure 11-4)



FIGURE 11-4 PMA 19-0001

FIRST PUBLIC POSTING OF BIKE AND PEDISTRIAN PLAN

7 MONTHS AFTER ADOPTION OF BASALT CREEK CONCEPT PLAN

SAME TIME APPLICATION SUBMITTED AND START OF FORMAL ADOPTION PROCESS

“PLANNED PEDISTRIAN PATH” HAS REPLACED “TRAIL OPPORTUNITY”

REMOVED STATEMENT “TRAIL OPPORTUNITIES ARE CONCEPTUAL AND NOT SITE SPECIFIC”

CONTINUES TO DENOTE A MORE SPECIFIC TRAIL LOCATION -APPEARS TO UTILIZE LANDMARKS

-----NEAR CENTER OF BASALT CREEK CANYON

-IN CONFLICT WITH BASALT CREEK CONCEPT PLAN & CITY OF TUALATIN PARKS & RECREASTON MASTER PLAN

The method of presentation both in graphic and narrative within proposed the Bike and Pedestrian Plan (Figure 11-4), is in conflict with information and limitations specified within the Basalt Creek Concept Plan.



The newly presented Comprehensive Plan Bike and Pedestrian Plan and associated documents confers even less information than previous public version at the 1-22-2019 Open House---as to the conceptual location of public trails within the Basalt Creek Area as specified within the Basalt Creek Concept Plan, and the identified limitations and constraints as identified within the Basalt Creek Concept Plan.

The proposed Comprehensive Plan, Map and associated documents do not communicate the required flexibility and coordination with other local governments and agencies. Does not convey the necessity to evaluate existing conditions, and protection natural resources and feasibility as identified of the Basalt Creek Canyon as pertaining to a Conceptual Trail Opportunity -which is not site specified within the Basalt Creek Concept Plan.

The Bike and Pedestrian Plan (Figures 11-4) has modified or omitted significant narratives which were included in the Basalt Creek Concept Plan Figure 11 Bikes, Trails and Pedestrian Network Map. The Tualatin Bike and Pedestrian Plan (Figures 11-4)

- changed the labeling of the “Trail Opportunities” in the Concept Plan to “Planned Pedestrian Path”
- completely omitted notation of “Conceptual-not site specific” from proposed map
- Does not support or correlate with the statement within the proposed Basalt Creek Comprehensive Plan- [“The City adopted an updated Parks Master Plan in November of 2018, which will guide the development of future recreation areas and open space within the Basalt Creek”](#).
- Does not provide flexibility to cooperatively address issues to extend the joint trail across the Basalt Creek Parkway and acknowledging "Washington County, Metro, ODOT, and possibly BPA will be necessary for a feasibility study, implementation and funding".
- Has not been developed after evaluating the potential impact to existing slopes, wetlands and wildlife habitats, safety, ADA requirements, cost, maintenance or provision of public safety.
- It should be noted, the Tualatin Director of Parks and Recreation has publicly stated to the Tualatin City Council during the Update to the Parks and Recreation Master Plan- parks and trail within the Basalt Creek Area would not be considered until after the City conducted due diligence and involved the public within the process of site location.

On 3-21-2019, during the the Public Meeting of the Tualatin Planning Commission, the City of Tualatin Planning Manager specifically stated the Bike and Pedestrian Map “is a mirror image of the map within the Basalt Creek Concept Plan” when showing a slide presentation of the proposed Comprehensive Plan Bike and Pedestrian Plan Map (Figure 11-4).

This statement was made to the Tualatin Planning Commission during a Basalt Creek Comprehensive Plan Update to the Planning Commission, and prior to the unanimous vote to endorse and support the proposed Comprehensive Plan as written completed minutes thereafter. A member of the Tualatin Planning Commission agreed to personally present the Planning Commission's endorsement to the Tualatin City Council as part of the Council's hearing to move to adopt PTA 119-0001 and PMA 19-0001 as written.

**REQUESTS TO THE CITY OF TUALATIN CITY COUNCIL- "PLANNED PEDESTRAIN PATH" VS CONCEPTUAL TRAIL OPPORTUNITY-NOT SITE SPECIFIC**

**Based upon the information presented and supported by information within the Basalt Creek Concept Plan and the City of Tualatin Parks and Recreation Master Plan Update,**

- **I request the Tualatin City Council to direct the proposed Bike and Pedestrian Plan (Figure 11-4) and other narratives and depictions within the proposed Comprehensive Plan be consistent in the level of location specificity and level of conceptuality as within the Basalt Creek Concept Plan or the City of Tualatin revised Parks and Recreation Master Plan.**

Statewide Goal #12 Transportation OAR 660-015-0000(12)

Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests in carrying out the goal.

.... minimize adverse social, economic and environmental impacts and costs

...Plans for new or for the improvement of major transportation facilities should identify the positive and negative impacts on: (1) local land use patterns, (2) environmental quality, (3) energy use and resources, (4) existing transportation systems and (5) fiscal resources in a manner sufficient to enable local governments to rationally consider the issues posed by the construction and operation of such facilities.

Statewide Goal #2 Land Use Planning OAR 660-015-0000(2)

**"...To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions"**

..." Affected Governmental Units -are those local governments, state and federal agencies and special districts which have programs, land ownerships, or responsibilities within the area included in the plan" ...

..."Each plan and related implementation measure shall be coordinated with the plans of affected governmental units. Affected Governmental Units -are those local governments, state and federal agencies and special districts which have programs, land ownerships, or responsibilities within the area included in the plan"...

**"...Opportunities shall be provided for review and comment by citizens and affected governmental units during preparation, review and revision of plans and implementation ordinances"** (emphasis added) ...

Statewide Goal # 5: Natural Resources OAR 660-015-0000(5) (Please Note: Amendments Effective 08/30/96)

To protect natural resources and conserve scenic and historic areas and open spaces. Local governments shall adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. These resources promote a healthy environment and natural landscape that contributes to Oregon's livability.

Statewide Goal # 11 Public Facilities and Services OAR 660-015-0000(11)

*To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.*

*A Timely, Orderly, and Efficient Arrangement – refers to a system or plan that coordinates the type, locations and delivery of public facilities and services in a manner that best supports the existing and proposed land uses.*

Statewide Goal # 14 Urbanization OAR 660-015-0000(14)

*To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities*

Statewide Goals # 1 Citizen Involvement OAR 660-015-000

*“To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process. The governing body charged with preparing and adopting a comprehensive plan shall adopt and publicize a program for citizen involvement that clearly defines the procedures by which the general public will be involved in the on-going land-use planning process”*

*“Citizens shall have the opportunity to be involved in the phases of the planning process as set forth and defined in the goals and guidelines for Land Use Planning, including Preparation of Plans and Implementation Measures, Plan Content, Plan Adoption, Minor Changes and Major Revisions in the Plan, and Implementation Measures.”*

*“The general public, through the local citizen involvement programs, should have the opportunity to review and make recommendations on proposed changes in comprehensive land-use plans prior to the public hearing process to formally consider the proposed changes.”*

*Communication -- To assure effective two-way communication with citizens. Mechanisms shall be established which provide for effective communication between citizens and elected and appointed officials.*

*Feedback Mechanisms -- To assure that citizens will receive a response from policy-makers...Citizens who have participated in this program shall receive a response from policy-makers. The rationale used to reach land-use policy decisions shall be available in the form of a written record*

## **ISSUE #1 PUBLIC INVOLVEMENT**

### **Questionable compliance with:**

**STATEWIDE GOAL 1 PUBLIC INVOLVEMENT**

**STATEWIDE GOAL 2 LAND USE PLANNING**

**OREGON PUBLIC MEETINGS LAW**

### **Statewide Goal #1 Citizen Involvement OAR 660-015-000(1).**

*“To develop a citizen involvement program that insures the opportunity for citizens **to be involved in all phases of the planning process**. The governing body charged with preparing and adopting a comprehensive plan **shall adopt and publicize a program for citizen involvement that clearly defines the procedures by which the general public will be involved in the on-going land-use planning process**”*

*“Citizens **shall have** the opportunity to be involved in the phases of the planning process as set forth and defined in the goals and guidelines for Land Use Planning, **including Preparation of Plans and Implementation Measures, Plan Content, Plan Adoption, Minor Changes and Major Revisions in the Plan, and Implementation Measures.**”*

*“The general public, through the local citizen involvement programs, should have the opportunity to review **and make recommendations on proposed changes in comprehensive land-use plans prior to the public hearing process to formally consider the proposed changes.**”*

*The citizen involvement program shall be appropriate to the scale of the planning effort. The program shall provide for continuity of citizen participation and of information that enables citizens to identify and comprehend the issues.*

*The committee for citizen involvement shall be responsible for assisting the governing body with the development of a program that promotes and enhances citizen involvement in land-use planning, assisting in the implementation of the citizen involvement program, and evaluating the process being used for citizen involvement*

*If the governing body wishes to assume the responsibility for, development as well as adoption and implementation of the citizen involvement program or to assign such responsibilities to a planning commission, a letter shall be submitted to the Land Conservation and Development Commission for the state Citizen Involvement Advisory Committee's review and recommendation stating the rationale for selecting this option, as well as indicating the mechanism to be used for an evaluation of the citizen involvement program*

*Communication -- To assure effective two-way communication with citizens. Mechanisms shall be established which provide for effective communication between citizens and elected and appointed officials.*

*Assistance shall be provided to interpret and effectively use technical information*

*(emphasis added)*

## Statewide Goal #2 Land Use Planning OAR 660-015-0000(2)

"...To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions"

"...Opportunities shall be provided for review and comment by citizens and affected governmental units during preparation, review and revision of plans and implementation ordinances" (emphasis added) ...

## OREGON PUBLIC MEETINGS LAW - THE POLICY -NOTICE REQUIREMENTS- INTERESTED PERSONS

*192.620 Policy. The Oregon form of government requires an informed public aware of the deliberations and decisions of governing bodies and the information upon which such decisions were made. It is the intent of ORS 192.610 to 192.690 that decisions of governing bodies be arrived at openly. [1973 c.172 §1]*

*The goal of notice for any meeting is two-fold: to provide **general notice to the public at large** and to provide **actual notice to specifically interested persons.**)*

***Interested Persons** If a governing body is aware of persons having a special interest in a particular action, those persons generally should be notified, unless doing so would be unduly burdensome or expensive.*

*A governing body's notice must be reasonably calculated to provide **actual notice** to the persons and the media **that have stated in writing that they wish to be notified of every meeting.**314*

*192.640 Public notice required; special notice for executive sessions or special or emergency meetings. (1) The governing body of a public body shall provide for and give public notice, reasonably calculated to **give actual notice to interested persons including news media which have requested notice, of the time and place for holding regular meetings.***

*Even if a meeting is for the sole purpose of gathering information to serve as the basis for a subsequent decision or recommendation by the governing body, the meetings law will apply.307 This requirement serves the policy expressed at ORS 192.620 that an informed public must be aware not only of the decisions of government, but also of "the information upon which such decisions were made*

*The public notice requirements apply to "any meeting" of a "governing body" subject to the law, including committees, subcommittees and advisory groups.*

*The Public Meetings Law requires that the notice of any meeting include a list of the principal subjects anticipated to be considered at the meeting. ORS 192.640(1).*

*This list should be specific enough to permit members of the public to recognize the matters in which they are interested. ... it should be sufficiently descriptive so that interested persons will get an accurate picture of the agenda topics (emphasis added)*

Starting around the year 2000, the property owners within the Basalt Creek Area, within unincorporated Washington County, have felt the impact of multiple local and regional transportation projects-- perhaps more than many other local communities or neighborhoods.

Within the Basalt Creek Area (an area less than 4 miles in diameter) the following major public transportation projects have been sited and adopted by the State and various local governments.

- Coffee Creek Prison (constructed)
- Boones Ferry Road Improvement Project (constructed)
- Basalt Creek Transportation Refinement Plan (adopted)
- 124th Ave Project (constructed)
- Basalt Creek Parkway (constructed)
- Basalt Creek Parkway Extension (evaluation and design phase)
- Basalt Creek Concept Plan (adopted being implemented)
- Day Road Overpass (adopted- planned for 2033-2040)
- Greenhill/Frobase Overpass (adopted- planned for 2033-2040)

Very few other neighborhoods have born the continual impact of these types of public facilities being located within this small area--- including effects of land acquisition, construction, and long term increases of traffic volume, noise, air quality (and depending upon project impacts to wetlands, water quality, high valued habitats). These factors have negative impacts upon the quality of life for local individuals and negative impacts upon the longevity of once viable neighborhoods or unique significant Natural Resources within the Basalt Creek Area.

It may not be coincidental that historically there has been minimal outreach to potentially affected property owners during the early project evaluation phase, initial design phase, or design refinement phase prior to final presentation for adoption of most of these major public projects situated within the Basalt Creek Area.

The lack of a functional and effective Public Involvement program engaging affected citizens of the Basalt Creek Area has been a long standing problem with many of the public infrastructure projects within the area. This has been the case for public projects within the Basalt Creek Area involving Washington County.

Surprisingly, the same lack of an effective Public Involvement Program by the City of Tualatin has affected me in the past, even though I was a property owner and resident within the Basalt Creek Area, within unincorporated Washington County, and my property was not within the City Limits of Tualatin. In 2012, when the City of Tualatin revised their Water Master Plan- they included portions of the Basalt Creek Area- including my property which was not within their jurisdiction at the time. I inadvertently discovered the proposed revisions to the City's Water Master Plan, and contacted the City asking for more information, I presented verbal and written testimony to the City Planning Commission regarding my concerns. Without further Notice or contact from the City, the Water Master Plan revision was passed continuing to include portions of the Basalt Creek Area within the Master Plan. It took additional time, expense and effort on my part until the City removed references to the Basalt Creek Area from the narrative and maps within newly adopted revised Master Plan. Throughout the

entire process the City of Tualatin did not disseminate information or take any apparent action to engage the citizens of the Basalt Creek Area about the proposed revision to one of their governing documents which could have caused a significant change in a public service within the Basalt Creek Area.

Again in 2013 and later, during the creation of the Basalt Creek Concept Plan, when the City of Tualatin was the administrator of the Tualatin Wilsonville Basalt Creek Concept Plan IGA, the citizens of the Basalt Creek Area lacked an effective Citizen Involvement Program. Minimal efforts were made in outreach and development of 2 way communication with the citizens of the Basalt Creek Area who would be affected directly.

- The governing body of the Basalt Creek Concept Plan did not include an elected official from the Basalt Creek Area. The affected citizens within the Basalt Creek Area lacked elected representation within the decision making process for the Basalt Creek Concept Plan.
- When the Washington County CPO5 was inactive and not functional, the City of Tualatin did not provide affected citizens knowledge of which Citizen Involvement Committee would facilitate communication between the affected citizens and the governing body making the decisions.
- Throughout the entire process on multiple occasions, the citizens of the Basalt Creek Area and Interested Persons lacked proper Actual Notice of many Public Meetings when information, discussion and eventual decisions were to be made by the governing body. This problem became so apparent the only revision to the original Tualatin Wilsonville Basalt Creek Concept Plan IGA was to amend into the agreement-the Cities' acknowledgement and support of compliance with the State of Oregon Public Meetings Law. This revision was minimally effective.
- Even though city staff at both cities stated Notice was being provided to Interested Persons via postings to the BasaltCreek.com website, many Public Meetings on the Concept Plan were not posted to the specified website and Interested Persons were not Noticed. One stated rationale for not providing Notice included "the meeting was only informational", which is in conflict with the Oregon Public Meetings Law.
- The Basalt Creek Concept Plan Joint Cities Public Meetings did not allow Citizen Comments during their Public Meetings thus removing a vital opportunity to allow the joint City Councils to hear the concerns of affected citizens regarding a significant change to the future governance and development of the Basalt Creek Area.
- Any claims that the Basalt Creek Concept Plan met or exceeded Goal 1 Public Involvement goals involving the citizens of the Basalt Creek Area should be re-evaluated and should not be used to support the claim of Public Involvement for any other subsequent public projects.




The City of Tualatin has known since 2004 with the adoption of Metro 04-1040B, that the City's boundaries would extend south into the Basalt Creek Area and would require the development of a Comprehensive Plan to implement the change in City jurisdiction and governance over approximately ½ of the Basalt Creek Area. The City of Tualatin had many years and vast quantities of existing contact information and existing methods to be able to reach out to Interested Persons and Basalt Creek citizens to be able to have an effective Public Involvement Plan functional at the initial phase of updating their various governing documents to implement the provisions agreed upon within the Basalt Creek Concept Plan.


While the City of Tualatin has used noteworthy efforts to notify the existing citizens of the City of events, soliciting involvement, or providing information for proposed changes to City infrastructure or services – the affected future citizens from the Basalt Creek Area have not received the same amount of consideration during the implementation of the Basalt Creek Concept Plan- although these citizens will be bearing the impact of the Plan to a greater proportion.

The information provided in the Basalt Creek Comprehensive Plan Informational Packet for the Tualatin Planning Commission Meeting (posted on 3-15-2019) implies the Goal 1 Public Involvement requirement was met primarily through the actions taken by the Cities of Wilsonville and Tualatin during the development of the Basalt Creek Concept Plan.


**Public Engagement**




Focus  
Groups  
2014




Design  
Work-  
shop  
2014



Open  
House  
2016



Open  
House  
2019<sup>+</sup>



\*Photo Credit: Ray Pitz, News Editor for the Beaverton, Tigard and Tualatin Times 5

**CITY OF TUALATIN SLIDE – IMPLYING PUBLIC ENGAGEMENT DURING 2014-2016 TO DEVELOP CONCEPT PLAN BETWEEN CITIES OF WILSONVILLE AND TUALATIN IS SAME PUBLIC INVOLVEMENT FOR THE DEVELOPMENT OF A MAJOR REVISION TO A DIFFERENT DOCUMENT-- TUALATIN’S COMPREHENSIVE PLAN -YEARS LATER**

While the City of Tualatin will be able to utilize the volumes of research, documents and maps generated during the many years of the development of the Basalt Creek Concept-- utilizing the meager Public Outreach events aimed at the affected citizens of the Basalt Creek Area should not be used to claim compliance with Goal 1 Public Involvement for a different public project.

- The proposed City of Tualatin Basalt Creek Comprehensive Plan is a different document than the Basalt Creek Concept Plan and serves a different purpose.
- The Basalt Creek Concept plan did not include statements regarding a clear and specific process or procedures to be taken by the City of Tualatin to revise their governing documents.
- The information contained within the proposed City of Tualatin Basalt Creek Comprehensive Plan has been substantially modified, and revised- presenting differing information in a different manner with potentially different outcomes than provided within the Concept Plan.

- The limited amount of Public Involvement conducted during 2016 and 2018 was acknowledged within “a joint response from the Basalt Creek project team” email dated 6-28-2018. “Staff recognize the public engagement has been minimal last two years while final land use designations were determined for the Central Subarea.”

Consequently, the determination if Goal 1 criteria is met ----should be respective only to the Public Involvement actions taken by the City of Tualatin to revise their Comprehensive Plan to include the City of Tualatin Basalt Creek Comprehensive Plan.

**GOALS AND GUIDELINES FOR GOAL 1 PUBLIC INVOLVEMENT AND COMPLIANCE -- THE CITY OF TUALATIN BASALT CREEK COMPREHENSIVE PLAN.**

Compliance to most components of Goal 1 Citizen Involvement are missing or lacking within the process utilized by the City of Tualatin in the creation of their Basalt Creek Comprehensive Plan.

The actions, or lack thereof, taken by the of the City of Tualatin have hampered affected Basalt Creek citizens from fully participating in the Public Involvement portion of the City’s Basalt Creek Comprehensive Plan and related documents being revised to implement the Basalt Creek Concept Plan

**Basalt Creek Citizens Lack a functional Committee for Citizen Involvement (CCI)**

A basic assumption of Goal 1 would be the participation of a Committee for Citizen Involvement to facilitate and exchange of communication and information between a public body and the public during a process such as development of a local government Comprehensive Plans, and to have the role of advocate for the Public Involvement process.

The Washington County Citizen Participation Organization (CPO) 5 for the Basalt Creek area has been inactive/non-functional for many years.

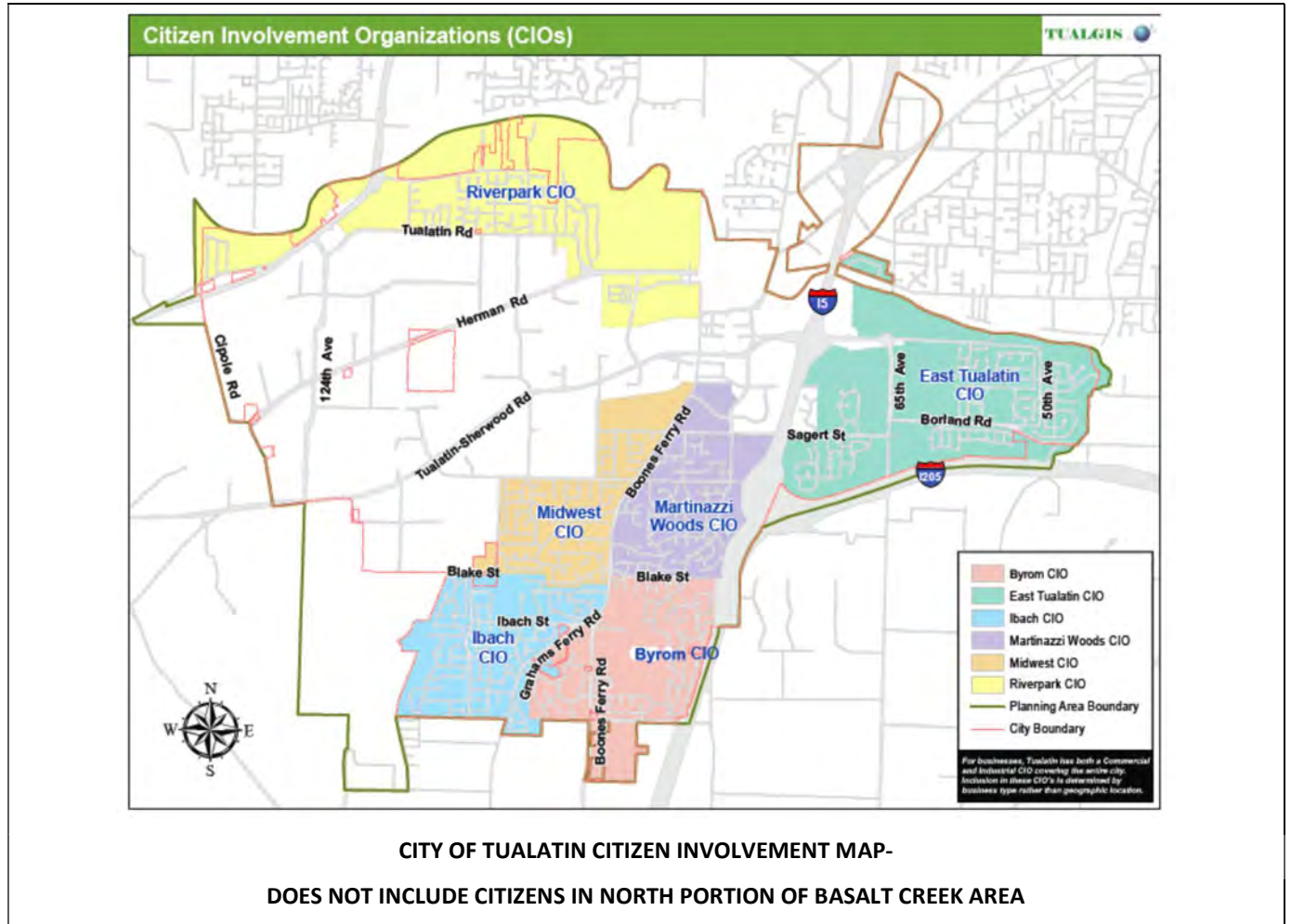
The citizens of the Basalt Creek Area are not residents of the City of Tualatin and are not represented by the City’s Citizen Involvement Organization (CIO).

The City of Tualatin did not clearly specify or convey to the citizens of the Basalt Creek Area, which Citizen Involvement Committee or Organization would be their liaison effecting 2 way communication between Basalt Creek citizens and elected City officials.

**If the City of Tualatin utilized the goals and guidelines identified for Goal 1 Public Involvement, the following questions are asked:**

- **Which Citizen Involvement Committee (CIC) or Committee for Citizen Involvement (CCI) (ORS 197.160, ORS 197.235) did the City utilized as part of the Public Involvement process for implementation of the Basalt Creek Concept Plan representative of the geographic area relating to the land?**
  - **Citizen Participation Organization (CPO) 5 has been inactive for many years**
  - **City of Tualatin Citizen Involvement Organizations (CIO)- does not represent Basalt Creek Area**
    - **The Basalt Creek Area is not included within the Boundaries of the Tualatin CIO’s**

- A Citizens of the Basalt Creek Area is not, “a Tualatin resident within the recognized residential CIO boundaries...”



- Did the City use an alternate “officially recognized” Citizen Involvement Committee (CIC) to facilitate communication between Basalt Creek residents and the City?
  - Was that entity informed of their roles and responsibilities to facilitate communication between the City and the citizens of the Basalt Creek Area as part of the development of the Basalt Creek Comprehensive Plan?
  - Was the entity informed at the earliest phase of the Comprehensive Plan revision- so that the CCI could ensure Citizens involvement could begin shortly thereafter?
- Did the City inform the citizens of the Basalt Creek Area how to contact the CIC?
- What actions did the City take to assure the CIC was fulfilling the responsibilities identified within the State Goal 1 Guidelines from the initial phases and throughout the process when citizens sought information on how the City would be implementing the Concept Plan and the process which would generate the proposed Comprehensive Plan?

- **If the City elected to utilize a quasi-judicial land use process, which neighborhood or community organization whose boundaries include the Basalt Creek Area (“whose boundaries include the site”) were Noticed ORS 197.763(2)(b)?**

The City of Tualatin made minimal efforts to ensure compliance with the State’s Public Involvement Goals:

I am long term resident and home owner within the northern portion of the Basalt Creek Area and will consequently be directly affected by the revisions to the City of Tualatin governing documents to extend jurisdiction and governance over that the Basalt Creek Area.

I submitted multiple written requests to be identified as an ‘Interested Person” during the Concept Plan development process. In addition, and prior to the adoption of the Basalt Creek Concept Plan I also submitted written request to the City of Tualatin to be identified as an Interested Person when the City acted to implement the Basalt Creek Concept Plan.

I have attended or viewed almost all Public Meetings held by the cities of Wilsonville and Tualatin regarding the Concept Plan and Public Meetings known to me to implement the Concept Plan.

Prior to the adoption of the Basalt Creek Concept Plan, and after, I attempted to open 2 way communication with the staff of both cities to obtain clear information on how communication with affected citizens who are not residents of the City would be kept informed and engaged in the implementation of the Basalt Creek Concept Plan. I have provided written and verbal testimony to the Tualatin City Council requesting the same. After my Citizens Comments to the City Council, the Council President and acting Chair of the Tualatin Council on 6-25-2018 gave clear direction to the City staff to engage the citizens of the Basalt Creek Area early and frequently during the implementation of the Concept Plan and governing documents.

I believe my actions have more than complied with any expectation for a citizen seeking a clear understanding of the process, and involvement within the process.

Most parties agree, the methods by which the Basalt Creek Concept Plan was created has been a very unique process within the entire state. Each city has their own processes for revising their governing documents. A functional effective Public Involvement program which actively engaged the affected citizens was extremely necessary. The process for the Basalt Creek Concept Plan started in 2013 and documents adopted in August 2018.

The City of Tualatin - during the initial phase of the development of the Basalt Creek Comprehensive Plan- did not effectively inform local affected citizens of a clearly defined process, or the procedures by which affected citizens could be involved in all phases of the land-use planning process.

In fact, shortly after adoption of the Basalt Creek Concept Plan in August 2018, the City of Tualatin stopped providing timely information to the citizens of the Basalt Creek area using the two previously existing methods of communication developed during the Basalt Creek Concept planning process.

**I present the extent of the Public Involvement/Outreach taken by the City of Tualatin known to me to extend the jurisdiction and governance of the City of Tualatin over the northern portion of the Basalt Creek Area.**

**On 9-7-2019** (after the adoption of the Basalt Creek Concept Plan the prior month), I contacted the City and was directed to the newly hired City of Tualatin Planning Manager. I understood the City had a limited timeframe to revise and adopt changes to their governing documents to implement the Basalt Creek Concept Plan. Affected citizens had not been informed of the process the City would using.

- In response to my inquiry to the City- about how and when Basalt Creek citizens would be kept informed about future Public Meetings to implement the Concept Plan- I was told the Oregon Public Meetings Law is not applicable to the City of Tualatin.
- This inaccurate statement alone, caused great concern as to how the City, under the guidance of the City Planning Manager would be fulfilling their role to engage the citizens of the Basalt Creek Area, who are not Citizens of the City of Tualatin, and not familiar with the City's administration or services, and not knowledgeable of a process which in itself was unique to the State.

**On 9-10-2018** The cities of Tualatin and Wilsonville sent the Basalt Creek Interested Persons notice...

"We are pleased to inform you that the Basalt Creek Concept Plan was formally adopted by the City of Tualatin on August 13, 2018 and Wilsonville on August 6, 2018.  
Consequently, this is the last regular monthly "Notice to Interested Parties" that will be sent out."

The email directed citizens to the [www.BasaltCreek.com](http://www.BasaltCreek.com) website for more information

- **Middle of September 2018 through middle of December 2018**, at approximately the same time the Cities ceased utilizing the Basalt Creek Concept Plan Interested Persons email list for monthly updates:
- Both of the cities of Tualatin and Wilsonville ceased posting information to the BasaltCreek.com website – the website indicated within the 9-10-2018 email was to be the reference resource for citizens.
- Neither City informed affected citizens of a functioning resource mechanism for information on the implementation of the Concept Plan which had been adopted the prior month.

- I again provided testimony to the City Council on 10-6-2018 seeking information and clarification on how information on the implementation of the Basalt Creek concept Plan would be provided to affected citizens.
- The City had not provided information on the process being taken to implement the Basalt Creek Concept Plan required the revisions of governing documents, how or when these documents would be revised.
- The City of Tualatin had already held Public Meetings on the revision to their Parks and Recreation Master Plan which would extend City jurisdiction over the northern portion of the Basalt Creek Area as part of the implementation of the Basalt Creek Concept Plan. The City had not provided notice of these Public Meetings to affected citizens or information the Parks and Recreation Master Plan revision including the Basalt Creek Area was part of the implementation of the Basalt Creek Concept Plan.
- Due to the lack of clear information from the City as to the process, citizens were not aware which City documents were being revised to extend governance, which City Department would be involved with the revisions, or who to contact within the City for information. The City did not provide information on the Citizen Involvement Committee which would facilitate Public Involvement with the process of development of the Basalt Creek Comprehensive Plan and other governing documents which would change jurisdiction and future land use over property currently outside the City's jurisdiction.

- On 12-15, 2018 (outreach effort to the citizens of the Basalt Creek Area by the City of Tualatin prior to Notice of Hearing- but existence not disseminated) it was noticed the webpage BasaltCreek.com which had provided information on the Basalt Creek Concept Plan, included a new link <https://www.tualatinoregon.gov/planning/basalt-creek-area-planning>.

**City of Tualatin webpage started mid December 2018-  
4 months after adoption Concept Plan  
3 months prior to submission of application and start of hearing process**

**Lacks information on how Concept Plan to be Implemented**

**Lacks information of process utilized by the City of Tualatin for revision of governing documents**

**Lacks information about Citizen Involvement Committee to advocate, communicate, oversee Citizen Involvement**

**Lacks information on Public Meetings on revisions of governing documents to include Basalt Creek Area**

**Lacks basic information on Basalt Creek Comprehensive Plan or seeking citizen participation early phase development**

**Lacks information if quasi-judicial or legislative land use process to be utilized**

**Lacks information when revision to Comprehensive Plan must be adopted**

**Lacks information on Public Involvement opportunities during development phase of document revisions**



**On 12-19-2018 (outreach effort to the citizens of the Basalt Creek Area by the City of Tualatin prior to Notice of Hearing)** The City sent an email to Interested Persons with information on a future Open House to be held on 1-22-2019. The email provided the new web link to the City's new webpage on Basalt Creek Area Planning.

- Again, the City provided little substantive information on the process how the various documents listed would be revised, or dates of Public Meetings of the Planning Commission or City Council regarding the development of the Basalt Creek comprehensive Plan.
- The email did not seek input at the initial phases of revisions to governing documents,
- nor did the email provide clear steps or actions how affected citizens could engage within the Public Involvement process before or after the Open House being held a month later.

December 19, 2018

Greetings,

You are receiving this email because of your interest in the Basalt Creek Concept Plan. As you may know, the Basalt Creek Concept Plan was formally adopted by the City of Tualatin City Council on August 13, 2018. The next steps in Tualatin's implementation process include:

- Updating Tualatin's Comprehensive Plan, Zoning Map, and Development Code (by 5/2019).
- Beginning the annexation process, which is at the option of the property owner.

If you would like to learn more, please save the date for an Open House at the Horizon High School (23370 SW Boones Ferry Road) on Tuesday, January 22, 2019 from 6:00 to 8:00 p.m.

For additional information and updates, please visit Tualatin's project webpage: <https://www.tualatinoregon.gov/planning/basalt-creek-area-planning>. If you have questions, feel free to contact:

Steve Koper, AICP

Planning Manager

City of Tualatin | Planning Division

Phone: 503-691-3028 | Email: [skoper@tualatin.gov](mailto:skoper@tualatin.gov)

**Email City of Tualatin 12-19-2018 – Information on Upcoming Open House  
4 months after adoption Concept Plan  
3 months prior to submission of application and start of hearing process**

**Lacks information on how Concept Plan to be Implemented**

**Lacks information of process utilized by the City of Tualatin for revision of governing documents**

**Lacks information about Citizen Involvement Committee to advocate, communicate, oversee Citizen Involvement**

**Lacks information on Public Meetings on revisions of governing documents to include Basalt Creek Area**

**Lacks basic information on Basalt Creek Comprehensive Plan or seeking citizen participation early phase development**

**Lacks information if quasi-judicial or legislative land use process to be utilized**

**Lacks information when revision to Comprehensive Plan must be adopted**

**On 1-3-2019 (outreach effort to the citizens of the Basalt Creek Area by the City of Tualatin prior to Notice of Hearing)**

The City sent a reminder email regarding the Open House to be held 1-22-2019. The email included information contained within the email of 12-19-18 and did not provide clear information on the process of how the Basalt Creek Comprehensive Plan would be generated, implemented, Public Meetings of the Planning Commission or City Council regarding the development of the Plan or method for public feedback.

**On 1-22-2019** (outreach effort to the citizens of the Basalt Creek Area by the City of Tualatin prior to Notice of Hearing)

**City of Tualatin Open House- Basalt Creek Comprehensive Plan 1-22-2019**

**5 months after adoption Concept Plan**

**2 months prior to submission of application and start of hearing process**

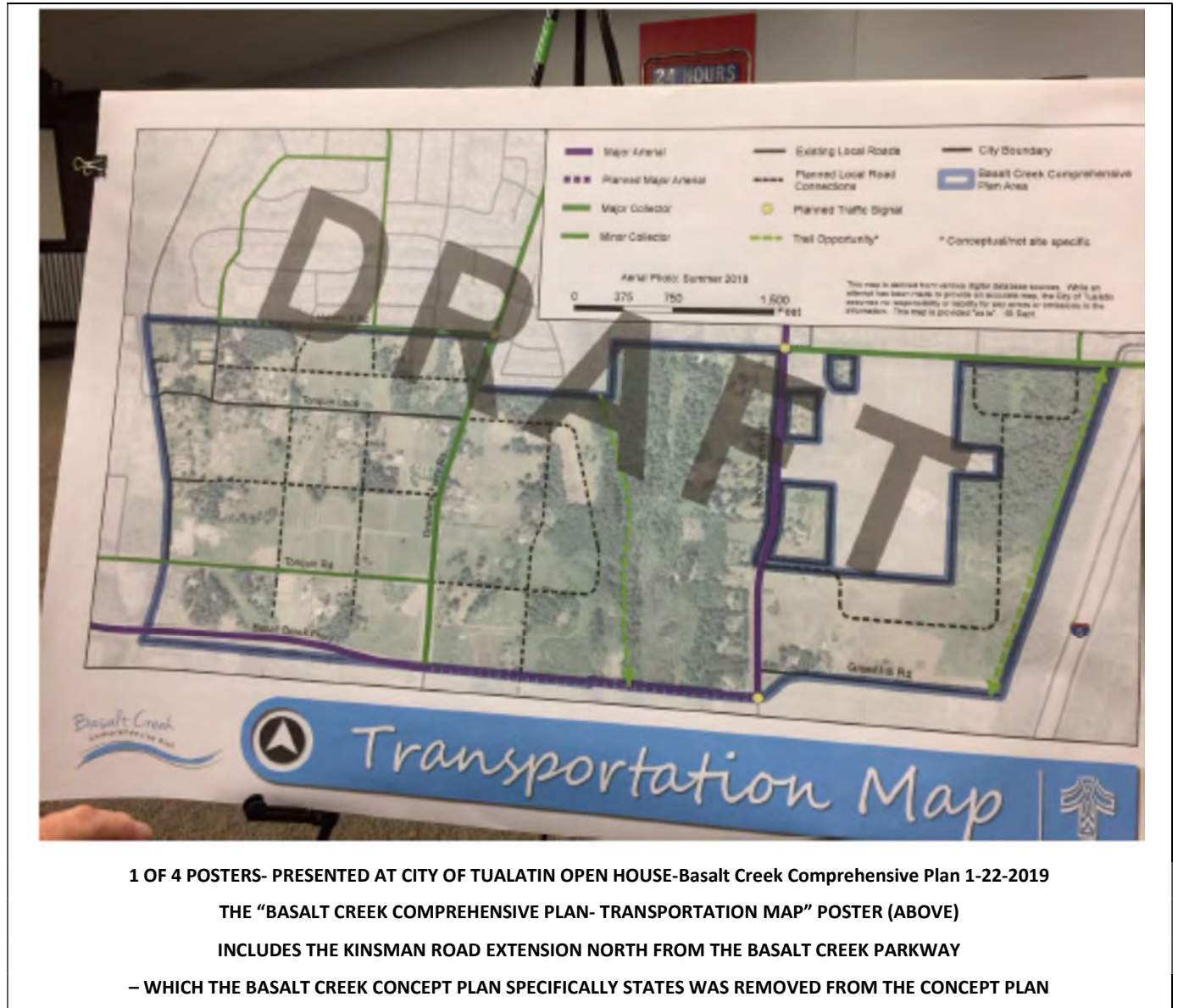
The City held the only citizen oriented public presentation on the Basalt Creek Comprehensive Plan

Only four posters were presented to the public to inform the citizens about a very complex multifaceted plan.

One of the four posters contained a flow chart on steps to start annexation of property into the City and when changes in infrastructure would be able to start.

**1 OF 4 POSTERS- AT CITY OF TUALATIN OPEN HOUSE-Basalt Creek Comprehensive Plan 1-22-2019**  
**CHART IDENTIFYS PROCESS TO ANNEXATION AND EXPANSION OF INFRASTRUCURE = URBANIZATION**  
**---THE CHART DID NOT PROVIDE SPECIFIC INFORMATION ON**  
**THE BASALT CREEK COMPREHENSIVE PLAN UPDATE PROCESS - STATED PURPOSE OF THE OPEN HOUSE**  
**Lacked information on how Concept Plan to be Implemented**  
**Lacked information about Citizen Involvement Committee to advocate, communicate, oversee Citizen Involvement**  
**Lacked information on Public Meetings on revisions of governing documents to include Basalt Creek Area**  
**Lacked information if quasi-judicial or legislative land use process to be utilized**  
**Lacked information when revision to Comprehensive Plan must be adopted**  
**Did not provide method to seek and document citizen feedback from Open House**  
**Did not provide information for additional Citizen Involvement**

- The remaining 3 Posters were maps- all watermarked “Draft” and labeled “Basalt Creek Comprehensive Plan” with logo.



On 1-25-2019 A different and more current "Transportation Map" was posted to the City's website – under the label of Open House Posters 1-22-2019

**Copy of "Transportation Map" Posted to the City Website 1-25-2019**  
**under Label 1-22-2019 Open House Posters**  
**The Inaccurate and Outdated Inclusion of Kinsman Road -North of the Basalt Creek Parkway Has Been Removed**  
**Not the Same Poster Presented at Open House 1-22-2019**  
**(This Poster and The Other 3 Posters Open House Posters Were Later Removed Completely from City Website)**

- The "Transportation Map" –included outdated, inaccurate information depicted on the map- which was in direct conflict with specific statements included within the Basalt Creek Concept Plan regarding the extension of Kinsman Road north from the Basalt Creek Parkway/Extension.
- Conflicting information was provided to the public by City staff and the City of Tualatin Consultant as to potential restructuring of the current SW Boones Ferry Frontage Road as part of the Basalt Creek Comprehensive Plan.
- There was no formal method provided by the City during the Open House for Citizens to submit feedback or expressing concerns- either during or after the Open House.

On 1-25-2019,

As the City did not provide a formal feedback mechanism for Citizen Comments either during or after the Open House, 3 days after the City's Open House, I submitted an email to the City presenting my concerns regarding discrepancies between the Basalt Creek Concept Plan and the issues relating to the "Transportation Map" presented at the Open House City on 1-25-2019

The subject line of my email was:

[Subject: Open House 1-22-19 Citizen Comments for Public Record of City of Tualatin RE: Comprehensive & Development Plan Revisions; & Future Basalt Creek Parks & Rec Comp Planning](#)

The first paragraph and title of my email stated:

[PLEASE CONSIDER THIS A SUBMISSION TO THE CITY OF TUALATIN- REGARDING:  
- THE IMPLEMENTATION OF THE BASALT CREEK CONCEPT PLAN BY THE CITY  
- THE REVISIONS/UPDATES TO THE CITY OF TUALATIN'S COMPREHENSIVE PLAN, DEVELOPMENT PLAN, AND  
- THE FUTURE BASALT CREEK PARKS AND RECREATION COMPREHENSIVE MASTER PLAN  
\(entire email chain from 1-25-2019 to 3-5-2019 available upon request\)](#)

The attached email chain between myself and the City indicates the need, purpose, and utilization of a Committee for Citizen Involvement (CCI) during the development of Basalt Creek Comprehensive Plan for the City of Tualatin.

It also reflects

- the lack of information provided to citizens as to the various actions/processes the City would utilize to amend their governing documents
- the lack of basic information as to significant dates involved in the Plan adoption process and influence upon citizen communications
- Problems in Communication -- To assure effective two-way communication with citizens. Mechanisms shall be established which provide for effective communication between citizens and elected and appointed officials and the lack of a formal feedback mechanism during the only Open House provided
- Problems to provide Citizen Influence -- To provide the opportunity for citizens to be involved in all phases of the planning process. Citizens shall have the opportunity to be involved in the phases of the planning process as set forth and defined in the goals and guidelines for Land Use Planning, including Preparation of Plans and Implementation Measures, Plan Content, Plan Adoption, Minor Changes and Major Revisions in the Plan, and Implementation Measures. the lack of information how citizens can participate within the City's process to amend the Comprehensive Plan -from the initial development of the plan and inclusion during various draft revisions of the plan.

The email includes the following responses from the City of Tualatin to my inquiries of 1-25-2019:

From City 2-5-2019 one month prior to start of adoption process:

["Regarding the Comprehensive Plan update process, property owners and the public will have the](#)

opportunity to review the documents and materials that will be presented to the City Council, which along with public and other comments on those materials will help inform their decision on the amendments and updates to the comprehensive plan for the Basalt Creek area. However, drafts of those documents and are not yet finalized. We will inform the property owners in the Tualatin portion of the Basalt Creek area as well as interested members of the public when the opportunity to comment starts."

**On 3-4-2019 (outreach effort to the citizens of the Basalt Creek Area by the City of Tualatin prior to Notice of Hearing)**

Over two months after the Open House on 1-22-2019, was the first publicly deiminated information as to the dates when three Public Meetings would be held to adopt the City of Tualatin's Basalt Creek Comprehensive Plan utilizing the Interested Persons email list.

- This was the first formal solicitation by the City to the citizens of the Basalt Creek Area to submit verbal or written comments of the Basalt Creek Comprehensive Plan.
- Citizens were informed that written comments had to be submitted to the City by March 29 to be included within the City Council packet for the April 8, 2019 public hearing.
- The email indicated the public could access additional information on the City's website
  1. The City's website on that day contained 25 PDF files containing multiple maps, information and data- vastly exceeding the information provided on the four posters provided during the Open House on 1-22-2019- this was a major revision to the previous information provided on the 4 Open House Posters.
  2. Yet, the City only provided the perfunctory statement to contact the City Planning Manager if questions. The City clearly did not schedule or offer additional assistance for interpretation of the newly presented technical data and documents.

**On 3-5-2019 (State mandated outreach to the citizens of the Basalt Creek Area by the City of Tualatin prior to Notice of Hearing)** The City mailed Notice to Basalt Creek property owners Notice of the April 8, 2019 hearing date for the adoption of the Basalt Creek Comprehensive Plan into the City's Comprehensive Plan.

**By 3-16 2019** The City removed the 25 PDF files just posted to the City's website the week of 3-4-2019, and replaced the file with one PDF file of 747 pages-the Informational Packet for the Tualatin Planning Commission Meeting scheduled for March 21, 2019

- The hundreds of pages of information provided differs in format and method of presentation than adopted in the Basalt Creek Concept Plan and should be considered a major revision of the Comprehensive Plan draft.
- The City has made no offer or method to aid in the interpret the technical data provided within the hundreds of pages now being made available to the public other than the perfunctory comment to call the City Planning Manager if questions.

**3-21-2019 (day of Planning Commission Meeting) Posting of Notice of Public Meetings for adoption of Basalt Creek Comprehensive Plan- --lacks basic specific information required by Oregon Public Meetings Law for proper Notice of Public Meetings**

The screenshot of the City’s webpage for the implementation of the Basalt Creek Concept Plan into the City’s governing documents:

- Does not provide the **location** of these Public Meetings
- Does not provide the **time** of these Public Meetings

**Basalt Creek Area Planning**

**Background**  
For more background information about the Basalt Creek Area Planning process, please visit [www.basaltcreek.com](http://www.basaltcreek.com).

**Basalt Creek Comprehensive Plan Update**  
Public comment is now invited on the Basalt Creek Comprehensive Plan update (PTA 19-0001 and PMA 19-0001). Written comment must be submitted to [skoper@tualatin.gov](mailto:skoper@tualatin.gov) or to the Tualatin Planning Division (18880 SW Martinazzi Avenue, Tualatin OR 97062) by **March 29, 2019**, in order to be included in the City Council packet for the April 8, 2019 public hearing. Written comments and verbal testimony can also be made at the April 8, 2019 public hearing.

The Findings and Analysis, proposed text, maps, figures, and documents for Basalt Creek Comprehensive Plan update can be found [here](#).

Relevant upcoming dates in Tualatin's Basalt Creek Comprehensive Plan update process include:

- **March 21, 2019** – Tualatin Planning Commission – Consideration of a recommendation to the City Council on the Basalt Creek Comprehensive Plan updates. The Planning Commission meeting information and packet can be found at: <https://www.tualatinoregon.gov/planning/tualatin-planning-commission-tpc>.
- **March 25, 2019** – Tualatin City Council – Work session to provide the Council with background on the Basalt Creek Concept Plan and information about the Basalt Creek Comprehensive Plan update process.
- **April 8, 2019** – Tualatin City Council – Consideration of the Tualatin Planning Commission's recommendation on the Basalt Creek Comprehensive Plan updates. Potential Ordinance adoption for the Basalt Creek Comprehensive Plan updates.

**Notice of significant Public Meetings leading to the adoption of the Basalt Creek Comprehensive Plan**  
**Lacks information required for proper Notice Public Meetings Law, ORS 192.610 to 192.690.**

- Lacks identification of location of Public Meetings
- Lacks identification of time of Public Meetings

The City had many years to begin developing the strategies for creating an effective Public Involvement Plan for the Basalt Creek Comprehensive Plan dating back to 2004 and continuing through 2012 with the adoption of the Basalt Creek TRP and the Basalt Creek Concept Plan in 2018.

Based upon the information provided above, it is very questionable if the City of Tualatin has met the Goals and Guidelines as stated by the State of Oregon for Goal 1 Citizen Involvement. Lacking a known functional Citizen Involvement Committee within the unincorporated Basalt Creek Area, with City of Tualatin took minimal action to ensure all components of Goal 1 were implemented and enforced and to ensure the citizens of the Basalt Creek Area were knowledgeable of the resources available through the City's designated CCI. The result of the City's actions, or lack thereof, has inhibited the full participation of citizens from the earliest phase of the development of the Comprehensive Plan. During the City's only Open House, citizens were provided minimal information, some of the information which was provided was inaccurate, and the City staff and their Consultant provided conflicting information to the public. The City of Tualatin provided minimal information as to the legal process or actions being utilized to adopt the Basalt Creek Comprehensive Plan, waiting until March 2019 (the document adoption phase) to disseminate minimal process information to the public. The City's actions have muted effective citizen feedback and two way communication throughout most phases of the process. The City's actions have not promoted the transparency of the governmental process which will affect hundreds of acres and numerous property owners within the Basalt Creek Area.

Since the City has little time to adopt legal documents which will force the City's governance over the Basalt Creek Area within the required timeframe, it is doubtful the City will be able to amend the lack of engagement and public involvement provided to the citizens of the Basalt Creek Area in the past and throughout the current process.

It is hoped the City will become more aware of the need to develop effective 2 way communication with citizens and engaging them during the initial phases of revisions to governing documents which have significant impact upon those citizens.



To forward the goal of transparency of governmental process, I request the City to evaluate its Public Involvement Policy and guidelines for public engagement and how they have been implemented in the past.

I request the City take immediate effective action to address the multiple issues presented and develop effective 2-way communication with citizens starting during initial phases of major changes to governance and/or changes to infrastructure within or affecting the Basalt Creek Area as the City continues to urbanize the area.

I request the City to publicly post to the City's webpage a Public Involvement Policy relating to policy development, planning and projects to provide clear information and expectations for citizens and staff—including but not limited to:

- **Public Involvement Policy -Easily understood and Assessable to both public and staff**
  - easily to find and accessible
  - separate from other citizen participation activities or volunteer opportunities
  - indicates the City has developed a Citizens Involvement Program which “insures the opportunity for citizens to be involved in all phases of the planning process”- State of Oregon Goal 1 Public Involvement
- **Purpose of Public Involvement and Citizen Engagement**
  - Clear statements how the City includes and actualizes all six of the State's Goal 1 Citizen Involvement objectives
  - Describe the phases of the local planning process
  - Clear statements/expectations how the City will include citizens within all phases of policy development, planning and projects
  - Purpose of a Citizens Involvement Committee and applicable contact information for the Committee
- **Identification of City Governing Documents-**
  - Brief Purpose of the Document
  - City Department and contact information responsible for administration of document
- **Methods of Outreach**
  - What mechanisms the City utilizes to disseminate information
  - Easily identifiable and understandable list of current or proposed projects- how to subscribe to email lists for projects.
  - Monitoring mechanism to identify and include all potentially affected citizens
  - Monitoring mechanism to identify and include all diversities and groups

- **Notice-**
  - **Notice of Public Meetings to include all informational components required within Oregon Public Meetings Law-**
  - **What mechanism will be used for General Notice**
  - **How to request Actual Notice-When an “Interested Persons” information distribution list will be created, and how to subscribe**
- **Implementation- Review**
  - **Clear statement who will oversee the implementation of the Public Involvement Policy for the City**
  - **Contact information for the City department and position -**
  - **Mechanism for staff education and update**
  - **Feedback mechanism to citizens on submitted issues regarding Public Involvement**

**I request the City attempt to exceed the minimum requirements of Public Involvement and develop a robust program which promotes all aspects of transparency of governmental process, and encouragement of public engagement within the process.**

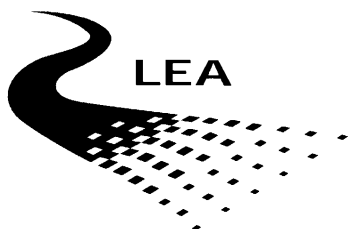
Respectfully submitted,

Grace Lucini  
23677 SW Boones Ferry Road  
Tualatin, OR 97062

**Effects of SW Boones Ferry Road Construction (2013-2015)**  
Stormflow Analysis for the Lucini Property  
Washington County, Oregon

Prepared for  
**John and Grace Lucini**  
23677 SW Boones Ferry Road  
Tualatin, Oregon  
97140

Prepared by  
**Dave LaLiberte**  
Principal Engineer  
**Liberte Environmental Associates, Inc.**  
Wilsonville, Oregon



**November 1, 2016**

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## 1. Summary

Beginning in about 2015, Washington County, Oregon re-routed and increased the portion of stormwater flows passing through its road culvert (Outfall #5). These increased stormflows are associated with the County's SW Boones Ferry Road (BFR) Improvement Project. A location map is presented in Figure 1 showing the Lucini property relative to the County's road project. The re-routed portion and increased stormwater ultimately discharge onto the Lucini property<sup>1</sup>. Figures 2 and 3 show the stormwater conveyance through the steeply sloped Lucini property, which is composed of pipes and ditches. The photos in Appendix A document drainage condition problems on the Lucini property associated with the road project.

Increased portions of stormflows are now routed to the Lucini property but the County did not acknowledge this condition in its planning document, which is identified throughout this report as the *Drainage Report* (2013).<sup>2</sup> Figure 4 shows the erroneous subbasin boundaries used by the County in its Drainage Report. Figure 5 shows the necessary corrections to the faulty subbasin boundaries. These corrected subbasin boundaries demarcate a smaller actual subbasin acreage draining to the Lucini property, which results in lower stormflows than those projected by the County for ORIGINAL conditions prior to 2013. Appendix B provides the Drainage Report figures pertaining to overall subbasin boundaries for "Existing Conditions Hydrology", called throughout this report as the ORIGINAL conditions; and the "Proposed Conditions Hydrology", i.e., IMPLEMENTED conditions.

### *Photos and Drawings Documentation*

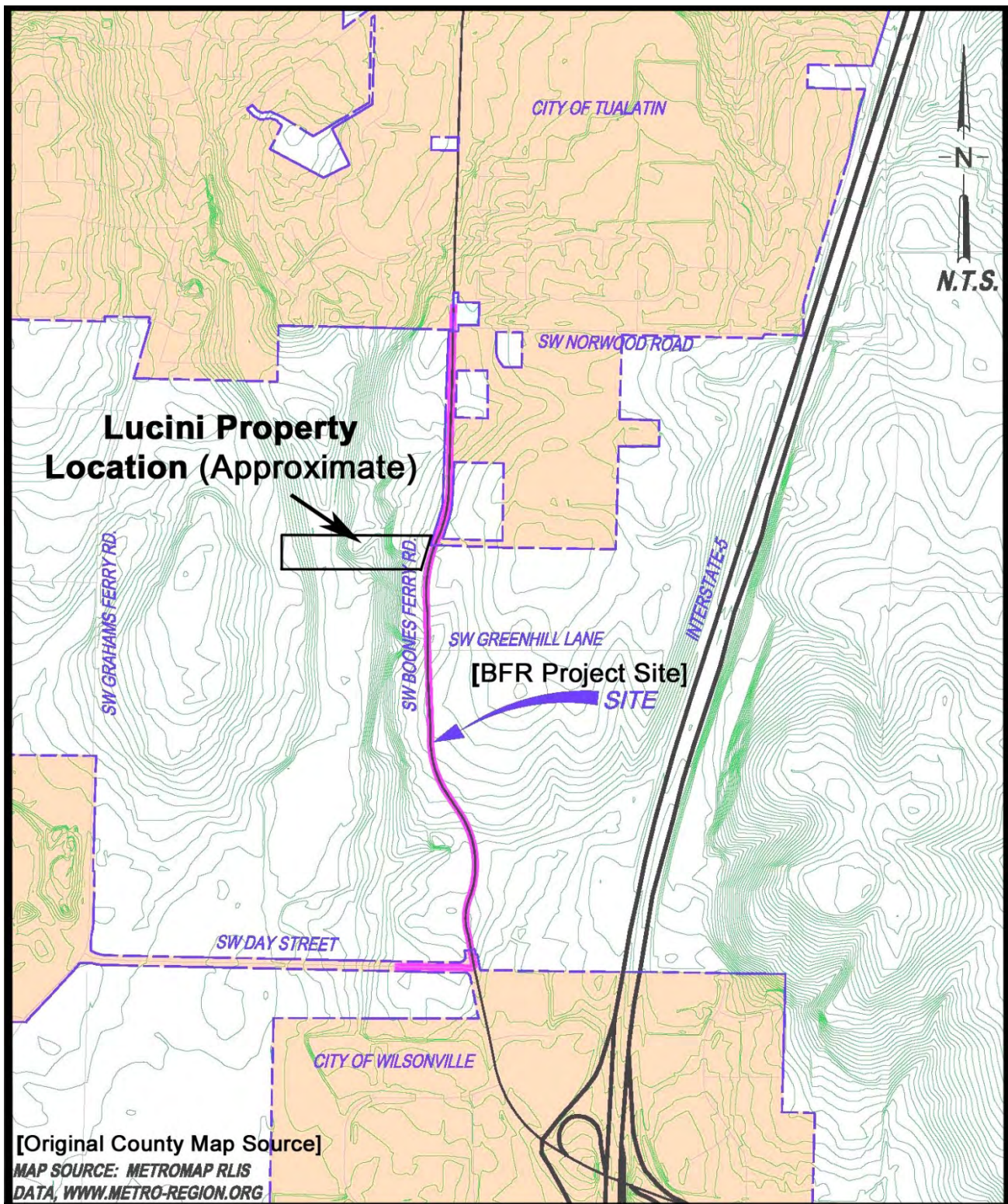
The County claims in the Drainage Report that the ORIGINAL Boones Ferry Road above the Lucini property prior to 2013 was curbed and included storm sewers. However, the photos in Appendix A1 show that there are no curbs or storm sewer inlets. The County's mischaracterization of stormflow conditions, and depriving the public of accurate land contour information, allowed the County to shift a portion of flows from the adjacent and sensitive Greenhill Lane subbasin and into the subbasin above the Lucini property generating significant problems with erosion and flooding.

Appendix C contains the "Existing Conditions Plan" (June 2012) from the County's 70 percent drawings submittal related to the subbasin above the Lucini property. The drawings contain no elevation labeling nor do the unlabeled contour lines support the County's claim that the majority of stormflows in this area originally ended up passing onto the Lucini property.

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<sup>1</sup> John and Grace Lucini property is located at: 23677 SW Boones Ferry Road, Tualatin, Oregon, 97140.

<sup>2</sup> Drainage Report (2013), Storm Drainage Report – SW Boones Ferry Road (SW Day Road to SW Norwood Road), by MacKay Sposito for Washington County, Capital Project Management (CPM), Final January 31, 2013.



Background Image from Washington County's Storm Drainage Report for SW Boones Ferry Road Appendix A2 - Site Map figure on PDF page 27 of 152 (January 31, 2013).

**Figure 1.** Location Map Showing Lucini Property Overlay and Proximity to the SW Boones Ferry Road Improvement Project

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These problems were not corrected in the construction plans for the project related to the subbasin above the Lucini property as shown in the final as-built drawings (November 2014) available in Appendix D. The County's "Erosion and Sediment Control Plan" from the as-built drawings as it relates to the subbasin draining to the Lucini property are contained in Appendix E. These drawings show that the original contours allowed stormflow to enter the road right-of-way and then flow south into the adjacent Greenhill Lane subbasin, not the subbasin draining into the Lucini property.

The storm flow increases overwhelmed the existing downstream conveyance system causing substantial erosion and flood damage to the property in May 18, 2015. Photos of flood damage are presented in Appendix A2. Still more flood damage is threatened in future years as the County has not protected the Lucini property from increased flows in an area that is rapidly urbanizing. Appendix A3 contains photos of erosion damage on the Lucini property resulting from increased stormflows that erode soil, widen the conveyance ditch into the adjacent embankment and expose tree roots.

In its Drainage Report, the County has departed from its stated stormwater guidance identified in Clean Water Services (CWS).<sup>3</sup> In particular, the County did not carry-out a Downstream System<sup>4</sup> evaluation for the Lucini property as necessitated in its guidance. This evaluation process is used to determine the potential effects of increased storm flows on the property. The effects of ongoing and future development in the drainage above the Lucini property are neglected in the County's Drainage Report for the ORIGINAL (pre-2013) and IMPLEMENTED (2015) subbasin conditions.

The County disregarded increased stormflow effects, above the Lucini property, resulting from more intense ongoing and future urbanization in the subbasin. Near-term increases in land use intensity were also neglected as the Drainage Report did not acknowledge the County's own construction impact on the subbasin above the property. Increased stormflows, generated from the more intensely urban "Institutional" category associated with the City of Tualatin, are entirely overlooked by the County.

#### *Purpose of this Stormflow Analysis*

This Stormflow Analysis report is performed in lieu of Washington County carrying-out an accurate assessment of ORIGINAL (prior to 2013) and IMPLEMENTED (2015) drainage conditions upstream and through the Lucini property.

The U.S. Army Corps of Engineers (Corps) model, HEC-HMS<sup>5</sup>, is used in this analysis to evaluate rainfall hydrology. Model inputs include precipitation time distributions and amounts, drainage area sizes, land use and soil conditions, runoff time-of concentration,

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<sup>3</sup> CWS (2007), *Design and Construction Standards for Sanitary Sewer and Surface Water Management*, for Clean Water Services (CWS), Hillsboro, Oregon, June 2007.

<sup>4</sup> Ibid, see Chapter 2, Page 12 under the 2.04.2 subsection heading "3. Review of Downstream System", i.e., this is subsection 2.04.2.3.

<sup>5</sup> HEC refers to the U.S. Army Corps of Engineers Hydrologic Engineering Center; and the HMS refers to the Hydrologic Model System.

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stormwater routing and other parameters are considered for evaluating storm flows onto and through the Lucini property.

The hydrologic analysis performed in this report was first adjusted to the Washington County hydrologic results presented in its Drainage Report for the corresponding Soil Conservation Service (SCS) Type IA 25-year design storm. Then the corrected subbasin areas and land use conditions were supplied to the HEC-HMS hydrologic model so that realistic storm flow conditions could be simulated.

The County's Drainage Report did not perform a hydraulic analysis to assess the effects of stormflows above and through the Lucini property. The Corps hydraulic model, HEC-RAS<sup>6</sup>, is used in this analysis to overcome the lack of hydraulic information. Peak flows from 25-year rainfall runoff, generated by the hydrologic model HEC-HMS, are supplied as inputs to the HEC-RAS hydraulic model. HEC-RAS is run in steady state mode, i.e., peak stormflows are held constant for each run. This process allows for the consideration of the impact of stormflows on piping, ditches and other features of the drainage system. Specifically, the hydraulic effects resulting from stormflows passing through the drainage system subbasins, stormflow routing, ditches, culverts (piping), land use conditions, ditch and piping materials, and other parameters can be assessed.

#### *Hydrologic Modeling Results*

The hydrologic simulation inputs and stormflow results generated by HEC-HMS for the subbasin above the Lucini property are contained in Appendix H.

The hydrologic modeling considered a number of probable realistic cases unexamined in the Drainage Report for the 25-year design storm. The ORIGINAL subbasin configuration as depicted in Figure 4, which is corrected as shown in Figure 5. The hydrologic model was then run with the more accurate drainage area as the ORIGINAL subbasin configuration. This comparison demonstrates that the realistic (actual) peak flow value of 0.89 cubic-feet-second (cfs) discharging to the Lucini property is 31.5 percent less (see the Figure 6 column chart) than peak flow of 1.17 cfs claimed in the County's Drainage Report. This is critically important because the County is inflating the ORIGINAL stormflows and makes it seem like the ORIGINAL condition had higher flows. This is an adverse condition for the Lucini's because the Drainage Report analysis later claims to reduce the ORIGINAL stormflow amount that it previously inflated as part of the IMPLEMENTED project.

Stormflow values are graphically compared in the Figure 6 through Figure 8 column charts. Figures 9 and 10 show the subbasin boundaries for IMPLEMENTED conditions, which permanently re-rout stormflows from a portion of the Greenhill Lane subbasin ultimately onto the Lucini property

Still greater stormflow inaccuracies are introduced by the County because it did not consider fundamental increases in impervious land areas resulting from ongoing and future land use. This is a basic necessity identified in the CWS (2007) guidance, which

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<sup>6</sup> HEC-RAS refers to the River Analysis System hydraulic model developed by the Corps.

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the County is claiming it is relying upon. It can be seen that ongoing land use and future full build-out development conditions result in much larger stormflows being discharged to the Lucini property.

Ongoing land use considerations include road construction activities and large facility support conditions necessitated by the Horizon Community Church. These land use conditions can be seen in the aerial view presented in Figures 13 and 14. Appendix F also displays additional land use characteristics in the subbasin above the Lucini property. Road construction activities result in soil compaction from heavy equipment movement and parking as well as materials staging and other provisions necessitated by road construction. Figures 13 and 14 also show the sprawling Horizon Community Church complex that relies in part on the subbasin draining to the Lucini property. The church facilities include a driveway, service roads, vehicle parking, facility support buildings and other impervious features affecting runoff.

When realistic ongoing land use is considered, stormflows discharged to the Lucini property are projected to inflate to 92.1 percent of the ORIGINAL conditions (see middle column in Figure 7). When stormflows from ongoing land use are compared to IMPLEMENTED conditions, the Lucini property is projected to receive 204.7 percent of the realistic (actual) original stormflows based on implemented conditions (see middle column in Figure 8).

The majority of the subbasin above the Lucini property is slated for intense future development allowed within the 20-year future development (FD20) planning. The County disregarded this condition in its Drainage Report and is subjecting the Lucini property to significant burdens from future erosion and flooding. When realistic future full build-out development is considered, stormflows discharged to the Lucini property are projected to inflate to 220.2 percent of the ORIGINAL conditions (see right column in Figure 7). When stormflows from full build-out conditions are compared to IMPLEMENTED conditions, the Lucini property is projected to receive 414.1 percent of the realistic (actual) original stormflows based on implemented conditions (see right column in Figure 8).

#### *Hydraulic Modeling Results*

The hydraulic modeling presented in this analysis evaluates the ORIGINAL and IMPLEMENTED piping and ditches on the Lucini property (see Figures 2 and 3) as well as the County's system above the Lucini property (see Figures 11 and 12).

Figure 11 shows the hydraulic conditions for connecting piping and the original road culvert locations for the ORIGINAL configuration. Figure 12 illustrates the IMPLEMENTED hydraulic conditions consisting of connecting piping and the new culvert comprising the County's Outfall #5. Figure 12 also shows the juxtaposition of the old and new Boones Ferry Road that hydraulically affects flows to the Lucini property.

The hydraulic simulation inputs and results, including stormflow water surface profiles and velocities, generated by HEC-RAS are available in Appendix I. The hydraulic



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modeling assessing pipe and ditch flow conditions shows that excessive stormflow velocities are created on the steep slopes of the Lucini property. The estimated land profiles of the storm water conveyance is illustrated in Figure 15 and Appendix I).

Stormflow velocities shown in Figure 16, for a range of land use conditions and the ORIGINAL subbasin configuration, demonstrate many instances where values exceed velocities that cause erosion on the Lucini property. These velocities exceed 4.0 feet-per-second (fps) and cannot be maintained. This deleterious situation requires measures to reduce peak flows coming through the County's culvert (Outfall #5) and onto the Lucini property. The physical conditions of excessive and increased streamflow on steep slopes existing on the Lucini property, and compared to the ORIGINAL conditions, were not evaluated by the County in its Drainage Report.

Stormflow velocities shown in Figure 17, for a range of land use conditions and the IMPLEMENTED subbasin configuration, demonstrate that values exceed velocities that cause erosion on the Lucini property for the ongoing land use and full build-out development conditions. These velocities exceed 4.0 feet-per-second (fps) and cannot be maintained. This harmful condition requires methods to reduce peak flows, including sediment and debris transport, passing through the County's culvert and onto the Lucini property. The physical conditions of excessive and increased streamflow on steep slopes existing on the Lucini property, and compared to IMPLEMENTED conditions, were not evaluated by the County in its Drainage Report.

#### *Planning Level Costs*

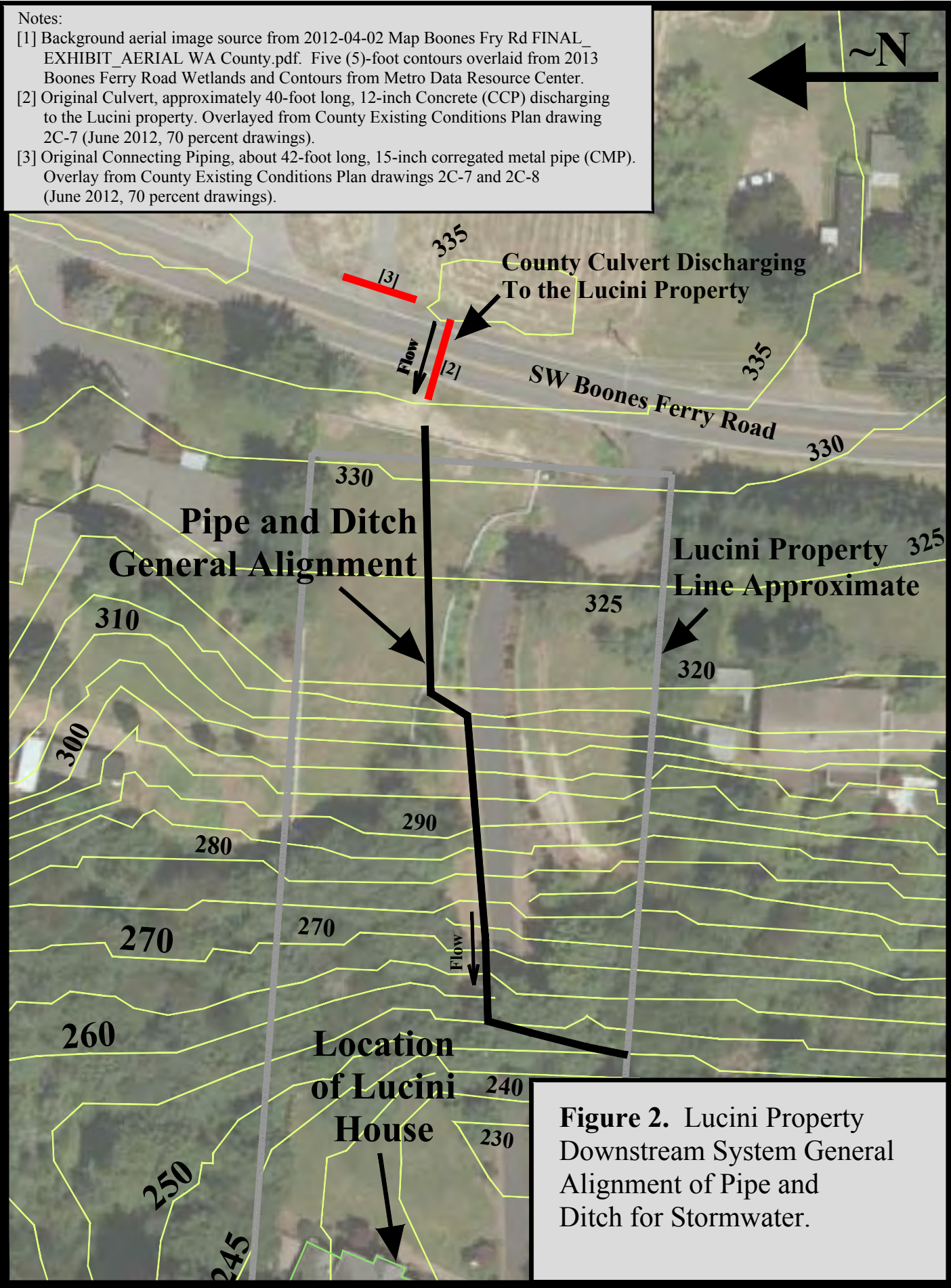
Three levels of estimated capital costs are related to remedying problems on the Lucini property resulting from the County's SW Boones Ferry Road widening project:

- 1) Immediate Shorter Term Remedy using Orifice Plate (\$4,500 to \$6,500 installed)
- 2) Ongoing Flow and Water Quality Control Facilities (\$12,157 to \$17,560 installed)
- 3) Longer Term Detention/Retention Facilities (to several hundred thousand dollars)

These capital costs include equipment, materials, labor, and construction contractor overhead and profit. Design, engineering and construction management costs are separately considered. An estimate of 20 percent of the final construction capital cost for this relatively small scale project is considered. For the high range estimates above, the design cost estimates are \$1,300 for number 1 and \$3,572 for number 2.

Notes:

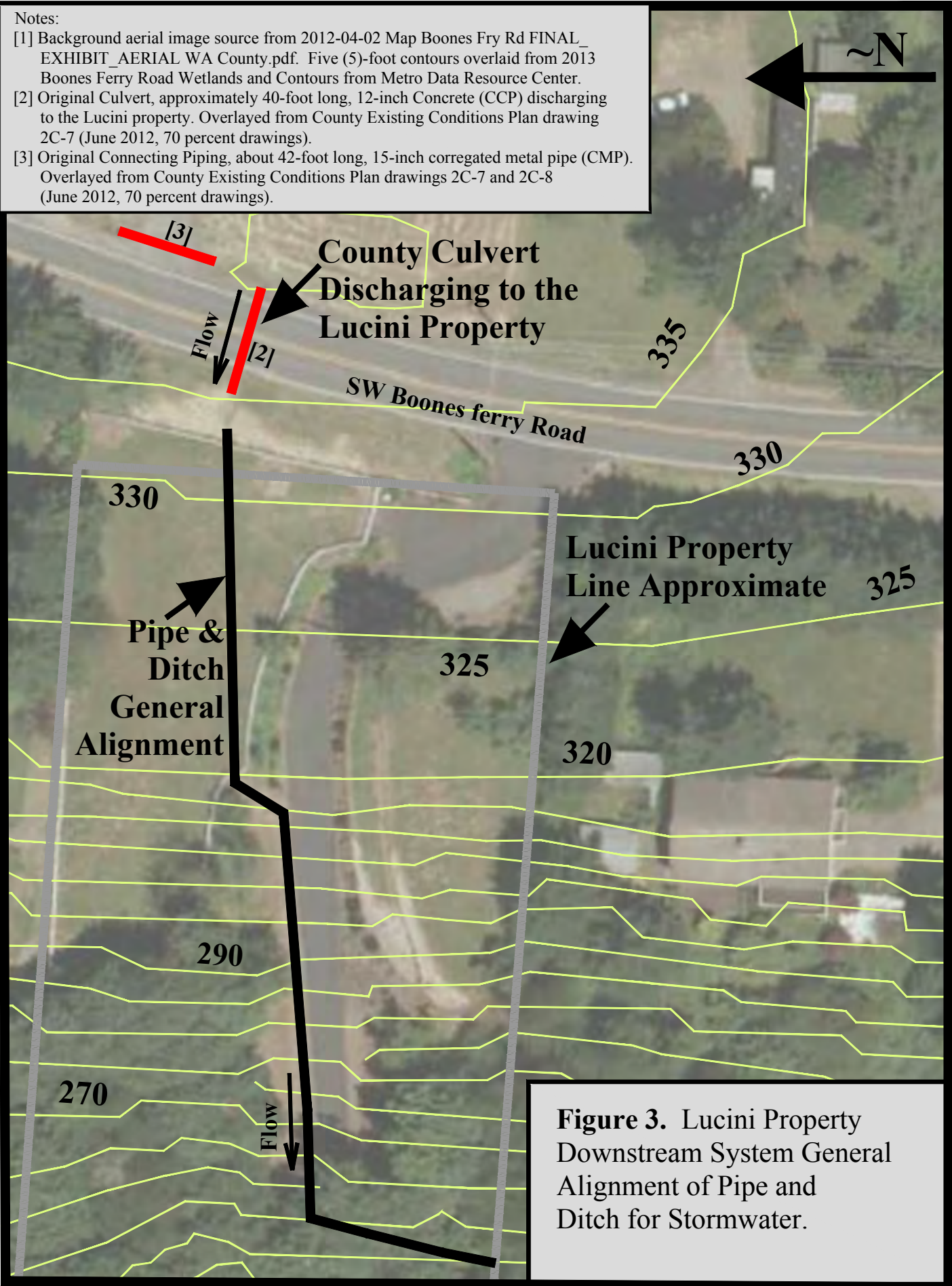
- [1] Background aerial image source from 2012-04-02 Map Boones Fry Rd FINAL\_EXHIBIT\_AERIAL WA County.pdf. Five (5)-foot contours overlaid from 2013 Boones Ferry Road Wetlands and Contours from Metro Data Resource Center.
- [2] Original Culvert, approximately 40-foot long, 12-inch Concrete (CCP) discharging to the Lucini property. Overlaid from County Existing Conditions Plan drawing 2C-7 (June 2012, 70 percent drawings).
- [3] Original Connecting Piping, about 42-foot long, 15-inch corrugated metal pipe (CMP). Overlay from County Existing Conditions Plan drawings 2C-7 and 2C-8 (June 2012, 70 percent drawings).



**Figure 2.** Lucini Property Downstream System General Alignment of Pipe and Ditch for Stormwater.

Notes:

- [1] Background aerial image source from 2012-04-02 Map Boones Fry Rd FINAL\_EXHIBIT\_AERIAL WA County.pdf. Five (5)-foot contours overlaid from 2013 Boones Ferry Road Wetlands and Contours from Metro Data Resource Center.
- [2] Original Culvert, approximately 40-foot long, 12-inch Concrete (CCP) discharging to the Lucini property. Overlaid from County Existing Conditions Plan drawing 2C-7 (June 2012, 70 percent drawings).
- [3] Original Connecting Piping, about 42-foot long, 15-inch corrugated metal pipe (CMP). Overlaid from County Existing Conditions Plan drawings 2C-7 and 2C-8 (June 2012, 70 percent drawings).



**Figure 3.** Lucini Property Downstream System General Alignment of Pipe and Ditch for Stormwater.

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## 2. Background

This investigation begins with the ORIGINAL subbasin (Figures 4 and 5) stormflow conditions affecting the Lucini property and resulting from the SW Boones Ferry Road improvements project (approximately years 2013-2015). Unlike the County's Drainage Report (2013) that only considered very limited runoff hydrology, this study includes comprehensive stormflow hydrology and hydraulics comprised of the pipes and ditches upstream of, and on, the Lucini property.

### *Hydrology and Hydraulics*

The hydrologic analysis performed in this report employs the U.S. Army Corps of Engineers (Corps) model called HEC-HMS.<sup>7</sup> The LEA model analysis was adjusted to the Washington County results for the initial corresponding design storm. The same Soil Conservation Service (SCS) design storm event<sup>8</sup> was used for both the Washington County and the LEA hydrologic analysis presented in this report.

The Washington County storm flow results affecting the Lucini property are compared in Tables 2 and 3, and are based on the SCS 25-year design storm event for ORIGINAL and IMPLEMENTED stormflow conditions, respectively.

For Original conditions, the County stated a peak storm flow of 1.17 cubic-feet-per-second (cfs) for the design storm event. The LEA hydrologic model analysis employing HEC-HMS produced the same storm flow results as the County. This LEA-County results calibration used the same model inputs as the County<sup>9</sup>, for the supposed ORIGINAL drainage area, runoff curve numbers, and other corresponding parameters.

For IMPLEMENTED conditions, the County projected a peak storm flow of 0.85 cfs for the design storm event. The LEA hydrologic model analysis, employing HEC-HMS, produced the same storm flow results as the County. This LEA-County results calibration used the same inputs for the Implemented drainage area, runoff curve numbers, and other corresponding parameters.

Photos of the Lucini Property taken during the May 18, 2015 storm event are shown in Appendix A2. These photos demonstrate the excessive flow velocities generated at the site for storms even less than the 25-year event.

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<sup>7</sup> HEC refers to the U.S. Army Corps of Engineers Hydrologic Engineering Center. HMS refers to the Hydrologic Model System.

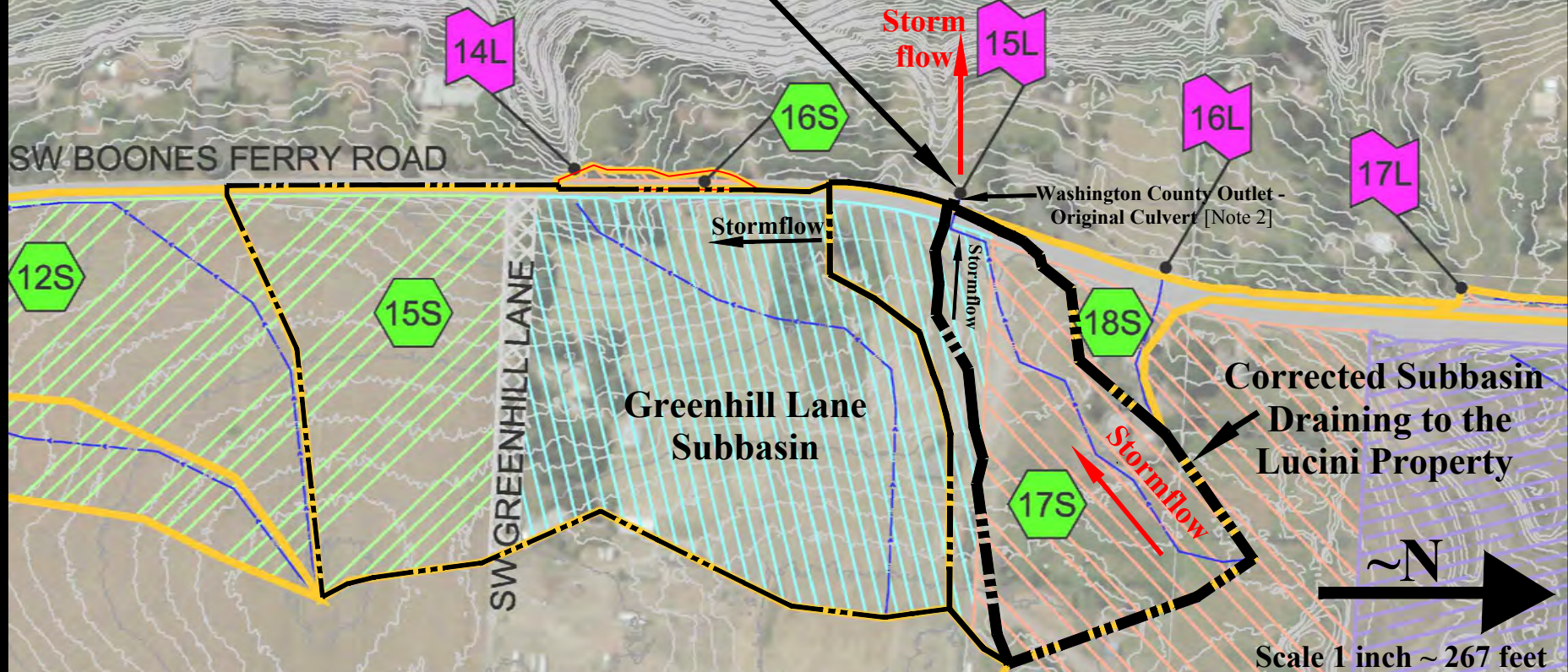
<sup>8</sup> The design storm is defined herein as the 24-hour, 25-year Type IA developed by the Soil Conservation Service (SCS). This the same design storm event as used by Washington County in its Drainage Report.

<sup>9</sup> The County employed the commercially available HydroCAD software program to carry out the hydrologic calculations using the SCS design storm method.

Background Image Source see Note 1

Washington County  
Outlet - Original  
Culvert [Note 2]

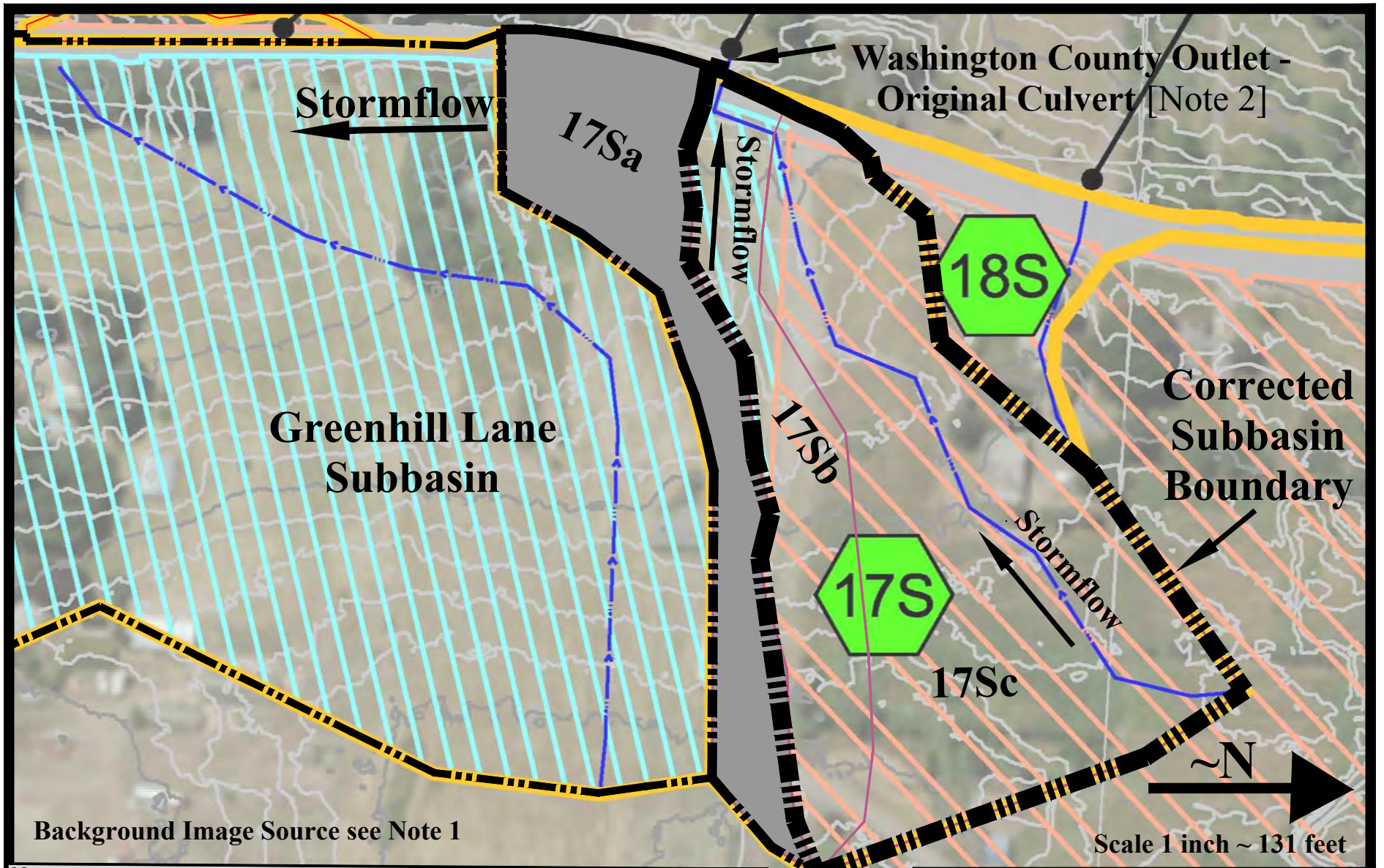
Lucini House  
Location



Notes:

- [1] Background image source from Washington County *Storm Drainage Report* (January 2013), Existing Conditions Hydrology Map on PDF Page 35 of 152.
- [2] Original Culvert, approximately 40-foot long, 12-inch Concrete (CCP) discharging to the Lucini property. Overlaid from County Existing Conditions Plan drawing 2C-7 (June 2012, 70 percent drawings).
- [3] Original Connecting Piping, about 42-foot long, 15-inch corrugated metal pipe (CMP). Overlaid from County Existing Conditions Plan drawings 2C-7 and 2C-8 (June 2012, 70 percent drawings).

**Figure 4.** Original County Subbasins - Erroneous Boundaries for Drainage above the Lucini Property.



Background Image Source see Note 1

- Notes:
- [1] Background image source from Washington County *Storm Drainage Report* (January 2013), Existing Conditions Hydrology Map on PDF Page 35 of 152.
  - [2] Original Culvert, approximately 40-foot long, 12-inch Concrete (CCP) discharging to the Lucini property. Overlaid from County Existing Conditions Plan drawing 2C-7 (June 2012, 70 percent drawings).
  - [3] Original Connecting Piping, about 42-foot long, 15-inch corrugated metal pipe (CMP). Overlaid from County Existing Conditions Plan drawings 2C-7 and 2C-8 (June 2012, 70 percent drawings).

**Figure 5.** Original County Subbasins - Erroneous Boundaries for Drainage above the Lucini Property. (Close-in View)

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The County's Drainage Report (2013) indicates it is relying upon CWS 2007 for storm flow evaluation methodology, which requires a "Review of Downstream System"<sup>10</sup>, especially when flow increases are likely under present and future conditions. No Downstream System review exists in the Drainage Report for the storm water culvert flow draining to the Lucini property.

Despite supposed lower stormflows based on erroneous sub-basin delineation and land use conditions being reported in the Drainage Report<sup>11</sup>, the storm inlet capacity for the culvert has been substantially increased. Stormflows are now conveyed to the storm inlets, and hence onto the property, much more rapidly than prior to the Boones Ferry Road widening project. This problem will worsen in the future because the Drainage Report and construction design did not take into account the future effects of full build-out conditions.

Flooding problems at the Lucini property are additionally aggravated because existing and future development conditions were disregarded in the Drainage Report. As CWS 2007 standards require:<sup>12</sup>

5.05 Storm Conveyance Design Considerations

5.05.1 Design for Full Build Out

Storm drainage facilities shall be designed and constructed to accommodate all future full build-out flows generated from upstream property.

The Drainage Report did not evaluate the full build out stormflow conditions that will affect the property. Increased discharges from future development, routed through the County's road culvert, will result in worse flooding than presently exists.

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<sup>10</sup> CWS 2007, see Chapter 2, Page 12 under the 2.04.2 subsection heading "3. Review of Downstream System", i.e., this is subsection 2.04.2.3.

<sup>11</sup> See Drainage Report on Page 11, Table under heading 5.5 - Hydrologic Analysis Results. Specifically, see the table results for Discharge Location 15L that indicates a reduction in stormflows.

<sup>12</sup> CWS 2007, Chapter 5, Page 7, see 1<sup>st</sup> paragraph in section 5.05.

### 3. Drainage Boundaries and Hydrologic Modeling

An evaluation of the stormflow drainage above the Lucini property establishes that the County's delineation of subbasin boundaries is crucially inaccurate. As broken down numerically in Table 1 for ORIGINAL conditions, the south section area of the County's Subbasin 17S is erroneously depicted as draining to the Lucini property. The south section is labeled Subbasin 17Sa in Table 1 below.

The faulty subbasin delineations in the County's Drainage Report (2013) are illustrated in Figures 4 and 5. The ORIGINAL drawings in the County's report were digitized by LEA into the computer aided design software, AutoCAD. This allowed for the making of the scale model to evaluate the subbasins affecting the Lucini property. Conversion of subbasin area into HEC-HMS compatible units in square-miles (mi<sup>2</sup>) was also performed. The County's errors in its stated original runoff areas, draining to the Lucini property, overestimate the original stormflows that the property can convey.

**Table 1. Land Area Inputs for Subbasins above the Lucini Property**  
For ORIGINAL and IMPLEMENTED Subbasin Boundaries

		Original Drainage Areas			
	Washington County Subbasin ID	Scale Model AutoCAD in <sup>2</sup>	HEC-HMS Input mi <sup>2</sup>	Subbasin Size ft <sup>2</sup>	Subbasin Size acres
Corrected South Section	17Sa	9117253	0.002267	63314	1.45
Corrected North Section	17Sb+c	27264059	0.006781	189334	4.35
<b>Original County Total</b>	17S	36381312	0.009048	252648	<b>5.8</b>
Corrected South Section	17Sa	9117253	0.002267	63314	1.45
Central-Section	17Sb	7464200	0.001856	51835	1.19
North-Section	17Sc	19799859	0.004924	137499	3.16
<b>Original County Total</b> (OK, check on total above)	17S	36381312	0.009048	252648	<b>5.8</b>
		Implemented Drainage Areas			
	Washington County Subbasin ID	Scale Model AutoCAD in <sup>2</sup>	HEC-HMS Input mi <sup>2</sup>	Subbasin Size ft <sup>2</sup>	Subbasin Size acres
South-Section	59Sa	7999004	0.001989	55549	1.28
North-Section	59Sb	23991460	0.005967	166607	3.82
<b>Implemented County Total</b>	59S	31990464	0.007956	222156	<b>5.1</b>



This resulted in erroneously concluding that the Boones Ferry Road right-of-way to the south of the original culvert<sup>13</sup> flowed into the Lucini property. The actual Original subbasin excluded all of the rainfall runoff from the southern strip of the County’s wrongly depicted subbasin. This condition is illustrated in Figure 5, which more accurately shows the ORIGINAL stormflow from the southern strip as being routed to the Greenhill Lane subbasin.<sup>14</sup>

*Original and Implemented Stormflows*

Table 2 compares realistic ORIGINAL stormflows, as determined in this analysis, to the County’s erroneous stormflows based on faulty subbasin drainage boundaries. For Original peak storm flows, it is estimated that the increased drainage area depicted in the County’s Drainage Report results in a storm flow increase of about 31.5 percent that is discharged to the Lucini property. The hydrologic model inputs and results for HEC-HMS realistic Original conditions are contained in Appendix H.

**Table 2. ORIGINAL Peak Stormflows  
County Values Compared to HEC-HMS**

Percent Increases for Projected County versus Actual Drainage Area Conditions

	<b>Washington County Flows Based on Boones Fy. Road Drainage Analysis (cfs)</b>	<b>HEC-HMS Flows Based on Actual BFR Drainage Areas (cfs)</b>	<b>Increase of Storm Flows to Lucini Property (Percent)</b>
Original Washington County - Pre-construction (prior to 2013)	1.17	0.89	31.5% <sup>15</sup>
Original Wash. CO Land Area - Ongoing Land Use (LU)	<i>County did Not Consider</i>	1.71	92.1%
Original Wash. CO Land Area - Projected Full Build-out (BO)	<i>County did Not Consider</i>	2.85	220.2%

The County’s Drainage Report did not consider on-going land use changes other than the existing farming and single dwelling 2-acre lots. When actual ongoing urbanization and more intense land use are considered, the increased stormflows to the Lucini property are projected to increase by about 92.1 percent.

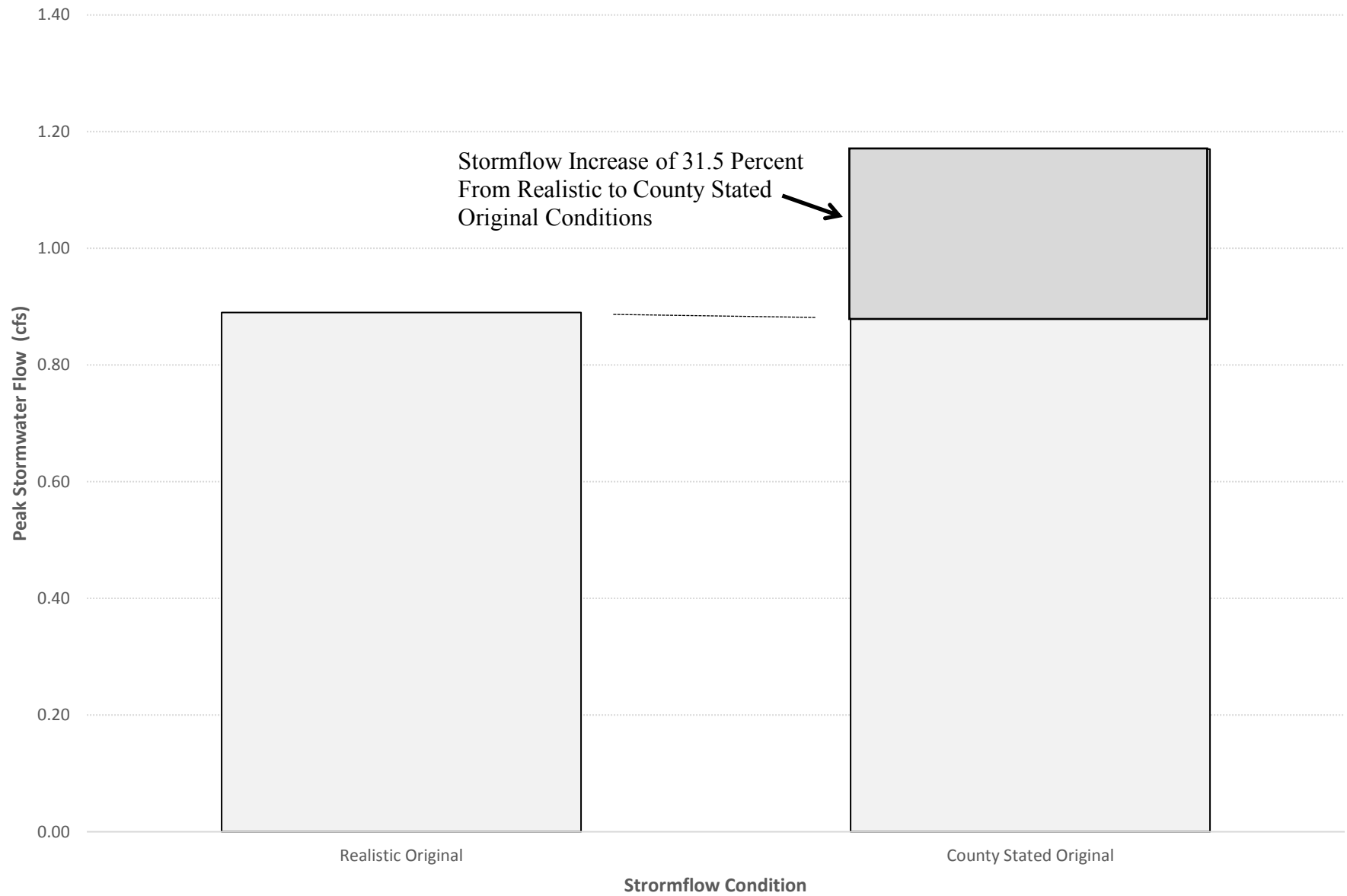
<sup>13</sup> This is the original 12-inch diameter concrete cylinder pipe (CCP) culvert, which is about 40-foot long, and identified as the County’s Outfall #5.

<sup>14</sup> This is identified in the County’s Drainage Report (2013) as Subbasin “17s”. See the background image of Figure 4, which uses HexBox labels to identify subbasins.

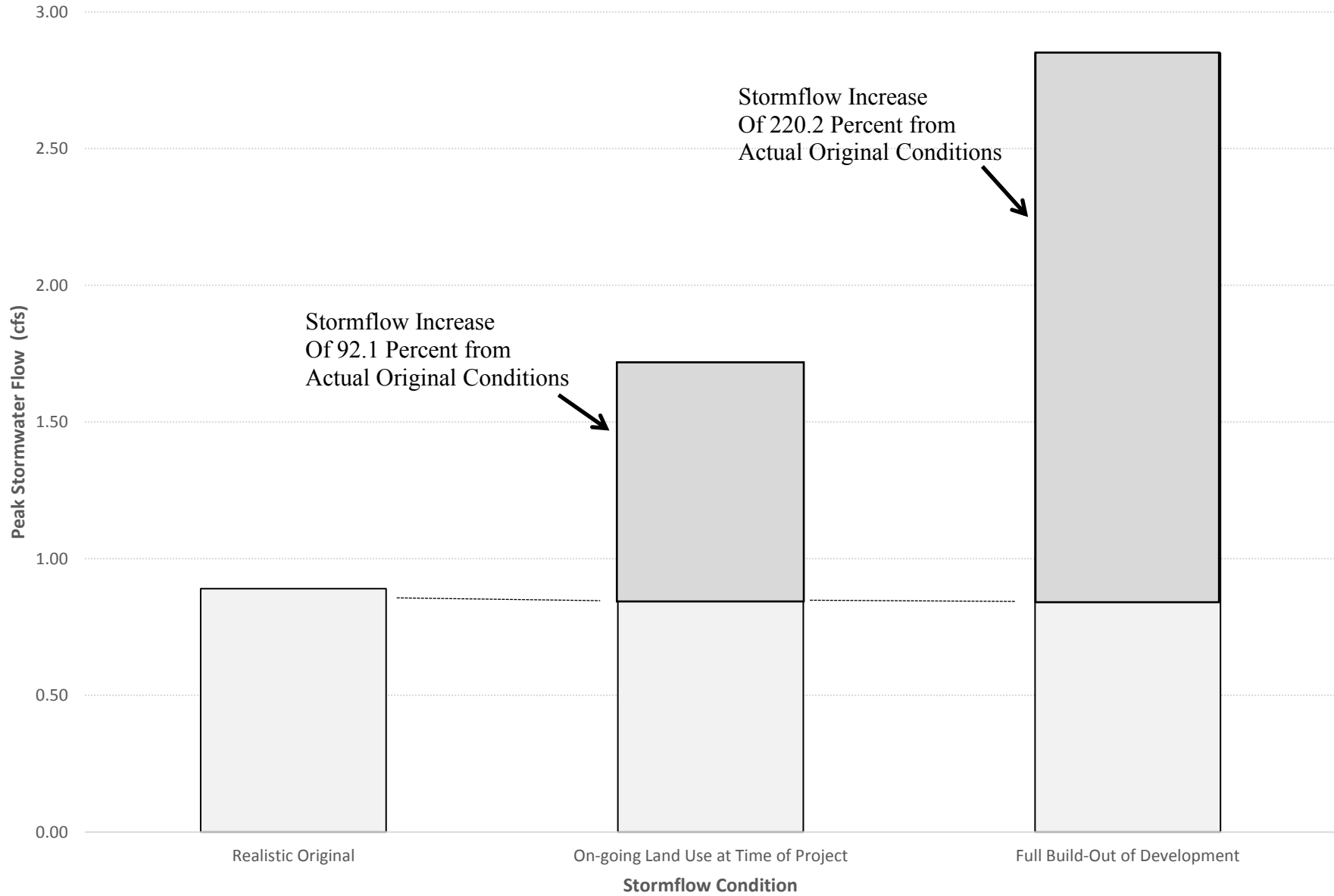
<sup>15</sup> The calculation is:  $[(0.1.17 - 0.89) / 0.89]$  equals 0.315 or 31.5 percent.

**Figure 6. Actual Original versus County Stated Peak Stormflow Conditions**

Comparison based on Actual ORIGINAL Hydrologic Conditions - Prior to 2013



**Figure 7. Increased Stormwater Peak Flows to the Lucini Property due to Ongoing Urban Land Use**  
Comparison based on Actual ORIGINAL Hydrologic Conditions - Prior to 2013



The County did not consider future full build-out construction conditions slated for the drainage above the Lucini property. When this necessary evaluation based on the CWS guidance is considered, the County will be increasing storm flows to the Lucini property by about 220.2 percent.

Table 3 compares IMPLEMENTED stormflows, as determined in this analysis, to the County’s stormflows based on faulty subbasin drainage boundaries (see Figures 9 and 10). For the Implemented condition under previous land use, the LEA analysis and the County’s analysis of peak flows are equal and no increase in flows is reported.

**Table 3. IMPLEMENTED Peak Stormflows  
County Values Compared to HEC-HMS**

Percent Increases of Projected versus Actual Conditions

	Peak Storm Flow from HEC-HMS		
	Washington County Flows Based on Boones Fy. Road Drainage Analysis (cfs)	HEC-HMS Flows Based on Actual BFR Drainage Areas (cfs)	Increase of Storm Flows to Lucini Property (Percent)
Implemented Washington County - Post-construction (after about early 2015)	<i>County did not Consider</i> <sup>16, 17</sup>	0.64	32.8% <sup>18</sup>
Implemented Wash. CO Land Area - Ongoing Land Use (LU)	<i>County did Not Consider</i>	1.95	204.7%
Implemented Wash. CO Land Area - Projected Full Build-out (BO)	<i>County did Not Consider</i>	3.29	414.1%

The County’s Drainage Report did not consider on-going land use changes. Only farming was evaluated. For Implemented peak storm flows, when on-going urbanization and more intense land use are considered, the increased storm flows to the Lucini property increase by about 204.7 percent.

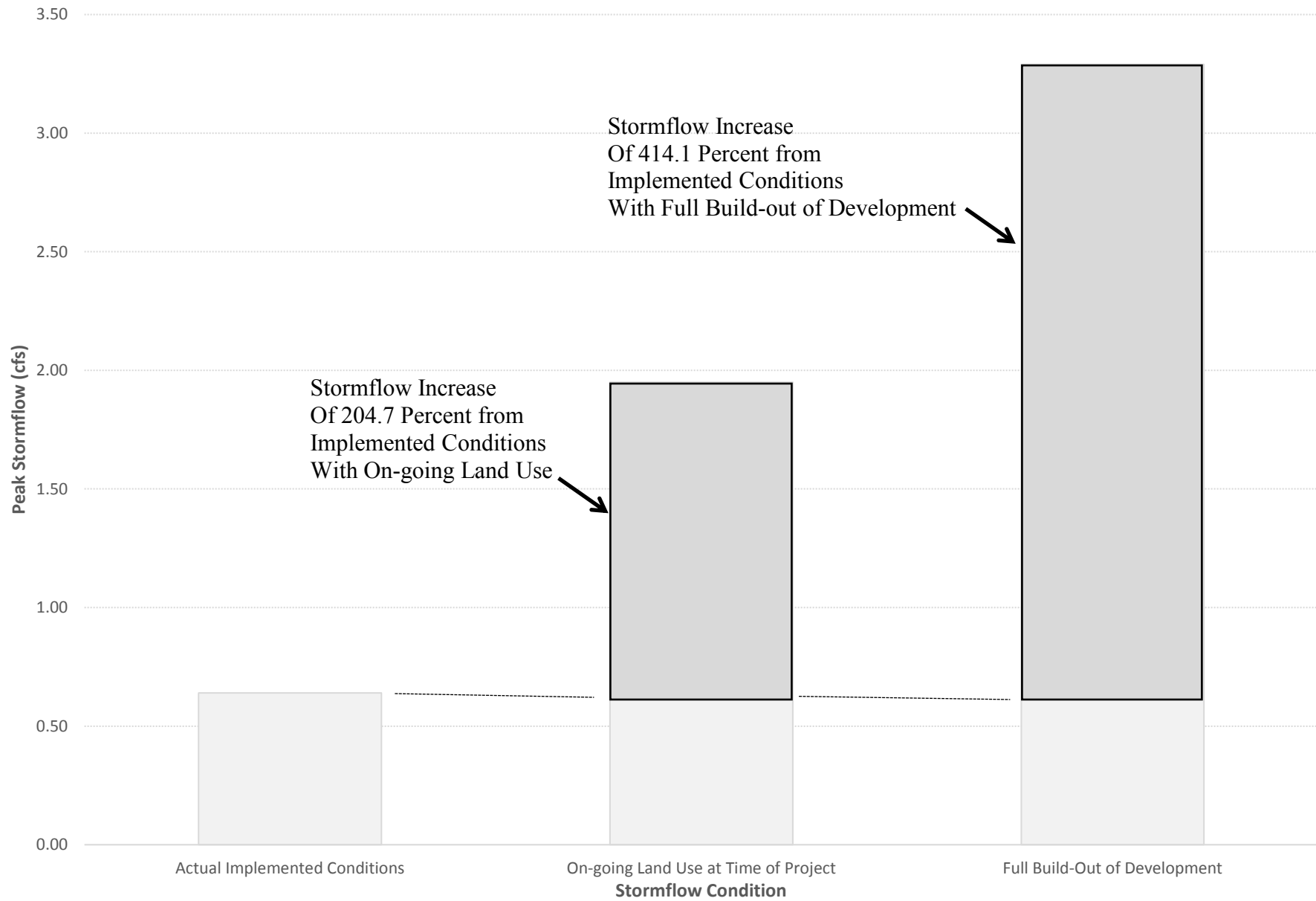
The County did not consider future full build-out conditions construction scheduled for the drainage above the Lucini property. When this necessary evaluation based on the CWS guidance is considered, the County will be increasing storm flows to the Lucini property by about 414.1 percent.

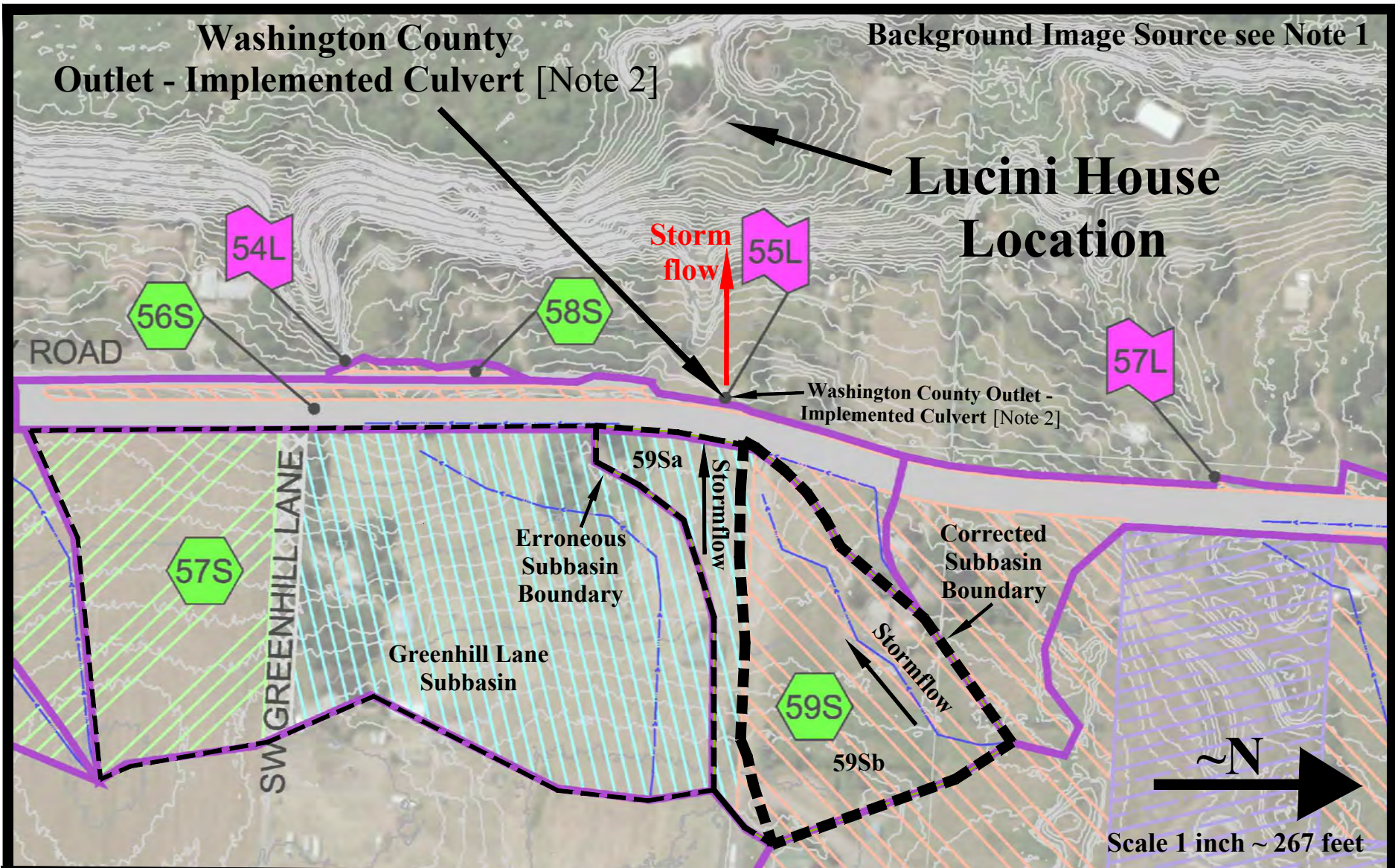
<sup>16</sup> The County simulated Implemented conditions that resulted in a stormflow of 0.85 cfs. The LEA hydrologic model was adjusted to the County’s implemented conditions and stormflow of 0.85 cfs.

<sup>17</sup> Stormflows less than Original conditions were not considered by the County. The County claimed in its Drainage Report (2013) that it was reducing Original stormflows by about 10 percent.

<sup>18</sup> The calculation is  $(0.85 - 0.64) / 0.64$  equals 0.328 or 32.8 percent. Where 0.85 cfs is the lowest velocity considered by Washington County.

**Figure 8. Increased Stormwater Peak Flows to the Lucini Property due to Full Build-Out Land Use**  
IMPLEMENTED (post-2015) Hydrologic Conditions Comparison to Actual Implemented Hydrologic Conditions based on pre-2013

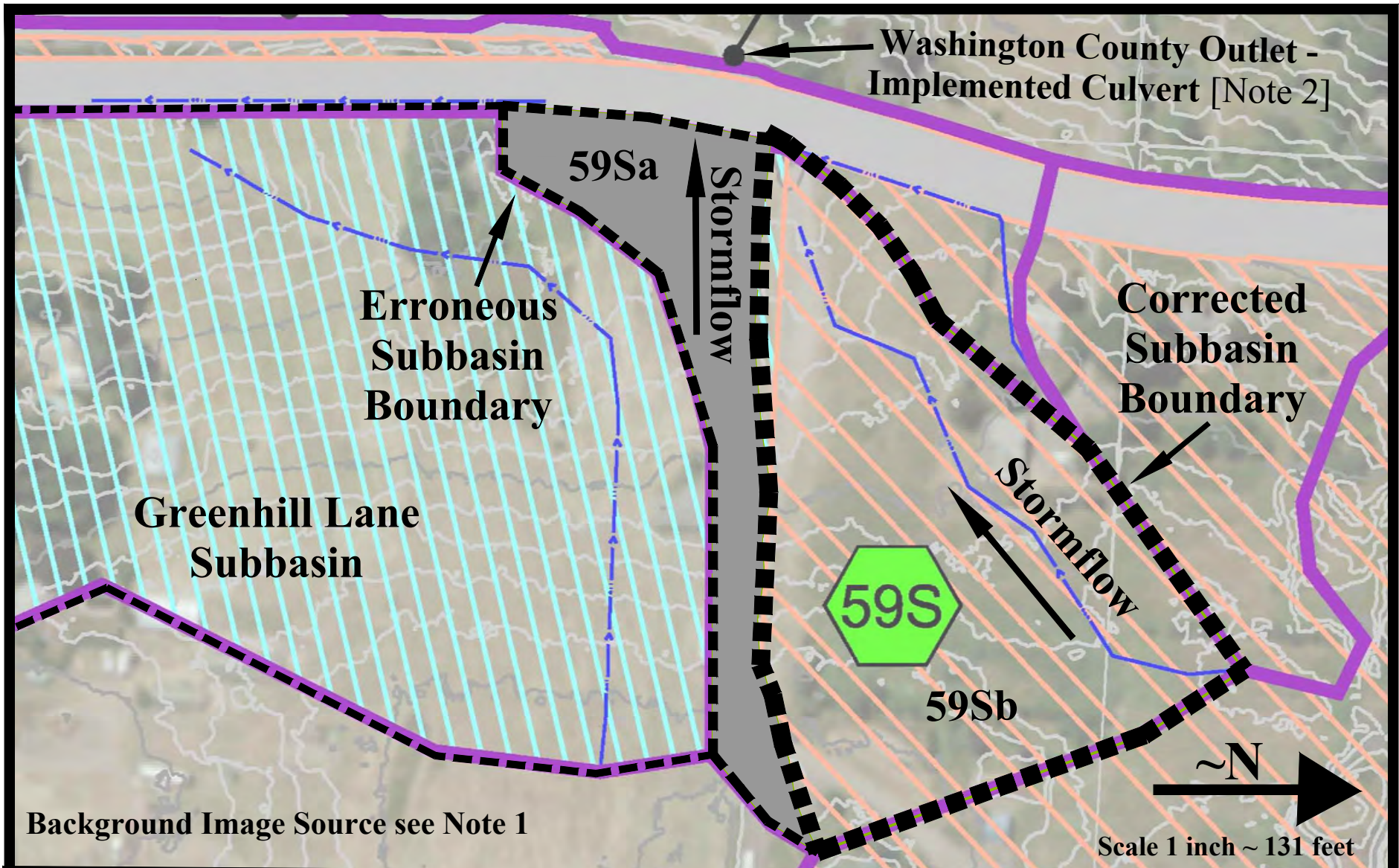




**Notes:**

- [1] Background image source from Washington County *Storm Drainage Report* (January 2013), Existing Conditions Hydrology Map on PDF Page 36 of 152.
- [2] Implemented Culvert, approximately 80-foot long, 12-inch Plastic (HDPE) discharging to the Lucini property. Overlaid from As-built construction plan drawings 232-233 of 385.

**Figure 9.** IMPLEMENTED County Subbasins - Erroneous Boundaries for Drainage above the Lucini Property.



**Notes:**

- [1] Background image source from Washington County *Storm Drainage Report* (January 2013), Existing Conditions Hydrology Map on PDF Page 36 of 152.
- [2] Implemented Culvert, approximately 80-foot long, 12-inch Plastic (HDPE) discharging to the Lucini property. Overlaid from As-built construction plan drawings 232-233 of 385.

**Figure 10.** IMPLEMENTED County Subbasins - Erroneous Boundaries for Drainage above the Lucini Property. (Close-in View)

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*Defective County Topography and Inaccurate Original Curb and Storm Sewer Claims*  
Stormflows originally directed south into the Greenhill Lane subbasin, through the road right-of-way, were re-routed by the road improvement project onto the Lucini property via the County's Storm Outfall #5. As shown in Figures 4 and 5, the subbasin drainage drawings for the ORIGINAL conditions<sup>19</sup> do not show the actual topography affecting drainage conditions. The IMPLEMENTED drainage basin conditions then re-route increased storm flows to the Lucini property.<sup>20</sup>

The County's Drainage Report says that the original road had curbs and storm sewers routing flows.<sup>21</sup> This is incorrect as there were no curbs or storm sewers for SW Boones Ferry Road above the Lucini property. Drawings 2C-7 and 2C-8 excerpted in Appendix C demonstrate there were no curbs and storm sewers upstream of the Lucini property.<sup>22</sup> Additionally, the photos in Appendix A1 taken by as part of the County's Wetland Delineation Report<sup>23</sup> and by the Lucini's also reveal the lack of curbs and storm sewers above the Lucini property. This is a crucial detail because it determines whether a portion of stormflows go south into the Greenhill Lane subbasin, or north into the subbasin above the Lucini property. In its Drainage Report the County erroneously claims that a portion of the Greenhill Lane subbasin stormwater drains into the Lucini property.

The photos contained in Appendix A1 show the ORIGINAL Drainage of Storm Water from SW Boones Ferry Road. Photo A1a was taken by Washington County September 28, 2012; and Photo A1b was taken by John & Grace Lucini on Dec. 20, 2012. Portions of the subbasins to the east (on the left) historically drained into the Road Alignment and then south away from the Lucini property. This is contrary to the analysis contained in the County's Drainage Report (2013), which wrongly states this road section is curbed including storm sewers, with portions of stormflows being directed into the Lucini property.

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<sup>19</sup> Drainage Report (2013), Sheet No. 1 of 3 labeled "Existing Conditions Hydrology Map" on PDF page 35 of 152.

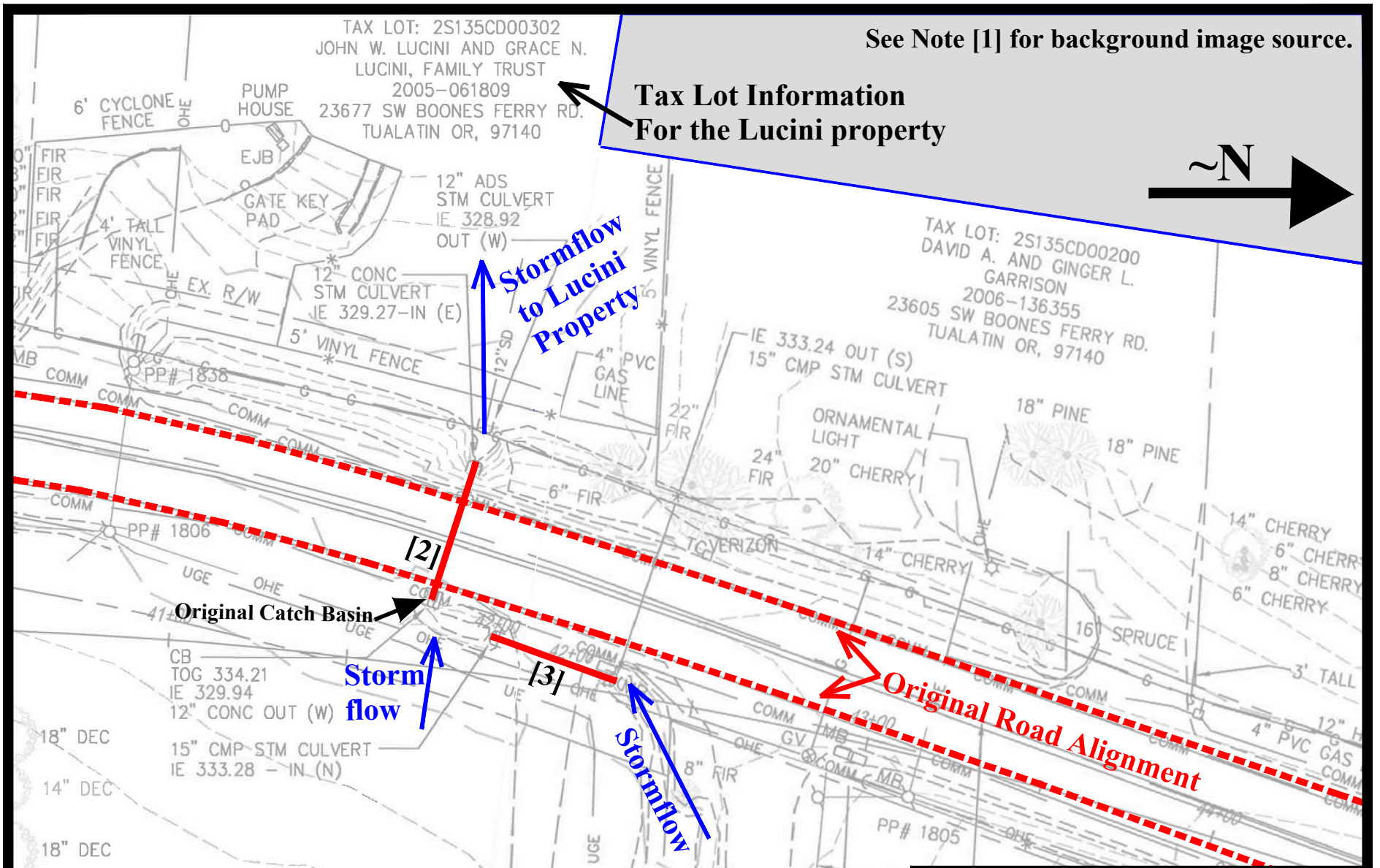
<sup>20</sup> Ibid, see Sheet No. 2 of 3 labeled "Proposed Conditions Hydrology Map" on PDF page 36 of 152.

<sup>21</sup> Drainage Report (2013), Storm Drainage Report – SW Boones Ferry Road (SW Day Road to SW Norwood Road), by MacKay Sposito for Washington County, Capital Project Management (CPM), Final January 31, 2013. See PDF page 59 of 152 under Summary of Subcatchment 17S, which is the drainage above the Lucini property. The Drainage Report erroneously states that the drainage is "w/curbs & sewers" which did not exist above the Lucini property. This faulty information and its implications were used in the County's hydrologic analysis.

<sup>22</sup> County 2012a, Drawings from MacKay Sposito submittal to the County contained in file: 2012 June Existing Conditions 70% Plans.pdf.

<sup>23</sup> County 2012b, See PDF page 81 of 90 in file: 2012 Dec Wetland Delineation Report-Boones Ferry Rd Improvement Project WD2013-0002.pdf.



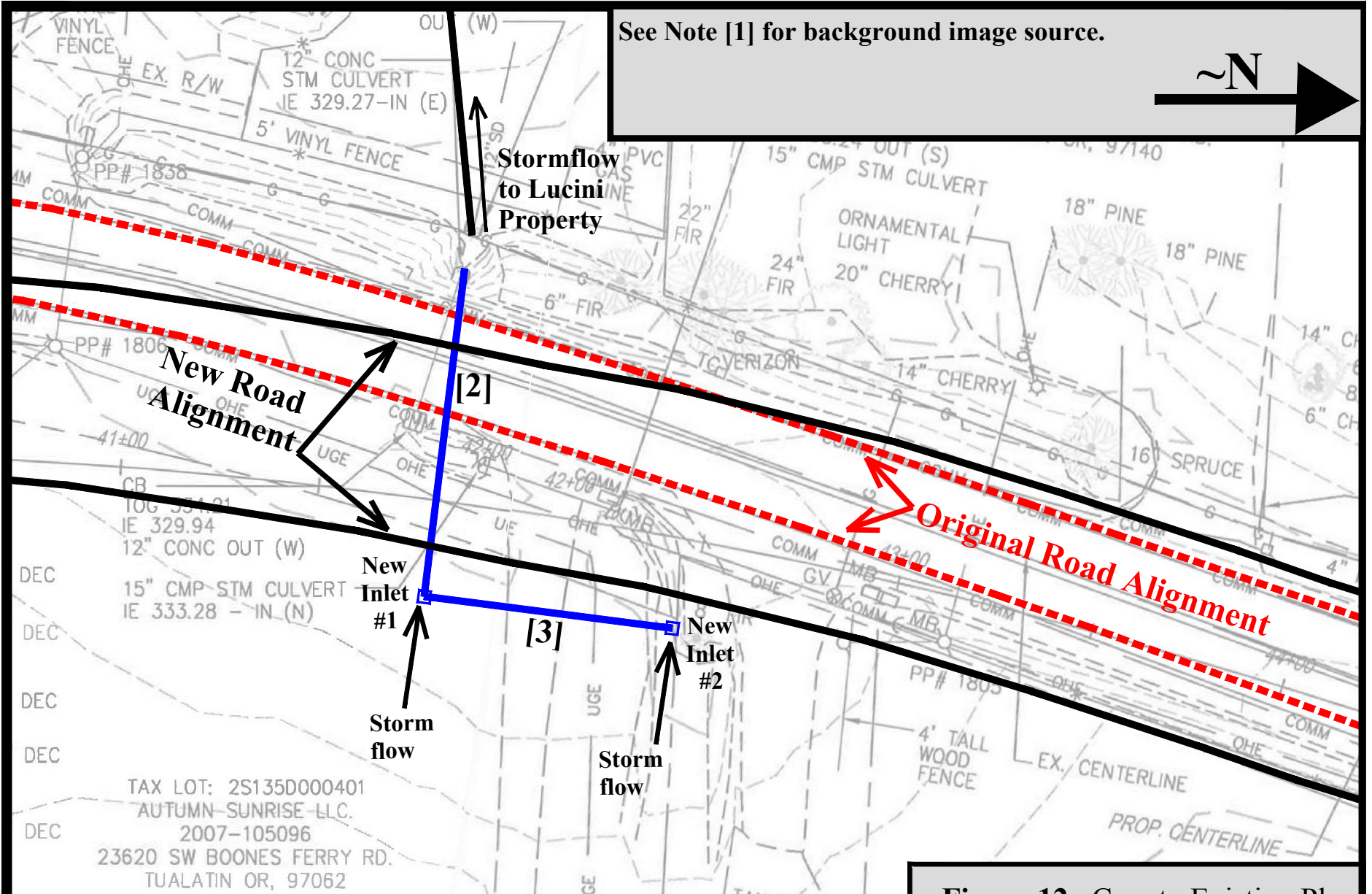


Notes:

- [1] Background image from County Existing Conditions Plan drawings 2C-7 and 2C-8 (June 2012, 70 percent drawings).
- [2] Original Culvert, approximately 40-foot long, 12-inch Concrete (CCP) discharging to the Lucini property. Overlaid from County Existing Conditions Plan drawing 2C-7 (June 2012, 70 percent drawings).
- [3] Original Connecting Piping, about 42-foot long, 15-inch corrugated metal pipe (CMP). Overlaid from County Existing Conditions Plan drawings 2C-7 and 2C-8 (June 2012, 70 percent drawings).

**Figure 11.** County Existing Plan Drawings with Annotations Highlighting the ORIGINAL Conditions and Piping

See Note [1] for background image source.



- Notes:
- [1] Background image from County Existing Conditions Plan drawings 2C-7 and 2C-8 (June 2012, 70 percent drawings).
  - [2] New Culvert, 80-foot long, 12-inch Plastic (HDPE) discharging to the Lucini property. Culvert and piping overlay from As-built construction plan drawings 232-233 of 385.
  - [3] Connecting Piping, 74-foot long, 12-inch Plastic (HDPE) piping, under two driveways. Connecting Pipe overlay from As-built construction plan drawings 232-235 of 385.

**Figure 12. County Existing Plan Drawings with Annotations Highlighting the IMPLENTED Piping Conditions**

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*Hydrologic Modeling and Construction Development*

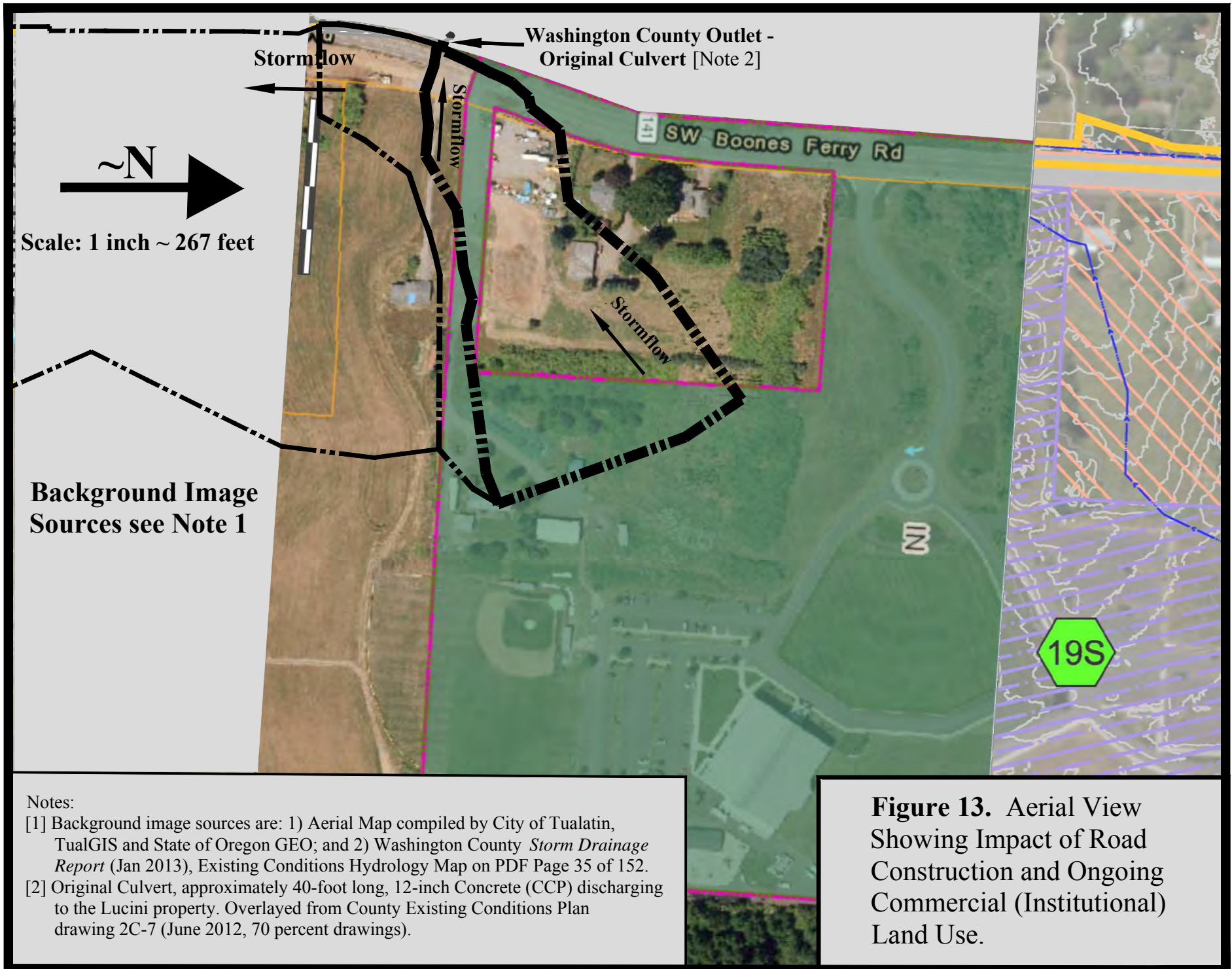
The County's Drainage Report disregarded construction development that increases runoff in the drainage upstream of the Lucini property. The County's hydrologic modeling of the upstream subbasin was characterized as "Farmstead" and single dwelling 2-acre lots. However, the actual additional use of a majority of the subbasin is to support heavy road construction and on-going use as commercial (Institutional), a more intense land-use from a stormwater generation standpoint. This relationship between the subbasin boundary delineation and active road construction (in 2012), equipment parking and material staging can be plainly seen in the aerial view presented in Figures 13 and 14.

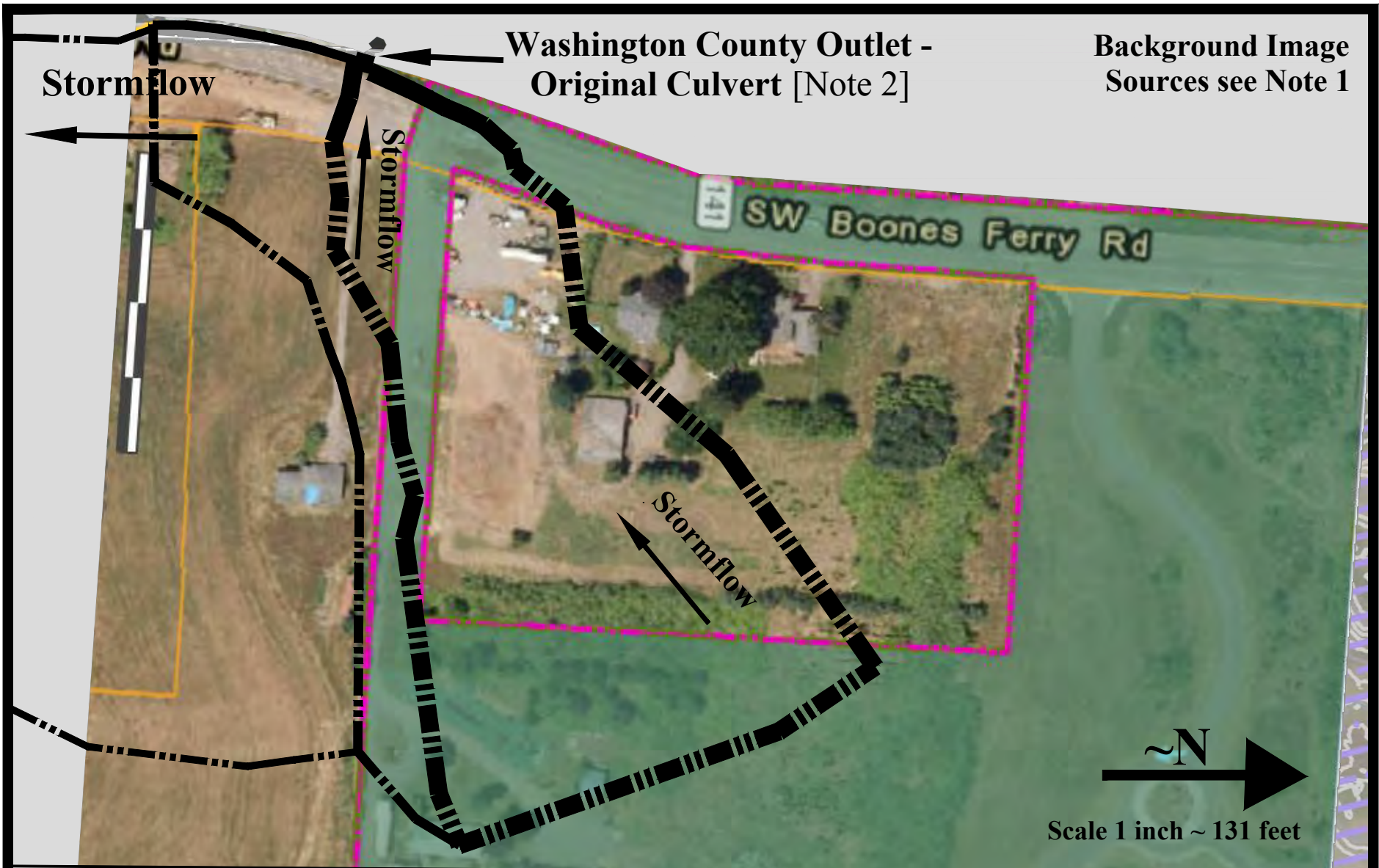
The Natural Resources Conservation Service (NRCS) has commented on this problem of disturbed soil effectively raising runoff flows and has stated:

**630.0702 Disturbed soils**

As a result of **construction and other disturbances**, the soil profile can be altered from its natural state and the listed group assignments generally no longer apply, nor can any supposition based on the natural soil be made that will accurately describe the **hydrologic properties of the disturbed soil**. In these circumstances, an onsite investigation should be made to determine the hydrologic soil group. A general set of guidelines for estimating **saturated hydraulic conductivity** from field observable characteristics is presented in the Soil Survey Manual (Soil Survey Staff 1993).

[Bold by LEA except subsection title.]





Notes:

- [1] Background image sources are: 1) Aerial Map compiled by City of Tualatin, TualGIS and State of Oregon GEO; and 2) Washington County *Storm Drainage Report* (Jan 2013), Existing Conditions Hydrology Map on PDF Page 35 of 152.
- [2] Original Culvert, approximately 40-foot long, 12-inch Concrete (CCP) discharging to the Lucini property. Overlaid from County Existing Conditions Plan drawing 2C-7 (June 2012, 70 percent drawings).

**Figure 14.** Aerial View Showing Impact of Road Construction and Ongoing Commercial (Institutional) Land Use. (Close-in View)

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## 4. Stormflow Hydraulics

The County's Drainage Report did not perform a hydraulic analysis to assess the effects of its stormflow above and through the Lucini property. The Corps hydraulic model, HEC-RAS<sup>24</sup>, is used in this analysis to partly<sup>25</sup> fill-in this crucial lack of stormflow hydraulic information.

Rainfall runoff flows generated by the hydrologic model HEC-HMS are supplied as inputs to the HEC-RAS hydraulic model to consider the impact on drainage channels, piping, and other features of the drainage system. Specifically, the hydraulic effects resulting from stormflows passing through the drainage system subbasins, stormflow routing, channels, culverts (piping), land use conditions, channel and piping materials, and other parameters can be assessed.

### *Cross-sections and Other Hydraulic Information*

The HEC-RAS hydraulic model requires the input of cross-sectional information that demarcate the channel with elevation versus distance from the bank. Additional information supplied to the model includes distance between cross-sections, hydraulic losses and other stormflow parameters.

The County has not provided the public with complete topography of the subbasin draining to the Lucini property, and other properties, below its Boones Ferry Road project site. Accordingly, channel and pipe cross-section information are estimated for input into the HEC-RAS hydraulic model. Summary input and output hydraulic information for the HEC-RAS simulation is contained in Appendix I.

The County did not consider the hydraulic effects of increased stormflow conditions on the Lucini property resulting from its Boones Ferry Road Improvement construction project. As discussed previously, increased stormflows onto the Lucini project are likely because of inaccurate subbasin delineation by the County. The County also failed to consider the effects of ongoing and future development, with increasingly intense land use and full-build-out conditions, contributing to increased stormflows.

### *Hydraulic Analysis Results*

The County did not consider stormflow cases that take into account greater land use conditions and future development above the Lucini property. For example, the County disregarded the impact of its own road construction efforts, plainly visible in the aerial views in Figures 13 and 14 as well as Appendix F, on lands draining to the Lucini property. The County characterizes these activities as "farming" or single dwelling 2-acre lots.

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<sup>24</sup> HEC-RAS refers to the River Analysis System hydraulic model developed by the Corps.

<sup>25</sup> This hydraulic analysis using HEC-RAS performs a steady-state evaluation for a range of peak stormflow conditions inputted from the HEC-HMS hydrologic model. A more detailed time-varying analysis employing unsteady stormflow conditions, with stormflow storage, may be warranted in future evaluation with additional planning information but is beyond the timing and scope of this report.

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The analysis presented herein does take into account actual land use intensity and development circumstances as previously discussed in the Hydrologic Modeling section. This analysis evaluates conditions for both ORIGINAL and IMPLEMENTED hydraulic configurations for the range of runoff conditions presented in Tables 2 and 3, respectively. Appendix I contains the results of the hydraulic analysis.

Figure 15 depicts the hydraulic profile generated by HEC-RAS for the ORIGINAL configuration using runoff stormflows based on future full build-out development conditions at 2.85 cfs. Stormflow existing prior to the County's road project<sup>26</sup> (0.89 cfs) and additional profiles are also contained in Appendix I.

A key consideration in reviewing these figures is that the ground slope goes from moderate above (east) the Lucini property to very steep (west) on the Lucini property. The County's Drainage Report (2013) analysis did not consider this substantial change of slope and its likely effect, which is to cause high stormflow velocities and extremely erosive conditions, on the Lucini property.

Comparing velocities with likely stormflows demonstrates the value of reducing runoff flow peaks. High stormwater flows cause erosion and clog ditch and pipe locations. In this HEC-RAS analysis, 25-yr design storm events were varied by correcting for actual subbasin areas and using genuine land use conditions as described in the hydrologic Tables 2 and 3 of this report for the ORIGINAL and IMPLEMENTED configurations, respectively.

Figure 16 for the ORIGINAL configuration illustrates velocities for the upstream and downstream stations along the Lucini property approximate 150-foot ditch<sup>27</sup>. This figure shows that as stormflows increase from 0.89 cfs to 2.85 cfs, highly erosive storm velocities occur.

As charted in Figure 16, flow velocities in excess of 4.0 feet-per-second (fps) produce adverse conditions that erode soil.<sup>28</sup> This is consistent with the stormwater damage to the ditches, and pipe blockage, on the Lucini property (see photos in Appendix A2).

Figure 17 for the IMPLEMENTED configuration illustrates velocities for the upstream and downstream stations along the Lucini property approximate 150-foot ditch. This figure shows that as stormflows increase from 0.85 cfs to 3.29 cfs, highly erosive storm velocities will occur into the future.

The two lower flow conditions at 0.64 cfs and 0.85 cfs do not produce excessive storm velocities. The 0.64 cfs value is what the peak 25-year storm event should be if the County was actually reducing stormflows onto the Lucini property consistent with what it

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<sup>26</sup> Prior to early 2013.

<sup>27</sup> This ditch is alongside the Lucini driveway and runs generally from east to west. See Figures 2 and 3 for the alignment of this drainage ditch relative to the County's road construction and the Lucini property.

<sup>28</sup> Linsley, Ray K. and Franzini, Joseph B., *Water-Resources Engineering*, published by McGraw-Hill, 1979.

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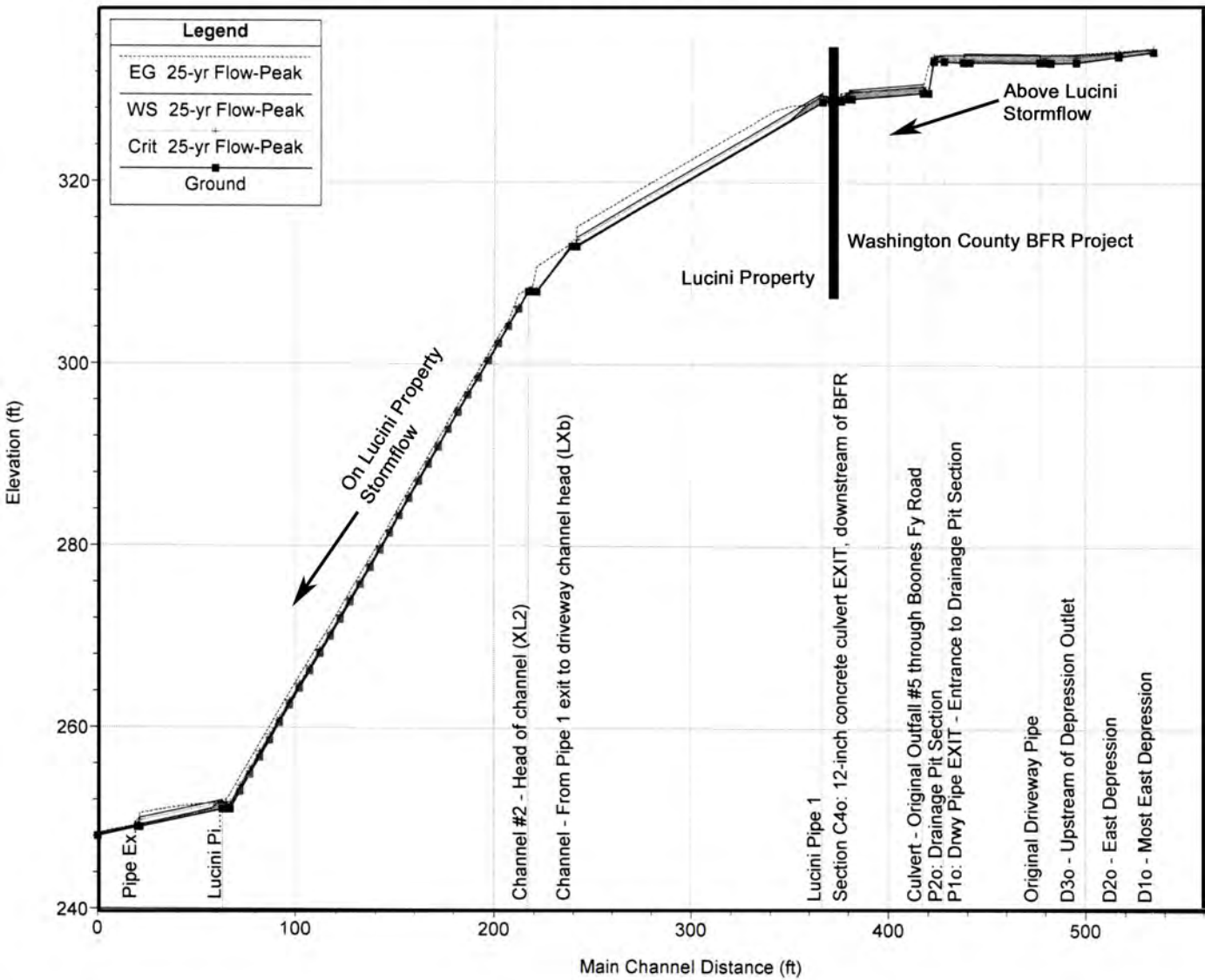
is saying in its Drainage Report. The 0.85 cfs value simulated by the County is for farmland only and does not include actual urbanization and increased runoff in the subbasin above the Lucini property. When actual ongoing land use is considered, stormflow of 1.95 cfs more accurately reflects actual runoff being discharged from the County's culvert (Outfall #5) onto the Lucini property.

An orifice plate can be used to reduce storm pipe flow diameter and flow area during peak flow events. This physical measure decreases peak stormflows and lowers storm flow velocities on the Lucini property. The location of the proposed orifice plate is shown in Figure 12 as indicated in the IMPLEMENTED new storm inlet #1.

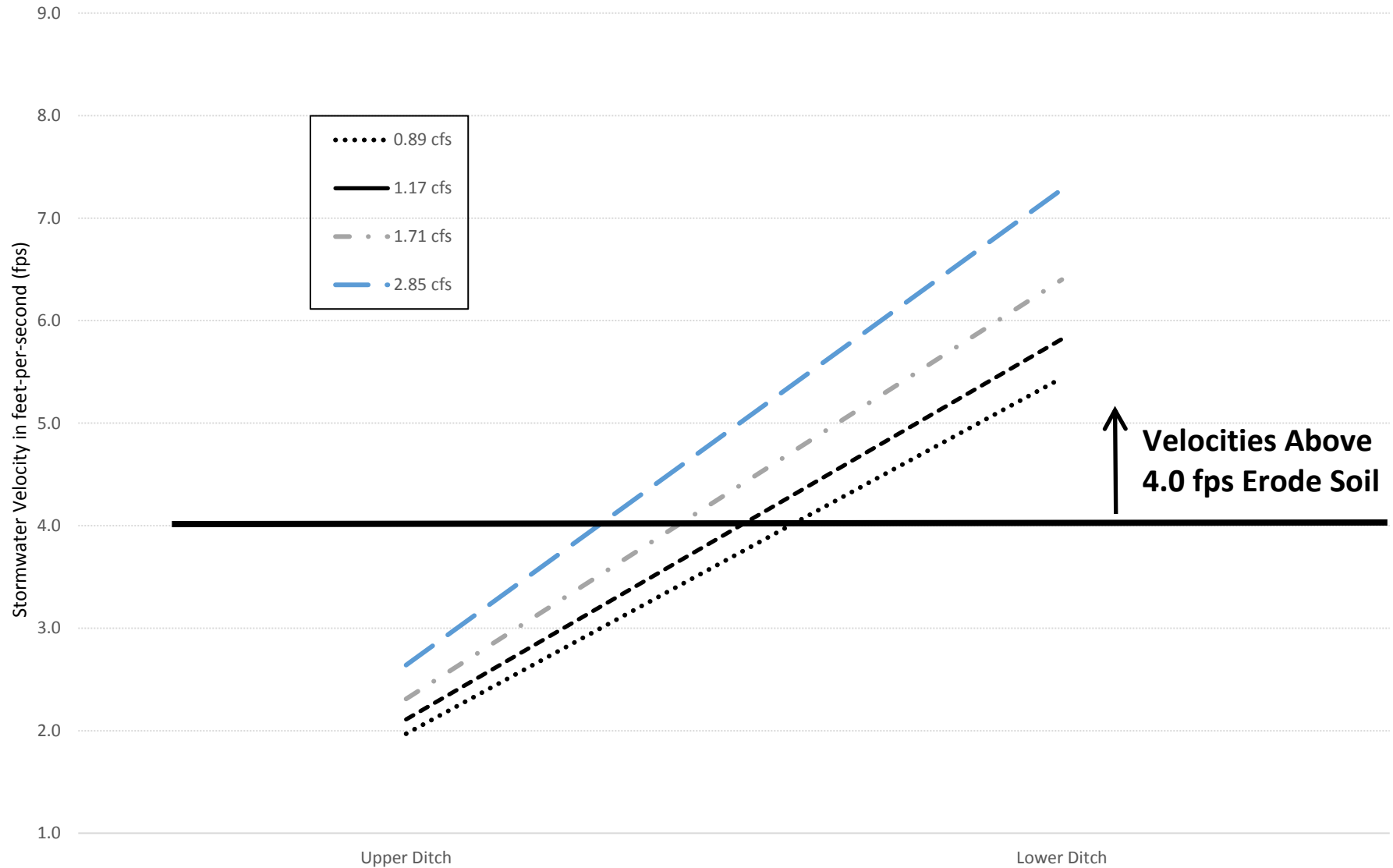
The construction and installation plans for the orifice plate is shown in the guidance document relied upon by the County (CWS 2007). For convenience, the orifice plate drawings are presented in Appendix G (see CWA Drawings Nos. 720 and 730).



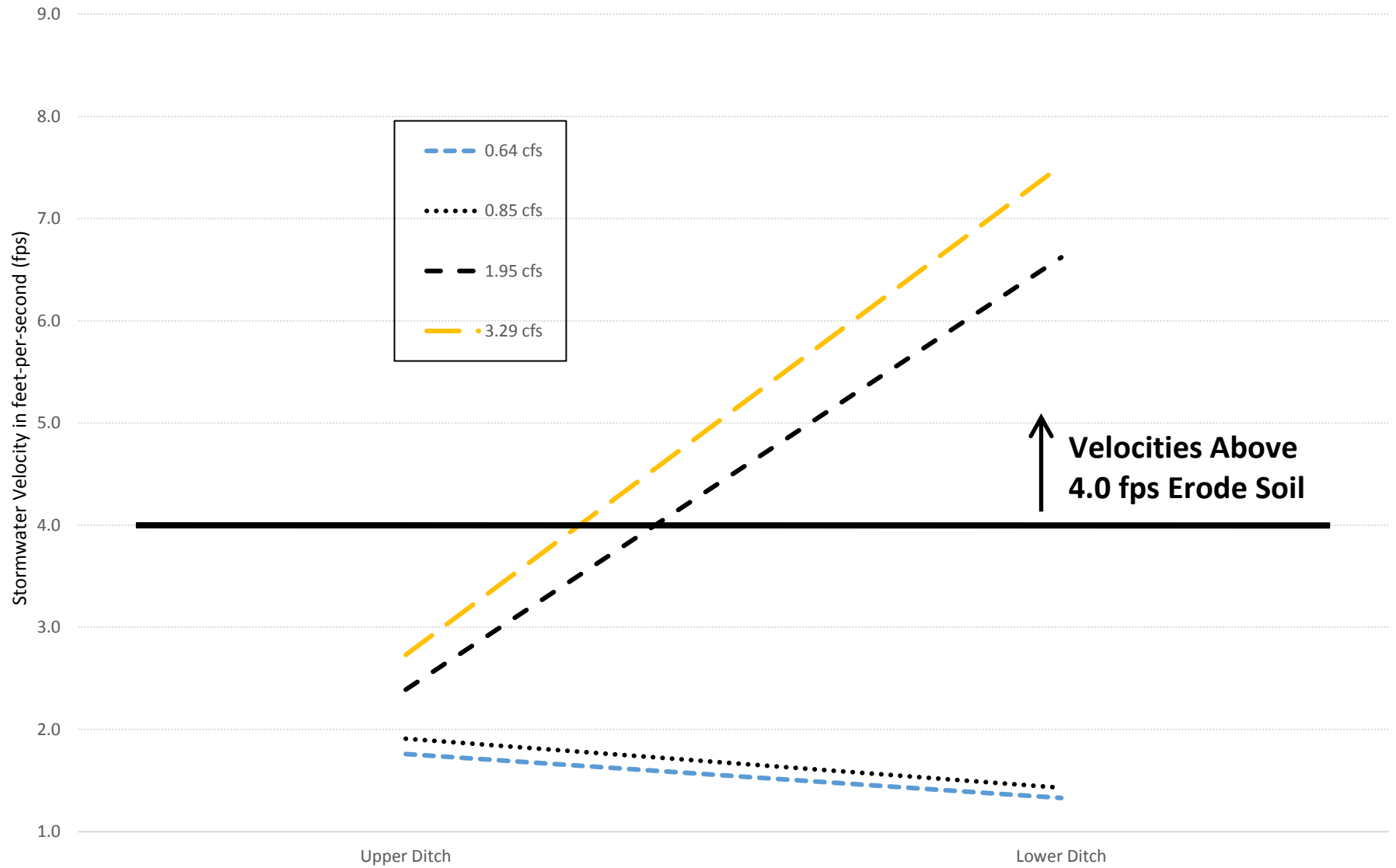
**Figure 15. HEC\_RAS Hydraulic Profile of ORIGINAL Pipe and Ditch Conditions at 2.85 cfs Above and On the Lucini Property**



**Figure 16. ORIGINAL Configuration - Velocities at Likely Flows 25-yr Design Storm Event**  
Upstream and Downstream Stations along the Lucini property approximate 150-foot Ditch



**Figure 17. IMPLEMENTED Configuration - Velocities at Likely Flows 25-yr Design Storm Event**  
Upstream and Downstream Stations along the Lucini property approximate 150-foot Ditch



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## 5. Planning Level Costs

There are three levels of estimated capital costs associated with fixing problems on the Lucini property resulting from the County's SW Boones Ferry Road project:

- 1) Immediate Shorter Term Remedy using Orifice Plate (\$4,500 to \$6,500 installed)
- 2) Ongoing Flow and Water Quality Control Facilities (\$12,157 to \$17,560 installed)
- 3) Longer Term Detention/Retention Facilities (to several hundred thousand dollars)

These capital costs include equipment, materials, labor, and construction contractor overhead and profit. Design, engineering and construction management costs are separately considered. An estimate of 20 percent of the final construction capital cost for this relatively small scale project is considered. For the high range estimates above, the design cost estimates are \$1,300 for number 1 and \$3,572 for number 2.

These are planning level capital costs and are presented in a range between the lower cost that is 10 percent below the estimated base cost; and the high cost that is 30 percent above the estimated base cost. Presenting only a single estimated base cost is not adequate for planning purposes and providing costs as a range is more convenient. Planning level costs for construction are presented using this cost range method because direct bid costs are not part of this study. While actual bid costs may come in lower (e.g., 10 percent), if actual potential bid costs are higher (e.g., up to 30 percent) then the outcome is undesirable if unaccounted for.

### *1) Immediate Shorter Term Remedy*

This remedy alleviates the immediate problem on a short-term basis by reducing peak stormflows and consequent erosion on the Lucini property. This can be accomplished by using an orifice plate at the County's New Inlet #1 (this is the south inlet). The proposed orifice location is shown in Figure 12 at the New Inlet #1. The orifice would be installed at the upstream end of the implemented 80-foot long, 12-inch diameter culvert comprising the County's Outfall #5.

The County has indicated it is using CWS 2007 for guidance, which contains the Drawing No. 730 "Orifice Plate and Guide" that can be installed in New Inlet #1. For convenience, the CWS Drawing No. 730 is contained in Appendix G of this report. Orifice plate openings of 6, 8 and 10 inches can be fabricated and each used separately until it is determined which size best reduces peak flows and most efficiently uses storage in the IMPLEMENTED pipes, ditches and depressions.

The installed orifice fits into the new inlet without structural changes to the inlet. Construction materials are not extensive or expensive. Accordingly, the cost of installation of this immediate remedy is estimated in the range of \$4,500 to \$6,500.

### *2) Ongoing Flow and Water Quality Control Facilities*

Estimated costs of the intermediate remedy facilities are listed in Table 4.<sup>29</sup> Both flow and water quality (WQ) control are needed because high stormflow velocities cause erosion upstream as well as on the Lucini property. Debris and sediment transport are a significant threat to the Lucini property because it clogs downstream piping and causes flooding. The County did not evaluate stormwater conveyance from its road project through the Lucini property. Increased amounts of runoff directed to the Lucini property, and its effects, were disregarded in the County’s drainage assessment.

**Table 4. Capital Costs of Ongoing Flow and Water Quality Control Facilities**

<b>Control Unit</b>	<b>Base Cost</b>
<i>Flow Control Manhole</i> Installed to the East of BFR at the south New Inlet #1 location.	\$8,046
<i>Water Quality Manhole</i> Installed to the West of BFR just above the Lucini property.	\$5,462
<b>Total Estimated Base Costs</b>	<b><u>\$13,800</u></b>
Estimation Range Between (-10% and +30%)	<b><u>\$12,157 to \$17,560</u></b>

The County provided storm grates on its two new stormwater inlets in the subbasin above the Lucini property as shown in Figure 12. The County neglected to provide a storm grate for the pipe entrance to the Lucini property (see Figure 12). The Lucini property drainage receives stormwater passing through SW Boones Ferry Road culvert (Outfall #5). The County supposed that its generated stormflow will be conveyed successfully through the Lucini property. The Corps HEC-HMS and HEC-RAS demonstrate that this is not the case for the 25-year design storm cases presented in this analysis.

It is important to note that the Greenhill Lane subbasin, to the south of the Lucini property, has received flow and water quality control. The Greenhill Lane subbasin and the Lucini property both drain to the Basalt Creek wetlands. For the Greenhill Lane subbasin, which has dual outfalls the County used at least three (3) manholes to control

<sup>29</sup> Costs are based on *RS Means Building Construction Cost Data* (2010). Costs are adjusted for inflation based on the cost index as published by the Engineering News Review (ENR). In this case the index is set at 8800.66 for 2010 and 10337.05 for 2016. This is calculated as an inflation ratio of 1.175, i.e., an inflation rate of 17.5 percent from 2010 to 2016.

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flow and a water quality manhole to control pollution. The subbasin draining to the Lucini property has no manholes to control flow nor a water quality manhole to control pollution including eroded sediment and debris.

While the Greenhill Lane subbasin typically will have greater stormflows, the necessity of controlling excess stormflows to the Lucini property is no less significant. This is especially true because the County performed no downstream system evaluation for hydraulic conditions on the Lucini property and has no basis for discharging excess flows to the Lucini property.

The County has indicated it is using CWS 2007 for guidance, which contains: Drawing No. 270 “Flow Control Structure Detail” that can be installed at the New Inlet #1 location; and Drawing No. 240 “Water Quality Manhole (Mechanical)” that can be installed just upstream of the Lucini property pipe entrance. For convenience, CWS Drawing Nos. 270 and 240 are contained in Appendix G of this report. See Figure 12 for the locations of these proposed flow and water quality control facilities.

### *3) Longer Term Detention/Retention Facility*

Future full build-out development in the subbasin draining to the Lucini property was not considered by the County’s Drainage Report (2013). This is surprising because the subbasin is zoned for future development (FD-20)<sup>30</sup> and includes Tualatin’s Institutional (IN) development as characterized by the Horizon Community Church with its large buildings, extensive driveways, parking lots, and numerous support facilities. Ongoing development in the subbasin above the Lucini’s, including the construction of the BFR widening project itself, demonstrate that the trend of more intense urban development is already underway and having an effect on the Lucini property.

As shown in the hydrologic and hydraulic evaluations in this report, ongoing urban development is already producing stormflows that exceed ORIGINAL conditions, by about 220 percent, that the Lucini property has historically been subjected to (see Figure 7). Urban development above the Lucini property, under full build-out conditions, pose a still greater threat. These stormflow projections exceed, by about 414 percent, the ORIGINAL stormflow conditions that the Lucini property has historically been subject to as depicted in Figure 8.

Stormflows with ongoing development and full build-out conditions draining to the Lucini property require substantial detention (flow control) and retention (WQ control) measures. These stormwater control units are absent from the Drainage Report (2013) and have not been considered by the County.

The design and detailed costing of detention/retention facilities is beyond the scope of this report but construction and land costs could be as high as several hundred thousand dollars.

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<sup>30</sup> Washington County 20-year Future Development (FD-20), see PDF Page 33 of 152

Hello, my name is Wes Laitinen. My fiancée's family owns one of the properties on the northern section of Basalt Creek, the third strip south of Victoria Woods. They have lived on the property for over 35 years, and in that time have seen Boones Ferry and the surrounding area change significantly; what was one rural farmland away from the city has steadily become the busy Portland suburb that it is today. As Tualatin continues to grow, naturally more homes and businesses will need to be developed. I've read through much of the Basalt Creek Comprehensive Plan as it is now and I support the vision Tualatin and Wilsonville both share for developing this neighborhood.

One of the most exciting aspects of the plan is the proposed pedestrian path that would stretch north to south through Basalt Creek Canyon. It's not farfetched to envision such a trail, as many weathered deer paths and old logging roads already exist within this mile-long stretch of land. Having established trails will help restoration efforts, improve security, and benefit the entire neighborhood by providing outdoor recreation for those that live and work in the area. People would be able to see the diverse life that exists in that forest first hand and develop an appreciation for it; the creek truly is a gem, but one many will never know if they never experience it.

Our own property has several long trails that wind down to a pond at the bottom of the canyon. Sometimes if you walk slowly you can see a beaver or a blue heron, or dozens of frogs along the bank just before they chirp and dive into the water. Certain times of the year the trails are crawling with rough skin newts, other times you find garter snakes or rubber boas sunbathing on slabs of basalt. Beyond the pond, the trail takes you up the hill to a grove of Pacific madrone where it winds along past trillium flowers and red huckleberry until you reach the other side of the rocky plateau. You can hear many different birds singing to one another, woodpeckers pecking away in the distance, owls calling across the canyon. It's hard for me to convey the beauty you see or the feeling you get when you walk along these trails, but I hope I've given you enough of an idea of what this pedestrian path would be like for future residents of Tualatin. So, I ask the city council to please consider keeping this path in the comprehensive plan and with it the vision of conserving the area for future generations. As populations grow, so too will the need for more nature areas within city limits. I'd like to see the area designated as a wildlife refuge and efforts be made to protect the plants and animals within. Hopefully, through land easements and cooperation between the city of Tualatin, the city of Wilsonville, and property owners along the canyon, this vision will become a reality.

Thank you.

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**INTEROFFICE MEMORANDUM**

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**TO:** STEVE KOPER, PLANNING MANAGER

**FROM:** KIM MCMILLAN, CITY ENGINEER

**SUBJECT:** BASALT CREEK STORMWATER

**DATE:** APRIL 4, 2019

**CC:** JEFF FUCHS, PW DIRECTOR  
AQUILLA HURD-RAVICH, CD DIRECTOR

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The Basalt Creek Concept Plan, July 2, 2018, and Attachment A: Technical Appendices, outline the Policy Guidance on Infrastructure, including stormwater management. The City of Tualatin has no Capital Improvement Projects identified in the Basalt Creek area. The expectation is for the stormwater system to be constructed with development. The Clean Water Services Design & Construction Standards for conveyance, water quality treatment, and hydro-modification (reduce impacts downstream) will be implemented with every development application. These standards are intended to prevent or reduce adverse impacts to the drainage system and water resources of the Tualatin River Basin.

Tualatin has consistently required applicants to provide a downstream analysis when proposed development will increase the amount or rate of surface water leaving a site. The existing culverts may not have capacity for future development and developers will need to upsize the culverts to provide the capacity for runoff from their developments.





# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Sean Brady, City Attorney

**DATE:** 04/08/2019

**SUBJECT:** Consideration of **Ordinance No. 1418-19** Relating to the Basalt Creek Concept Plan, Amending Tualatin Development Code Chapters 4, 7, 9, 51, 63, and 75; and the Transportation System Plan (PTA 19-0001); Amending Figures 11-1, 11 -2, 11-3, 11-4, 11-5, 11-6, and 73-3; and Amending Maps 9-1, 9-2, 9-4, 9-5, 12-1, 13-1, 72- 1, 72-2, 72-3, and 74-1 (PMA19-0001)

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### **ISSUE BEFORE THE COUNCIL:**

Consideration of Ordinance No. 1418-19 Relating to the Basalt Creek Concept Plan, Amending Tualatin Development Code Chapters 4, 7, 9, 51, 63, and 75; and the Transportation System Plan (PTA 19-0001); Amending Figures 11-1, 11 -2, 11-3, 11-4, 11-5, 11-6, and 73-3; and Amending Maps 9-1, 9-2, 9-4, 9-5, 12-1, 13-1, 72- 1, 72-2, 72-3, and 74-1 (PMA19-0001).

### **RECOMMENDATION:**

Staff recommends Council adopt Ordinance No. 1418-19.

### **EXECUTIVE SUMMARY:**

Ordinance No. 1418-19 adopts the Comprehensive Plan Amendments to implement the Basalt Creek Concept Plan. The ordinance amends portions of TDC Chapters 4, 7, 9, 51, 63 and 75, as well as the City's Transportation System Plan to implement Plan Text Amendment (PTA) 19-0001. The ordinance also amends Figures 11-1, 11 -2, 11-3, 11-4, 11-5, 11-6, and 73-3, and Maps 9-1, 9-2, 9-4, 9-5, 12-1, 13-1, 72- 1, 72-2, 72-3, and 74-1 to implement Plan Map Amendment (PMA) 19-0001.

The City of Tualatin submitted an application for PTA 19-0001 and PMA 19-0001 to implement the Basalt Creek Concept Plan. The City provided notice of the PTA and PMA to the Oregon Department of Land Conservation and Development, as provided in ORS 197.610. The City provided notice of the public hearing, as required by TDC 33.250 and TDC 33.070. The City also provided notice of the public hearing to all impacted property owners, in compliance with ORS 227.186 (Ballot Measure 56).

Ordinance No. 1418-19 adopts Comprehensive Plan Amendments PTA 19-0001 and PMA 19-0001 to implement the Basalt Creek Concept Plan.

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**Attachments:** [Ord 1418-19 - Basalt Creek Comp Plan Amendments](#)

[Ex 1 - Findings Ord Basalt Creek](#)

[Ex 2 - Concept Plan](#)

[Ex 3 - Tech Appdx](#)

[Ex 4 - Metro Ord](#)

[Ex 5 - Supp Transportation Memo](#)

[Ex 6 - Compliance Letter](#)

[Ex 7 - Metro Resolution](#)

[Ex 8 - Metro Function Plan](#)

[Ex 9 - Amended TSP](#)

[Ex 10 - Amended Figures](#)

[Ex 11 - Amended Maps](#)

ORDINANCE NO. 1418-19

AN ORDINANCE RELATING TO THE BASALT CREEK CONCEPT PLAN, AMENDING TUALATIN DEVELOPMENT CODE CHAPTERS 4, 7, 9, 51, 63, AND 75, AND THE TRANSPORTATION SYSTEM PLAN (PTA 19-0001); AMENDING FIGURES 11-1, 11-2, 11-3, 11-4, 11-5, 11-6, AND 73-3; AND AMENDING MAPS 9-1, 9-2, 9-4, 9-5, 12-1, 13-1, 72-1, 72-2, 72-3, AND 74-1 (PMA 19-0001).

WHEREAS, the Basalt Creek Planning Area was added to the Portland Metropolitan Urban Growth Boundary (UGB) by the Metro Council in 2004, through Ordinance. No. 04-1040B;

WHEREAS, Metro Ordinance No. 04-1040B included a condition that the Basalt Creek Planning Area undergo Title 11 concept planning, as defined in Metro Code Chapter 3.07 of the Urban Growth Management Functional Plan (UGMFP);

WHEREAS, the Council, through Resolution 5392-18, adopted the Basalt Creek Concept Plan, which included the necessary transportation and land use planning for the area as well as an agreement on the boundary between Tualatin and Wilsonville;

WHEREAS, the Council wishes to amend the Tualatin Comprehensive Plan, Development Code, and Transportation System Plan consistent with the adopted Basalt Creek Concept Plan;

WHEREAS, upon the application of Community Development Department, a public hearing was held before the City Council of the City of Tualatin on April 8, 2019, to consider adopting the proposed Tualatin Comprehensive Plan, Development Code, and Transportation System Plan amendments consistent with the Basalt Creek Concept Plan;

WHEREAS, the City provided notice of proposed amendments to the Oregon Department of Land Conservation and Development, as provided in ORS 197.610;

WHEREAS, the City provided notice of the public hearing, as required by TDC 32.250 and TDC 33.070 and notice to all affected property owners in compliance with ORS 227.186 (Ballot Measure 56);

WHEREAS, at the public hearing, the Council heard and considered the testimony and evidence presented by City staff, and those appearing at the public hearing, and approved the proposed amendments; and

WHEREAS, the Council finds the proposed amendments to be in the best interest of the residents and inhabitants of the City and the public, that the public interest will be served by adopting the amendments at this time, that the amendments conform to the Tualatin Community Plan (Comprehensive Plan), Development Code, and Transportation System Plan should be amended.

THE CITY OF TUALATIN ORDAINS AS FOLLOWS:

**Section 1.** TDC Section 4.065 (Requirements) is amended to read as follows:

### **Section 4.065 Requirements.**

(1) Metro Code Urban Growth Management Functional Plan (MUGMFP) Section 3.07.1120 requires the City to adopt comprehensive plan provisions and land use regulations for areas added to the Urban Growth Boundary (UGB) that are identified as the responsibility of the City. The adopted plan provisions and regulations are to address the requirements of Section 3.07.1120(c).

(2) In December, 2002 (Metro Ordinances No. 02-969B & 02-990A) and June, 2004 (Metro No. 04-1040B) Metro expanded the UGB to include 382 acres of land in the southwestern corner of Tualatin. Of this area, 302 acres were designated as Regionally Significant Industrial Area (RSIA) and the remaining acreage was designated as Industrial. Specific conditions were placed by Metro relating to compliance with MUGMFP Titles 3, 4, & 11, lot sizes, and commercial restrictions. The Southwest Tualatin Concept Plan (SWCP) area was accepted by the City in October, 2010, encompassed the 382 acres added to the UGB in 2002 and 2004, a 50 acre property within the Tualatin Planning Area, 117 acres identified in Metro's 2010 Urban Reserve process as the "Knife River Area" and 66 acres south of Tonquin Road east of the railroad brought into the UGB in 2004.

(3) In March 2011, Plan Amendments implementing the SWCP for the 431 acre Southwest and Regionally Significant Industrial Area portion of the SWCP Area were approved by the City Council. The amendments were not applied to the 117.5 acre "Urban Reserve" designated by Metro and the 65.5 acre "Basalt Creek" area to be considered in the Basalt Creek Concept Plan.

(4) In April 2019, Plan Amendments implementing the Basalt Creek Concept Plan were adopted by the City Council. -The Concept plan included a 330-acre buildable area south of Tualatin (the entire Concept Plan is 330 buildable acres, 194.23 buildable acres of which are within the Tualatin UGB).

**Section 2.** TDC Section 7.010 (Background) is amended to read as follows:

### **Section 7.010 Background.**

(1) Tualatin's relationship to road and rail access has provided a favorable environment for industrial development. The City's industrial area is bisected by two railroads, the Burlington Northern and the Southern Pacific, and is served by the Interstate 5 Freeway which, in turn, provides access to the Interstate 205 Freeway and the State Highway 217 Expressway. These transportation facilities provide good multi-mode access to the whole of the Portland Metropolitan Area, the Willamette Valley, and to national markets. Because the area has good access to the transportation system, large areas of land have been zoned for industrial use, both in the City and west of the City in Washington County.

(2) Most of the existing industrial land use in the Tualatin area is located between or adjacent to the Burlington Northern and Southern Pacific rail lines. Smaller pockets of industrial land occur immediately north of downtown Tualatin and in the vicinity of the Lower Boones Ferry Road/Interstate 5 Freeway interchange. The amount of land zoned for industrial use is substantial. The amount actually used is small. Data developed in the Phase I - Technical Memoranda, together with supplementary information developed by the City's economic

consultants, indicate that the Portland region annually absorbs 240 acres and Tualatin can be expected to utilize 9 to 15 acres of industrial land per year. There are 1,975 acres of industrially zoned land within the Tualatin Study Area, and 304 acres are currently being used. The City contains 650 acres of industrially zoned land, with 577 of those acres now vacant. While some of Tualatin's industrially zoned land is poorly drained or has weak foundation soils, the majority of the industrially zoned land is either buildable or can be made buildable. Subtracting existing industrial uses and the worst-drained areas, the City has approximately 450 acres of vacant industrial land within its City limits. While this industrial land supply exceeds that needed to meet the City's needs for the year 2000, few land parcels that were originally planned for industrial use were converted to other uses in the Plan. This was because industries that owned the land were committed to future development of their particular sites, and because most of the area is impacted by existing scattered industrial development. Additionally, the City wishes to maximize industrial development within the City to produce revenue for public amenities in the City. A surplus of additional industrial land will help to maintain Tualatin's competitiveness in the industrial land market.

(3) The existing scattered distribution of industrial uses is a problem because it restricts choice of land use alternatives and makes it expensive to provide appropriate urban services such as public water and sewer service and fire protection. Consequently, this Plan emphasizes the short-term concentration of industrial development within the City limits.

(4) Industrial development in Washington County will affect Tualatin's industrial future. This area west of the City now contains scattered industrial development without public water or sewer services and minimum fire protection. While current County zoning allows only uses that have a minimum capital equipment investment and are not labor-intensive, the amount of industrially zoned land exceeds 1,000 acres, and the aggregate effect on traffic could impact the development of industrial land within the City. This is because most traffic traveling to and from this outlying industrial area must pass through the City's Nyberg Street/Tualatin-Sherwood Road corridor to reach the region's freeway system. As stated in the Transportation Plan, additional transportation access must be developed to minimize the effect of industrial development west of Tualatin. The proposed I-5/Norwood Road interchange would help to alleviate a portion of this problem. Additionally, it is anticipated that, because land values for land without standard urban public services are approximately 1/2 those values inside the City, there will be pressure to develop inexpensive County land before land in the City. More industrial growth west of the City could eventually place the City's roadway system at capacity before it has developed its proportionate share of industrial land, thus making it difficult to develop the remainder of the City's industrial land. In other words, the continued availability of inexpensive County industrial land could place City industrial land at a competitive disadvantage in the industrial land marketplace.

(5) Despite the problems described above, it is expected that lower-intensity industrial growth will continue to occur in Washington County west of the City, and that there will be increasing pressure to convert this land to full industrial development. Consequently, this area is eventually expected to become a part of the City of Tualatin, if the problems of transportation access can be solved. Consequently, it is an objective of this Plan to study methods of eventually accommodating, within the City, the industrial growth that is expected to occur in this area.

(6) Specific problems related to the development of land inside the City include poor drainage, poor north/south roadway access, lack of sewer and water services, and noise and other environmental problems. The central portion of the industrial area between Herman and Tualatin/Sherwood Roads is poorly drained and contains the Hedges Creek Marsh, the largest wetland area in Washington County. The Plan proposes the preservation of a portion of this approximately 80-acre natural area and anticipates the definition of an area surrounding the Marsh in which industrial development would be allowed. Currently, industrial traffic in Tualatin's central industrial area must travel long distances through downtown or on Cipole Road to travel from southern to northern industrial areas. As many local industries utilize each others' services, it is inconvenient and uneconomic to continue this arrangement of roadways. Consequently, the Transportation Plan proposes a new north-south roadway through the central industrial area in the 102nd-104th corridor. Lack of sewer services in the northwestern portion of the City's main industrial area also has been a handicap to industrial development. Two newly formed local improvement districts, one for new roadway, sewer and water improvements in the 102nd-104th corridor, and one for a major interceptor sewer paralleling Tualatin and Herman Roads, have been implemented to solve the major utility and traffic circulation problems in the industrial area. Industrial noise and odors have already begun to affect adjacent residential areas. One of the objectives of this Plan element and other elements is to develop specific and enforceable design standards that minimize future environmental conflicts between industrial, commercial and residential land uses.

(7) One of the most efficient methods of minimizing industrial impacts on commercial and residential uses is to restrict the types and location of uses that are allowed in the City's industrial districts. The types of industrial uses contemplated by the Plan eliminate those uses which are considered most obnoxious, such as creosote treatment of products, manufacture of harmful chemicals, forge plants, and auto wrecking. Uses that are allowed will be in the medium-to-light intensity range, although they will be specifically referred to as "light" and "general" for ease of understanding. The light industrial uses are arranged in the Plan to be adjacent to residential areas to minimize environmental conflicts as much as possible. Because industrial processes change rapidly due to new technology, it is also intended that some industrial uses proposed in the general use category may be appropriate in a lighter use area, if properly designed to mitigate adverse environmental impacts.

(8) While most of Tualatin's industrial land is located between Tualatin Road and Avery Street in the western portion of the City, there are small amounts of industrial land located in the northern portion of the City and lying on either side of the Lower Boones Ferry Road/ Interstate 5 Freeway interchange. The Plan has maintained, as industrial use, those areas that are now committed to industrial development. However, some land previously zoned industrial has been converted to a commercial designation because of the residential character of the area and proximity to the freeway. The industrial land in this area is designated on the Plan as light industrial because of the area's proximity to commercial and residential areas.

(9) In December 2002, Metro expanded the Urban Growth Boundary adding land west of Cipole Road and south of the north right-of-way line of SW Pacific High-way for industrial development to assist in meeting the overall regional need for a 20-year supply of industrial land.

(10) In December 2002 and June 2004, Metro expanded the Urban Growth Boundary to include 382 acres of land south of SW Tualatin Sherwood Road in the area east of a future 124th Avenue. 302 acres of this area were designated by Metro as Regionally Significant Industrial Area (RSIA) and the remaining acreage was designated Industrial. The area was addressed in the Southwest Tualatin Concept Plan and was accepted by the City in October 2010.

(11) In 2004, Metro expanded the Urban Growth Boundary to include the Basalt Creek Planning Area. The portion of this area within the City Urban Planning Area is generally south of SW Norwood Road and SW Helenius Street, east of 124th Avenue, west of I-5, and north of Basalt Creek Parkway. This area was addressed in the Basalt Creek Concept Plan and was accepted by the City in August 2018.

**Section 3.** TDC Section 9.046 (Area 16 Basalt Creek Planning Area) is created to read as follows:

**Section 9.046 Area 16 Basalt Creek Planning Area.**

The Basalt Creek Planning Area is generally located north of Basalt Creek Parkway, south of Helenius Road and Norwood Road, east of 124th Avenue, and west of I-5. The Basalt Creek Planning Area includes a mix of residential zones at various densities, a small neighborhood commercial node, and employment lands, as further described below.

(1) An area with the RL (Low Density Residential) Zone is planned west of Boones Ferry Road in the approximate area of the Basalt Creek Canyon. An area with the RL Zone is also planned north of Tonquin Loop, south of Helenius Road, west of Grahams Ferry Road and east of 124th Avenue. This land will develop either in the traditional single-family subdivision pattern, or, through the conditional use process in clustered housing patterns.

(2) An area with the RML (Medium Low Density Residential) Zone is planned south of Norwood Road, east of Boones Ferry Road, and west of I-5. An additional area of RML Zone is also planned east of Grahams Ferry Road between the two above described areas of RL Zone. These areas lends themselves to a slightly higher density than traditional single-family due to the excellent transportation access and the close relationship to the employment centers. The use of the RML Zone in this area provides for the needed higher densities with a Zone that will allow development that is similar in character and density to the RL lands.

(3) An area with the RH (High Density Residential) Zone is planned north of Greenhill Road and east of Boones Ferry Road. This land lends itself to a higher density due to the excellent transportation access and the close relationship to the employment centers. The use of the RH District in this area provides for the needed higher densities.

(4) A small area with the CN (Neighborhood Commercial) Zone is planned north of Greenhill Road and east of Boones Ferry Road. This CN Zone is intended to provide locations for commercial uses within close proximity to residential areas, to provide opportunities to serve the needs of residents for convenience shopping and services. This area lends itself to the CN Zone due to the excellent transportation access and the close proximity to abutting residential areas of medium to higher densities.

(5) The balance of the Basalt Creek Planning Area is designated in the MP (Manufacturing Park) Zone. The MP District is intended to be conducive to the development and protection of modern, large-scale specialized manufacturing and related uses and research facilities. This area is located north of Basalt Creek Parkway, south of Tonquin Loop, east of 124th Avenue, west of Basalt Creek Canyon and an area of RML Zone.

**Section 4.** TDC Section 51.110 (Neighborhood Commercial District Size and Location Standards) is amended to read as follows:

**Section 51.110 – District Size and Location Standards.**

~~(1) District Size. The aggregate area of a CN district, consisting of one or more lots or a portion of a single lot, must not exceed 2 acres.~~

~~(2) (1) District Location. The boundaries of a CN district must be separated from middle school property by not less than 300 feet. The boundaries of a CN District must be separated from high school property and all other CN, CC, and CG districts by at least 1,320 feet.~~

~~(3) (2) Street Frontage. At least one-fourth of the total street frontage of the CN District area must be on an Arterial or Major Collector street.~~

**Section 5.** TDC 62.300 (Development Standards) and Table 62-2 (Development Standards in the MP Zone) are amended to read as follows:

**Section 62.300 – Development Standards.** Development standards in the MP zone are listed in Table 62-2. Additional standards may apply to some uses and situations, see TDC 62.310.

**Table 62-2  
Development Standards in the MP Zone**

STANDARD	REQUIREMENT	LIMITATIONS AND CODE REFERENCES
<b>LOT SIZE</b>		
Minimum Lot Size North of SW Leveton Drive	40 acres	Minimum lot size and dimensions for conditional uses are set by City Council to accommodate the proposed use. Lots or remnant areas created by the location of public streets may be less than 40 acres if necessary to create a logical, safe network of streets in the district.
Minimum Lot Size South of SW Leveton Drive, and <u>south of Tonquin Loop Road</u>	5 acres	
<b>LOT DIMENSIONS</b>		
Minimum Lot Width	250 feet	Measured at the building line. When lot has frontage on public street, minimum lot width at the street is 250 feet. When lot has frontage on cul-de-sac street, minimum lot width at the street is 50 feet.



<b>STANDARD</b>	<b>REQUIREMENT</b>	<b>LIMITATIONS AND CODE REFERENCES</b>
Infrastructure and Utilities Uses	--	As determined through the Subdivision, Partition, or Lot Line Adjustment process
Flag Lots	--	Must be sufficient to comply with minimum access requirements of TDC 73C.
<b>MINIMUM SETBACKS</b>		
Minimum Building Setback for Yards Adjacent to Streets or Alleys, north of SW Leveton Drive	100 feet	
Minimum Building Setback for Yards Adjacent to Streets or Alleys, south of SW Leveton Drive	60 feet	
<u>Minimum Building Setback for Yards Adjacent to Residential District, south of Tonquin Loop Road</u>	<u>60 feet</u>	
Minimum Setback for Side and Rear Yards not Adjacent to Streets or Alleys, north of SW Leveton Drive	50 feet	No minimum setback if adjacent to railroad right-of-way or spur track.
Minimum Setback for Side and Rear Yards not Adjacent to Streets or Alleys, South of SW Leveton Drive	0-50 feet	Determined through Architectural Review Process. No minimum setback if adjacent to railroad right-of-way or spur track.
Parking and Circulation Areas Adjacent to Public Right-of-Way	50 feet	No minimum setback required adjacent to joint access approach in accordance with TDC 73C.
Parking and Circulation Areas Adjacent to Private Property Line	5-25 feet	Determined through Architectural Review Process. No minimum setback required adjacent to joint access approach in accordance with TDC 73C.
Fences	50 feet	From public right-of-way.
<b>STRUCTURE HEIGHT</b>		
Maximum Height	70 feet	May be increased to 85 feet if yards adjacent to structure are not less than a distance equal to one and one-half times

STANDARD	REQUIREMENT	LIMITATIONS AND CODE REFERENCES
		the height of the structure. Flagpoles may extend to 100 feet.
Maximum Height Adjacent to Residential District	28 feet	Measured at the required 50-foot or 100-foot setback line, includes flagpoles. The building height may extend above 28 feet on a plane beginning at the 50-foot or 100-foot setback line at a slope of 45 degrees extending away from the setback line.

**Section 6.** TDC Section 75.050 is amended to read as follows:

**Section 75.050 Access Limited Roadways.**

(1) This section applies to all developments, permit approvals, land use approvals, partitions, subdivisions, or any other actions taken by the City pertaining to property abutting any road or street listed in TDC 75.050(2). In addition, any property not abutted by a road or street listed in subsection (2), but having access to an arterial by any easement or prescriptive right, must be treated as if the property did abut the arterial and this Chapter applies.

(2) The following Freeways and Arterials are access limited roadways:

- (a) Interstate 5 Freeway;
- (b) Interstate 205 Freeway;
- (c) Pacific Highway 99W;
- (d) Tualatin-Sherwood Road at all points located within the City of Tualatin Planning Area;
- (e) Nyberg Street, from its intersection with Tualatin-Sherwood Road east to 65th Avenue, including the I-5 Interchange;
- (f) 124th Avenue from Pacific Highway 99W south to Tonquin to Basalt Creek Parkway;
- (g) Lower Boones Ferry Road, from Boones Ferry Road to the Bridgeport/72nd intersection and from the Bridgeport/72nd intersection to the east City limits;
- (h) Boones Ferry Road at all points located within the City of Tualatin Planning Area;
- (i) 65th Avenue from its intersection with Nyberg Street south to City limits;
- (j) Borland Road from 65th Avenue east to Saum Creek;
- (k) Bridgeport Road from Lower Boones Ferry Road to the west City limits;

- (l) Martinazzi Avenue from Boones Ferry Road south to Sagert Street;
- (m) Sagert Street from Martinazzi Avenue to 65th Avenue;
- (n) Leveton Drive from 108th Avenue to 124th Avenue;
- (o) 108th Avenue from Leveton Drive to Herman Road;
- (p) Herman Road from Teton Avenue to 124th Avenue;
- (q) 90th Avenue;
- (r) Avery Street;
- (s) Teton Avenue; and
- (t) Basalt Creek Parkway.

If the Council finds that any other road or street is in need of access control for any reason, it may direct that the street or road be added to this section through a Plan Text Amendment.

(3) This Chapter takes precedence over any other TDC chapter and over any other ordinance of the City when considering any development, land use approval or other proposal for property abutting an arterial or any property having an access right to an arterial.

(4) The City may act on its own initiative to protect the public safety and control access on arterials or any street to be included by TDC 75.030, consistent with its authority as the City Road Authority.

**Section 7.** Section 75.140(6) (Existing Street Access Standards – 124<sup>th</sup> AVENUE) is amended to read as follows:

(6) 124TH AVENUE

(a) Pacific Highway to Tualatin Road. No street or driveway accesses on the west side of this intersection will be permitted. No driveway accesses shall be allowed between Pacific Highway 99W and Tualatin Road.

(b) Tualatin Road to Herman Road. Between Tualatin Road and Herman Road, access to 124th Avenue shall be limited to a street intersection at Leveton Drive. The area west of the 124th Avenue/Tualatin Road intersection and south of Pacific Highway 99W will be served by a cul-de-sac connecting to the westward extension of Leveton Drive.

(c) Herman Road to Tualatin-Sherwood Road. On the east side of 124th Avenue between Herman Road and Tualatin-Sherwood Road the area will be served by the following streets or driveways:

(i) A street intersection at Myslony Street.

(ii) A street or driveway intersection approximately 800 feet south of the Myslony Street/124th Avenue intersection extending east with an alternative to extend north to connect with Myslony Street a minimum of 150 feet east of 124th Avenue. Access may be limited to right in/right out as determined by the City Manager.

(iii) Cimino Street extending east and south to an intersection at Tualatin-Sherwood Road across from 120th Avenue. The exact location and configuration of the streets and driveways shall be determined by the City Manager.

(iv) On the west side of 124th Avenue between Herman Road and Tualatin-Sherwood Road the area will be served by the following streets or driveways:

(A) A driveway across from Myslony Street.

(B) A street or driveway intersection approximately 800 feet north of the intersection of Tualatin-Sherwood Road and 124th Avenue. The exact location and configuration of the streets or driveways shall be determined by the City Manager.

(d) Tualatin-Sherwood Road. Between Tualatin-Sherwood Road and ~~Tonquin Road~~ Basalt Creek Parkway access to 124th Avenue shall be limited to street intersections at Tonquin Road and one other location. ~~Blake Street and the unnamed east-west collector street.~~ Depending on when this segment of 124th Avenue is constructed a (possibly interim) connection to ~~Tonquin Road~~ may also be provided.

**Section 8.** Section 75.140(20) (Existing Street Access Standards – BASALT CREEK PARKWAY) is created to read as follows:

(20) BASALT CREEK PARKWAY

(a) 124th Avenue to Boones Ferry Access to the Parkway shall be limited to Grahams Ferry Road and Boones Ferry Road.

**Section 9.** The Transportation System Plan is amended as set forth in Exhibit 9 (Amended TSP), which is attached and incorporated by reference.

**Section 10.** Tualatin Development Code Figures 11-1, 11 -2, 11-3, 11-4, 11-5, 11-6, and 73-3 are amended as set forth in Exhibit 10 (Amended Figures), which is attached and incorporated by reference.

**Section 11.** Tualatin Development Code Maps 9-1, 9-2, 9-4, 9-5, 12-1, 13-1, 72- 1, 72-2, 72-3, and 74-1 are amended as set forth in Exhibit 11 (Amended Maps), which is attached and incorporated by reference.

**Section 12. Findings.** The Council adopts the Findings as set forth in Exhibit 1, which are attached and incorporated by reference. In support of its Findings, the Council also adopts those materials referenced in the Findings, and which are attached as Exhibits 2 through 11, which are attached and incorporated by reference.

**Section 13. Severability.** If any section, subsection, sentence, clause, or phrase of this ordinance is for any reason held to be invalid or unconstitutional, such decision does not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this Ordinance, and each section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases may be declared invalid or unconstitutional, and, further declares that, if for any reason this Ordinance should be declared unconstitutional, then the original ordinance or ordinances remain in full force and effect.

**Section 14. Effective Date.** As provided in the Tualatin Charter, this ordinance is effective 30 days from the date of adoption.

ADOPTED by the City Council this \_\_\_\_ day of April, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

APPROVED AS TO FORM

ATTEST:

BY \_\_\_\_\_  
City Attorney

BY \_\_\_\_\_  
City Recorder

**Exhibit 1**  
**Ordinance No. 1418-19**

**Basalt Creek Comprehensive Plan Update (File Nos. PTA 19-0001 and PMA 19-0001):  
ANALYSIS AND FINDINGS**

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**Section A. Introduction**

**Applicable Criteria**

Applicable Statewide Planning Goals; Divisions 7, 9 and 12 of the Oregon Administrative Rules; the Oregon Highway Plan; Titles 1, 3, 4, 7, 8, 11, 12, 13, and 14 of Metro Chapter 3.07 (Urban Growth Management Functional Plan) and Titles, 1, 3, 4, 5, and 6 of the Metro Chapter 3.08 (Regional Transportation Functional Plan, including applicable conditions from "Exhibit F" of Metro Ordinance No. 14-1040B; applicable Goals and Policies from the City of Tualatin Comprehensive Plan; applicable Sections of the City of Tualatin Development Code, including Section 33.070 (Plan Amendments).

**Background**

- The Basalt Creek Planning Area was brought into the Portland Metropolitan Urban Growth Boundary in 2004.
- Metro Code Title 11 requires a city to adopt a concept plan – which is a long-range plan that identifies lands for residential and employment uses and the transportation and other public facilities necessary to support the mix of uses - for an area brought into the Urban Growth Boundary as an interim step until a city amends its adopted comprehensive plan and applies it to that area.
- The Basalt Creek Concept Plan was adopted for the Basalt Creek Planning Area by the Tualatin City Council in August of 2018, and was the result of a joint planning effort for the area between the City of Tualatin and the City of Wilsonville.
- Tualatin is responsible for comprehensive planning in the portion of the Basalt Creek Planning Area south of its existing City limit (Helenius Road and Norwood Street) extending to Basalt Creek Parkway further to the south, I-5 to the east, and 124<sup>th</sup> Avenue to the west.

## **Public Involvement**

- The Basalt Creek Concept Plan required a very different approach than most concept plans because Tualatin and Wilsonville participated in a joint planning effort, resulting in more public outreach than would have occurred had a single city planned for the area. A public involvement plan was used to guide outreach strategies and events throughout the planning process. Community workshops, visioning workshops, open houses, stakeholder interviews/ focus groups, and surveys were used to gain public opinion on the Plan. Planning Commission and Council meetings were held, all open to the public.
- A public open house was also held by Tualatin on January 22, 2019 to provide an introduction to the future planning steps that would implement the Basalt Creek Concept Plan.
- Throughout the planning process, periodic updates were posted in the City newsletter and on the City webpage. Finally, the Tualatin Planning Commission received frequent briefings and the Tualatin City Council received memoranda and work session briefings from project staff.
- Notice of the proposed amendments was provided in accordance with TDC Sections 32.250 and 33.070, which have been determined to be compliant with Oregon Statewide Planning Goal 1 (Public Involvement).

## **Proposal**

- The subject proposal is a Plan Text Amendment (PTA 19-0001) and Plan Map Amendment (PMA 19-0001), which are legislative amendments.
- The proposed amendments would update the Tualatin Comprehensive Plan and Development Code consistent with the adopted Basalt Creek Concept Plan.
- The proposed amendments would also allow for future application of the Tualatin Comprehensive Plan and Development Code to properties located within the Tualatin portion of the Basalt Creek Planning Area.
- The proposed amendments would update Chapters 4, 7, 9, Figures 11-1, 11 -2, 11-3, 11-4, 11-5, 11-6, and Maps 9-1, 9-2, 9-4, 9-5, 12-1, and 13-1, of the Tualatin Comprehensive Plan. Map 9-1 is the Community Plan Map (“Zoning Map”).
- The proposed amendments would update Chapters 51, 62, and 75, Figure 73-3, and Maps 72- 1, 72-2, 72-3, and 74-1 of the Tualatin Development Code
- The proposed amendments would update the Tualatin Transportation System Plan.

## **Zoning Designations**

- The Tualatin portion of the Basalt Creek Planning Area is generally located north of Basalt Creek Parkway, south of Helenius Road and Norwood Road, east of 124th Avenue, and west of I-5. As shown on the Community Plan Map (Exhibit 11, Map 9-1), the Basalt Creek Planning Area would include a mix of residential zones at various densities, a small neighborhood commercial node, and employment lands, consistent with the Basalt Creek Concept Plan. As shown on the Neighborhood Planning Areas Map (Exhibit 11, Map 9-2), the Basalt Creek Planning Area will be designated as “Area 16.” Application of the zoning designations to an individual property would occur after approval of a property-owner submitted annexation petition.

- Low Density Residential (RL): An area with the RL (Low Density Residential) Planning District is proposed west of Boones Ferry Road in the approximate area of the Basalt Creek Canyon. An area with the RL Zone is also planned north of Tonquin Loop, south of Helenius Road, west of Grahams Ferry Road and east of 124th Avenue. This land will develop either in the traditional single-family subdivision pattern, or, through the conditional use process in clustered housing patterns.
- Medium Low Density Residential (RML): An area with the RML (Medium Low Density Residential) Zone is proposed south of Norwood Road, east of Boones Ferry Road, and west of I-5. An additional area of RML Zone is also planned east of Grahams Ferry Road between the two above described areas of RL Zone. These areas lends themselves to a slightly higher density than traditional single-family due to the excellent transportation access and the close relationship to the employment centers. The use of the RML District in this area provides for the needed higher densities with a District that will allow development that is similar in character and density to the RL lands.
- High Density Residential (RH): An area with the RH (High Density Residential) Zone is proposed north of Greenhill Road and east of Boones Ferry Road. This land lends itself to a higher density due to the excellent transportation access and the close relationship to the employment centers. The use of the RH District in this area provides for the needed higher densities.
- Neighborhood Commercial (CN): A small area with the CN (Neighborhood Commercial) Zone is proposed north of Greenhill Road and east of Boones Ferry Road. This CN District is intended to provide locations for commercial uses within close proximity to residential areas, to provide opportunities to serve the needs of residents for convenience shopping and services. This area lends itself to the CN District due to the excellent transportation access and the close proximity to abutting residential areas of medium to higher densities.
- Manufacturing Park (MP): The balance of the Basalt Creek Planning Area is proposed to be designated in the MP (Manufacturing Park) Zone. The MP District is intended to be conducive to the development and protection of modern, large-scale specialized manufacturing and related uses and research facilities. This area is located north of Basalt Creek Parkway, south of Tonquin Loop, east of 124th Avenue, and west of Basalt Creek Canyon and an area of RML Zone.

### **Central Subarea**

- In addition to the findings provided below, the following additional findings relate to the Central Subarea.
- The Central Subarea is a 52-acre portion of the greater Basalt Creek Planning Area, located at the northeast intersection of Grahams Ferry Road and Basalt Creek Parkway.
- In 2017, the City of Tualatin and City of Wilsonville were in disagreement as to designation of the Central Subarea. The two cities approached Metro to resolve the dispute, and the parties entered into an intergovernmental agreement (IGA) for Metro to resolve the dispute. Under the IGA, Metro had sole discretion on how it was to resolve the dispute. Metro chose to conduct an arbitration-like process. Each city presented its case to Metro staff and the staff then made a recommendation to the Metro Council.



Ultimately, Metro staff and the Metro Council concluded the Central Subarea should be designated for Industrial/Employment.

- As a result, the Concept Plan designated the Central Subarea as Industrial/Employment (specifically, the Manufacturing Park (MP) zoning designation). Each Council then adopted a resolution “accepting the Concept Plan” with the Central Subarea designated as Industrial/Employment.
- The City gave due consideration of designating the Central Subarea as residential and considered the evidence and testimony submitted during all public hearings.
- The City finds the Central Subarea is viable for use as industrial/employment, which was its original consideration.
- In weighing the competing policy goals and other factors, the City finds the Central Subarea should be designated as Industrial/Employment as provided in the Concept Plan, and consistent with the Metro Decision.
- Accordingly, the proposed amendments would designate the Central Subarea as Manufacturing Park (MP).
- In support of this decision, the City adopts as its findings, the findings of Metro as set forth in Exhibit 7 (Metro Decision).
- Title 4 Map
  - Exhibit E to the 2004 ordinance specifically shows Basalt Creek as being added to the UGB with an industrial design type. Moreover, a subsequent amendment to the Title 4 map in 2010 via Metro Ordinance No. 10-1244B maps the Basalt Creek area with a Title 4 industrial designation.
  - Basalt Creek was included in the UGB in 2004 as part of a UGB expansion that was specifically and exclusively intended to "increase the capacity of the boundary to accommodate growth in industrial employment." That language is from the purpose statement of Metro Ordinance No. 04-10408.
  - Basalt Creek currently has an industrial designation on the Metro Title 4 map.
- Industrial Land Supply
  - Mr. Watts cites the portion of the draft UGR that forecasts a net decrease in regional industrial jobs during the 2018 to 2038 time period. This prediction by Metro has nothing to do with designating the Central Subarea for future employment use.
  - There is sufficient developable area in the Central Subarea for multiple buildings housing smaller employment uses, as depicted in the Mackenzie and KPFF studies, such as office, flex business park, manufacturing, and craft industrial. This conclusion is supported by the City of Tualatin staff report to the City Council dated November 28, 2016, which concludes: 'After consideration of OTAK's proposal and all of the above factors together, staff believes the central subarea can be developed for employment over the long-term. While there are some hilly areas, the Manufacturing Park designation can be made flexible enough to include some smaller scale employment uses.'
  - A decrease in total "industrial" jobs does not necessarily equate to decreased need for industrial/ employment land. Modern land use types, particularly those

associated with advanced manufacturing and data centers, often do not employ the same number of workers as they have historically.

- Buildable Land Inventory
  - Mr. Watts asserts that the Central Subarea has been "mapped" by Metro for future residential use. That is not accurate. Rather, the area was counted in Metro's draft Urban Growth Report (UGR) as being potentially available for future residential development. More importantly, the draft UGR is just that - a draft - and Metro intends to remove the area from the residential inventory before it is finalized.
  - The Central Subarea has not been "mapped" or otherwise designated by Metro for future residential use. Rather, it was counted as potentially buildable for purposes of the draft UGR inventory based on its current zoning. In light of the recent concept planning efforts by the cities and Metro, the area will be removed from the draft housing inventory for purposes of Metro's pending UGB decision.
- Population Forecast
  - Mr. Watts argues that Metro's population forecasting has underestimated the actual population growth in Tualatin and Wilsonville. There are two fundamental flaws in this argument: first, Mr. Watts is improperly comparing the PSU/Metro population estimates with the US Census Bureau estimates; second, Mr. Watts appears to be treating the Census Bureau estimates as if they are hard data, when in reality they are only estimates, just like the PSU estimates. There are no actual population counts regarding the current population of Tualatin or Wilsonville. The Census estimates happen to be higher than the PSU estimates that Metro relies on for forecasting purposes. That does not mean that the Census is right and PSU is wrong, or vice versa, it just means they use different methods that result in different estimates.
  - Both PSU and the US Census Bureau undertake annual estimates of Oregon city populations. The only actual population counts are generated every ten years from the decennial census. Metro relies on the PSU estimates for purposes of making its 20-year forecast because, in Metro's experience, the PSU estimates tend to be more accurate than the Census Bureau in non-decennial years. Metro's most recent population distribution to Tualatin occurred in 2016 via Metro Ordinance No. 16-1371. That distribution includes the PSU estimate cited by Mr. Watts in his letter, which was 26,590 for the year 2015. Based in part on that estimate, Metro made a 25-year population forecast for Tualatin of 27,372 for the year 2040. As noted in Ordinance No. 16-1371, the Metro population distribution decision process began in July of 2015 and was coordinated with all cities in the Metro region. Metro provided all cities, including the City of Tualatin, with draft numbers and solicited their input during a comment period, which resulted in refinement of the numbers prior to the final distribution decision. By the time of final adoption of the ordinance in October 2016, there were no further objections or concerns from any cities in the region.
  - Mr. Watts' claim that "Tualatin has exceeded 25 years of population growth in the first year of the 25-year period" is incorrect because the Census estimate is no

- more inherently right or wrong than the PSU/Metro estimate. Contrary to the heading on the table submitted by Mr. Watts, the Census numbers for 2016 are not "data," they are merely estimates. The fact that the Census numbers are estimates is highlighted by more recent revisions to those estimates.
- Predicting future population growth over a 20 or 25 year timeframe can never be done with 100% accuracy. However, Metro's historical accuracy has been very good. As described in Appendix 1 to the current Draft UGR at pages 41-43, a comparison of past population forecasts and actual growth show that Metro's average forecast error for the last 15 years (2000 to 2015) is less than 0.3% per year for the entire region of approximately 1.5 million people.
  - There is no factual or logical basis for the assertion by Mr. Watts in his letter that Tualatin and Wilsonville "are far exceeding Metro's projected growth." The discrepancy between the PSU/Metro estimate and the Census Bureau estimate is a function of the fact that they are merely different estimates, based on different methodology. The accuracy of Metro's population forecast for Tualatin will not be known until the next decennial census in 2020; however, Metro's forecasts have proven to be reliably accurate over time.

### **Transportation System Plan (TSP) Update**

- The proposed amendments would update the Tualatin TSP (Exhibit 9) to include the Basalt Creek Planning Area and to apply roadway functional classifications (Exhibit 10, Figure 11-1) consistent with the Basalt Creek Concept Plan and the Basalt Creek Transportation Refinement Plan. Staff notes that due to the adoption of an updated Regional Transportation Functional Plan (RTFP) by Metro in December of 2018, supplemental transportation analysis has been included (Exhibit 5), demonstrating that the TSP update, as proposed, continues to be compliant with OAR Chapter 660 Division 12 (Transportation Planning Rule), the Oregon Highway Plan, and applicable sections of the Metro Regional Transportation Functional Plan, and is adequate to support future property development in the Basalt Creek Planning Area consistent with the proposed zoning designations.
- The proposed amendments would update the following Figures (Exhibit 10): 11-2 – Metro Regional Street Design System, 11-3 – Local Street Plan, 11-4 – Bicycle and Pedestrian System, 11-5 – Transit Plan, 11-6 – Freight Routes, and 73-3 – Parking Maximum Map, consistent with the Basalt Creek Concept Plan and compliant with OAR Chapter 660 Division 12 (Transportation Planning Rule), the Oregon Highway Plan, and applicable sections of the Metro Regional Transportation Functional Plan.
- The proposed amendments would update the City's Pedestrian and Bicycle Plan (Figure 11-4) to expand the planning area consistent with the Basalt Creek Planning Area, and add a planned trail and multi-use path that were conceptually identified in the Basalt Creek Concept Plan. Per Tualatin Development Code Section 74.450, the mechanism for construction of a pedestrian path or dedication of an easement would be when development abuts or contains a facility identified on Figure 11-4.
- The proposed amendments would update the City's Transit Plan (Figure 11-5) to expand the planning area boundary consistent with the Basalt Creek Planning Area.

Although a Park and Ride System Expansion was previously included on Figure 11-5 in 2014 as part of the most recent TSP update, the Basalt Creek Concept Plan included consideration of additional TriMet service within the area in the future.

### **Comprehensive Plan Text Amendments**

- In support of the proposed amendments, and implementation of the proposed zoning designations and transportation system, amendments to the Tualatin Comprehensive Plan text are proposed.
- Chapter 4 (Community Growth): Section 4.065 (Requirements) is updated to include a reference to the adoption of the proposed amendments.
- Chapter 7 (Manufacturing Planning Districts): Section 7.010 (Background) is updated to include a reference to the 2004 Urban Growth Boundary Expansion and the Basalt Creek Planning Area.
- Chapter 9 (Plan Map): Adds a new Section (9.046 – Area 16 Basalt Creek Planning Area) to include a description of the Basalt Creek Planning Area and the applicable zoning designations within the area.

### **Development Code Text Amendments**

- In support of the proposed amendments, and implementation of the proposed zoning designations and transportation system, amendments to the Tualatin Development Code are proposed.
- Chapter 51 (Neighborhood Commercial (CN) Zone): Section 51.110 (District Size and Location Standards) is updated consistent with the size and location of the CN zone identified in the Basalt Creek Concept Plan.
- Chapter 62 (Manufacturing Park (MP) Zone): Table 62-2 (Development Standards in the MP Zone) is updated to apply within the Basalt Creek Planning Area.
- Chapter 75 (Access Management): Section 75.140 (Existing Streets Access Standards) is updated to apply to streets within the Basalt Creek Planning Area.

### **Public Utility Infrastructure**

- As illustrated within the Water Plan and Sanitary Sewer Plan (Exhibit 11, Maps 12-1 and 13-1), public utilities will be extended south of the existing city limit to serve the Basalt Creek Planning Area. Existing stormwater infrastructure consists of roadside drainage ditches and culverts. Culverts in the Basalt Creek Planning Area are under the jurisdiction of Washington County. Culverts to the south of the Planning Area are part of the City of Wilsonville stormwater system. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the Planning Area. In the future, culverts in the Basalt Creek Planning Area may need to be upsized by Washington County. In addition, as properties annex to Tualatin and propose new development, stormwater will need to be treated and detained, if necessary, before being discharged to the public drainage systems consistent with Clean Water Services standards and TDC Chapter 74, which generally requires runoff from a site to not exceed the amount generated prior to development.

### **Natural Resources**

- The proposed amendments would apply the Tualatin Development Code within the Basalt Creek Planning Area upon adoption and annexation of any property to Tualatin. Metro Regional Functional Plan Title 3 and 13 conservation areas will be administered and protected by Clean Water Services. Future development in Tualatin must comply with Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat. Although no areas of floodplain or regulatory floodway are mapped by the Federal Emergency Management Agency (FEMA) in the Basalt Creek Planning Area, Tualatin Development Code Chapter 70 (Floodplain Development) would be applicable to individual properties, upon annexation to Tualatin.

### **School Capacity**

- The Basalt Creek Planning Area is served by the Sherwood School District. Future school capacity to serve future residential development was analyzed as part of the Basalt Creek Concept Plan. The Sherwood School District has previously indicated that no new school facilities are planned within the Basalt Creek Planning Area. The proposed amendments are consistent with the residential zoning districts identified in the concept plan. Notice of the proposed amendments was also provided to the Sherwood School District.

### **Parks Master Plan**

- The City adopted an updated Parks Master Plan in November of 2018, which identified the need for a park generally, but did not identify a specific area. The Parks Master Plan and its provisions governing site identification and acquisition will guide the development of future parks, trails, recreation areas and open space within the Basalt Creek Planning Area.

### **Agency and Interested Person Comments**

- Notice of the proposed amendments was provided to the Oregon Department of Land Conservation and Development (DLCD), the required 35 days prior to the City Council public hearing. Notice was also sent to Metro and other affected agencies. Notices complying with Oregon Ballot Measure 56 were mailed to property owners within the Tualatin portion of the Basalt Creek Planning Area. Comments in response to these notices or otherwise are included as Exhibits to these findings.

### **Exhibits**

2. Basalt Creek Concept Plan Appendixes
3. Basalt Creek Concept Plan Appendixes
4. Metro Ordinance No. 14-1040B
5. Supplemental Transportation Analysis
6. City of Tualatin Title 13 and Tualatin Basin Plan Compliance Review Letter, dated December 5, 2006
7. Metro Resolution No. 18-4885 with Exhibits

8. Metro Functional Plan Compliance Report dated February 28, 2019
9. Tualatin Transportation System Plan Amendments
10. Amended Figures: 11-1 – Functional Classification and Traffic Signal Plan; 11-2 – Metro Regional Street Design System; 11-3 – Local Street Plan; 11-4 –Bicycle and Pedestrian System; 11-5 – Transit Plan; 11-6 – Freight Routes; and 73-3 – Parking Maximum Map
11. Amended Maps: 9-1 – City of Tualatin Community Plan Map; 9-2 – Neighborhood Planning Areas Map; 9-4 – Design Type Boundaries; 9-5 – Commercial Setback; 12-1 – Water Plan; 13-1 – Sewer Plan; 72-1 –Natural Resources Protection Overlay District (NRPO) and Greenway Locations; 72-2 – Greenway Development Plan; 72-3 – Significant Natural Resources; and 74-1 –Street Tree Plantings

## **Section B: Oregon Statewide Planning Goals**

**The following Oregon Statewide Planning Goals are applicable to the proposed amendments:**

### **Goal 1 – Citizen Involvement**

**To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.**

#### **Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which included extensive citizen involvement. The Basalt Creek Concept Plan Appendixes (Exhibit 3) include a detailed Public Involvement Plan that identifies the specific outreach that was conducted, which included: a community workshop, an open house, regular updates emailed to interested parties and mailed to property owners and periodic updates posted in the City newsletter and webpage. Relative to the proposed amendments, notification was provided pursuant to Sections 32.250 and 33.070, which have been acknowledged to be compliant with Goal 1. Specifically, notice was mailed to property owners on March 4, 2019, notice was posted in two public places on March 11, 2019, and notice was published in the Tualatin Times newspaper on March 21, 2019. Finally, the Tualatin Planning Commission has held a public meeting on March 21, 2019, and the City Council will hold a public hearing on the proposed amendments on April 8, 2019. The proposed amendments conform to Goal 1.

### **Goal 2 – Land Use Planning**

**To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.**

#### **Finding:**

The proposed amendments contain comprehensive plan provisions, development regulations, specific planning district designations for future urban development of the Basalt Creek Concept Plan, and designate street classifications. The proposed amendments conform to Goal 2.

## **Goal 5 – Open Spaces, Scenic and Historic Areas and Natural Resources**

**To protect natural resources and conserve scenic and historic areas and open spaces.**

### **Finding:**

Drainage, storm water and surface water runoff in Tualatin are addressed in the Tualatin Drainage Plan, the Surface Water Management Ordinance (SWM Ordinance) (Ord. No. 846-91), the Northwest Tualatin Concept Plan 2005, the Southwest Tualatin Concept Plan 2010 and TDC Chapter 74, the objective of which includes compliance with Metro's Urban Growth Management Functional Plan (UGMFP) Title 3 and by extension, Goal 5. The surface water management policies and requirements in the SWM Ordinance were adopted by the City and other jurisdictions in the Tualatin River Basin to implement Clean Water Services requirements for control of sedimentation and water quality, which had been found by Metro to be consistent with Title 3, thus bringing Tualatin into conformance with Title 3 as well. Compliance with Title 13 is satisfied by Tualatin's participation in the Tualatin Basin Plan (Exhibit 6) and previously adopted amendments to the Comprehensive Plan and Development Code (TDC Section 4.050 and Section 72.056). The TDC will apply to the Basalt Creek area upon adoption and annexation of any property to Tualatin. The conservation areas will be administered and protected by Clean Water Services. Future development in Tualatin must comply with Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat (TDC Chapters 33 and 36). The proposed amendments conform to Goal 5.

## **Goal 6 – Air, Water and Land Resource Quality**

**To maintain and improve the quality of the air, water and land resources of the state.**

### **Finding:**

Air, water and land resource quality have been considered in development of the proposed amendments and appropriate measures are incorporated in the Comprehensive Plan and Development Code (TDC Chapters 7, 11, and 60), to ensure that state and federal regulations will be met, largely through the application of building permit requirements and CWS Design and Construction Standards. The proposed amendments conform to Goal 6.

## **Goal 7 – Areas Subject to Natural Disasters and Hazards**

**To protect people and property from natural hazards.**

### **Finding:**

Future development in the Basalt Creek area will be required to conform to the Comprehensive Plan and Development Code (TDC Chapters 4, 72, and 70), which includes compliance with environmental regulations in the Tualatin Development Code (TDC) to protect people and property from natural hazards. The proposed amendments conform to Goal 7.

## **Goal 8 – Recreation Needs**

**To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.**

**Finding:**

Parks will be developed as envisioned in the Parks Master Plan. Specific to the Basalt Creek area, the Parks Master Plan identified a need of a roughly five acre park site, though a specific location was not identified. In addition, trails identified in the Basalt Creek Concept Plan (Exhibit 2, Figure 11 - Bikes, Trails, and Pedestrian Network Map) have been incorporated into the City's Bicycle and Pedestrian Plan (Exhibit 10, Figure 11-4). Further, the Comprehensive Plan and Development Code (TDC Chapters 15, and 41-49) include policies and regulations which support park and recreation planning. Lastly, public parks, trails, and usable open space are permitted uses in the Low Density Residential (RL), Medium Low Density Residential (RML), and High Density Residential (RH) zoning districts. The proposed amendments conform to Goal 8.

**Goal 9 – Economy of the State**

**To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.**

**Finding:**

Metro is the regional governmental organization tasked with balancing the needs of the region in regards to land uses, which by extension, address a variety of economic factors such as health, welfare and prosperity. In 2004 Metro adopted Ordinance No. 14-1040B (Exhibit 4), intended to increase the Portland metropolitan urban growth boundary to accommodate growth in industrial employment. That expansion included 1,940 acres of land for industrial and other purposes, including the area now known as the Basalt Creek Planning Area. The Basalt Creek Concept Plan addressed concept planning for employment areas (Figure 8: Basalt Creek Land Use Concept Map - Exhibit 2, Page 28) and provided a market analysis of commercial, industrial, and residential real estate markets (Exhibit 3, Page 43: Commercial, Industrial & Residential Real Estate Markets Page). The proposed amendments implement the concept plan and apply the City's Comprehensive Plan and Development Code to the planning area. Additional findings addressing Goal 9 are found below in Section C under Oregon Administrative Rules Chapter 660, Division 9. The proposed amendments conform to Goal 9.

**Goal 10 - Housing**

**This goal specifies that each city must plan for and accommodate needed housing types, such as multifamily and manufactured housing.**

**Finding:**

Statewide Planning Goal 10 requires each city to inventory its buildable residential lands, project future needs for such lands, and plan and zone enough buildable land to meet those needs. In addition, the goal requires planning for needed housing types, such as multi-family housing. Additional findings addressing Goal 10 are found below in Section C under Oregon



Administrative Rules Chapter 660, Division 7. The proposed amendments would accommodate a mix of residential uses at varying densities in the Basalt Creek Planning Area. The plan focuses the lowest density housing (a mixture of low-density and medium-low density) along the northern portion of the Planning Area and low density along the west side of Boone's Ferry Road, adjacent to existing neighborhoods of Tualatin. This land is expected to accommodate 134 new households. The eastern portion of the Tualatin future annexation area is anticipated to be a mixture of high and medium-low density residential; the land immediately east of Boones Ferry Road is intended for high density housing. The remainder of the land east and south of Horizon School is planned for medium-low density residential. In total 575 new households are anticipated. The proposed amendments conform to Goal 10.

### **Goal 11 - Public Facilities and Services**

**To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.**

#### **Finding:**

The proposed amendments include updates to the City's Water Plan and Sanitary Sewer Plan (Exhibit 11, Maps 12-1 and 13-1). With respect to sewer and storm drainage facilities, properties within the Plan will need to be annexed into the Clean Water Services (CWS) service area prior to receiving service, and must comply with Clean Water Services and TDC Chapter 74 requirements. For public services, the area will be served by the City of Tualatin Police Department when annexed. Until annexation, the area will be served by Washington County Sheriff's Department. Fire Service is currently provided by Tualatin Valley Fire & Rescue and, upon annexation, TVF&R will continue to serve the area. The proposed amendments conform to Goal 11.

### **Goal 12 – Transportation**

**To provide and encourage a safe, convenient and economic transportation system.**

Goal 12 requires the provision and encouragement of a safe, convenient, multimodal and economic transportation system. The Comprehensive Plan and Transportation System Plan (TSP) describes the transportation system necessary to accommodate the transportation needs of the City. Implementing measures are contained in the Tualatin Development Code and (TDC Chapters 11, 74, and 75) Public Works Construction Code (Tualatin Municipal Code Chapter 02-03). The proposed amendments improve consistency with other adopted planning efforts. The amendments are consistent with the City's acknowledged policies and strategies for the provision of transportation facilities and services as required by Goal 12 the Transportation Planning Rule (TPR), the findings for which are found in Section C under Oregon Administrative Rules Chapter 660, Division 12. The proposed amendments are consistent with the acknowledged policies and strategies for the provision of transportation facilities and services as required by Goal 12, the TPR, the Oregon Highway Plan (OHP) and the Regional Transportation Functional Plan (RTFP). The proposed amendments conform to Goal 12.

### **Goal 13: Energy Conservation**

**To conserve energy.**

**Finding:**

Provisions to comply with Goal 13 were included in the existing, adopted and DLCD acknowledged Comprehensive Plan and Development Code (TDC Chapters 4 and 7). The amendments proposed to the plan would not eliminate or alter the existing energy conservation provisions of the Code, and all code provisions would apply within the Basalt Creek Planning Area upon property annexation. All streets within the area are planned to have bike lanes and sidewalks, and there are several pedestrian trails proposed as well, which will contribute to energy efficiency. Inclusion of a small commercial node within the area promotes shorter vehicle trips and encourages walking. Transit lines currently operate along the high density housing proposed to further encourage reduced vehicle trips. Coordinated design and development allows for maximized use of transportation systems and public facilities in the area, thereby further increasing energy efficiency. The proposed amendments conform to Goal 13.

**Goal 14: Urbanization**

**To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.**

**Finding:**

Metro, as part of Ordinance 14-1040B, evaluated and determined that additional land was necessary in the Portland region for industrial development and included the Basalt Creek Planning Area in the UGB. The proposed amendments would apply the Comprehensive Plan and proposed planning district designations and development regulations to the properties within the planning area. This allows a transition from rural to urban land uses by applying land use/zoning designations to properties upon annexation. These provisions will accommodate urban population and employment inside the UGB, while providing compatibility and consistency with abutting planning district designations. Efficient use of land and development of healthful, safe, aesthetic surroundings and conditions will best be ensured with the proposed amendments. The proposed amendments conform to Goal 14.

**Section C: Oregon Administrative Rules**

**The following Oregon Administrative Rules (OAR) are applicable to the proposed amendments:**

**OAR Chapter 660, Division 7 (Metropolitan Housing)**

**660-007-0015**

**Clear and Objective Approval Standards Required**

**(1) Except as provided in section (2) of this rule, a local government may adopt and apply only clear and objective standards, conditions and procedures regulating the**

**development of needed housing on buildable land. The standards, conditions and procedures may not have the effect, either in themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay.**

**(2) In addition to an approval process for needed housing based on clear and objective standards, conditions and procedures as provided in section (1) of this rule, a local government may adopt and apply an optional alternative approval process for applications and permits for residential development based on approval criteria regulating, in whole or in part, appearance or aesthetics that are not clear and objective if:**

**(a) The applicant retains the option of proceeding under the approval process that meets the requirements of section (1);**

**(b) The approval criteria for the alternative approval process comply with applicable statewide land use planning goals and rules; and**

**(c) The approval criteria for the alternative approval process authorize a density at or above the density level authorized in the zone under the approval process provided in section (1) of this rule.**

**(3) Subject to section (1), this rule does not infringe on a local government's prerogative to:**

**(a) Set approval standards under which a particular housing type is permitted outright;**

**(b) Impose special conditions upon approval of a specific development proposal; or**

**(c) Establish approval procedures.**

#### **Finding:**

As reflected in the TDC, the City provides for clear and objective standards for housing development through the partition, subdivision, and Architectural Review processes (TDC Chapters 33 and 36), including a fee schedule based on the cost to the City for accepting and processing land use applications (Resolution No. 5412-18). These processes, fees and clear and objective standards do not discourage needed housing through unreasonable cost or delay. The proposed amendments are consistent with these requirements.

#### **660-007-0018**

##### **Specific Plan Designations Required**

**(1) Plan designations that allow or require residential uses shall be assigned to all buildable land. Such designations may allow nonresidential uses as well as residential uses. Such designations may be considered to be "residential plan designations" for the purposes of this division. The plan designations assigned to buildable land shall be specific so as to accommodate the varying housing types and densities identified in OAR 660-007-0030 through 660-007-0037.**

**(2) A local government may defer the assignment of specific residential plan designations only when the following conditions have been met:**

**(a) Uncertainties concerning the funding, location and timing of public facilities have been identified in the local comprehensive plan;**

**(b) The decision not to assign specific residential plan designations is specifically related to identified public facilities constraints and is so justified in the plan; and  
(c) The plan includes a time-specific strategy for resolution of identified public facilities uncertainties and a policy commitment to assign specific residential plan designations when identified public facilities uncertainties are resolved.**

**Finding:**

In the proposed Comprehensive Plan Map Amendments, all buildable land within the Basalt Creek area is assigned a plan designation (Exhibit 11, Map 9-1), providing varying housing types and densities, increasing housing choice (TDC Chapters 40, 41, and 43). The proposed amendments are consistent with these requirements.

**660-007-0020**

**The Rezoning Process**

**A local government may defer rezoning of land within the urban growth boundary to maximum planned residential density provided that the process for future rezoning is reasonably justified:**

- (1) The plan must contain a justification for the rezoning process and policies which explain how this process will be used to provide for needed housing.**
- (2) Standards and procedures governing the process for future rezoning shall be based on the rezoning justification and policy statement, and must be clear and objective.**

**Finding:**

All land within the Basalt Creek area is assigned a comprehensive plan/zoning designation on the Community Plan Map (Exhibit 11, Map 9-1). No deferral is required. The proposed amendments are consistent with these requirements.

**660-007-0022**

**Restrictions on Housing Tenure**

**Any local government that restricts the construction of either rental or owner occupied housing on or after its first periodic review shall either justify such restriction by an analysis of housing need according to tenure or otherwise demonstrate that such restrictions comply with ORS 197.303(1)(a) and 197.307(3).**

**Finding:**

The City of Tualatin has no restrictions on the construction of rental or owner occupied housing. The proposed amendments are consistent with these requirements.

**660-007-0030**

**New Construction Mix**

**(1) Jurisdictions other than small developed cities must either designate sufficient buildable land to provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing or justify an alternative percentage based on changing circumstances. Factors to be considered in justifying an alternate percentage shall include, but need not be limited to:**

**(a) Metro forecasts of dwelling units by type;**

**(b) Changes in household structure, size, or composition by age;**

**(c) Changes in economic factors impacting demand for single family versus multiple family units; and**

**(d) Changes in price ranges and rent levels relative to income levels.**

**(2) The considerations listed in section (1) of this rule refer to county-level data within the UGB and data on the specific jurisdiction.**

**Finding:**

All Tualatin residential districts provide the opportunity for attached or multifamily housing (TDC Tables 40-2, 41-2, and 43-2). The proposed residential zoning districts include a mix of low, medium, and high densities (Exhibit 11, Map 9-1). All residential land in the Basalt Creek area will be zoned RL (TDC Chapter 40) RML (TDC Chapter 41), or RH (TDC Chapter 43). Attached single family housing and multiple family housing are conditional uses in the RL District and permitted uses in RML and RH. Therefore, the proposed zoning districts provide the opportunity for at least 50 percent of new residential units to be attached single family or multiple family housing. The proposed amendments are consistent with these requirements.

**660-007-0033**

**Consideration of Other Housing Types**

**Each local government shall consider the needs for manufactured housing and government assisted housing within the Portland Metropolitan UGB in arriving at an allocation of housing types.**

**Finding:**

The City considered other housing types. Manufactured housing is allowed in the RL zoning district. The proposed amendments are consistent with these requirements.

**660-007-0035**

**Minimum Residential Density Allocation for New Construction**

**The following standards shall apply to those jurisdictions which provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing:**

**[...]**

**(2) Clackamas and Washington Counties, and the cities of Forest Grove, Gladstone, Milwaukie, Oregon City, Troutdale, Tualatin, West Linn and Wilsonville must provide for an overall density of eight or more dwelling units per net buildable acre.**

[...]

**Finding:**

As shown below in Table 1, the overall residential density of Tualatin is estimated to be 8.5 dwelling units per net buildable acre, including the Basalt Creek area (Exhibit 2, Page 30, Table 3: Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction). This exceeds the minimum required density of eight or more dwelling units per net buildable acre. The proposed amendments are consistent with these requirements.

<b>Table 1 - Tualatin Buildable Land Inventory</b>						
	<b>RL</b>	<b>RML</b>	<b>RMH</b>	<b>RH</b>	<b>RH/HR</b>	<b>Total</b>
Buildable Acres	1195.23	188.33	118.04	78.87	0.6	1581.07
Basalt Creek Area Buildable Acres	24.83	59.83	-	3.6	-	88.26
Total Buildable Acres						
<i>Maximum Density Allowed</i>	<i>6.4</i>	<i>10</i>	<i>15</i>	<i>25</i>	<i>30</i>	
Total Dwelling Units Allowed	7808.38	2481.60	1770.60	2061.75	18	14140.33
<b><i>Dwelling Units / Acre</i></b>						<b>8.5</b>

**660-007-0037**

**Alternate Minimum Residential Density Allocation for New Construction**

The density standards in OAR 660-007-0035 shall not apply to a jurisdiction which justifies an alternative new construction mix under the provisions of OAR 660-007-0030. The following standards shall apply to these jurisdictions:

- (1) The jurisdiction must provide for the average density of detached single family housing to be equal to or greater than the density of detached single family housing provided for in the plan at the time of original LCDC acknowledgment.
- (2) The jurisdiction must provide for the average density of multiple family housing to be equal to or greater than the density of multiple family housing provided for in the plan at the time of original LCDC acknowledgment.
- (3) A jurisdiction which justifies an alternative new construction mix must also evaluate whether the factors in OAR 660-007-0030 support increases in the density of either detached single family or multiple family housing or both. If the evaluation supports increases in density, then necessary amendments to residential plan and zone designations must be made.

**Finding:**

The proposed Comprehensive Plan amendments accommodate the density standards in OAR 660-007-0035. The proposed amendments are consistent with these requirements.

## **660-007-0045**

### **Computation of Buildable Lands**

- (1) The local buildable lands inventory must document the amount of buildable land in each residential plan designation.**
  - (2) The Buildable Land Inventory (BLI): The mix and density standards of OAR 660-007-0030, 660-007-0035 and 660-007-0037 apply to land in a buildable land inventory required by OAR 660-007-0010, as modified herein. Except as provided below, the buildable land inventory at each jurisdiction's choice shall either be based on land in a residential plan/zone designation within the jurisdiction at the time of periodic review or based on the jurisdiction BLI at the time of acknowledgment as updated. Each jurisdiction must include in its computations all plan and/or zone changes involving residential land which that jurisdiction made since acknowledgment. A jurisdiction need not include plan and/or zone changes made by another jurisdiction before annexation to a city. The adjustment of the BLI at the time of acknowledgment shall:
    - (a) Include changes in zoning ordinances or zoning designations on residential planned land if allowed densities are changed;**
    - (b) Include changes in planning or zoning designations either to or from residential use. A city shall include changes to annexed or incorporated land if the city changed type or density or the plan/zone designation after annexation or incorporation;**
    - (c) The county and one or more cities affected by annexations or incorporations may consolidate buildable land inventories. A single calculation of mix and density may be prepared. Jurisdictions which consolidate their buildable lands inventories shall conduct their periodic review simultaneously;**
    - (d) A new density standard shall be calculated when annexation, incorporation or consolidation results in mixing two or more density standards (OAR 660-007-0035). The calculation shall be made as follows:
      - (A)(i)  $BLI \text{ Acres} \times 6 \text{ Units/Acre} = \text{Num. of Units}$ ;**
      - (ii)  $BLI \text{ Acres} \times 8 \text{ Units/Acre} = \text{Num. of Units}$ ;**
      - (iii)  $BLI \text{ Acres} \times 10 \text{ Units/Acre} = \text{Num. of Units}$ ;**
      - (iv)  $Total \text{ Acres (TA)} - Total \text{ Units (TU)}$ .******
  - (B) Total units divided by Total Acres = New Density Standard;**
  - (C) Example:
    - (i) Cities A and B have 100 acres and a 6-unit-per-acre standard:  $(100 \times 6 = 600 \text{ units})$ ; City B has 300 acres and a 10-unit-per-acre standard:  $(300 \times 10 = 3000 \text{ units})$ ; County has 200 acres and an 8-unit-per-acre standard:  $(200 \times 08 = 1600 \text{ units})$ ; Total acres = 600 — Total Units = 5200.**
    - (ii)  $5200 \text{ units divided by } 600 \text{ acres} = 8.66 \text{ units per acre standard}$ .****
- (3) Mix and Density Calculation: The housing units allowed by the plan/zone designations at periodic review, except as modified by section (2) of this rule, shall be used to calculate the mix and density. The number of units allowed by the plan/zone designations at the time of development shall be used for developed residential land.**

**Finding:**

The City has recently begun the process of updating its buildable lands inventory for the entire City. For the Basalt Creek area, buildable land has been identified consistent with the requirements of Metro Title 11. The city's buildable lands methodology and definitions were coordinated with those developed during the Basalt Creek Concept Plan, so that the resultant calculations and net density conclusions would be substantially consistent. The proposed amendments are consistent with these requirements.

**660-007-0050**

**Regional Coordination**

**(1) At each periodic review of the Metro UGB, Metro shall review the findings for the UGB. They shall determine whether the buildable land within the UGB satisfies housing needs by type and density for the region's long-range population and housing projections.**

**(2) Metro shall ensure that needed housing is provided for on a regional basis through coordinated comprehensive plans.**

**Finding:**

These criteria define Metro responsibilities. The proposed amendments are consistent with these requirements, implement Metro Ordinance No. 14-1040B, and consistent with Metro code.

**OAR Chapter 660, Division 9 (Economic Development)**

**660-009-0010**

**Application**

**(1) This division applies to comprehensive plans for areas within urban growth boundaries. This division does not require or restrict planning for industrial and other employment uses outside urban growth boundaries. Cities and counties subject to this division must adopt plan and ordinance amendments necessary to comply with this division.**

**(2) Comprehensive plans and land use regulations must be reviewed and amended as necessary to comply with this division as amended at the time of each periodic review of the plan pursuant to ORS 197.712(3). Jurisdictions that have received a periodic review notice from the Department (pursuant to OAR 660-025-0050) prior to the effective date of amendments to this division must comply with such amendments at their next periodic review unless otherwise directed by the Commission.**

**(3) Cities and counties may rely on their existing plans to meet the requirements of this division if they conclude:**

**(a) There are not significant changes in economic development opportunities (e.g., a need for sites not presently provided for in the plan) based on a review of new information about national, state, regional, county and local trends; and**



**(b) That existing inventories, policies, and implementing measures meet the requirements in OAR 660-009-0015 to 660-009-0030.**

**Finding:**

The proposed amendments are applicable to an area within an urban growth boundary. The proposed amendments do not identify significant changes in economic development opportunities, and meet the requirements of OAR 660-009-0015 to -0030 as per the below findings. The proposed amendments are consistent with these requirements.

**(4) For a post-acknowledgement plan amendment under OAR chapter 660, division 18, that changes the plan designation of land in excess of two acres within an existing urban growth boundary from an industrial use designation to a non-industrial use designation, or another employment use designation to any other use designation, a city or county must address all applicable planning requirements, and:**

**(a) Demonstrate that the proposed amendment is consistent with its most recent economic opportunities analysis and the parts of its acknowledged comprehensive plan which address the requirements of this division; or**

**(b) Amend its comprehensive plan to incorporate the proposed amendment, consistent with the requirements of this division; or**

**(c) Adopt a combination of the above, consistent with the requirements of this division.**

**(5) The effort necessary to comply with OAR 660-009-0015 through 660-009-0030 will vary depending upon the size of the jurisdiction, the detail of previous economic development planning efforts, and the extent of new information on national, state, regional, county, and local economic trends. A jurisdiction's planning effort is adequate if it uses the best available or readily collectable information to respond to the requirements of this division.**

**(6) The amendments to this division are effective January 1, 2007. A city or county may voluntarily follow adopted amendments to this division prior to the effective date of the adopted amendments.**

**Finding:**

The provisions of this rule that relate to a change to a Comprehensive Plan designation of land in excess of two acres (subsection "4", above) do not relate to the subject request due to the fact that the proposed changes are from Washington County FD-20 zoning district(s) to City of Tualatin zoning districts. The proposed amendments are consistent with these requirements.

**660-009-0015**

**Economic Opportunities Analysis**

**Cities and counties must review and, as necessary, amend their comprehensive plans to provide economic opportunities analyses containing the information described in sections (1) to (4) of this rule. This analysis will compare the demand for land for industrial and other employment uses to the existing supply of such land.**

**(1) Review of National, State, Regional, County and Local Trends.** The economic opportunities analysis must identify the major categories of industrial or other employment uses that could reasonably be expected to locate or expand in the planning area based on information about national, state, regional, county or local trends. This review of trends is the principal basis for estimating future industrial and other employment uses as described in section (4) of this rule. A use or category of use could reasonably be expected to expand or locate in the planning area if the area possesses the appropriate locational factors for the use or category of use. Cities and counties are strongly encouraged to analyze trends and establish employment projections in a geographic area larger than the planning area and to determine the percentage of employment growth reasonably expected to be captured for the planning area based on the assessment of community economic development potential pursuant to section (4) of this rule.

**(2) Identification of Required Site Types.** The economic opportunities analysis must identify the number of sites by type reasonably expected to be needed to accommodate the expected employment growth based on the site characteristics typical of expected uses. Cities and counties are encouraged to examine existing firms in the planning area to identify the types of sites that may be needed for expansion. Industrial or other employment uses with compatible site characteristics may be grouped together into common site categories.

**(3) Inventory of Industrial and Other Employment Lands.** Comprehensive plans for all areas within urban growth boundaries must include an inventory of vacant and developed lands within the planning area designated for industrial or other employment use.

**(a)** For sites inventoried under this section, plans must provide the following information:

**(A)** The description, including site characteristics, of vacant or developed sites within each plan or zoning district;

**(B)** A description of any development constraints or infrastructure needs that affect the buildable area of sites in the inventory; and

**(C)** For cities and counties within a Metropolitan Planning Organization, the inventory must also include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.

**(b)** When comparing current land supply to the projected demand, cities and counties may inventory contiguous lots or parcels together that are within a discrete plan or zoning district.

**(c)** Cities and counties that adopt objectives or policies providing for prime industrial land pursuant to OAR 660-009-0020(6) and 660-009-0025(8) must identify and inventory any vacant or developed prime industrial land according to section (3)(a) of this rule.

**(4) Assessment of Community Economic Development Potential.** The economic opportunities analysis must estimate the types and amounts of industrial and other employment uses likely to occur in the planning area. The estimate must be based on information generated in response to sections (1) to (3) of this rule and must consider

**the planning area's economic advantages and disadvantages. Relevant economic advantages and disadvantages to be considered may include but are not limited to:**

- (a) Location, size and buying power of markets;**
  - (b) Availability of transportation facilities for access and freight mobility;**
  - (c) Public facilities and public services;**
  - (d) Labor market factors;**
  - (e) Access to suppliers and utilities;**
  - (f) Necessary support services;**
  - (g) Limits on development due to federal and state environmental protection laws; and**
  - (h) Educational and technical training programs.**
- (5) Cities and counties are strongly encouraged to assess community economic development potential through a visioning or some other public input based process in conjunction with state agencies. Cities and counties are strongly encouraged to use the assessment of community economic development potential to form the community economic development objectives pursuant to OAR 660-009-0020(1)(a).**

**Finding:**

The proposed Comprehensive Plan amendments involve the application of the Manufacturing Park (MP) zoning district, consistent with the Basalt Creek Concept Plan, which was inclusive of extensive citizen involvement and coordination with DLCDD, ODOT, and Metro. The planning efforts and analysis that went into the Basalt Creek Concept Plan are based on the Metro 2040 Growth Concept Plan, and together are inclusive of the provisions of this administrative rule. The location and type of employment related designation have been planned in response to economic opportunities as identified by the City from a local perspective and as identified as the included an existing conditions report, technical analysis and market analysis as part of the Basalt Creek Concept Plan Technical Appendixes (Exhibit 3). In addition, the proposed amendments include a TSP Update by the City, which covers transportation planning for the greater subject area, and the City's water and sewer plans (Exhibit 11, Maps 12-1 and 13-1) detail the provision or planned provision of necessary sanitary/storm sewer and domestic water infrastructure to service future development. The proposed amendments are consistent with these requirements.

**660-009-0020**

**Industrial and Other Employment Development Policies**

**(1) Comprehensive plans subject to this division must include policies stating the economic development objectives for the planning area. These policies must be based on the community economic opportunities analysis prepared pursuant to OAR 660-009-0015 and must provide the following:**

- (a) Community Economic Development Objectives. The plan must state the overall objectives for economic development in the planning area and identify categories or particular types of industrial and other employment uses desired by the community. Policy objectives may identify the level of short-term supply of land the planning area**

**needs. Cities and counties are strongly encouraged to select a competitive short-term supply of land as a policy objective.**

**(b) Commitment to Provide a Competitive Short-Term Supply. Cities and counties within a Metropolitan Planning Organization must adopt a policy stating that a competitive short-term supply of land as a community economic development objective for the industrial and other employment uses selected through the economic opportunities analysis pursuant to OAR 660-009-0015.**

**(c) Commitment to Provide Adequate Sites and Facilities. The plan must include policies committing the city or county to designate an adequate number of sites of suitable sizes, types and locations. The plan must also include policies, through public facilities planning and transportation system planning, to provide necessary public facilities and transportation facilities for the planning area.**

**(2) Plans for cities and counties within a Metropolitan Planning Organization or that adopt policies relating to the short-term supply of land, must include detailed strategies for preparing the total land supply for development and for replacing the short-term supply of land as it is developed. These policies must describe dates, events or both, that trigger local review of the short-term supply of land.**

**(3) Plans may include policies to maintain existing categories or levels of industrial and other employment uses including maintaining downtowns or central business districts.**

**(4) Plan policies may emphasize the expansion of and increased productivity from existing industries and firms as a means to facilitate local economic development.**

**(5) Cities and counties are strongly encouraged to adopt plan policies that include brownfield redevelopment strategies for retaining land in industrial use and for qualifying them as part of the local short-term supply of land.**

**(6) Cities and counties are strongly encouraged to adopt plan policies pertaining to prime industrial land pursuant to OAR 660-009-0025(8).**

**(7) Cities and counties are strongly encouraged to adopt plan policies that include additional approaches to implement this division including, but not limited to:**

- (a) Tax incentives and disincentives;**
- (b) Land use controls and ordinances;**
- (c) Preferential tax assessments;**
- (d) Capital improvement programming;**
- (e) Property acquisition techniques;**
- (f) Public/private partnerships; and**
- (g) Intergovernmental agreements.**

**Finding:**

Section 7.030 sets forth the include policies stating the economic development objectives for areas of the city with a Manufacturing Planning District designation applied. Section 7.040(1) sets forth the objectives identifies categories or particular types of industrial and other employment uses desired by the community specific to the Manufacturing Park (MP) zoning designation which would be applied with the Basalt Creek Planning Area. These uses and objectives are further set forth in Chapter 62 (Manufacturing Park Zone (MP)). The proposed Comprehensive Plan Map/Zoning Map amendment will add approximately 92 net buildable

acres of employment and industrial lands, which demonstrates a commitment to provide a competitive short-term supply of employment land. The planning efforts and analysis that went into the Basalt Creek Concept Plan are based on the Metro 2040 Growth Concept Plan, and together, when combined with the City's previously acknowledged Comprehensive Plan, are inclusive of the provisions of this administrative rule. The proposed amendments are consistent with these requirements.

#### **660-009-0025**

#### **Designation of Lands for Industrial and Other Employment Uses**

**Cities and counties must adopt measures adequate to implement policies adopted pursuant to OAR 660-009-0020. Appropriate implementing measures include amendments to plan and zone map designations, land use regulations, public facility plans, and transportation system plans.**

**(1) Identification of Needed Sites.** The plan must identify the approximate number, acreage and site characteristics of sites needed to accommodate industrial and other employment uses to implement plan policies. Plans do not need to provide a different type of site for each industrial or other employment use. Compatible uses with similar site characteristics may be combined into broad site categories. Several broad site categories will provide for industrial and other employment uses likely to occur in most planning areas. Cities and counties may also designate mixed-use zones to meet multiple needs in a given location.

#### **Finding:**

The Metro analysis associated with Ord. No. 14-1040B looked at the economic needs of the entire Metro area with respect to land that should be added to the urban growth boundary (UGB). The conclusion of the analyses was to add land for industrial purposes. At the local level, the proposed Comprehensive Plan Map/Zoning Map amendment will add approximately 92 net buildable acres of employment and industrial lands. Chapter 62 (Manufacturing Park Zone (MP)) specifically limits the type of industrial uses as well as the types and scale of non-industrial uses within the Basalt Creek Planning Area. The Community Plan Map (Exhibit 11, Map 9-1) shows the size and location of each intended parcel within the planning area. The proposed amendments are consistent with this requirement.

**(2) Total Land Supply.** Plans must designate serviceable land suitable to meet the site needs identified in section (1) of this rule. Except as provided for in section (5) of this rule, the total acreage of land designated must at least equal the total projected land needs for each industrial or other employment use category identified in the plan during the 20-year planning period.

**(3) Short-Term Supply of Land.** Plans for cities and counties within a Metropolitan Planning Organization or cities and counties that adopt policies relating to the short-term supply of land must designate suitable land to respond to economic development opportunities as they arise. Cities and counties may maintain the short-term supply of land according to the strategies adopted pursuant to OAR 660-009-0020(2).

- (a) Except as provided for in subsections (b) and (c), cities and counties subject to this section must provide at least 25 percent of the total land supply within the urban growth boundary designated for industrial and other employment uses as short-term supply.**
- (b) Affected cities and counties that are unable to achieve the target in subsection (a) above may set an alternative target based on their economic opportunities analysis.**
- (c) A planning area with 10 percent or more of the total land supply enrolled in Oregon's industrial site certification program pursuant to ORS 284.565 satisfies the requirements of this section.**

**Finding:**

The proposed amendments would apply the City's Comprehensive Plan and Development Code to the Basalt Creek Planning Area. This area represents a new land supply to the City, having been previously concept planned and added to the UGB. Staff notes that the City has begun an economic opportunities analysis (EOA). However, in the absence of a final EOA upon which to base a discussion of compliance of the Basalt Creek Planning with the requirements of Goal 9, the City has relied on analyses and findings prepared by Metro associated with Ordinance No 14-1040B (Exhibit 4) ; discussion of TDC Chapter 4 (Community Growth); and economic analyses prepared as part of the Basalt Creek Concept Plan (Exhibit 3). Therefore, it is premature to determine the total and short-term land supply needs as required by this and subsequent sections of the rule.

- (4) If cities and counties are required to prepare a public facility plan or transportation system plan by OAR chapter 660, division 011 or division 012, the city or county must complete subsections (a) to (c) of this section at the time of periodic review. Requirements of this rule apply only to city and county decisions made at the time of periodic review. Subsequent implementation of or amendments to the comprehensive plan or the public facility plan that change the supply of serviceable land are not subject to the requirements of this section. Cities and counties must:**
- (a) Identify serviceable industrial and other employment sites. The affected city or county in consultation with the local service provider, if applicable, must make decisions about whether a site is serviceable. Cities and counties are encouraged to develop specific criteria for deciding whether or not a site is serviceable. Cities and counties are strongly encouraged to also consider whether or not extension of facilities is reasonably likely to occur considering the size and type of uses likely to occur and the cost or distance of facility extension;**
- (b) Estimate the amount of serviceable industrial and other employment land likely to be needed during the planning period for the public facilities plan. Appropriate techniques for estimating land needs include but are not limited to the following:**
- (A) Projections or forecasts based on development trends in the area over previous years; and**
- (B) Deriving a proportionate share of the anticipated 20-year need specified in the comprehensive plan.**

**(c) Review and, if necessary, amend the comprehensive plan and the public facilities plan to maintain a short-term supply of land. Amendments to implement this requirement include but are not limited to the following:**

**(A) Changes to the public facilities plan to add or reschedule projects to make more land serviceable;**

**(B) Amendments to the comprehensive plan that redesignate additional serviceable land for industrial or other employment use; and**

**(C) Reconsideration of the planning area's economic development objectives and amendment of plan objectives and policies based on public facility limitations.**

**(d) If a city or county is unable to meet the requirements of this section, it must identify the specific steps needed to provide expanded public facilities at the earliest possible time.**

**[...]**

**Finding:**

The City is not currently in periodic review. These requirements are inapplicable to the proposed amendments.

**660-009-0030**

**Multi-Jurisdiction Coordination**

**(1) Cities and counties are strongly encouraged to coordinate when implementing OAR 660-009-0015 to 660-009-0025.**

**(2) Jurisdictions that coordinate under this rule may:**

**(a) Conduct a single coordinated economic opportunities analysis; and**

**(b) Designate lands among the coordinating jurisdictions in a mutually agreed proportion.**

**Finding:**

The Basalt Creek Concept Plan and the resulting zoning designations involved a large degree of coordination between the cities of Tualatin and Wilsonville. The proposed Comprehensive Plan amendments are consistent with the Basalt Creek Concept Plan. The proposed amendments are consistent with these requirements.

**OAR Chapter 660, Division 12 (Transportation Planning)**

**660-012-0010**

**Transportation Planning**

**(1) As described in this division, transportation planning shall be divided into two phases: transportation system planning and transportation project development.**

**Transportation system planning establishes land use controls and a network of facilities and services to meet overall transportation needs. Transportation project development implements the TSP by determining the precise location, alignment, and preliminary design of improvements included in the TSP.**

**(2) It is not the purpose of this division to cause duplication of or to supplant existing applicable transportation plans and programs. Where all or part of an acknowledged comprehensive plan, TSP either of the local government or appropriate special district, capital improvement program, regional functional plan, or similar plan or combination of plans meets all or some of the requirements of this division, those plans or programs may be incorporated by reference into the TSP required by this division. Only those referenced portions of such documents shall be considered to be a part of the TSP and shall be subject to the administrative procedures of this division and ORS Chapter 197.**

**(3) It is not the purpose of this division to limit adoption or enforcement of measures to provide convenient bicycle and pedestrian circulation or convenient access to transit that are otherwise consistent with the requirements of this division.**

**Finding:**

The proposed Plan Text Amendment would update the Transportation System Plan (TSP) consistent with all applicable provisions of Division 12. The previously adopted TSP is consistent with 660-012-0010. As provided under this subsection, project development will be addressed separately at the time of a particular development application, consistent with TDC Chapters 32 and 33, and other relevant chapters depending on the application. The proposed amendments are consistent with these requirements.

**660-012-0015**

**Preparation and Coordination of Transportation System Plans**

**(1) ODOT shall prepare, adopt and amend a state TSP in accordance with ORS 184.618, its program for state agency coordination certified under ORS 197.180, and OAR 660-012-0030, 660-012-0035, 660-012-0050, 660-012-0065 and 660-012-0070. The state TSP shall identify a system of transportation facilities and services adequate to meet identified state transportation needs:**

**(a) The state TSP shall include the state transportation policy plan, modal systems plans and transportation facility plans as set forth in OAR chapter 731, division 15;**

**(b) State transportation project plans shall be compatible with acknowledged comprehensive plans as provided for in OAR chapter 731, division 15. Disagreements between ODOT and affected local governments shall be resolved in the manner established in that division.**

**(2) MPOs and counties shall prepare and amend regional TSPs in compliance with this division. MPOs shall prepare regional TSPs for facilities of regional significance within their jurisdiction. Counties shall prepare regional TSPs for all other areas and facilities:**

**(a) Regional TSPs shall establish a system of transportation facilities and services adequate to meet identified regional transportation needs and shall be consistent with adopted elements of the state TSP;**

**(b) Where elements of the state TSP have not been adopted, the MPO or county shall coordinate the preparation of the regional TSP with ODOT to assure that state transportation needs are accommodated;**



- (c) Regional TSPs prepared by MPOs other than metropolitan service districts shall be adopted by the counties and cities within the jurisdiction of the MPO. Metropolitan service districts shall adopt a regional TSP for areas within their jurisdiction;**
- (d) Regional TSPs prepared by counties shall be adopted by the county.**
- (3) Cities and counties shall prepare, adopt and amend local TSPs for lands within their planning jurisdiction in compliance with this division:**
- (a) Local TSPs shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with regional TSPs and adopted elements of the state TSP;**
- (b) Where the regional TSP or elements of the state TSP have not been adopted, the city or county shall coordinate the preparation of the local TSP with the regional transportation planning body and ODOT to assure that regional and state transportation needs are accommodated.**
- (4) Cities and counties shall adopt regional and local TSPs required by this division as part of their comprehensive plans. Transportation financing programs required by OAR 660-012-0040 may be adopted as a supporting document to the comprehensive plan.**
- (5) The preparation of TSPs shall be coordinated with affected state and federal agencies, local governments, special districts, and private providers of transportation services.**
- (6) Mass transit, transportation, airport and port districts shall participate in the development of TSPs for those transportation facilities and services they provide. These districts shall prepare and adopt plans for transportation facilities and services they provide. Such plans shall be consistent with and adequate to carry out relevant portions of applicable regional and local TSPs. Cooperative agreements executed under ORS 197.185(2) shall include the requirement that mass transit, transportation, airport and port districts adopt a plan consistent with the requirements of this section.**
- (7) Where conflicts are identified between proposed regional TSPs and acknowledged comprehensive plans, representatives of affected local governments shall meet to discuss means to resolve the conflicts. These may include:**
- (a) Changing the draft TSP to eliminate the conflicts; or**
- (b) Amending acknowledged comprehensive plan provision to eliminate the conflicts;**
- (c) For MPOs which are not metropolitan service districts, if conflicts persist between regional TSPs and acknowledged comprehensive plans after efforts to achieve compatibility, an affected local government may petition the Commission to resolve the dispute.**

**Finding:**

The proposed amendments comply with all of the applicable requirements for preparation, coordination and adoption of TSPs required under this section of the TPR.

- The proposed amendments are based the analysis found in the Basalt Creek Transportation Refinement Plan (Exhibit 3, Page 318) and supplemental analysis thereto (Exhibit 5).
- The preparation of the proposed update to the TSP was coordinated with ODOT, Metro, Washington County, and the City of Wilsonville.

- The TSP and amendments are incorporated as part of City's Comprehensive Plan (TDC Chapter 11).
- As described above, the preparation of proposed amendments followed the process in place for the development of the TSP and was closely coordinated with affected government agencies and service providers.
- OAR 660-012-0015 also requires that regional TSPs, such as Metro's RTP, be coordinated with state transportation plans and policies, such as those found in the Oregon Highway Plan (OHP). Both ODOT and Metro assisted in the development of the plans incorporated into the TSP. The proposed amendments are consistent with these requirements.

### **660-012-0016**

#### **Coordination with Federally-Required Regional Transportation Plans in Metropolitan Areas**

**(1) In metropolitan areas, local governments shall prepare, adopt, amend and update transportation system plans required by this division in coordination with regional transportation plans (RTPs) prepared by MPOs required by federal law. Insofar as possible, regional transportation system plans for metropolitan areas shall be accomplished through a single coordinated process that complies with the applicable requirements of federal law and this division. Nothing in this rule is intended to make adoption or amendment of a regional transportation plan by a metropolitan planning organization a land use decision under Oregon law.**

**(2) When an MPO adopts or amends a regional transportation plan that relates to compliance with this division, the affected local governments shall review the adopted plan or amendment and either:**

**(a) Make a finding that the proposed regional transportation plan amendment or update is consistent with the applicable provisions of adopted regional and local transportation system plan and comprehensive plan and compliant with applicable provisions of this division; or**

**(b) Adopt amendments to the relevant regional or local transportation system plan that make the regional transportation plan and the applicable transportation system plans consistent with one another and compliant with applicable provisions of this division. Necessary plan amendments or updates shall be prepared and adopted in coordination with the federally-required plan update or amendment. Such amendments shall be initiated no later than 30 days from the adoption of the RTP amendment or update and shall be adopted no later than one year from the adoption of the RTP amendment or update or according to a work plan approved by the commission. A plan amendment is "initiated" for purposes of this subsection where the affected local government files a post-acknowledgement plan amendment notice with the department as provided in OAR chapter 660, division 18.**

**(c) In the Portland Metropolitan area, compliance with this section shall be accomplished by Metro through adoption of required findings or an amendment to the regional transportation system plan.**

**(3) Adoption or amendment of a regional transportation plan relates to compliance with this division for purposes of section (2) if it does one or more of the following:**

**(a) Changes plan policies;**

**(b) Adds or deletes a project from the list of planned transportation facilities, services or improvements or from the financially-constrained project list required by federal law;**

**(c) Modifies the general location of a planned transportation facility or improvement;**

**(d) Changes the functional classification of a transportation facility; or**

**(e) Changes the planning period or adopts or modifies the population or employment forecast or allocation upon which the plan is based.**

**(4) The following amendments to a regional transportation plan do not relate to compliance with this division for purposes of section (2):**

**(a) Adoption of an air quality conformity determination;**

**(b) Changes to a federal revenue projection;**

**(c) Changes to estimated cost of a planned transportation project; or**

**(d) Deletion of a project from the list of planned projects where the project has been constructed or completed.**

**(5) Adoption or amendment of a regional transportation plan that extends the planning period beyond that specified in the applicable acknowledged comprehensive plan or regional transportation system plan is consistent with the requirements of this rule where the following conditions are met:**

**(a) The future year population forecast is consistent with those issued or adopted under ORS 195.033 or 195.036;**

**(b) Land needed to accommodate future urban density population and employment and other urban uses is identified in a manner consistent with Goal 14 and relevant rules;**

**(c) Urban density population and employment are allocated to designated centers and other identified areas to provide for implementation of the metropolitan area's integrated land use and transportation plan or strategy; and**

**(d) Urban density population and employment or other urban uses are allocated to areas outside of an acknowledged urban growth boundary only where:**

**(A) The allocation is done in conjunction with consideration by local governments of possible urban growth boundary amendments consistent with Goal 14 and relevant rules, and**

**(B) The RTP clearly identifies the proposed UGB amendments and any related projects as illustrative and subject to further review and approval by the affected local governments.**

**Finding:**

As discussed below in Section E (Metro Code), the findings addressing Chapter 3.08, Regional Transportation Functional Plan (RTFP) indicate that the proposed amendments are consistent with the RTFP. The proposed amendments are consistent with these requirements.

**660-012-0020**

**Elements of Transportation System Plans**

**(1) A TSP shall establish a coordinated network of transportation facilities adequate to serve state, regional and local transportation needs.**

**(2) The TSP shall include the following elements:**

**(a) A determination of transportation needs as provided in OAR 660-012-0030;**

**(b) A road plan for a system of arterials and collectors and standards for the layout of local streets and other important non-collector street connections. Functional classifications of roads in regional and local TSP's shall be consistent with functional classifications of roads in state and regional TSP's and shall provide for continuity between adjacent jurisdictions. The standards for the layout of local streets shall provide for safe and convenient bike and pedestrian circulation necessary to carry out OAR 660-012-0045(3)(b). New connections to arterials and state highways shall be consistent with designated access management categories. The intent of this requirement is to provide guidance on the spacing of future extensions and connections along existing and future streets which are needed to provide reasonably direct routes for bicycle and pedestrian travel. The standards for the layout of local streets shall address:**

**(A) Extensions of existing streets;**

**(B) Connections to existing or planned streets, including arterials and collectors; and**

**(C) Connections to neighborhood destinations.**

**(c) A public transportation plan which:**

**(A) Describes public transportation services for the transportation disadvantaged and identifies service inadequacies;**

**(B) Describes intercity bus and passenger rail service and identifies the location of terminals;**

**(C) For areas within an urban growth boundary which have public transit service, identifies existing and planned transit trunk routes, exclusive transit ways, terminals and major transfer stations, major transit stops, and park-and-ride stations. Designation of stop or station locations may allow for minor adjustments in the location of stops to provide for efficient transit or traffic operation or to provide convenient pedestrian access to adjacent or nearby uses.**

**(D) For areas within an urban area containing a population greater than 25,000 persons, not currently served by transit, evaluates the feasibility of developing a public transit system at buildout. Where a transit system is determined to be feasible, the plan shall meet the requirements of paragraph (2)(c)(C) of this rule.**

**(d) A bicycle and pedestrian plan for a network of bicycle and pedestrian routes throughout the planning area. The network and list of facility improvements shall be consistent with the requirements of ORS 366.514;**

**(e) An air, rail, water and pipeline transportation plan which identifies where public use airports, mainline and branchline railroads and railroad facilities, port facilities, and major regional pipelines and terminals are located or planned within the planning area. For airports, the planning area shall include all areas within airport imaginary surfaces and other areas covered by state or federal regulations;**

**(f) For areas within an urban area containing a population greater than 25,000 persons a plan for transportation system management and demand management;**

**(g) A parking plan in MPO areas as provided in OAR 660-012-0045(5)(c);**

**(h) Policies and land use regulations for implementing the TSP as provided in OAR 660-012-0045;**

**(i) For areas within an urban growth boundary containing a population greater than 2500 persons, a transportation financing program as provided in OAR 660-012-0040.**

**(3) Each element identified in subsections (2)(b)–(d) of this rule shall contain:**

**(a) An inventory and general assessment of existing and committed transportation facilities and services by function, type, capacity and condition:**

**(A) The transportation capacity analysis shall include information on:**

**(i) The capacities of existing and committed facilities;**

**(ii) The degree to which those capacities have been reached or surpassed on existing facilities; and**

**(iii) The assumptions upon which these capacities are based.**

**(B) For state and regional facilities, the transportation capacity analysis shall be consistent with standards of facility performance considered acceptable by the affected state or regional transportation agency;**

**(C) The transportation facility condition analysis shall describe the general physical and operational condition of each transportation facility (e.g., very good, good, fair, poor, very poor).**

**(b) A system of planned transportation facilities, services and major improvements. The system shall include a description of the type or functional classification of planned facilities and services and their planned capacities and performance standards;**

**(c) A description of the location of planned facilities, services and major improvements, establishing the general corridor within which the facilities, services or improvements may be sited. This shall include a map showing the general location of proposed transportation improvements, a description of facility parameters such as minimum and maximum road right of way width and the number and size of lanes, and any other additional description that is appropriate;**

**(d) Identification of the provider of each transportation facility or service.**

**Finding:**

The proposed update to the previously-adopted TSP (Ordinance #1354-13 (File No. PTA-12-02)), together with the previously adopted and acknowledged comprehensive plan, includes all of the elements required by the TPR, and the proposed amendments are consistent with OAR-660-012-0020. The proposed amendments modify the TSP and Concept Plan, including updates to:

- Figure 1 Functional Classification (Functional Classification Plan), TSP;
- Figure 11-1: Functional Classification and Traffic Signal Plan;
- Figure 11-2: Metro Regional Street Design System;
- Figure 11-3: Local Street Plan;
- Figure 11-4: Bicycle and Pedestrian System;
- Figure 11-5: Transit Plan;
- Figure 11-6: Freight Routes;
- TDC Chapter 75, which implements access management restrictions of the TSP.

Further, the proposed amendments are consistent with the provisions described in 660-012-0020.

- The amendments to the TSP are consistent with Metro's Regional Transportation Plan (RTP).
- TDC Chapter 75 includes minimum block spacing standards consistent with the intent of -0020.
- The TSP amendments include maximum local street spacing standards.
- The TSP includes all the public transit services described in 660-012-0020(2)(c)(A)-(C).

The proposed amendments are consistent with these requirements.

### **660-012-0025**

#### **Complying with the Goals in Preparing Transportation System Plans; Refinement Plans**

**(1) Except as provided in section (3) of this rule, adoption of a TSP shall constitute the land use decision regarding the need for transportation facilities, services and major improvements and their function, mode, and general location.**

**(2) Findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies and land use regulations shall be developed in conjunction with the adoption of the TSP.**

**(3) A local government or MPO may defer decisions regarding function, general location and mode of a refinement plan if findings are adopted that:**

**(a) Identify the transportation need for which decisions regarding function, general location or mode are being deferred;**

**(b) Demonstrate why information required to make final determinations regarding function, general location, or mode cannot reasonably be made available within the time allowed for preparation of the TSP;**

**(c) Explain how deferral does not invalidate the assumptions upon which the TSP is based or preclude implementation of the remainder of the TSP;**

**(d) Describe the nature of the findings which will be needed to resolve issues deferred to a refinement plan; and**

**(e) Set a deadline for adoption of a refinement plan prior to initiation of the periodic review following adoption of the TSP.**

**(4) Where a Corridor Environmental Impact Statement (EIS) is prepared pursuant to the requirements of the National Environmental Policy Act of 1969, the development of the refinement plan shall be coordinated with the preparation of the Corridor EIS. The refinement plan shall be adopted prior to the issuance of the Final EIS.**

#### **Finding:**

The proposed update to the previously-adopted TSP (Ordinance #1354-13 (File No. PTA-12-02)), together with the previously adopted and acknowledged comprehensive plan, includes all of the elements required. The proposed amendments comply with the applicable provisions of Section 660-012-0025 of the TPR as demonstrated by the following facts:

- The proposed amendments update the need, mode, function, and general location for several transportation facilities, consistent with OAR 660-012-0025(1) (TSP Chapter 2, Sections 1 and 2).

- The findings contained herein satisfy the requirement of OAR 660-12-0025(2) and have been adopted in conjunction with proposed amendments.
- The proposed amendments do not include any refinement planning nor an Environmental Impact Statement; OAR 660-12-0025(3) – (4) therefore does not apply.

The proposed amendments are consistent with these requirements.

### **660-012-0030**

#### **Determination of Transportation Needs**

**(1) The TSP shall identify transportation needs relevant to the planning area and the scale of the transportation network being planned including:**

**(a) State, regional, and local transportation needs;**

**(b) Needs of the transportation disadvantaged;**

**(c) Needs for movement of goods and services to support industrial and commercial development planned for pursuant to OAR chapter 660, division 9 and Goal 9 (Economic Development).**

**(2) Counties or MPO's preparing regional TSP's shall rely on the analysis of state transportation needs in adopted elements of the state TSP. Local governments preparing local TSP's shall rely on the analyses of state and regional transportation needs in adopted elements of the state TSP and adopted regional TSP's.**

**(3) Within urban growth boundaries, the determination of local and regional transportation needs shall be based upon:**

**(a) Population and employment forecasts and distributions that are consistent with the acknowledged comprehensive plan, including those policies that implement Goal 14. Forecasts and distributions shall be for 20 years and, if desired, for longer periods; and**

**(b) Measures adopted pursuant to OAR 660-012-0045 to encourage reduced reliance on the automobile.**

**(4) In MPO areas, calculation of local and regional transportation needs also shall be based upon accomplishment of the requirement in OAR 660-012-0035(4) to reduce reliance on the automobile.**

#### **Finding:**

The proposed amendments identified transportation needs as required by OAR 660-012-0030. The Tualatin TSP (Exhibit 9) complies with the TPR by containing: a road plan for a network of arterial and collector roads (Chapter 2, Sections 1 and 2); a public transit plan (Chapter 2, Section 3); a bicycle and pedestrian plan (Chapter 2, Section 4); an air, rail, water, and pipeline plan (Chapter 2, Sections 6 and 7); a transportation financing plan (Chapter 3); and policies and ordinances for implementing the TSP ("Policy and Code Language" and TDC Chapter 75).

- The proposed amendments are based on a needs analysis from the adopted Basalt Creek Transportation Refinement plan. The proposed amendments make adjustments consistent with the OHP and Metro's RTP; and findings of compliance with the OHP and RTFP are included herein.
- The needs analyses included in Basalt Creek Transportation Refinement Plan (Exhibit 3, Page 318) was based upon population and employment forecasts developed by Metro with local government participation. These same regional forecasts have been

used to inform the RTP and to implement Metro's 2040 designations, which are part of the City's adopted and acknowledged Comprehensive Plan.

- Additional needs analysis were conducted as part of the consideration of the proposed amendments, this analysis included an assessment of the land use assumptions in Metro's RTP as well as an assessment of build out conditions beyond the RTP assumed land use.
- The proposed amendments are consistent with the requirements for vehicle miles traveled (VMT) reduction set forth in OAR 660-012-0035(4) and referenced by OAR 660-012-0030(4). Appropriate findings are provided herein under OAR 660-012-0035. The proposed amendments are based on the same analysis developed for Basalt Creek Refinement plan and therefore is consistent with OAR 660-012-0030.

The proposed amendments are consistent with these requirements.

### **660-012-0035**

#### **Evaluation and Selection of Transportation System Alternatives**

**(1) The TSP shall be based upon evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified transportation needs in a safe manner and at a reasonable cost with available technology. The following shall be evaluated as components of system alternatives:**

- (a) Improvements to existing facilities or services;**
- (b) New facilities and services, including different modes or combinations of modes that could reasonably meet identified transportation needs;**
- (c) Transportation system management measures;**
- (d) Demand management measures; and**
- (e) A no-build system alternative required by the National Environmental Policy Act of 1969 or other laws.**

**(2) Local governments in MPO areas of larger than 1,000,000 population shall, and other governments may also, evaluate alternative land use designations, densities, and design standards to meet local and regional transportation needs. Local governments preparing such a strategy shall consider:**

- (a) Increasing residential densities and establishing minimum residential densities within one quarter mile of transit lines, major regional employment areas, and major regional retail shopping areas;**
- (b) Increasing allowed densities in new commercial office and retail developments in designated community centers;**
- (c) Designating lands for neighborhood shopping centers within convenient walking and cycling distance of residential areas; and**
- (d) Designating land uses to provide a better balance between jobs and housing considering:**

- (A) The total number of jobs and total of number of housing units expected in the area or subarea;**
- (B) The availability of affordable housing in the area or subarea; and**
- (C) Provision of housing opportunities in close proximity to employment areas.**

**(3) The following standards shall be used to evaluate and select alternatives:**



- (a) The transportation system shall support urban and rural development by providing types and levels of transportation facilities and services appropriate to serve the land uses identified in the acknowledged comprehensive plan;**
- (b) The transportation system shall be consistent with state and federal standards for protection of air, land and water quality including the State Implementation Plan under the Federal Clean Air Act and the State Water Quality Management Plan;**
- (c) The transportation system shall minimize adverse economic, social, environmental and energy consequences;**
- (d) The transportation system shall minimize conflicts and facilitate connections between modes of transportation; and**
- (e) The transportation system shall avoid principal reliance on any one mode of transportation by increasing transportation choices to reduce principal reliance on the automobile. In MPO areas this shall be accomplished by selecting transportation alternatives which meet the requirements in section (4) of this rule.**
- (4) In MPO areas, regional and local TSPs shall be designed to achieve adopted standards for increasing transportation choices and reducing reliance on the automobile. Adopted standards are intended as means of measuring progress of metropolitan areas towards developing and implementing transportation systems and land use plans that increase transportation choices and reduce reliance on the automobile. It is anticipated that metropolitan areas will accomplish reduced reliance by changing land use patterns and transportation systems so that walking, cycling, and use of transit are highly convenient and so that, on balance, people need to and are likely to drive less than they do today.**
- (5) MPO areas shall adopt standards to demonstrate progress towards increasing transportation choices and reducing automobile reliance as provided for in this rule:**
  - (a) The commission shall approve standards by order upon demonstration by the metropolitan area that:**
    - (A) Achieving the standard will result in a reduction in reliance on automobiles;**
    - (B) Achieving the standard will accomplish a significant increase in the availability or convenience of alternative modes of transportation;**
    - (C) Achieving the standard is likely to result in a significant increase in the share of trips made by alternative modes, including walking, bicycling, ridesharing and transit;**
    - (D) VMT per capita is unlikely to increase by more than five percent; and**
    - (E) The standard is measurable and reasonably related to achieving the goal of increasing transportation choices and reducing reliance on the automobile as described in OAR 660-012-0000.**
  - (b) In reviewing proposed standards for compliance with subsection (a), the commission shall give credit to regional and local plans, programs, and actions implemented since 1990 that have already contributed to achieving the objectives specified in paragraphs (A)–(E) above;**
  - (c) If a plan using a standard, approved pursuant to this rule, is expected to result in an increase in VMT per capita, then the cities and counties in the metropolitan area shall prepare and adopt an integrated land use and transportation plan including the elements listed in paragraphs (A)–(E) below. Such a plan shall be prepared in**

coordination with the MPO and shall be adopted within three years of the approval of the standard.

(A) Changes to land use plan designations, densities, and design standards listed in subsections (2)(a)–(d);

(B) A transportation demand management plan that includes significant new transportation demand management measures;

(C) A public transit plan that includes a significant expansion in transit service;

(D) Policies to review and manage major roadway improvements to ensure that their effects are consistent with achieving the adopted strategy for reduced reliance on the automobile, including policies that provide for the following:

(i) An assessment of whether improvements would result in development or travel that is inconsistent with what is expected in the plan;

(ii) Consideration of alternative measures to meet transportation needs;

(iii) Adoption of measures to limit possible unintended effects on travel and land use patterns including access management, limitations on subsequent plan amendments, phasing of improvements, etc.; and

(iv) For purposes of this section a "major roadway expansion" includes new arterial roads or streets and highways, the addition of travel lanes, and construction of interchanges to a limited access highway

(E) Plan and ordinance provisions that meet all other applicable requirements of this division.

(d) Standards may include but are not limited to:

(A) Modal share of alternative modes, including walking, bicycling, and transit trips;

(B) Vehicle hours of travel per capita;

(C) Vehicle trips per capita;

(D) Measures of accessibility by alternative modes (i.e. walking, bicycling and transit);  
or

(E) The Oregon Benchmark for a reduction in peak hour commuting by single occupant vehicles.

(e) Metropolitan areas shall adopt TSP policies to evaluate progress towards achieving the standard or standards adopted and approved pursuant to this rule. Such evaluation shall occur at regular intervals corresponding with federally-required updates of the regional transportation plan. This shall include monitoring and reporting of VMT per capita.

(6) A metropolitan area may also accomplish compliance with requirements of subsection (3)(e), sections (4) and (5) by demonstrating to the commission that adopted plans and measures are likely to achieve a five percent reduction in VMT per capita over the 20-year planning period. The commission shall consider and act on metropolitan area requests under this section by order. A metropolitan area that receives approval under this section shall adopt interim benchmarks for VMT reduction and shall evaluate progress in achieving VMT reduction at each update of the regional transportation system plan.

(7) Regional and local TSPs shall include benchmarks to assure satisfactory progress towards meeting the approved standard or standards adopted pursuant to this rule at

**regular intervals over the planning period. MPOs and local governments shall evaluate progress in meeting benchmarks at each update of the regional transportation plan. Where benchmarks are not met, the relevant TSP shall be amended to include new or additional efforts adequate to meet the requirements of this rule.**

**(8) The commission shall, at regular intervals, evaluate the results of efforts to achieve the reduction in VMT and the effectiveness of approved plans and standards in achieving the objective of increasing transportation choices and reducing reliance on the automobile.**

**(9) Where existing and committed transportation facilities and services have adequate capacity to support the land uses in the acknowledged comprehensive plan, the local government shall not be required to evaluate alternatives as provided in this rule.**

**(10) Transportation uses or improvements listed in OAR 660-012-0065(3)(d) to (g) and (o) and located in an urban fringe may be included in a TSP only if the improvement project identified in the Transportation System Plan as described in section (12) of this rule, will not significantly reduce peak hour travel time for the route as determined pursuant to section (11) of this rule, or the jurisdiction determines that the following alternatives can not reasonably satisfy the purpose of the improvement project:**

**(a) Improvements to transportation facilities and services within the urban growth boundary;**

**(b) Transportation system management measures that do not significantly increase capacity; or**

**(c) Transportation demand management measures. The jurisdiction needs only to consider alternatives that are safe and effective, consistent with applicable standards and that can be implemented at a reasonable cost using available technology.**

**(11) An improvement project significantly reduces peak hour travel time when, based on recent data, the time to travel the route is reduced more than 15 percent during weekday peak hour conditions over the length of the route located within the urban fringe. For purposes of measuring travel time, a route shall be identified by the predominant traffic flows in the project area.**

**(12) A "transportation improvement project" described in section (10) of this rule:**

**(a) Is intended to solve all of the reasonably foreseeable transportation problems within a general geographic location, within the planning period; and**

**(b) Has utility as an independent transportation project.**

**Finding:**

The City has an acknowledged TSP consistent with the Transportation Planning Rule provisions of 660-012-0035. The proposed amendments make adjustments to the TSP in order to plan for the provision of a transportation system to serve the Basalt Creek urban growth boundary expansion area.

- The Basalt Creek Transportation Refinement Plan, adopted in 2012, identified a combination of improvements to existing facilities and construction of new facilities necessary to provide a system of multimodal infrastructure to serve the Basalt Creek urban growth boundary expansion area.

- The Basalt Creek Transportation Refinement Plan considered no-build and multimodal opportunities as well as transportation system management and demand management solutions. The Basalt Creek Transportation Refinement Plan identified solutions to minimize the adverse impacts of transportation improvements and conflicts between modes of transportation. The Basalt Creek Transportation Refinement Plan includes several trail and other multimodal facilities to facilitate connections between modes and reduce reliance on any one mode of transportation.
- The Metro regional government established the Basalt Creek urban growth boundary expansion area in 2004 in order to provide an appropriate balance of land uses within the Metro Urban Growth Boundary.
- The 2018 RTP included the Basalt Creek Area and associated transportation improvements. Therefore, the proposed amendments are consistent with the regional planning requirements of OAR 660-012-0035.
- The evaluation included consideration of the components set forth in OAR 660-012-0035 and therefore is consistent with the requirements of OAR 660-012-0035.

The proposed amendments are consistent with these requirements.

#### **660-012-0040**

##### **Transportation Financing Program**

**(1) For areas within an urban growth boundary containing a population greater than 2,500 persons, the TSP shall include a transportation financing program.**

**(2) A transportation financing program shall include the items listed in (a)–(d):**

**(a) A list of planned transportation facilities and major improvements;**

**(b) A general estimate of the timing for planned transportation facilities and major improvements;**

**(c) A determination of rough cost estimates for the transportation facilities and major improvements identified in the TSP; and**

**(d) In metropolitan areas, policies to guide selection of transportation facility and improvement projects for funding in the short-term to meet the standards and benchmarks established pursuant to 0035(4)–(6). Such policies shall consider, and shall include among the priorities, facilities and improvements that support mixed-use, pedestrian friendly development and increased use of alternative modes.**

**(3) The determination of rough cost estimates is intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms. In addition to including rough cost estimates for each transportation facility and major improvement, the transportation financing plan shall include a discussion of the facility provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each transportation facility and major improvement. These funding mechanisms may also be described in terms of general guidelines or local policies.**

**(4) Anticipated timing and financing provisions in the transportation financing program are not considered land use decisions as specified in ORS 197.712(2)(e) and, therefore, cannot be the basis of appeal under 197.610(1) and (2) or 197.835(4).**

**(5) The transportation financing program shall provide for phasing of major improvements to encourage infill and redevelopment of urban lands prior to facilities and improvements which would cause premature development of urbanizable lands or conversion of rural lands to urban uses.**

**Finding:**

Transportation infrastructure funding is reasonably assured and the proposed amendments fully implement all of the applicable provisions of OAR 660-012-0040 as detailed in the following findings of fact:

- The proposed amendments include a list of planned transportation facilities including the estimated timing and rough cost estimates, as documented in the adopted Basalt Creek Transportation Refinement Plan. The proposed amendments include a general estimate of the timing for planned transportation facilities and major improvements (Exhibit 9, Pages 26-36).
- The proposed amendments include policies to guide selection of transportation facility and improvement projects for funding in the short-term to meet the standards and benchmarks established pursuant to -0035(4)-(6). Said policies consider, and include among the priorities, facilities and improvements that support mixed-use, pedestrian friendly development and increased use of alternative modes (Exhibit 9, Page 26)
- The regional transportation facilities identified in the proposed amendments have been included in the 2018 financially constrained Regional Transportation Plan by Metro as required by OAR 660-012-0040(2).
- Therefore, the proposed amendments are considered to be financially constrained and consistent with the applicable provisions of OAR 660-012-0040.

The proposed amendments are consistent with these requirements.

**660-012-0045**

**Implementation of the Transportation System Plan**

**(1) Each local government shall amend its land use regulations to implement the TSP.**

**(a) The following transportation facilities, services and improvements need not be subject to land use regulations except as necessary to implement the TSP and, under ordinary circumstances do not have a significant impact on land use:**

**(A) Operation, maintenance, and repair of existing transportation facilities identified in the TSP, such as road, bicycle, pedestrian, port, airport and rail facilities, and major regional pipelines and terminals;**

**(B) Dedication of right-of-way, authorization of construction and the construction of facilities and improvements, where the improvements are consistent with clear and objective dimensional standards;**

**(C) Uses permitted outright under ORS 215.213(1)(j)–(m) and 215.283(1)(h)–(k), consistent with the provisions of OAR 660-012-0065; and**

**(D) Changes in the frequency of transit, rail and airport services.**

**(b) To the extent, if any, that a transportation facility, service or improvement concerns the application of a comprehensive plan provision or land use regulation, it may be allowed without further land use review if it is permitted outright or if it is subject to**

**standards that do not require interpretation or the exercise of factual, policy or legal judgment;**

**(c) In the event that a transportation facility, service or improvement is determined to have a significant impact on land use or to concern the application of a comprehensive plan or land use regulation and to be subject to standards that require interpretation or the exercise of factual, policy or legal judgment, the local government shall provide a review and approval process that is consistent with OAR 660-012-0050. To facilitate implementation of the TSP, each local government shall amend its land use regulations to provide for consolidated review of land use decisions required to permit a transportation project.**

**(2) Local governments shall adopt land use or subdivision ordinance regulations, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions. Such regulations shall include:**

**(a) Access control measures, for example, driveway and public road spacing, median control and signal spacing standards, which are consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities;**

**(b) Standards to protect future operation of roads, transitways and major transit corridors;**

**(c) Measures to protect public use airports by controlling land uses within airport noise corridors and imaginary surfaces, and by limiting physical hazards to air navigation;**

**(d) A process for coordinated review of future land use decisions affecting transportation facilities, corridors or sites;**

**(e) A process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities, corridors or sites;**

**(f) Regulations to provide notice to public agencies providing transportation facilities and services, MPOs, and ODOT of:**

**(A) Land use applications that require public hearings;**

**(B) Subdivision and partition applications;**

**(C) Other applications which affect private access to roads; and**

**(D) Other applications within airport noise corridors and imaginary surfaces which affect airport operations; and**

**(g) Regulations assuring that amendments to land use designations, densities, and design standards are consistent with the functions, capacities and performance standards of facilities identified in the TSP.**

**(3) Local governments shall adopt land use or subdivision regulations for urban areas and rural communities as set forth below. The purposes of this section are to provide for safe and convenient pedestrian, bicycle and vehicular circulation consistent with access management standards and the function of affected streets, to ensure that new development provides on-site streets and accessways that provide reasonably direct routes for pedestrian and bicycle travel in areas where pedestrian and bicycle travel is likely if connections are provided, and which avoids wherever possible levels of automobile traffic which might interfere with or discourage pedestrian or bicycle travel.**

**(a) Bicycle parking facilities as part of new multi-family residential developments of four units or more, new retail, office and institutional developments, and all transit transfer stations and park-and-ride lots;**

**(b) On-site facilities shall be provided which accommodate safe and convenient pedestrian and bicycle access from within new subdivisions, multi-family developments, planned developments, shopping centers, and commercial districts to adjacent residential areas and transit stops, and to neighborhood activity centers within one-half mile of the development. Single-family residential developments shall generally include streets and accessways. Pedestrian circulation through parking lots should generally be provided in the form of accessways.**

**(A) "Neighborhood activity centers" includes, but is not limited to, existing or planned schools, parks, shopping areas, transit stops or employment centers;**

**(B) Bikeways shall be required along arterials and major collectors. Sidewalks shall be required along arterials, collectors and most local streets in urban areas, except that sidewalks are not required along controlled access roadways, such as freeways;**

**(C) Cul-de-sacs and other dead-end streets may be used as part of a development plan, consistent with the purposes set forth in this section;**

**(D) Local governments shall establish their own standards or criteria for providing streets and accessways consistent with the purposes of this section. Such measures may include but are not limited to: standards for spacing of streets or accessways; and standards for excessive out-of-direction travel;**

**(E) Streets and accessways need not be required where one or more of the following conditions exist:**

**(i) Physical or topographic conditions make a street or accessway connection impracticable. Such conditions include but are not limited to freeways, railroads, steep slopes, wetlands or other bodies of water where a connection could not reasonably be provided;**

**(ii) Buildings or other existing development on adjacent lands physically preclude a connection now or in the future considering the potential for redevelopment; or**

**(iii) Where streets or accessways would violate provisions of leases, easements, covenants, restrictions or other agreements existing as of May 1, 1995, which preclude a required street or accessway connection.**

**(c) Where off-site road improvements are otherwise required as a condition of development approval, they shall include facilities accommodating convenient pedestrian and bicycle travel, including bicycle ways along arterials and major collectors;**

**(d) For purposes of subsection (b) "safe and convenient" means bicycle and pedestrian routes, facilities and improvements which:**

**(A) Are reasonably free from hazards, particularly types or levels of automobile traffic which would interfere with or discourage pedestrian or cycle travel for short trips;**

**(B) Provide a reasonably direct route of travel between destinations such as between a transit stop and a store; and**

**(C) Meet travel needs of cyclists and pedestrians considering destination and length of trip; and considering that the optimum trip length of pedestrians is generally 1/4 to 1/2 mile.**

**(e) Internal pedestrian circulation within new office parks and commercial developments shall be provided through clustering of buildings, construction of accessways, walkways and similar techniques.**

**(4) To support transit in urban areas containing a population greater than 25,000, where the area is already served by a public transit system or where a determination has been made that a public transit system is feasible, local governments shall adopt land use and subdivision regulations as provided in (a)–(g) below:**

**(a) Transit routes and transit facilities shall be designed to support transit use through provision of bus stops, pullouts and shelters, optimum road geometrics, on-road parking restrictions and similar facilities, as appropriate;**

**(b) New retail, office and institutional buildings at or near major transit stops shall provide for convenient pedestrian access to transit through the measures listed in paragraphs (A) and (B) below.**

**(A) Walkways shall be provided connecting building entrances and streets adjoining the site;**

**(B) Pedestrian connections to adjoining properties shall be provided except where such a connection is impracticable as provided for in OAR 660-012-0045(3)(b)(E). Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways that abut the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out or stubbed to allow for extension to the adjoining property;**

**(C) In addition to paragraphs (A) and (B) above, on sites at major transit stops provide the following:**

**(i) Either locate buildings within 20 feet of the transit stop, a transit street or an intersecting street or provide a pedestrian plaza at the transit stop or a street intersection;**

**(ii) A reasonably direct pedestrian connection between the transit stop and building entrances on the site;**

**(iii) A transit passenger landing pad accessible to disabled persons;**

**(iv) An easement or dedication for a passenger shelter if requested by the transit provider; and**

**(v) Lighting at the transit stop.**

**(c) Local governments may implement (4)(b)(A) and (B) above through the designation of pedestrian districts and adoption of appropriate implementing measures regulating development within pedestrian districts. Pedestrian districts must comply with the requirement of (4)(b)(C) above;**

**(d) Designated employee parking areas in new developments shall provide preferential parking for carpools and vanpools;**

**(e) Existing development shall be allowed to redevelop a portion of existing parking areas for transit-oriented uses, including bus stops and pullouts, bus shelters, park and ride stations, transit-oriented developments, and similar facilities, where appropriate;**



- (f) Road systems for new development shall be provided that can be adequately served by transit, including provision of pedestrian access to existing and identified future transit routes. This shall include, where appropriate, separate accessways to minimize travel distances;**
- (g) Along existing or planned transit routes, designation of types and densities of land uses adequate to support transit.**
- (5) In MPO areas, local governments shall adopt land use and subdivision regulations to reduce reliance on the automobile which:**
  - (a) Allow transit-oriented developments (TODs) on lands along transit routes;**
  - (b) Implements a demand management program to meet the measurable standards set in the TSP in response to OAR 660-012-0035(4);**
  - (c) Implements a parking plan which:**
    - (A) Achieves a 10 percent reduction in the number of parking spaces per capita in the MPO area over the planning period. This may be accomplished through a combination of restrictions on development of new parking spaces and requirements that existing parking spaces be redeveloped to other uses;**
    - (B) Aids in achieving the measurable standards set in the TSP in response to OAR 660-012-0035(4);**
    - (C) Includes land use and subdivision regulations setting minimum and maximum parking requirements in appropriate locations, such as downtowns, designated regional or community centers, and transit oriented-developments; and**
    - (D) Is consistent with demand management programs, transit-oriented development requirements and planned transit service.**
  - (d) As an alternative to (c) above, local governments in an MPO may instead revise ordinance requirements for parking as follows:**
    - (A) Reduce minimum off-street parking requirements for all non-residential uses from 1990 levels;**
    - (B) Allow provision of on-street parking, long-term lease parking, and shared parking to meet minimum off-street parking requirements;**
    - (C) Establish off-street parking maximums in appropriate locations, such as downtowns, designated regional or community centers, and transit-oriented developments;**
    - (D) Exempt structured parking and on-street parking from parking maximums;**
    - (E) Require that parking lots over 3 acres in size provide street-like features along major driveways (including curbs, sidewalks, and street trees or planting strips); and**
    - (F) Provide for designation of residential parking districts.**
  - (e) Require all major industrial, institutional, retail and office developments to provide either a transit stop on site or connection to a transit stop along a transit trunk route when the transit operator requires such an improvement.**
- (6) In developing a bicycle and pedestrian circulation plan as required by OAR 660-012-0020(2)(d), local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas. Appropriate improvements should provide for more direct, convenient and safer bicycle or pedestrian travel within and between residential areas and neighborhood activity**

centers (i.e., schools, shopping, transit stops). Specific measures include, for example, constructing walkways between cul-de-sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses.

**(7) Local governments shall establish standards for local streets and accessways that minimize pavement width and total right-of-way consistent with the operational needs of the facility. The intent of this requirement is that local governments consider and reduce excessive standards for local streets and accessways in order to reduce the cost of construction, provide for more efficient use of urban land, provide for emergency vehicle access while discouraging inappropriate traffic volumes and speeds, and which accommodate convenient pedestrian and bicycle circulation. Notwithstanding section (1) or (3) of this rule, local street standards adopted to meet this requirement need not be adopted as land use regulations.**

**Finding:**

The City has an adopted and acknowledged TSP. The proposed amendments, together with previously adopted and acknowledged ordinances fully implements all of the applicable provisions of OAR 660-012-0045.

- TDC Chapter 74 provides a process for coordinated review of land use decisions affecting transportation facilities, corridors, and sites as well as public notice.
- The TDC which is acknowledged to be consistent with the requirements of OAR 660-012-0050, provides a consolidated review process for land-use decisions regarding permitting of transportation projects.
- TDC Chapter 74 provides for review and protection of roadway safety, infrastructure and operations.
- Local street connectivity standards, as well as the requirements for safe and convenient pedestrian, bicycle and vehicular circulation, have been adopted by Tualatin. The TSP includes a Transportation Demand Management (TDM) Plan in Section 11.690 of the Comprehensive Plan.

The proposed amendments are consistent with these requirements.

**660-012-0050**

**Transportation Project Development**

**(1) For projects identified by ODOT pursuant to OAR chapter 731, division 15, project development shall occur in the manner set forth in that division.**

**(2) Regional TSPs shall provide for coordinated project development among affected local governments. The process shall include:**

**(a) Designation of a lead agency to prepare and coordinate project development;**

**(b) A process for citizen involvement, including public notice and hearing, if project development involves land use decision-making. The process shall include notice to affected transportation facility and service providers, MPOs, and ODOT;**

**(c) A process for developing and adopting findings of compliance with applicable statewide planning goals, if any. This shall include a process to allow amendments to acknowledged comprehensive plans where such amendments are necessary to accommodate the project; and**

**(d) A process for developing and adopting findings of compliance with applicable acknowledged comprehensive plan policies and land use regulations of individual local governments, if any. This shall include a process to allow amendments to acknowledged comprehensive plans or land use regulations where such amendments are necessary to accommodate the project.**

**(3) Project development addresses how a transportation facility or improvement authorized in a TSP is designed and constructed. This may or may not require land use decision-making. The focus of project development is project implementation, e.g. alignment, preliminary design and mitigation of impacts. During project development, projects authorized in an acknowledged TSP shall not be subject to further justification with regard to their need, mode, function, or general location. For purposes of this section, a project is authorized in a TSP where the TSP makes decisions about transportation need, mode, function and general location for the facility or improvement as required by this division.**

**(a) Project development does not involve land use decision-making to the extent that it involves transportation facilities, services or improvements identified in OAR 660-012-0045(1)(a); the application of uniform road improvement design standards and other uniformly accepted engineering design standards and practices that are applied during project implementation; procedures and standards for right-of-way acquisition as set forth in the Oregon Revised Statutes; or the application of local, state or federal rules and regulations that are not a part of the local government's land use regulations.**

**(b) Project development involves land use decision-making to the extent that issues of compliance with applicable requirements requiring interpretation or the exercise of policy or legal discretion or judgment remain outstanding at the project development phase. These requirements may include, but are not limited to, regulations protecting or regulating development within floodways and other hazard areas, identified Goal 5 resource areas, estuarine and coastal shoreland areas, and the Willamette River Greenway, and local regulations establishing land use standards or processes for selecting specific alignments. They also may include transportation improvements required to comply with ORS 215.296 or 660-012-0065(5). When project development involves land use decision-making, all unresolved issues of compliance with applicable acknowledged comprehensive plan policies and land use regulations shall be addressed and findings of compliance adopted prior to project approval.**

**(c) To the extent compliance with local requirements has already been determined during transportation system planning, including adoption of a refinement plan, affected local governments may rely on and reference the earlier findings of compliance with applicable standards.**

**(4) Except as provided in section (1) of this rule, where an Environmental Impact Statement (EIS) is prepared pursuant to the National Environmental Policy Act of 1969, project development shall be coordinated with the preparation of the EIS. All unresolved issues of compliance with applicable acknowledged comprehensive plan policies and land use regulations shall be addressed and findings of compliance adopted prior to issuance of the Final EIS.**

**(5) If a local government decides not to build a project authorized by the TSP, it must evaluate whether the needs that the project would serve could otherwise be satisfied in a manner consistent with the TSP. If identified needs cannot be met consistent with the TSP, the local government shall initiate a plan amendment to change the TSP or the comprehensive plan to assure that there is an adequate transportation system to meet transportation needs.**

**(6) Transportation project development may be done concurrently with preparation of the TSP or a refinement plan.**

**Finding:**

The City has an adopted and acknowledged TSP, consistent with the Transportation Planning Rule provisions of 660-012-0050. The proposed amendments, together with previously adopted and acknowledged ordinances, fully implements all of the applicable provisions of OAR 660-012-0050.

- The 2018 RTP provides for coordination of project development.
- The TSP addresses the type of and function of transportation improvement and the City of Tualatin public works permit process is consistent with all the requirements of section OAR 660-012-0050.

The proposed amendments are consistent with these requirements.

**660-012-0055**

**Timing of Adoption and Update of Transportation System Plans; Exemptions**

**(1) MPOs shall complete regional TSPs for their planning areas by May 8, 1996. For those areas within a MPO, cities and counties shall adopt local TSPs and implementing measures within one year following completion of the regional TSP:**

**(a) If by May 8, 2000, a Metropolitan Planning Organization (MPO) has not adopted a regional transportation system plan that meets the VMT reduction standard in OAR 660-012-0035 and the metropolitan area does not have an approved alternative standard established pursuant to OAR 660-012-0035, then the cities and counties within the metropolitan area shall prepare and adopt an integrated land use and transportation plan as outlined in OAR 660-012-0035. Such a plan shall be prepared in coordination with the MPO and shall be adopted within three years;**

**(b) When an area is designated as an MPO or is added to an existing MPO, the affected local governments shall, within one year of adoption of the regional transportation plan, adopt a regional TSP in compliance with applicable requirements of this division and amend local transportation system plans to be consistent with the regional TSP.**

**(c) Local governments in metropolitan areas may request and the commission may by order grant an extension for completing an integrated land use and transportation plan required by this division. Local governments requesting an extension shall set forth a schedule for completion of outstanding work needed to complete an integrated land use and transportation plan as set forth in OAR 660-012-0035. This shall include, as appropriate:**

**(A) Adoption of a long-term land use and transportation vision for the region;**

**(B) Identification of centers and other land use designations intended to implement the vision;**

**(C) Adoption of housing and employment allocations to centers and land use designations; and**

**(D) Adoption of implementing plans and zoning for designated centers and other land use designations.**

**(d) Local governments within metropolitan areas that are not in compliance with the requirements of this division to adopt or implement a standard to increase transportation choices or have not completed an integrated land use and transportation plan as required by this division shall review plan and land use regulation amendments and adopt findings that demonstrate that the proposed amendment supports implementation of the region's adopted vision, strategy, policies or plans to increase transportation choices and reduce reliance on the automobile.**

**(2) A plan or land use regulation amendment supports implementation of an adopted regional strategy, policy or plan for purposes of this section if it achieves the following as applicable:**

**(a) Implements the strategy or plan through adoption of specific plans or zoning that authorizes uses or densities that achieve desired land use patterns;**

**(b) Allows uses in designated centers or neighborhoods that accomplish the adopted regional vision, strategy, plan or policies; and**

**(c) Allows uses outside designated centers or neighborhood that either support or do not detract from implementation of desired development within nearby centers.**

**(3) For areas outside an MPO, cities and counties shall complete and adopt regional and local TSPs and implementing measures by May 8, 1997.**

**(4) By November 8, 1993, affected cities and counties shall, for non-MPO urban areas of 25,000 or more, adopt land use and subdivision ordinances or amendments required by OAR 660-012-0045(3), (4)(a)–(f) and (5)(d). By May 8, 1994 affected cities and counties within MPO areas shall adopt land use and subdivision ordinances or amendments required by 660-012-0045(3), (4)(a)–(e) and (5)(e). Affected cities and counties which do not have acknowledged ordinances addressing the requirements of this section by the deadlines listed above shall apply 660-012-0045(3), (4)(a)–(g) and (5)(e) directly to all land use decisions and all limited land use decisions.**

**(5)(a) Affected cities and counties that either:**

**(A) Have acknowledged plans and land use regulations that comply with this rule as of May 8, 1995, may continue to apply those acknowledged plans and land use regulations; or**

**(B) Have plan and land use regulations adopted to comply with this rule as of April 12, 1995, may continue to apply the provisions of this rule as they existed as of April 12, 1995, and may continue to pursue acknowledgment of the adopted plans and land use regulations under those same rule provisions provided such adopted plans and land use regulations are acknowledged by April 12, 1996. Affected cities and counties that qualify and make this election under this paragraph shall update their plans and land use regulations to comply with the 1995 amendments to OAR 660-012-0045 as part of their transportation system plans.**

**(b) Affected cities and counties that do not have acknowledged plans and land use regulations as provided in subsection (a) of this section, shall apply relevant sections of this rule to land use decisions and limited land use decisions until land use regulations complying with this amended rule have been adopted.**

**(6) Cities and counties shall update their TSPs and implementing measures as necessary to comply with this division at each periodic review subsequent to initial compliance with this division. Local governments within metropolitan areas shall amend local transportation system plans to be consistent with an adopted regional transportation system plan within one year of the adoption of an updated regional transportation system plan or by a date specified in the adopted regional transportation system plan.**

**(7) The director may grant a whole or partial exemption from the requirements of this division to cities under 10,000 population and counties under 25,000 population, and for areas within a county within an urban growth boundary that contains a population less than 10,000. Eligible jurisdictions may request that the director approve an exemption from all or part of the requirements in this division. Exemptions shall be for a period determined by the director or until the jurisdiction's next periodic review, whichever is shorter.**

**(a) The director's decision to approve an exemption shall be based upon the following factors:**

**(A) Whether the existing and committed transportation system is generally adequate to meet likely transportation needs;**

**(B) Whether the new development or population growth is anticipated in the planning area over the next five years;**

**(C) Whether major new transportation facilities are proposed which would affect the planning areas;**

**(D) Whether deferral of planning requirements would conflict with accommodating state or regional transportation needs; and**

**(E) Consultation with the Oregon Department of Transportation on the need for transportation planning in the area, including measures needed to protect existing transportation facilities.**

**(b) The director's decision to grant an exemption under this section is appealable to the commission as provided in OAR 660-002-0020 (Delegation of Authority Rule)**

**(8) Portions of TSPs and implementing measures adopted as part of comprehensive plans prior to the responsible jurisdiction's periodic review shall be reviewed pursuant to OAR chapter 660, division 18, Post Acknowledgment Procedures.**

**Finding:**

The proposed amendments, together with previously adopted and acknowledged ordinances (Ordinance #1354-13 (File No. PTA-12-02)), is consistent with the applicable provisions of OAR 660-012-0055. The proposed amendments are consistent with these requirements.

**660-012-0060**

**Plan and Land Use Regulation Amendments**

**(1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:**

**(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);**

**(b) Change standards implementing a functional classification system; or**

**(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.**

**(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;**

**(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or**

**(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.**

**(2) If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.**

**(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.**

**(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.**

**(c) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.**

**(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements. Local governments shall, as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.**

**(e) Providing improvements that would benefit modes other than the significantly affected mode, improvements to facilities other than the significantly affected facility, or improvements at other locations, if:**

**(A) The provider of the significantly affected facility provides a written statement that the system-wide benefits are sufficient to balance the significant effect, even though the improvements would not result in consistency for all performance standards;**

**(B) The providers of facilities being improved at other locations provide written statements of approval; and**

**(C) The local jurisdictions where facilities are being improved provide written statements of approval.**

**(3) Notwithstanding sections (1) and (2) of this rule, a local government may approve an amendment that would significantly affect an existing transportation facility without assuring that the allowed land uses are consistent with the function, capacity and performance standards of the facility where:**

**(a) In the absence of the amendment, planned transportation facilities, improvements and services as set forth in section (4) of this rule would not be adequate to achieve consistency with the identified function, capacity or performance standard for that facility by the end of the planning period identified in the adopted TSP;**

**(b) Development resulting from the amendment will, at a minimum, mitigate the impacts of the amendment in a manner that avoids further degradation to the performance of the facility by the time of the development through one or a combination of transportation improvements or measures;**

**(c) The amendment does not involve property located in an interchange area as defined in paragraph (4)(d)(C); and**

**(d) For affected state highways, ODOT provides a written statement that the proposed funding and timing for the identified mitigation improvements or measures are, at a minimum, sufficient to avoid further degradation to the performance of the affected state highway. However, if a local government provides the appropriate ODOT regional office with written notice of a proposed amendment in a manner that provides ODOT reasonable opportunity to submit a written statement into the record of the local government proceeding, and ODOT does not provide a written statement, then the local government may proceed with applying subsections (a) through (c) of this section.**

**(4) Determinations under sections (1)–(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.**

**(a) In determining whether an amendment has a significant effect on an existing or planned transportation facility under subsection (1)(c) of this rule, local governments shall rely on existing transportation facilities and services and on the planned**



**transportation facilities, improvements and services set forth in subsections (b) and (c) below.**

**(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:**

**(A) Transportation facilities, improvements or services that are funded for construction or implementation in the Statewide Transportation Improvement Program or a locally or regionally adopted transportation improvement program or capital improvement plan or program of a transportation service provider.**

**(B) Transportation facilities, improvements or services that are authorized in a local transportation system plan and for which a funding plan or mechanism is in place or approved. These include, but are not limited to, transportation facilities, improvements or services for which: transportation systems development charge revenues are being collected; a local improvement district or reimbursement district has been established or will be established prior to development; a development agreement has been adopted; or conditions of approval to fund the improvement have been adopted.**

**(C) Transportation facilities, improvements or services in a metropolitan planning organization (MPO) area that are part of the area's federally-approved, financially constrained regional transportation system plan.**

**(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.**

**(E) Improvements to regional and local roads, streets or other transportation facilities or services that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when the local government(s) or transportation service provider(s) responsible for the facility, improvement or service provides a written statement that the facility, improvement or service is reasonably likely to be provided by the end of the planning period.**

**(c) Within interstate interchange areas, the improvements included in (b)(A)–(C) are considered planned facilities, improvements and services, except where:**

**(A) ODOT provides a written statement that the proposed funding and timing of mitigation measures are sufficient to avoid a significant adverse impact on the Interstate Highway system, then local governments may also rely on the improvements identified in paragraphs (b)(D) and (E) of this section; or**

**(B) There is an adopted interchange area management plan, then local governments may also rely on the improvements identified in that plan and which are also identified in paragraphs (b)(D) and (E) of this section.**

**(d) As used in this section and section (3):**

**(A) Planned interchange means new interchanges and relocation of existing interchanges that are authorized in an adopted transportation system plan or comprehensive plan;**

**(B) Interstate highway means Interstates 5, 82, 84, 105, 205 and 405; and**

**(C) Interstate interchange area means:**

**(i) Property within one-quarter mile of the ramp terminal intersection of an existing or planned interchange on an Interstate Highway; or**

**(ii) The interchange area as defined in the Interchange Area Management Plan adopted as an amendment to the Oregon Highway Plan.**

**(e) For purposes of this section, a written statement provided pursuant to paragraphs (b)(D), (b)(E) or (c)(A) provided by ODOT, a local government or transportation facility provider, as appropriate, shall be conclusive in determining whether a transportation facility, improvement or service is a planned transportation facility, improvement or service. In the absence of a written statement, a local government can only rely upon planned transportation facilities, improvements and services identified in paragraphs (b)(A)–(C) to determine whether there is a significant effect that requires application of the remedies in section (2).**

**(5) The presence of a transportation facility or improvement shall not be a basis for an exception to allow residential, commercial, institutional or industrial development on rural lands under this division or OAR 660-004-0022 and 660-004-0028.**

**(6) In determining whether proposed land uses would affect or be consistent with planned transportation facilities as provided in sections (1) and (2), local governments shall give full credit for potential reduction in vehicle trips for uses located in mixed-use, pedestrian-friendly centers, and neighborhoods as provided in subsections (a)–(d) below;**

**(a) Absent adopted local standards or detailed information about the vehicle trip reduction benefits of mixed-use, pedestrian-friendly development, local governments shall assume that uses located within a mixed-use, pedestrian-friendly center, or neighborhood, will generate 10% fewer daily and peak hour trips than are specified in available published estimates, such as those provided by the Institute of Transportation Engineers (ITE) Trip Generation Manual that do not specifically account for the effects of mixed-use, pedestrian-friendly development. The 10% reduction allowed for by this section shall be available only if uses which rely solely on auto trips, such as gas stations, car washes, storage facilities, and motels are prohibited;**

**(b) Local governments shall use detailed or local information about the trip reduction benefits of mixed-use, pedestrian-friendly development where such information is available and presented to the local government. Local governments may, based on such information, allow reductions greater than the 10% reduction required in subsection (a) above;**

**(c) Where a local government assumes or estimates lower vehicle trip generation as provided in subsection (a) or (b) above, it shall assure through conditions of approval, site plans, or approval standards that subsequent development approvals support the development of a mixed-use, pedestrian-friendly center or neighborhood and provide for on-site bike and pedestrian connectivity and access to transit as provided for in OAR 660-012-0045(3) and (4). The provision of on-site bike and pedestrian connectivity and access to transit may be accomplished through application of acknowledged ordinance provisions which comply with 660-012-0045(3) and (4) or through conditions of approval or findings adopted with the plan amendment that assure compliance with these rule requirements at the time of development approval; and**

**(d) The purpose of this section is to provide an incentive for the designation and implementation of pedestrian-friendly, mixed-use centers and neighborhoods by lowering the regulatory barriers to plan amendments which accomplish this type of development. The actual trip reduction benefits of mixed-use, pedestrian-friendly development will vary from case to case and may be somewhat higher or lower than presumed pursuant to subsection (a) above. The Commission concludes that this assumption is warranted given general information about the expected effects of mixed-use, pedestrian-friendly development and its intent to encourage changes to plans and development patterns. Nothing in this section is intended to affect the application of provisions in local plans or ordinances which provide for the calculation or assessment of systems development charges or in preparing conformity determinations required under the federal Clean Air Act.**

**(7) Amendments to acknowledged comprehensive plans and land use regulations which meet all of the criteria listed in subsections (a)–(c) below shall include an amendment to the comprehensive plan, transportation system plan the adoption of a local street plan, access management plan, future street plan or other binding local transportation plan to provide for on-site alignment of streets or accessways with existing and planned arterial, collector, and local streets surrounding the site as necessary to implement the requirements in OAR 660-012-0020(2)(b) and 660-012-0045(3):**

**(a) The plan or land use regulation amendment results in designation of two or more acres of land for commercial use;**

**(b) The local government has not adopted a TSP or local street plan which complies with OAR 660-012-0020(2)(b) or, in the Portland Metropolitan Area, has not complied with Metro's requirement for street connectivity as contained in Title 6, Section 3 of the Urban Growth Management Functional Plan; and**

**(c) The proposed amendment would significantly affect a transportation facility as provided in section (1).**

**(8) A "mixed-use, pedestrian-friendly center or neighborhood" for the purposes of this rule, means:**

**(a) Any one of the following:**

**(A) An existing central business district or downtown;**

**(B) An area designated as a central city, regional center, town center or main street in the Portland Metro 2040 Regional Growth Concept;**

**(C) An area designated in an acknowledged comprehensive plan as a transit oriented development or a pedestrian district; or**

**(D) An area designated as a special transportation area as provided for in the Oregon Highway Plan.**

**(b) An area other than those listed in subsection (a) above which includes or is planned to include the following characteristics:**

**(A) A concentration of a variety of land uses in a well-defined area, including the following:**

**(i) Medium to high density residential development (12 or more units per acre);**

**(ii) Offices or office buildings;**

**(iii) Retail stores and services;**

**(iv) Restaurants; and**

**(v) Public open space or private open space which is available for public use, such as a park or plaza.**

**(B) Generally include civic or cultural uses;**

**(C) A core commercial area where multi-story buildings are permitted;**

**(D) Buildings and building entrances oriented to streets;**

**(E) Street connections and crossings that make the center safe and conveniently accessible from adjacent areas;**

**(F) A network of streets and, where appropriate, accessways and major driveways that make it attractive and highly convenient for people to walk between uses within the center or neighborhood, including streets and major driveways within the center with wide sidewalks and other features, including pedestrian-oriented street crossings, street trees, pedestrian-scale lighting and on-street parking;**

**(G) One or more transit stops (in urban areas with fixed route transit service); and**

**(H) Limit or do not allow low-intensity or land extensive uses, such as most industrial uses, automobile sales and services, and drive-through services.**

**(9) Notwithstanding section (1) of this rule, a local government may find that an amendment to a zoning map does not significantly affect an existing or planned transportation facility if all of the following requirements are met.**

**(a) The proposed zoning is consistent with the existing comprehensive plan map designation and the amendment does not change the comprehensive plan map;**

**(b) The local government has an acknowledged TSP and the proposed zoning is consistent with the TSP; and**

**(c) The area subject to the zoning map amendment was not exempted from this rule at the time of an urban growth boundary amendment as permitted in OAR 660-024-0020(1)(d), or the area was exempted from this rule but the local government has a subsequently acknowledged TSP amendment that accounted for urbanization of the area.**

**(10) Notwithstanding sections (1) and (2) of this rule, a local government may amend a functional plan, a comprehensive plan or a land use regulation without applying performance standards related to motor vehicle traffic congestion (e.g. volume to capacity ratio or V/C), delay or travel time if the amendment meets the requirements of subsection (a) of this section. This section does not exempt a proposed amendment from other transportation performance standards or policies that may apply including, but not limited to, safety for all modes, network connectivity for all modes (e.g. sidewalks, bicycle lanes) and accessibility for freight vehicles of a size and frequency required by the development.**

**(a) A proposed amendment qualifies for this section if it:**

**(A) Is a map or text amendment affecting only land entirely within a multimodal mixed-use area (MMA); and**

**(B) Is consistent with the definition of an MMA and consistent with the function of the MMA as described in the findings designating the MMA.**

**(b) For the purpose of this rule, “multimodal mixed-use area” or “MMA” means an area:**

**(A) With a boundary adopted by a local government as provided in subsection (d) or (e) of this section and that has been acknowledged;**

**(B) Entirely within an urban growth boundary;**

**(C) With adopted plans and development regulations that allow the uses listed in paragraphs (8)(b)(A) through (C) of this rule and that require new development to be consistent with the characteristics listed in paragraphs (8)(b)(D) through (H) of this rule;**

**(D) With land use regulations that do not require the provision of off-street parking, or regulations that require lower levels of off-street parking than required in other areas and allow flexibility to meet the parking requirements (e.g. count on-street parking, allow long-term leases, allow shared parking); and**

**(E) Located in one or more of the categories below:**

**(i) At least one-quarter mile from any ramp terminal intersection of existing or planned interchanges;**

**(ii) Within the area of an adopted Interchange Area Management Plan (IAMP) and consistent with the IAMP; or**

**(iii) Within one-quarter mile of a ramp terminal intersection of an existing or planned interchange if the mainline facility provider has provided written concurrence with the MMA designation as provided in subsection (c) of this section.**

**(c) When a mainline facility provider reviews an MMA designation as provided in subparagraph (b)(E)(iii) of this section, the provider must consider the factors listed in paragraph (A) of this subsection.**

**(A) The potential for operational or safety effects to the interchange area and the mainline highway, specifically considering:**

**(i) Whether the interchange area has a crash rate that is higher than the statewide crash rate for similar facilities;**

**(ii) Whether the interchange area is in the top ten percent of locations identified by the safety priority index system (SPIS) developed by ODOT; and**

**(iii) Whether existing or potential future traffic queues on the interchange exit ramps extend onto the mainline highway or the portion of the ramp needed to safely accommodate deceleration.**

**(B) If there are operational or safety effects as described in paragraph (A) of this subsection, the effects may be addressed by an agreement between the local government and the facility provider regarding traffic management plans favoring traffic movements away from the interchange, particularly those facilitating clearing traffic queues on the interchange exit ramps.**

**(d) A local government may designate an MMA by adopting an amendment to the comprehensive plan or land use regulations to delineate the boundary following an existing zone, multiple existing zones, an urban renewal area, other existing boundary, or establishing a new boundary. The designation must be accompanied by findings showing how the area meets the definition of an MMA. Designation of an MMA is not subject to the requirements in sections (1) and (2) of this rule.**

**(e) A local government may designate an MMA on an area where comprehensive plan map designations or land use regulations do not meet the definition, if all of the other elements meet the definition, by concurrently adopting comprehensive plan or land use**

regulation amendments necessary to meet the definition. Such amendments are not subject to performance standards related to motor vehicle traffic congestion, delay or travel time.

(11) A local government may approve an amendment with partial mitigation as provided in section (2) of this rule if the amendment complies with subsection (a) of this section, the amendment meets the balancing test in subsection (b) of this section, and the local government coordinates as provided in subsection (c) of this section.

(a) The amendment must meet paragraphs (A) and (B) of this subsection or meet paragraph (D) of this subsection.

(A) Create direct benefits in terms of industrial or traded-sector jobs created or retained by limiting uses to industrial or traded-sector industries.

(B) Not allow retail uses, except limited retail incidental to industrial or traded sector development, not to exceed five percent of the net developable area.

(C) For the purpose of this section:

(i) "Industrial" means employment activities generating income from the production, handling or distribution of goods including, but not limited to, manufacturing, assembly, fabrication, processing, storage, logistics, warehousing, importation, distribution and transshipment and research and development.

(ii) "Traded-sector" means industries in which member firms sell their goods or services into markets for which national or international competition exists.

(D) Notwithstanding paragraphs (A) and (B) of this subsection, an amendment complies with subsection (a) if all of the following conditions are met:

(i) The amendment is within a city with a population less than 10,000 and outside of a Metropolitan Planning Organization.

(ii) The amendment would provide land for "Other Employment Use" or "Prime Industrial Land" as those terms are defined in OAR 660-009-0005.

(iii) The amendment is located outside of the Willamette Valley as defined in ORS 215.010.

(E) The provisions of paragraph (D) of this subsection are repealed on January 1, 2017.

(b) A local government may accept partial mitigation only if the local government determines that the benefits outweigh the negative effects on local transportation facilities and the local government receives from the provider of any transportation facility that would be significantly affected written concurrence that the benefits outweigh the negative effects on their transportation facilities. If the amendment significantly affects a state highway, then ODOT must coordinate with the Oregon Business Development Department regarding the economic and job creation benefits of the proposed amendment as defined in subsection (a) of this section. The requirement to obtain concurrence from a provider is satisfied if the local government provides notice as required by subsection (c) of this section and the provider does not respond in writing (either concurring or non-concurring) within forty-five days.

(c) A local government that proposes to use this section must coordinate with Oregon Business Development Department, Department of Land Conservation and Development, area commission on transportation, metropolitan planning organization, and transportation providers and local governments directly impacted by the proposal

**to allow opportunities for comments on whether the proposed amendment meets the definition of economic development, how it would affect transportation facilities and the adequacy of proposed mitigation. Informal consultation is encouraged throughout the process starting with pre-application meetings. Coordination has the meaning given in ORS 197.015 and Goal 2 and must include notice at least 45 days before the first evidentiary hearing. Notice must include the following:**

**(A) Proposed amendment.**

**(B) Proposed mitigating actions from section (2) of this rule.**

**(C) Analysis and projections of the extent to which the proposed amendment in combination with proposed mitigating actions would fall short of being consistent with the function, capacity, and performance standards of transportation facilities.**

**(D) Findings showing how the proposed amendment meets the requirements of subsection (a) of this section.**

**(E) Findings showing that the benefits of the proposed amendment outweigh the negative effects on transportation facilities.**

**Finding:**

The proposed amendments, together with previously adopted and acknowledged ordinances (Ordinance #1354-13 (File No. PTA-12-02)), fully implements all of the applicable provisions of OAR 660-012-0060 as detailed in the following findings of fact:

- The proposed amendments respond to urbanization of the Basalt Creek area as described in the Basalt Creek concept plan. This urbanization is anticipated to have a significant effect on transportation facilities in the area.
- The Basalt Creek Transportation Refinement Plan, adopted in 2012, served as a guide for the development of the Basalt Creek concept plan.
- The transportation impacts of the proposed amendments are consistent with the anticipated transportation impacts identified by the Basalt Creek Transportation Refinement Plan, adopted in 2012.
- The proposed amendments do not change the existing or anticipated level-of-service or level-of-service standard for any facility.
- The proposed amendments adopt transportation facilities to support the proposed urban land uses as discussed in -0060(2)(b).
- As discussed under -0040 above, the transportation facilities identified in the proposed amendments are considered to be financially feasible and are included in the 2018 financially constrained Regional Transportation Plan.
- The improvements identified in these TSP amendments are adequate to address the additional demand on the transportation system created by the Basalt Creek Concept Plan.
- The process of coordinated TSP amendments with land use planning is consistent with all of the requirements of OAR 660-012-0060.

The proposed amendments are consistent with these requirements.

**660-012-0065**

**Transportation Improvements on Rural Lands**

**(1) This rule identifies transportation facilities, services and improvements which may be permitted on rural lands consistent with Goals 3, 4, 11, and 14 without a goal exception.**

**(2) For the purposes of this rule, the following definitions apply:**

**(a) "Access Roads" means low volume public roads that principally provide access to property or as specified in an acknowledged comprehensive plan;**

**(b) "Collectors" means public roads that provide access to property and that collect and distribute traffic between access roads and arterials or as specified in an acknowledged comprehensive plan;**

**(c) "Arterials" means state highways and other public roads that principally provide service to through traffic between cities and towns, state highways and major destinations or as specified in an acknowledged comprehensive plan;**

**(d) "Accessory Transportation Improvements" means transportation improvements that are incidental to a land use to provide safe and efficient access to the use;**

**(e) "Channelization" means the separation or regulation of conflicting traffic movements into definite paths of travel by traffic islands or pavement markings to facilitate the safe and orderly movement of both vehicles and pedestrians. Examples include, but are not limited to, left turn refuges, right turn refuges including the construction of islands at intersections to separate traffic, and raised medians at driveways or intersections to permit only right turns. "Channelization" does not include continuous median turn lanes;**

**(f) "Realignment" means rebuilding an existing roadway on a new alignment where the new centerline shifts outside the existing right of way, and where the existing road surface is either removed, maintained as an access road or maintained as a connection between the realigned roadway and a road that intersects the original alignment. The realignment shall maintain the function of the existing road segment being realigned as specified in the acknowledged comprehensive plan;**

**(g) "New Road" means a public road or road segment that is not a realignment of an existing road or road segment.**

**(3) The following transportation improvements are consistent with Goals 3, 4, 11, and 14 subject to the requirements of this rule:**

**(a) Accessory transportation improvements for a use that is allowed or conditionally allowed by ORS 215.213, 215.283 or OAR chapter 660, division 6 (Forest Lands);**

**(b) Transportation improvements that are allowed or conditionally allowed by ORS 215.213, 215.283 or OAR chapter 660, division 6 (Forest Lands);**

**(c) Channelization not otherwise allowed under subsections (a) or (b) of this section;**

**(d) Realignment of roads not otherwise allowed under subsection (a) or (b) of this section;**

**(e) Replacement of an intersection with an interchange;**

**(f) Continuous median turn lane;**

**(g) New access roads and collectors within a built or committed exception area, or in other areas where the function of the road is to reduce local access to or local traffic on a state highway. These roads shall be limited to two travel lanes. Private access and intersections shall be limited to rural needs or to provide adequate emergency access.**



- (h) Bikeways, footpaths and recreation trails not otherwise allowed as a modification or part of an existing road;**
  - (i) Park and ride lots;**
  - (j) Railroad mainlines and branchlines;**
  - (k) Pipelines;**
  - (l) Navigation channels;**
  - (m) Replacement of docks and other facilities without significantly increasing the capacity of those facilities;**
  - (n) Expansions or alterations of public use airports that do not permit service to a larger class of airplanes; and**
  - (o) Transportation facilities, services and improvements other than those listed in this rule that serve local travel needs. The travel capacity and performance standards of facilities and improvements serving local travel needs shall be limited to that necessary to support rural land uses identified in the acknowledged comprehensive plan or to provide adequate emergency access.**
- (4) Accessory transportation improvements required as a condition of development listed in subsection (3)(a) of this rule shall be subject to the same procedures, standards and requirements applicable to the use to which they are accessory.**
- (5) For transportation uses or improvements listed in subsections (3)(d) to (g) and (o) of this rule within an exclusive farm use (EFU) or forest zone, a jurisdiction shall, in addition to demonstrating compliance with the requirements of ORS 215.296:**
- (a) Identify reasonable build design alternatives, such as alternative alignments, that are safe and can be constructed at a reasonable cost, not considering raw land costs, with available technology. The jurisdiction need not consider alternatives that are inconsistent with applicable standards or not approved by a registered professional engineer;**
  - (b) Assess the effects of the identified alternatives on farm and forest practices, considering impacts to farm and forest lands, structures and facilities, considering the effects of traffic on the movement of farm and forest vehicles and equipment and considering the effects of access to parcels created on farm and forest lands; and**
  - (c) Select from the identified alternatives, the one, or combination of identified alternatives that has the least impact on lands in the immediate vicinity devoted to farm or forest use.**
- (6) Notwithstanding any other provision of this division, if a jurisdiction has not met the deadline for TSP adoption set forth in OAR 660-012-0055, or any extension thereof, a transportation improvement that is listed in section (5) of this rule and that will significantly reduce peak hour travel time as provided in OAR 660-012-0035(10) may be allowed in the urban fringe only if the jurisdiction applies either:**
- (a) The criteria applicable to a “reasons” exception provided in Goal 2 and OAR 660, division 4; or**
  - (b) The evaluation and selection criteria set forth in OAR 660-012-0035.**

**Finding:**

The proposed amendments do not propose any new roadways, services or improvements on lands located outside of the UGB. These requirements are not applicable.

**660-012-0070**

**Exceptions for Transportation Improvements on Rural Land**

**(1) Transportation facilities and improvements which do not meet the requirements of OAR 660-012-0065 require an exception to be sited on rural lands.**

**(a) A local government approving a proposed exception shall adopt as part of its comprehensive plan findings of fact and a statement of reasons that demonstrate that the standards in this rule have been met. A local government denying a proposed exception shall adopt findings of fact and a statement of reasons explaining why the standards in this rule have not been met. However, findings and reasons denying a proposed exception need not be incorporated into the local comprehensive plan.**

**(b) The facts and reasons relied upon to approve or deny a proposed exception shall be supported by substantial evidence in the record of the local exceptions proceeding.**

**(2) When an exception to Goals 3, 4, 11, or 14 is required to locate a transportation improvement on rural lands, the exception shall be taken pursuant to ORS 197.732(1)(c), Goal 2, and this division. The exceptions standards in OAR chapter 660, division 4 and OAR chapter 660, division 14 shall not apply. Exceptions adopted pursuant to this division shall be deemed to fulfill the requirements for goal exceptions required under ORS 197.732(1)(c) and Goal 2.**

**(3) An exception shall, at a minimum, decide need, mode, function and general location for the proposed facility or improvement:**

**(a) The general location shall be specified as a corridor within which the proposed facility or improvement is to be located, including the outer limits of the proposed location. Specific sites or areas within the corridor may be excluded from the exception to avoid or lessen likely adverse impacts. Where detailed design level information is available, the exception may be specified as a specific alignment;**

**(b) The size, design and capacity of the proposed facility or improvement shall be described generally, but in sufficient detail to allow a general understanding of the likely impacts of the proposed facility or improvement and to justify the amount of land for the proposed transportation facility. Measures limiting the size, design or capacity may be specified in the description of the proposed use in order to simplify the analysis of the effects of the proposed use;**

**(c) The adopted exception shall include a process and standards to guide selection of the precise design and location within the corridor and consistent with the general description of the proposed facility or improvement. For example, where a general location or corridor crosses a river, the exception would specify that a bridge crossing would be built but would defer to project development decisions about precise location and design of the bridge within the selected corridor subject to requirements to minimize impacts on riparian vegetation, habitat values, etc.;**

**(d) Land use regulations implementing the exception may include standards for specific mitigation measures to offset unavoidable environmental, economic, social or energy**

impacts of the proposed facility or improvement or to assure compatibility with adjacent uses.

(4) To address Goal 2, Part II(c)(1) the exception shall provide reasons justifying why the state policy in the applicable goals should not apply. Further, the exception shall demonstrate that there is a transportation need identified consistent with the requirements of OAR 660-012-0030 which cannot reasonably be accommodated through one or a combination of the following measures not requiring an exception:

- (a) Alternative modes of transportation;
- (b) Traffic management measures; and
- (c) Improvements to existing transportation facilities.

(5) To address Goal 2, Part II(c)(2) the exception shall demonstrate that non-exception locations cannot reasonably accommodate the proposed transportation improvement or facility. The exception shall set forth the facts and assumptions used as the basis for determining why the use requires a location on resource land subject to Goals 3 or 4.

(6) To determine the reasonableness of alternatives to an exception under sections (4) and (5) of this rule, cost, operational feasibility, economic dislocation and other relevant factors shall be addressed. The thresholds chosen to judge whether an alternative method or location cannot reasonably accommodate the proposed transportation need or facility must be justified in the exception.

(a) In addressing sections (4) and (5) of this rule, the exception shall identify and address alternative methods and locations that are potentially reasonable to accommodate the identified transportation need.

(b) Detailed evaluation of such alternatives is not required when an alternative does not meet an identified threshold.

(c) Detailed evaluation of specific alternative methods or locations identified by parties during the local exceptions proceedings is not required unless the parties can specifically describe with supporting facts why such methods or locations can more reasonably accommodate the identified transportation need, taking into consideration the identified thresholds.

(7) To address Goal 2, Part II(c)(3), the exception shall:

(a) Compare the long-term economic, social, environmental and energy consequences of the proposed location and other alternative locations requiring exceptions. The exception shall describe the characteristics of each alternative location considered by the jurisdiction for which an exception might be taken, the typical advantages and disadvantages of using the location for the proposed transportation facility or improvement, and the typical positive and negative consequences resulting from the transportation facility or improvement at the proposed location with measures designed to reduce adverse impacts;

(b) Determine whether the net adverse impacts associated with the proposed exception site, with mitigation measures designed to reduce adverse impacts, are significantly more adverse than the net impacts from other locations which would also require an exception. A proposed exception location would fail to meet this requirement only if the affected local government concludes that the impacts associated with it are significantly more adverse than the other identified exception sites. The exception shall

include the reasons why the consequences of the needed transportation facility or improvement at the proposed exception location are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed location. Where the proposed goal exception location is on resource lands subject to Goals 3 or 4, the exception shall include the facts used to determine which resource land is least productive; the ability to sustain resource uses near the proposed use; and the long-term economic impact on the general area caused by irreversible removal of the land from the resource base; and (c) The evaluation of the consequences of general locations or corridors need not be site-specific, but may be generalized consistent with the requirements of section (3) of this rule. Detailed evaluation of specific alternative locations identified by parties during the local exceptions proceeding is not required unless such locations are specifically described with facts to support the assertion that the locations have significantly fewer net adverse economic, social, environmental and energy impacts than the proposed exception location.

(8) To address Goal 2, Part II(c)(4), the exception shall:

(a) Describe the adverse effects that the proposed transportation improvement is likely to have on the surrounding rural lands and land uses, including increased traffic and pressure for nonfarm or highway oriented development on areas made more accessible by the transportation improvement;

(b) Demonstrate how the proposed transportation improvement is compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts. Compatible is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses; and

(c) Adopt as part of the exception, facility design and land use measures which minimize accessibility of rural lands from the proposed transportation facility or improvement and support continued rural use of surrounding lands.

(9)(a) Exceptions taken pursuant to this rule shall indicate on a map or otherwise the locations of the proposed transportation facility or improvement and of alternatives identified under subsection (4)(c), sections (5) and (7) of this rule.

(b) Each notice of a public hearing on a proposed exception shall specifically note that a goal exception is proposed and shall summarize the issues in an understandable manner.

(10) An exception taken pursuant to this rule does not authorize uses other than the transportation facilities or improvements justified in the exception.

(a) Modifications to unconstructed transportation facilities or improvements authorized in an exception shall not require a new exception if the modification is located entirely within the corridor approved in the exception.

(b) Modifications to constructed transportation facilities authorized in an exception shall require a new exception, unless the modification is permitted without an exception under OAR 660-012-0065(3)(b)–(f). For purposes of this rule, minor transportation improvements made to a transportation facility or improvement authorized in an exception shall not be considered a modification to a transportation facility or improvement and shall not require a new exception.

**(c) Notwithstanding subsections (a) and (b) of this section, the following modifications to transportation facilities or improvements authorized in an exception shall require new goal exceptions:**

**(A) New intersections or new interchanges on limited access highways or expressways, excluding replacement of an existing intersection with an interchange.**

**(B) New approach roads located within the influence area of an interchange.**

**(C) Modifications that change the functional classification of the transportation facility.**

**(D) Modifications that materially reduce the effectiveness of facility design measures or land use measures adopted pursuant to subsection (8)(c) of this rule to minimize accessibility to rural lands or support continued rural use of surrounding rural lands, unless the area subject to the modification has subsequently been relocated inside an urban growth boundary.**

**Finding:**

This subsection is not applicable to the proposed amendments, as no rural transportation improvements have been identified in this ordinance. The proposed amendments updated the previously adopted TSP. The amendments are consistent with the City's acknowledged policies and strategies for the provision of transportation facilities and services as required by Goal 12 (the TPR, implemented via OAR Chapter 660, Division 12). The proposed amendments comply with all of the applicable requirements of OAR 660, Division 12. Only those provisions of Division 12 that require specific findings are summarized and addressed herein. Plan compliance with Goal 12 is maintained with the proposed amendments. The proposed amendments are consistent with these requirements.

**Section D: Oregon Highway Plan**

**The following goals and policies of the Oregon Highway Plan (OHP) are applicable to the proposed amendments:**

**Policy 1A: State Highway Classification System**

**Finding:**

The proposed amendments would update the City's Functional Classification map (Exhibit 9, Figure 1 and Exhibit 10, Figure 11-1). No new functional classifications are introduced and no changes inconsistent with State Highway Classifications have been made. The proposed amendments are consistent with the OHP.

**Policy 1B: Land Use and Transportation**

**Finding:**

The proposed amendments respond to urbanization of the Basalt Creek Planning as described in the Basalt Creek Concept Plan. The proposed amendments address mobility standards consistent with State Highway mobility standards.

The Basalt Creek Planning Area was added to the Portland Metro urban growth boundary in 2004. The area provides housing and employment lands to serve the continued growth of the region. The Basalt Creek Transportation Refinement Plan was developed in coordination with ODOT. The Transportation Refinement Planning proactively addressed the transportation system necessary to serve the urban growth area. The Transportation Refinement Plan:

- Provides for access management on State and Local facilities.
- Was developed in partnership with the Metropolitan Planning Organization for the Portland area (Metro).
- Considered the anticipated development of the Basalt Creek area as well as other growth throughout the region.
- Considered the need for Special Transportation Areas, Urban Business Areas, and Commercial Centers but none were identified.

The Basalt Creek concept plan provides for compact urban development within the Basalt Creek urban growth area and includes provisions for:

- an interconnected local roadway network
- transit, bicycle and pedestrian facilities
- design orientation of buildings that accommodate multimodal transportation options
- parking provisions

The Basalt Creek Transportation Refinement Plan was developed through a coordinated process that identified regional facilities to protect the operations and functions of the state highway system and identified local roadways necessary to serve and interconnect the Basalt Creek Planning Area. The planning effort served to provide for the general location of new transportation facilities. The proposed amendments provide a coordinated land use and transportation system consistent with the OHP Policy 1B.

### **Policy 1C: State Highway Freight System**

#### **Finding:**

The proposed amendments update the Freight System Element of the TSP, including a revised roadway freight map (Exhibit 10, Figure 11-6). The proposed amendments are consistent with the OHP.

### **Policy 1D: Scenic Byways**

#### **Finding:**

Oregon Scenic Byways are not located within the Basalt Creek urban growth boundary expansion area. The proposed amendments are consistent with the OHP.

### **Policy 1F: Highway Mobility Standards**

#### **Finding:**

The proposed amendments identify the roadway system Functional Classification and Lane Numbers maps adequate to meet anticipated travel needs. This evaluation included all ODOT and other facilities within area and assessed the system performance based on the applicable

mobility standards, including OHP mobility targets and standards, as well as the Regional Transportation Functional Plan interim mobility deficiency thresholds and operating standards.

No deficiency locations were identified in this analysis. As urban growth occurs in the Basalt Creek Planning Area over time, additional monitoring of system performance is anticipated. The proposed amendments are consistent with the OHP.

### **Policy 1G: Major Improvements**

#### **Finding:**

The proposed amendments provide for identified transportation improvements. These roadway improvements will be developed by the appropriate agencies (City, County and/or State). The City roadway improvements are governed by City of Tualatin public works permit process as discussed under TPR section -0050 above. These regulations provide an improvement process consistent with the requirements of the OHP. The proposed amendments do not change these requirements. The City of Tualatin TSP addresses the type of and function of transportation improvement and the public works permit process is consistent with the requirements of this section. The proposed amendments are consistent with the OHP.

### **Policy 2G: Rail and Highway Compatibility**

#### **Finding:**

The City TSP encourages the safe, efficient operation of railroad facilities. The proposed amendments does not change these requirements or propose any new rail crossings. The proposed amendments are consistent with the OHP.

### **Policy 3A: Classification and Spacing Standards**

#### **Finding:**

The proposed amendments propose control access spacing standard along certain arterials and other state routes. The proposed amendments make no changes to the requirements associated with interim access locations. The proposed amendments are consistent with the OHP.

### **Policy 3B: Medians**

#### **Finding:**

The proposed amendments do not identify any median locations or treatments. TDC Chapter 75 and the TSP describe median treatments and traffic operations and calming that apply throughout the Basalt Creek planning area. These standards control the design and placement of medians on roadways. City road standards identify median treatments consistent with the OHP. The proposed amendments are consistent with the OHP.

### **Policy 3C: Interchange Access Management Areas**

**Finding:**

The proposed amendments do not make any changes to the previously adopted plan for any interchange area. The proposed amendments are consistent with the OHP.

**Policy 3D: Deviations**

**Finding:**

The proposed amendments do not make any requests for deviations to state highway standards. The proposed amendments are consistent with the OHP.

**Policy 4A: Efficiency of Freight Movement**

**Finding:**

The proposed amendments identify an appropriate roadway freight system plan for the Basalt Creek urban growth boundary expansion area consistent with State Highway Freight System designations. The proposed amendments are consistent with the OHP.

**Policy 4D: Transportation Demand Management**

**Finding:**

The previously adopted and acknowledged TSP (Ordinance #1354-13 (File No. PTA-12-02)), adopted a TDM policy and system element (TSP Chapter 2) that is consistent with the requirements of the OHP. The proposed amendments do not change these elements of the TSP. The proposed amendments are consistent with the OHP.

**Section E: Metro Code**

**The following Chapters and Titles of Metro Code are applicable to the proposed amendments:**

**Chapter 3.07, Urban Growth Management Functional Plan**

**Title 1 – Requirements for Housing and Employment Accommodation**

**This section of the Functional Plan facilitates efficient use of land within the Urban Growth Boundary (UGB). Each city and county has determined its capacity for providing housing and employment which serves as their baseline and if a city or county chooses to reduce capacity in one location, it must transfer that capacity to another location. Cities and counties must report changes in capacity annually to Metro.**

**Finding:**

The proposed amendments would apply residential and employment areas to the City (Exhibit 11, Map 9-1). The requirements of Title 1 pertain to reductions in residential or employment uses. As the proposed amendments would be implementing the Basalt Creek Concept Plan



land use plan, both residential and employment uses will be expanded. The proposed amendments are consistent with Title 1.

### **Title 3 – Water Quality and Flood Management**

**This section of the Functional Plan acts to protect beneficial water uses and functions. Additionally, this section addresses mitigation of the impact of flooding of developed areas.**

#### **Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan. As discussed previously, compliance with Title 3 is administered in Tualatin by Clean Water Services. Future development in Tualatin will be comply with Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) requirements. Sensitive areas such as vegetated corridors surrounding streams and wetland habitat are identified, protected and maintained by Clean Water Services. The Basalt Creek Planning Area does not have any areas presently mapped as floodplain or regulatory floodway by the Federal Emergency Management Agency (FEMA), though the requirements of the City's floodplain management code in TDC Chapter 70 would be applicable upon annexation to Tualatin. The proposed amendments are consistent with Title 3.

### **Title 4 – Industrial and Other Employment Areas**

**Title 4 of the Metro Plan establishes a regional framework for economic organization. Key industrial areas are identified by Metro to capitalize on a more regional perspective. The Title calls for clustering of industrial areas.**

#### **Finding:**

The Basalt Creek area was identified in 2004 as a key industrial area by Metro and added to the UGB's of Wilsonville and Tualatin with the intent of growing the industrial areas that already exist in this part of the region. This designation also capitalized on the proximity of the area to key transportation corridors, specifically Highway 99W and I-5. The area was labeled as Industrial by Metro, however it is important to note that the areas was not deemed a Regionally Significant Industrial Area (RSIA). The proposed amendments would apply the Manufacturing Park (MP) zoning designation to a portion of the Basalt Creek Planning Area, This zoning designation is considered to be "industrial" by Metro Standards and will allow for approximately 92.95 net buildable acres of future development. The proposed amendments are consistent with Title 4.

### **Title 7 – Housing Choice**

**This voluntary section of the functional plan will ensure that all cities and counties in the region are providing opportunities for affordable housing for households of all income levels.**

**Finding:**

Title 7 is generally applicable to a City government, calling for programs and incentives for housing choices. A range of housing afforded within the plan area does work to implement the intent of the Title. Though housing designations are included in the Basalt Creek Concept Plan, this Title is generally not applicable.

**Title 8 – Compliance Procedures**

**Finding:**

Title 8 sets forth Metro's procedures for determining compliance with the Urban Growth Management Functional Plan (UGMFP). Included in this title are steps local jurisdictions must take to ensure that Metro has the opportunity to review amendments to comprehensive plans. Title 8 requires jurisdictions to submit notice to Metro at least 35 days prior to the first evidentiary hearing for a proposed amendment to a comprehensive plan. Consistent with Title 8, staff sent a copy of the proposed amendments to Metro on March 4, 2019, 35 days prior to the first evidentiary hearing. The proposed amendments are consistent with Title 8.

**Title 11 – Planning for New Urban Areas**

**3.07.1120 Planning for Areas Added to the UGB.**

- A. The county or city responsible for comprehensive planning of an area, as specified by the intergovernmental agreement adopted pursuant to section 3.07.1110(c)(7) or the ordinance that added the area to the UGB, shall adopt comprehensive plan provisions and land use regulations for the area to address the requirements of subsection (c) by the date specified by the ordinance or by section 3.07.1455(b)(4) of this chapter.**
- B. If the concept plan developed for the area pursuant to section 3.07.1110 assigns planning responsibility to more than one city or county, the responsible local governments shall provide for concurrent consideration and adoption of proposed comprehensive plan provisions unless the ordinance adding the area to the UGB provides otherwise.**
- C. Comprehensive plan provisions for the area shall include:**
  - 1. Specific plan designation boundaries derived from and generally consistent with the boundaries of design type designations assigned by the Metro Council in the ordinance adding the area to the UGB;**

**Finding:**

In 2004, Metro identified the Basalt Creek area as a good candidate for industrial development because it is near I-5, adjacent to Wilsonville's industrial area development because it is near I-5, adjacent to Wilsonville's industrial area to the south, and contains large, flat sites suitable for industrial users. Metro passed Ordinance No 14-1040B to annex the area into the existing Urban Growth Boundary (UGB), to ensure sufficient regional supply of land for employment growth over the next twenty years. In 2011 four jurisdictions entered into an Intergovernmental Agreement for the purposes of jointly planning the Basalt Creek Concept Plan area. The Cities of Tualatin and

Wilsonville, Washington County and Metro all signed the agreement and reaffirmed this commitment when the IGA was reinstated in September of 2016. The original IGA in 2011 identified that the partner agencies would consider both the Basalt Creek and the West Railroad area as single concept plan called the Basalt Creek Planning Area. The Cities and the County agreed to work together to complete integrated land use and transportation system concept planning to assure carefully planned development in the Basalt Creek Planning Area that will be a benefit to the County, Cities and their residents.

The Basalt Creek Planning Area is located near one of the region's largest clusters of employment land, including existing developed areas in Tualatin, Wilsonville, and Sherwood and planned future employment areas of Southwest Tualatin, Tonquin Employment Area, and Coffee Creek. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region. In the most recent Metro forecast for the area (Gamma Version provided at TAZ level), Basalt Creek planning area was expected to accommodate about 1,200 new housing units and 2,300 new jobs (mostly industrial, with some service jobs and few retail jobs). The Buildable Lands Analysis (Exhibit 2) influenced the most appropriate locations for employment-based land uses within the planning area. The proposed land use designations are consistent with Ordinance 14-1040B. The area is mapped and identified as an "Industrial Area" in Metro's Title 4 Code. The majority of the acreage in the Basalt Creek Planning Area is designated for employment use by the Concept Plan. The land use designations provide for a range of industrial development types including manufacturing, warehouse, and office uses (Exhibit 11, Map 9-1).

While the major purpose of the area is to provide land for employment opportunities, the Basalt Creek Concept Plan also includes some residential areas to the north and northeast of the proposed jurisdictional boundary, which will be in the City of Tualatin following adoption. Using the land suitability analysis, and looking at adjacent land uses, the project team identified appropriate land use designations for properties within the planning area. These land use designations were further refined and appropriate densities selected to provide for regional employment capacity and housing while limiting traffic congestion. The mix of housing types proposed was designed to coordinate with existing adjacent residential neighborhoods. The mix includes low, medium-low and high-density housing, which provides the opportunity for a range of different housing types, tenure and prices. It is not necessary for this designation to be removed from the residential land already identified in the northern portion of the of the Basalt Creek area upon adoption of the Concept Plan. Ordinance No 14-1040B allowed for land north of the "South Alignment" of the connector right of way to be designated Outer Neighborhood.

The proposed amendments are consistent with the Basalt Creek Concept Plan. Included in the Basalt Creek Concept Plan Appendixes (Exhibit 3) are a detailed analysis of the plan's consistency with the Metro Urban Growth Management Functional

Plan. The City adopts this analysis as part of the proposed amendments. Land within the Basalt Creek Planning Area the Metro UGB in 2004. The proposed amendments would apply the Tualatin Comprehensive Plan and Development Code to properties within the area, upon annexation to Tualatin. As discussed below, interim protection for the Basalt Creek Planning Area, until annexation to Tualatin, will be implemented by Washington County. The proposed amendments are consistent with Title 11.

**2. Provision for annexation to a city and to any necessary service districts prior to, or simultaneously with, application of city land use regulations intended to comply with this subsection;**

**Finding:**

The Basalt Creek Concept Plan established a new jurisdictional boundary between Tualatin and Wilsonville in order to determine which parts of the planning area can be annexed into and served by each city in the future. Both cities comprehensive plans require annexation prior to or simultaneous with a development application. The Basalt Creek Concept Plan includes a provision that this area is added to existing urban services agreements. Ensuring service provision is also a requirement of City of Wilsonville code and a component of the Urban Planning Area Agreements each City has with Washington County. City of Tualatin's development code (Section 33.010) currently calls out an annexation procedure "to be used in conjunction with Metro Code 3.08 and Oregon Revised Statutes for annexing territory to the City Limits." This criterion is met.

**3. Provisions that ensure zoned capacity for the number and types of housing units, if any, specified by the Metro Council pursuant to Metro Code 3.01.040(b)(2);**

**Finding:**

Number and types of housing units was not specified by the Metro Council as part of Ordinance No. 14-1040b. This criterion is not applicable.

**4. Provision for affordable housing consistent with Title 7 of the Urban Growth Management Functional Plan if the comprehensive plan authorizes housing in any part of the area;**

**Finding:**

Housing was not specifically required by Metro at the time of expansion of the UGB in the Basalt Creek Planning area in 2004. However, the implementing Metro Ordinance, No. 14-1040b allowed some residential to be included in the planning area. A mixture of housing types and densities are proposed in the Basalt Creek Concept Plan including High Density Housing (Exhibit 11, Map 9-1). This criterion is met.

**5. Provision for the amount of land and improvements needed, if any, for public**

**school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which included the opportunity for public school facility planning in accordance with ORS 195.110 by the school district for the Basalt Creek Planning Area, the Sherwood School District. Confirmation was received from the Sherwood School District it presently does not have plans to locate school facilities within the planning area. (Exhibit 3, Page 219). This criterion is met.

**6. Provision for the amount of land and improvements needed, if any, for public park facilities sufficient to serve the area added to the UGB in coordination with affected park providers;**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which did identified a need for a park within the area without identifying a specific site. The facilities for provision of and parks will be determined and funded as development occurs in the area and will be based on level of service standards, consistent with the Tualatin Parks Master Plan. This criterion is met.

**7. A conceptual street plan that identifies internal street connections and connections to adjacent urban areas to improve local access and improve the integrity of the regional street system. For areas that allow residential or mixed-use development, the plan shall meet the standards for street connections in the Regional Transportation Functional Plan;**

**Finding:**

The proposed amendments include a conceptual street plan that identifies internal street connections and connections to adjacent urban areas to improve local access and improve the integrity of the regional street system (Exhibit 10, Figure 11-3) consistent with the standards for street connections in the Regional Transportation Functional Plan. This criterion is met.

**8. Provision for the financing of local and state public facilities and services; and**

**Finding:**

The proposed amendments would allow for the application of the Tualatin Comprehensive Plan, Development Code, and Transportation System Plan to the Basalt Creek Planning Area upon annexation of individual properties, which include applicable provisions for the financing of local and state public facilities and services

through TDC Chapters 11 (and corresponding TSP Chapter 3), 12, and 13. This criterion is met.

**9. A strategy for protection of the capacity and function of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.**

**Finding:**

Findings regarding the transportation system, including applicable protections of the capacity and function of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges are addressed above under OAR Chapter 660 Division 12 (Section C) and the OHP (Section D). This criterion is met.

**Title 12 – Protection of Residential Neighborhoods**

**The purpose of this title is to protect the region’s existing residential neighborhoods from air and water pollution, noise and crime, and to provide adequate levels of public services.**

**Finding:**

The proposed amendments would allow for the application of the Tualatin Comprehensive Plan, and Development Code to the Basalt Creek Planning Area upon annexation of individual properties, which include applicable regulatory protections for existing residential neighborhoods from air and water pollution, noise and crime, and ensure provision of adequate levels of public services (TDC Chapter 63 (Industrial Uses and Utilities and Manufacturing Zones - Environmental Regulations). Further, the proposed zoning districts were arranged so as to help protecting existing neighborhoods (Exhibit 2, Page 13). The proposed amendments are consistent with Title 12.

**Title 13 – Nature in Neighborhoods**

**The purpose of this title is to conserve, protect and restore a continuous ecologically viable streamside corridor system that is integrated with upland wildlife habitat and the surrounding urban landscape.**

**Finding:**

Compliance with Title 13 is satisfied by Tualatin’s participation in the Tualatin Basin Plan and previously adopted amendments to the Comprehensive Plan and Development Code. The TDC will apply to the Basalt Creek area upon adoption and annexation of any property to Tualatin. The conservation areas as mapped by Metro will be administered and protected by Clean Water Services. Future development in Tualatin must comply with Clean Water Services’ Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat. The proposed amendments are consistent with Title 13.

## **Chapter 3.08, Regional Transportation Functional Plan**

### **Finding:**

The proposed amendments include an update to the City's Transportation System Plan (TSP). The current Tualatin TSP, as well as the proposed amendments, are consistent with the Regional Transportation Plan (RTP), the Regional Active Transportation Plan (RATP), and Title 2 "Development and Update of Transportation System Plans" of the Regional Transportation Functional Plan (RTFP) Sections 210, 220, and 230. The proposed TSP update includes proposed updates to the roadway and active transportation system. The transportation system designations adopted in the proposed amendments are consistent with the designations identified in Metro's 2018 RTP. As described in the Goal 12 findings above, the proposed updated TSP and associated updates to Figures 11-1 through 11-6 of the Comprehensive Plan continue to provide a system of transportation facilities and services adequate to meet identified transportation needs consistent with the RTP. The proposed amendments comply with the requirements of the RTFP.

### **Title 1, Transportation System Design**

#### **3.08.110 Street System Design**

**A. To ensure that new street construction and re-construction projects are designed to improve safety, support adjacent land use and balance the needs of all users, including bicyclists, transit vehicles, motorists, freight delivery vehicles and pedestrians of all ages and abilities, city and county street design regulations shall allow implementation of:**

- 1. Complete street designs as set forth in Creating Livable Streets: Street Design Guidelines for 2040 (2nd Edition, 2002), or similar resources consistent with regional street design policies;**
- 2. Green street designs as set forth in Green Streets: Innovative Solutions for Stormwater and Street Crossings (2002) and Trees for Green Streets: An Illustrated Guide (2002) or similar resources consistent with federal regulations for stream protection; and**
- 3. Transit-supportive street designs that facilitate existing and planned transit service pursuant subsection 3.08.120B.**

**B. City and county local street design regulations shall allow implementation of:**

- 1. Pavement widths of less than 28 feet from curb-face to curb-face;**
- 2. Sidewalk widths that include at least five feet of pedestrian through zones;**
- 3. Landscaped pedestrian buffer strips, or paved furnishing zones of at least five feet, that include street trees;**
- 4. Traffic calming devices, such as speed bumps and cushions, woonerfs and chicanes, to discourage traffic infiltration and excessive speeds;**
- 5. Short and direct right-of-way routes and shared-use paths to connect residences with commercial services, parks, schools, hospitals, institutions, transit corridors, regional trails and other neighborhood activity centers; and**

**6. Opportunities to extend streets in an incremental fashion, including posted notification on streets to be extended.**

**C. To improve connectivity of the region's arterial system and support walking, bicycling and access to transit, each city and county shall incorporate into its TSP, to the extent practicable, a network of major arterial streets at one-mile spacing and minor arterial streets or collector streets at half-mile spacing considering the following:**

- 1. Existing topography;**
- 2. Rail lines;**
- 3. Freeways;**
- 4. Pre-existing development;**
- 5. Leases, easements or covenants in place prior to May 1, 1995; and**
- 6. The requirements of Titles 3 and 13 of the Urban Growth Management Functional Plan (UGMFP).**
- 7. Arterial design concepts in Table 2.6 and Figure 2.11 of the RTP.**
- 8. Best practices and designs as set forth in Green Streets: Innovative Solutions for Stormwater, Street Crossings (2002) and Trees for Green Streets: An Illustrated Guide (2002), Creating Livable Streets: Street Design Guidelines for 2040 (2nd Edition, 2002), and state or locally-adopted plans and best practices for protecting natural resources and natural areas.**

**D. To improve local access and circulation, and preserve capacity on the region's arterial system, each city and county shall incorporate into its TSP a conceptual map of new streets for all contiguous areas of vacant and re-developable lots and parcels of five or more acres that are zoned to allow residential or mixed-use development. The map shall identify street connections to adjacent areas to promote a logical, direct and connected system of streets and should demonstrate opportunities to extend and connect new streets to existing streets, provide direct public right-of-way routes and limit closed-end street designs consistent with subsection E.**

**E. If proposed residential or mixed-use development of five or more acres involves construction of a new street, the city and county regulations shall require the applicant to provide a site plan that:**

- 1. Is consistent with the conceptual new streets map required by subsection D;**
- 2. Provides full street connections with spacing of no more than 530 feet between connections, except if prevented by barriers such as topography, rail lines, freeways, pre-existing development, leases, easements or covenants that existed prior to May 1, 1995, or by requirements of Titles 3 and 13 of the UGMFP;**
- 3. If streets must cross water features protected pursuant to Title 3 UGMFP, provides a crossing every 800 to 1,200 feet unless habitat quality or the length of the crossing prevents a full street connection;**
- 4. If full street connection is prevented, provides bicycle and pedestrian accessways on public easements or rights-of-way spaced such that accessways are not more than 330 feet apart, unless not possible for the reasons set forth in paragraph 3;**
- 5. Provides for bike and pedestrian accessways that cross water features protected pursuant to Title 3 of the UGMFP at an average of 530 feet between accessways unless habitat quality or the length of the crossing prevents a connection;**



**6. If full street connection over water features protected pursuant to Title 3 of the UGMFP cannot be constructed in centers as defined in Title 6 of the UGMFP or Main Streets shown on the 2040 Growth Concept Map, or if spacing of full street connections exceeds 1,200 feet, provides bike and pedestrian crossings at an average of 530 feet between accessways unless habitat quality or the length of the crossing prevents a connection;**

**7. Limits cul-de-sac designs or other closed-end street designs to circumstances in which barriers prevent full street extensions and limits the length of such streets to 200 feet and the number of dwellings along the street to no more than 25; and**

**8. Provides street cross-sections showing dimensions of right-of-way improvements and posted or expected speed limits.**

**F. For redevelopment of contiguous lots and parcels less than five acres in size that require construction of new streets, cities and counties shall establish their own standards for local street connectivity, consistent with subsection E.**

**G. To protect the capacity, function and safe operation of existing and planned state highway interchanges or planned improvements to interchanges, cities and counties shall, to the extent feasible, restrict driveway and street access in the vicinity of interchange ramp terminals, consistent with Oregon Highway Plan Access Management Standards, and accommodate local circulation on the local system to improve safety and minimize congestion and conflicts in the interchange area. Public street connections, consistent with regional street design and spacing standards in this section, shall be encouraged and shall supercede this access restriction, though such access may be limited to right-in/right-out or other appropriate configuration in the vicinity of interchange ramp terminals. Multimodal street design features including pedestrian crossings and on-street parking shall be allowed where appropriate.**

**Finding:**

The proposed amendments are consistent with the 2014 TSP (Ord. No. 1354-13) which was deemed to be compliant with the RTFP at that time. These criteria are met.

**3.08.120 Transit System Design**

**A. City and county TSPs or other appropriate regulations shall include investments, policies, standards and criteria to provide pedestrian and bicycle connections to all existing transit stops and major transit stops designated in Figure 2.15 of the RTP.**

**B. City and county TSPs shall include a transit plan, and implementing land use regulations, with the following elements to leverage the region's investment in transit and improve access to the transit system:**

**1. A transit system map consistent with the transit functional classifications shown in Figure 2.15 of the RTP that shows the locations of major transit stops, transit centers, high capacity transit stations, regional bicycle transit facilities, inter-city bus and rail passenger terminals designated in the RTP, transit-priority treatments such as signals, regional bicycle transit facilities, park-and-ride facilities, and bicycle and pedestrian**

routes, consistent with sections 3.08.130 and 3.08.140, between essential destinations and transit stops.

**2. The following site design standards for new retail, office, multi-family and institutional buildings located near or at major transit stops shown in Figure 2.15 in the RTP:**

**a. Provide reasonably direct pedestrian connections between transit stops and building entrances and between building entrances and streets adjoining transit stops;**

**b. Provide safe, direct and logical pedestrian crossings at all transit stops where practicable;**

**c. At major transit stops, require the following:**

**i. Locate buildings within 20 feet of the transit stop, a transit street or an intersecting street, or a pedestrian plaza at the stop or a street intersection;**

**ii. Transit passenger landing pads accessible to disabled persons to transit agency standards;**

**iii. An easement or dedication for a passenger shelter and an underground utility connection to a major transit stop if requested by the public transit provider; and**

**iv. Lighting to transit agency standards at the major transit stop.**

**v. Intersection and mid-block traffic management improvements as needed and practicable to enable marked crossings at major transit stops.**

**C. Providers of public transit service shall consider and document the needs of youth, seniors, people with disabilities and environmental justice populations, including minorities and low-income families, when planning levels of service, transit facilities and hours of operation.**

**Finding:**

The proposed amendments are consistent with the 2014 TSP which was deemed to be compliant with the RTFP at that time. Chapter 72A (Site Design) requires development on a transit street designated in TDC Chapter 11 (Figure 11-5) to provide either a transit stop pad on-site, or an on-site or public sidewalk connection to a transit stop along the subject property's frontage on the transit street. These criteria are met.

**3.08.130 Pedestrian System Design**

**A. City and county TSPs shall include a pedestrian plan, with implementing land use regulations, for an interconnected network of pedestrian routes within and through the city or county. The plan shall include:**

**1. An inventory of existing facilities that identifies gaps and deficiencies in the pedestrian system;**

**2. An evaluation of needs for pedestrian access to transit and essential destinations for all mobility levels, including direct, comfortable and safe pedestrian routes.**

**3. A list of improvements to the pedestrian system that will help the city or county achieve the regional Non-SOV modal targets in Table 3.08-1 and other targets established pursuant to section 3.08.230;**

**4. Provision for sidewalks along arterials, collectors and most local streets, except that sidewalks are not required along controlled roadways, such as freeways; and**

**5. Provision for safe crossings of streets and controlled pedestrian crossings on major arterials.**

**B. As an alternative to implementing section 3.08.120(B)(2), a city or county may establish pedestrian districts in its comprehensive plan or land use regulations with the following elements:**

**1. A connected street and pedestrian network for the district;**

**2. An inventory of existing facilities, gaps and deficiencies in the network of pedestrian routes;**

**3. Interconnection of pedestrian, transit and bicycle systems;**

**4. Parking management strategies;**

**5. Access management strategies;**

**6. Sidewalk and accessway location and width;**

**7. Landscaped or paved pedestrian buffer strip location and width;**

**8. Street tree location and spacing;**

**9. Pedestrian street crossing and intersection design;**

**10. Street lighting and furniture for pedestrians; and**

**11. A mix of types and densities of land uses that will support a high level of pedestrian activity.**

**C. City and county land use regulations shall require new development to provide on-site streets and accessways that offer reasonably direct routes for pedestrian travel.**

**Finding:**

The proposed amendments are consistent with the 2014 TSP which was deemed to be compliant with the RTFP at that time. These criteria are met.

**3.08.140 Bicycle System Design**

**A. City and county TSPs shall include a bicycle plan, with implementing land use regulations, for an interconnected network of bicycle routes within and through the city or county. The plan shall include:**

**1. An inventory of existing facilities that identifies gaps and deficiencies in the bicycle system;**

**2. An evaluation of needs for bicycle access to transit and essential destinations, including direct, comfortable and safe bicycle routes and secure bicycle parking, considering TriMet Bicycle Parking Guidelines.**

**3. A list of improvements to the bicycle system that will help the city or county achieve the regional Non-SOV modal targets in Table 3.08-1 and other targets established pursuant to section 3.08.230;**

**4. Provision for bikeways along arterials, collectors and local streets, and bicycle parking in centers, at major transit stops shown in Figure 2.15 in the RTP, park-and-ride lots and associated with institutional uses; and**

## **5. Provision for safe crossing of streets and controlled bicycle crossings on major arterials.**

### **Finding:**

The proposed amendments are consistent with the 2014 TSP which was deemed to be compliant with the RTFP at that time. All roadway facilities identified within the TSP with a functional classification of collector or greater are required to have bicycle facilities. These criteria are met.

### **3.08.150 Freight System Design**

**A. City and county TSPs shall include a freight plan, with implementing land use regulations, for an interconnected system of freight networks within and through the city or county. The plan shall include:**

**1. An inventory of existing facilities that identifies gaps and deficiencies in the freight system;**

**2. An evaluation of freight access to freight intermodal facilities, employment and industrial areas and commercial districts; and**

**3. A list of improvements to the freight system that will help the city or county increase reliability of freight movement, reduce freight delay and achieve the targets established pursuant to section 3.08.230.**

### **Finding:**

The proposed amendments are consistent with the 2014 TSP which was deemed to be compliant with the RTFP at that time. These criteria are met.

### **3.08.160 Transportation System Management and Operations**

**A. City and county TSPs shall include transportation system management and operations (TSMO) plans to improve the performance of existing transportation infrastructure within or through the city or county. A TSMO plan shall include:**

**1. An inventory and evaluation of existing local and regional TSMO infrastructure, strategies and programs that identifies gaps and opportunities to expand infrastructure, strategies and programs;**

**2. A list of projects and strategies, consistent with the Regional TSMO Plan, based upon consideration of the following functional areas:**

**a. Multimodal traffic management investments, such as signal timing, access management, arterial performance monitoring and active traffic management;**

**b. Traveler information investments, such as forecasted traffic conditions and carpool matching;**

**c. Traffic incident management investments, such as incident response programs; and**

**d. Transportation demand management investments, such as individualized marketing programs, rideshare programs and employer transportation programs.**

**Finding:**

The Tualatin TSP includes a TSMO plan (Tables 17-19). The proposed amendments are consistent with this plan. The Tualatin Development Code (Chapters 74 and 75), Comprehensive Plan (Chapter 11), associated figures (Exhibit 10, Figure 11-1, 11-2, 11-3, 11-4, 11-5, and 11-6), TSP (Figure 1), and the Public Works Construction Standards (Tualatin Municipal Code Chapter 02-03), provide street improvement standards consistent with all the requirements of Title 1. The Tualatin TSP was previously updated in 2014 (Ordinance #1354-13 (File No. PTA-12-02)), at which time it was deemed to be in conformance with all the requirements of Title 1. The proposed amendments and associated TSP Update adjusts the facilities within the Basalt Creek urban growth expansion area to include a plan for systems consistent with the requirements of this section, and therefore is consistent with Title 1.

**Title 2, Development and Update of Transportation System Plans**

**3.08.210 Transportation Needs**

**A. Each city and county shall update its TSP to incorporate regional and state transportation needs identified in the 2035 RTP and its own transportation needs. The determination of local transportation needs shall be based upon:**

- 1. System gaps and deficiencies identified in the inventories and analysis of transportation systems pursuant to Title 1;**
- 2. Identification of facilities that exceed the Deficiency Thresholds and Operating Standards in Table 3.08-2 or the alternative thresholds and standards established pursuant to section 3.08.230;**
- 3. Consideration and documentation of the needs of youth, seniors, people with disabilities and environmental justice populations within the city or county, including minorities and low-income families.**

**B. A city or county determination of transportation needs must be consistent with the following elements of the RTP:**

- 1. The population and employment forecast and planning period of the RTP, except that a city or county may use an alternative forecast for the city or county, coordinated with Metro, to account for changes to comprehensive plan or land use regulations adopted after adoption of the RTP;**
- 2. System maps and functional classifications for street design, motor vehicles, transit, bicycles, pedestrians and freight in Chapter 2 of the RTP; and**
- 3. Regional non-SOV modal targets in Table 3.08-1 and the Deficiency Thresholds and Operating Standards in Table 3.08-2.**

**C. When determining its transportation needs under this section, a city or county shall consider the regional needs identified in the mobility corridor strategies in Chapter 4 of the RTP.**

**Finding:**

Transportation needs were identified as part of the Basalt Creek Transportation Refinement Plan (Exhibit 3, Page 318), which would be met by adoption of the proposed amendments. The proposed amendments, as well as previously adopted and acknowledged ordinances

(Ordinance No. 1354-13 (File No. PTA-12-02)), are consistent with the above referenced provisions. Specifically:

- The proposed TSP updates are consistent with the mobility principles identified in the 2018 RTP.
- The proposed TSP updates are consistent with the needs identified in the mobility corridor #3 Tigard to Wilsonville.

### **3.08.220 Transportation Solutions**

**A. Each city and county shall consider the following strategies, in the order listed, to meet the transportation needs determined pursuant to section 3.08.210 and performance targets and standards pursuant to section 3.08.230. The city or county shall explain its choice of one or more of the strategies and why other strategies were not chosen:**

- 1. TSMO strategies, including localized TDM, safety, operational and access management improvements;**
- 2. Transit, bicycle and pedestrian system improvements;**
- 3. Traffic-calming designs and devices;**
- 4. Land use strategies in OAR 660-012-0035(2) to help achieve the thresholds and standards in Tables 3.08-1 and 3.08-2 or alternative thresholds and standards established pursuant to section 3.08.230;**
- 5. Connectivity improvements to provide parallel arterials, collectors or local streets that include pedestrian and bicycle facilities, consistent with the connectivity standards in section 3.08.110 and design classifications in Table 2.6 of the RTP, in order to provide alternative routes and encourage walking, biking and access to transit; and**
- 6. Motor vehicle capacity improvements, consistent with the RTP Arterial and Throughway Design and Network Concepts in Table 2.6 and section 2.5.2 of the RTP, only upon a demonstration that other strategies in this subsection are not appropriate or cannot adequately address identified transportation needs.**

**B. A city or county shall coordinate its consideration of the strategies in subsection A with the owner of the transportation facility affected by the strategy. Facility design is subject to the approval of the facility owner.**

**C. If analysis under subsection 3.08.210A indicates a new regional or state need that has not been identified in the RTP, the city or county may propose one of the following actions:**

- 1. Propose a project at the time of Metro review of the TSP to be incorporated into the RTP during the next RTP update; or**
- 2. Propose an amendment to the RTP for needs and projects if the amendment is necessary prior to the next RTP update.**

#### **Finding:**

The proposed TSP update, as well as previously adopted and acknowledged ordinances (Ordinance #1354-13 (File No. PTA-12-02)), are consistent with these provisions. Specifically:

- The previously adopted includes a TSMO plan (Tables 17-19). The proposed amendments are consistent with this plan.
- The previously adopted TSP identifies coordination strategies consistent with the RTFP and identifies a process consistent with the RTFP for consideration of motor vehicle capacity improvements with the RTP and the OHP policy 1G (Exhibit 9, Page 20).
- The Basalt Creek Transportation Refinement Plan (Exhibit 3, Page 313) considered the steps identified in the RTFP as necessary prior to adding motor vehicle capacity and recommended the major system improvements identified in the proposed TSP update.
- The projects identified in the proposed TSP update (Exhibit 9, Pages 26-36) are consistent with the projects listed in the 2018 RTP.

Therefore, the proposed TSP update are consistent with the requirements of this section of the RTFP.

### **3.08.230 Performance Targets and Standards**

**A. Each city and county shall demonstrate that solutions adopted pursuant to section 3.08.220 will achieve progress toward the targets and standards in Tables 3.08-1, and 3.08-2 and measures in subsection D, or toward alternative targets and standards adopted by the city or county pursuant to subsections B and, C. The city or county shall include the regional targets and standards or its alternatives in its TSP.**

**B. A city or county may adopt alternative targets or standards in place of the regional targets and standards prescribed in subsection A upon a demonstration that the alternative targets or standards:**

- 1. Are no lower than the modal targets in Table 3.08-1 and no lower than the ratios in Table 3.08-2;**
- 2. Will not result in a need for motor vehicle capacity improvements that go beyond the planned arterial and throughway network defined in Figure 2.12 of the RTP and that are not recommended in, or are inconsistent with, the RTP; and**
- 3. Will not increase SOV travel to a degree inconsistent with the non-SOV modal targets in Table 3.08-1.**

**C. If the city or county adopts mobility standards for state highways different from those in Table 3.08-2, it shall demonstrate that the standards have been approved by the Oregon Transportation Commission.**

**D. Each city and county shall also include performance measures for safety, vehicle miles traveled per capita, freight reliability, congestion, and walking, bicycling and transit mode shares to evaluate and monitor performance of the TSP.**

**E. To demonstrate progress toward achievement of performance targets in Tables 3.08-1 and 3.08-2 and to improve performance of state highways within its jurisdiction as much as feasible and avoid their further degradation, the city or county shall adopt the following:**

- 1. Parking minimum and maximum ratios in Centers and Station Communities consistent with subsection 3.08.410A;**
- 2. Designs for street, transit, bicycle, freight and pedestrian systems consistent with Title 1; and**

**3. TSMO projects and strategies consistent with section 3.08.160; and  
4. Land use actions pursuant to OAR 660-012-0035(2).**

**Finding:**

The proposed TSP update as well as previously adopted and acknowledged ordinances (Ordinance #1354-13 (File No. PTA-12-02)), is consistent with all of the provisions.

Specifically:

- The previously adopted TSP identified interim performance targets and standards consistent with the RTFP. The City has not adopted alternative targets, and has not applied mobility standards different from those identified in the RTFP.
- The Basalt Creek Transportation Refinement Plan identified and calculated system performance measures consistent with the requirements of the RTFP. These measures were utilized to inform the planning processes necessary to develop the proposed TSP Update.
- City of Tualatin chapter 73C of the Tualatin Development Code has parking standards consistent with all the requirements of this section. The existing TSP was deemed to be in compliance with parking minimums and maximums consistent with the RTFP.
- The City of Tualatin Public Works Construction Code provide for a transportation system design consistent with the requirements of the RTFP.
- The previously adopted TSP provided for the management and operation of the transportation system consistent with the requirements of the RTFP.
- As described in the technical documents, the analysis for the development of the proposed TSP Update was based on the population and employment forecasts documented 2018 RTP and consistent with OAR 660-012-0035(2) (Exhibit 9).

**Title 3** This section pertains to the general location and size of transportation facilities.

**Finding:**

The proposed amendments update the planned size of a transportation facility consistent with the requirements of the RTFP.

**Title 4** This section pertains to parking management and standards.

**Finding:**

The previously adopted TSP (Ordinance #1354-13 (File No. PTA-12-02)) includes provisions for parking minimums and maximums consistent with the RTFP.

- Specifically, TDC Chapter 73C has parking standards consistent with all the requirements of this section.

**Title 5** This section pertains to amendment of the Comprehensive Plan and the TSP.

**Finding:**

The proposed amendments were developed based on the policy framework identified in the TSP and the projects identified are consistent with the projects identified in the 2018 RTP. As



described previously in these findings, this process is consistent with all of the requirements of the RTFP.

**Title 6** This section pertains to requirements associated with amendments to the City TSP.

**Finding:**

The adoption of the proposed TSP update and associated technical appendices (Ordinance #1354-13 (File No. PTA-12-02)) complied with the RTFP requirement for an update of the TSP. The proposed amendments make no amendments that would be inconsistent with the RTFP.

**Metro Ordinance No. 14-1040B Conditions on Addition of Land to UGB**

When the Basalt Creek Planning Area was added to the Metro Urban Growth Boundary (UGB), certain conditions were imposed on the land as contained in Metro Ordinance No. 14-1040B (including “Exhibit F”, and attached to these findings as Exhibit 4). This section addresses the Conditions on Addition of Land to the Urban Growth Boundary (UGB) contained in this ordinance.

**Metro Ordinance No. 14-1040B  
Conditions on Addition of Land to the UGB (“Exhibit F”)**

- I. General Conditions Applicable to All Lands Added to the UGB**
  - A. The city or county with land use planning responsibility for a study area included in the UGB shall complete the planning required by Metro Code Title 11, Urban Growth Management Functional Plan (“UGMFP”), section 3.07.1120 (“Title 11 planning”) for the area. Unless otherwise stated in specific conditions below, the city or county shall complete Title 11 planning within two years after the effective date of this ordinance. Specific conditions below identify the city or county responsible for each study area.**

**Finding:**

The Basalt Creek Concept Plan (Exhibits 2 and 3) was formally adopted by Tualatin in August of 2018. The proposed amendments are consistent with the concept plan and would apply the Tualatin Comprehensive Plan and Development Code within the Basalt Creek Planning Area. Condition “A” is met.

- B. The city or county with land use planning responsibility for a study area included in the UGB, as specified below, shall apply the 2040 Growth Concept design types shown on Exhibit E of this ordinance to the planning required by Title 11 for the study area.**

**Finding:**

The proposed amendments would apply 2040 Growth Concept design types. Condition “B” is met.

**C. The city or county with land use planning responsibility for a study area included in the UGB shall apply interim protection standards in Metro Code Title 11, UGMFP, section 3.07.1110, to the study area until the effective date of the comprehensive plan provisions and land use regulations adopted to implement Title 11.**

**Finding:**

The proposed amendments would apply to properties within the Basalt Creek Planning Area upon their annexation. Until annexation to Tualatin, Washington County is the agency responsible for planning for the properties within the area, which all presently have an “FD-20” zoning designation applied. The FD-20 District recognizes the desirability of encouraging and retaining limited interim uses until the urban comprehensive planning for future urban development of these areas is complete. The provisions of this District are also intended to implement the requirements of Metro’s Urban Growth Management Functional Plan. Condition “C” is met.

**D. In Title 11 planning, each city or county with land use planning responsibility for a study area included in the UGB shall recommend appropriate long-range boundaries for consideration by the Council in future expansions of the UGB or designation of urban reserves pursuant to 660 Oregon Administrative Rules Division 21.**

**Finding:**

The Basalt Creek Planning Area is presently within the UGB, having been brought into the UGB in 2004 by Metro. Condition “D” is met.

**E. Each city or county with land use planning responsibility for an area included in the UGB by this ordinance shall adopt provisions – such as setbacks, buffers and designated lanes for movement of slow-moving farm machinery – in its land use regulations to enhance compatibility between urban uses in the UGB and agricultural practices on adjacent land outside the UGB zoned for farm or forest use.**

**Finding:**

The Basalt Creek Planning Area is within the UGB and completely surrounded by lands also located within the UGB, therefore, Condition “E” no longer applies.

**F. Each city or county with land use planning responsibility for a study area included in the UGB shall apply Title 4 of the UGMFP to those portions of the study area designated Regionally Significant Industrial Area (“RSIA”), Industrial Area or Employment Area on the 2040 Growth Concept Map (Exhibit C). If the Council places**

**a specific condition on a RSIA below, the city or county shall apply the more restrictive condition.**

**Finding:**

The proposed amendments would apply the Industrial Area (IA) Design Type to areas with a Manufacturing Park zoning designation (Exhibit 11, Map 9-1 and Map 9-4). To summarize, the proposed amendments are fully consistent within Title 4 of the UGMFP. Condition “F” is met.

**G. In the application of statewide planning Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces) to Title 11 planning, each city and county with land use responsibility for a study area included in the UGB shall comply with those provisions of Title 3 of the UGMFP acknowledged by the Land Conservation and Development Commission (“LCDC”) to comply with Goal 5. If LCDC has not acknowledged those provisions of Title 3 intended to comply with Goal 5 by the deadline for completion of Title 11 planning, the city or county shall consider, in the city or country’s application of Goal 5 to its Title 11 planning, any inventory of regionally significant Goal 5 resources and any preliminary decisions to allow, limit or prohibit conflicting uses of those resources that is adopted by resolution of the Metro Council.**

**Finding:**

Compliance with Goal 5 (and by extension Title 3) is addressed above under the findings for Goal 5 (Section B). Condition “G” is met.

**H. Each city and county shall apply the Transportation Planning Rule (OAR 660 Div 012) in the planning required by subsections F (transportation plan) and J (urban growth diagram) of Title 11.**

**Finding:**

Compliance with the TPR is addressed above under the findings for OAR Chapter 660 Division 12 (Section C). Condition “H” is met.

**II. SPECIFIC CONDITIONS FOR PARTICULAR AREAS**

**D. Tualatin Area**

- 1. Washington County or, upon annexation to the Cities of Tualatin or Wilsonville, the cities, in conjunction with Metro, shall complete Title 11 planning within two years following the selection of the right-of-way alignment for the I-5/99W Connector, or within seven years of the effective date of Ordinance No. 04-1040, whichever occurs earlier.**
- 2. Title 11 planning shall incorporate the general location of the projected right of way alignment for the I-5/99W connector and the Tonquin Trail as shown on the 2004 Regional Transportation Plan. If the selected right-of-way for the connector follows the approximate course of the “South Alignment,” as shown on the**

**Region 2040 Growth Concept Map, as amended by Ordinance No. 03-1014, October 15, 2003, the portion of the Tualatin Area that lies north of the right-of-way shall be designated “Outer Neighborhood” on the Growth Concept Map; the portion that lies south shall be designated “Industrial.”**

- 3. The governments responsible for Title 11 planning shall consider using the I-5/99W connector as a boundary between the city limits of the City of Tualatin and the City of Wilsonville in this area.**

**Finding:**

The proposed amendments do not directly include Title 11 planning. Condition “D” does not apply.

**Section F: Tualatin Comprehensive Plan**

**The following Chapters of the Tualatin Comprehensive Plan are applicable to the proposed amendments:**

**Chapter 4. Community Growth**

**Section 4.050. General Growth Objectives**

- (1) Provide a plan that will accommodate a population range of 22,000 to 29,000 people.**

**Finding:**

The proposed amendments would apply the City’s existing Comprehensive Plan (TDC Chapter 4) and policies, Planning District designations (Exhibit 14, Map 9-1), and Development Code regulations (TDC Chapters 31-80) regulations consistent with the Basalt Creek Concept Plan and envision future growth consistent with local and regional needs. The Certified Population for Tualatin in 2017, the most recently available figure, was 26,960. The aforementioned Planning District designations in the Basalt Creek Planning Area is projected to result in the creation of 575 new households at full build-out (Exhibit 2, Page 31 – Table 3: Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction), resulting in a population range between 22,000 and 29,000. This objective is met.

- (4) Provide a plan that will create an environment for the orderly and efficient transition from rural to urban land uses.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which included provisions for orderly and efficient transition from rural to urban land uses (Exhibit 3, Page 12 - Local & Regional Planning Context). Urban services such as utilities (Exhibit 11, Maps 12-1 and 13-1) will be extended as properties annex into Tualatin. Existing and planned roadway designations (Exhibit 10, Figure 11-1) have been planned for capacity to serve urban levels of development and include bike lanes

and sidewalks as the area develops consistent with an urban standard (Exhibit 10, Figure 11-4). In order for properties to annex to Tualatin, they must be abutting to the existing City limit, which will help ensure that development and the transition from rural to urban uses occurs in an orderly and efficient, rather than patchwork fashion. This objective is met.

**(6) Arrange the various land uses so as to minimize land use conflicts and maximize the use of public facilities as growth occurs.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan and include the application of zoning designations, and land uses, consistent with the above requirements as well as the need for efficient extension of public facilities to support resulting growth (Exhibit 11, Map 9-1). Further, the proposed zoning designations are either the same, similar, or compatible with existing adjacent zoning designations and have also been laid out with consideration given to buffering provided by roads, landscaping or setbacks, particularly between employment and residential uses (see findings at 3.07.1120(C), above). This objective is met.

**(7) Prepare a balanced plan meeting, as closely as possible, the specific objectives and assumptions of each individual plan element.**

**Finding:**

Various plan elements were considered in the concept planning process for the Basalt Creek Planning Area to amend the Comprehensive Plan (TDC Chapters 4, 7, and 9) and Development Code (TDC Chapters 51, 62, and 75) to apply in said area. The proposed amendments appropriately balance all applicable Comprehensive Plan objectives or policies, thereby meeting this objective.

**(9) Prepare a plan providing a variety of living and working environments.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan and include the application of zoning designations consistent with the above requirements (Exhibit 11, Map 9-1). A range of residential densities and housing types is planned for in the residential areas of the planning area (TDC Chapter 40, 41, and 43), and a range of uses is allowed in the employment areas of the planning area (TDC Chapters 51 and 62), which will provide for a variety of living and working environments. This objective is met.

**(10) Encourage the highest quality physical design for future development.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan and

include the application of zoning designations consistent with the above requirements (Exhibit 11, Map 9-1). Further, upon annexation the Tualatin Development Code, and specifically Chapter 73A (Site Design) will apply to ensure high-quality physical design, as currently found within the existing City limits. This objective is met.

**(11) Coordinate development plans with regional, state, and federal agencies to assure consistency with statutes, rules, and standards concerning air, noise, water quality, and solid waste. Cooperate with the U.S. Fish and Wildlife service to minimize adverse impacts to the Tualatin River National wildlife Refuge from development in adjacent area of Tualatin.**

**Finding:**

The proposed amendments would apply the Tualatin Comprehensive Plan and Development Code to the Basalt Creek Planning Area (TDC Chapters 7, 11, and 60 and CWS Design and Construction Standards). The existing regulatory framework in Tualatin provides for the above described coordination and cooperation, which would apply to an individual property upon annexation to Tualatin. The basalt Creek Planning Area is not in geographic proximity to the Tualatin River National Wildlife Refuge and therefore adverse impacts that might occur are nonexistent or minimal. This objective is met.

**(12) Adopt measures protecting life and property from natural hazards such as flooding, high groundwater, weak foundation soils and steep slopes.**

**Finding:**

The proposed amendments would apply the Tualatin Comprehensive Plan and Development Code to the Basalt Creek Planning Area. The existing regulatory framework in Tualatin provides protections for life and property from natural hazards such as flooding, high groundwater, weak foundation soils and steep slopes, which would apply to an individual property upon annexation to Tualatin (TDC Chapter 70). This objective is met.

**(16) Encourage energy conservation by arranging land uses in a manner compatible with public transportation objectives.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which analyzed the transportation needs of the area, in conjunction with the transportation requirements provided by the Metro UGB expansion. The resulting analysis, the Basalt Creek Transportation Refinement Plan (Exhibit 3, Page 318), analyzed future transportation conditions and evaluated alternative strategies for phased investments that support regional and local needs. The transportation study acted as the backbone for the proposed land use designations and locations to match them with the proposed

transportation system to create energy efficiency, consistent with TDC Chapter 4. This objective is met.

**(17) Maintain for as long a period as possible a physical separation of non-urban land around the City so as to maintain its physical and emotional identity within urban areas of the region.**

**Finding:**

Non-urban land is generally separated from the urban areas by geography and/or public roads. As noted above, Metro is responsible for determining the specific location of the Metro Urban Growth Boundary, which also provides a separation between urban and rural areas. This objective is met.

**(21) Territories to be annexed shall be in the Metro Urban Growth Boundary.**

**Finding:**

The Basalt Creek Planning Area, and any territory that would be annexed to Tualatin in the future from this area, is within the Metro Urban Growth Boundary. This objective is met.

**Chapter 5. Residential Planning Growth**

**Section 5.030 General Objectives**

**(1) Provide for the housing needs of existing and future City residents.**

**Finding:**

The proposed amendments, consistent with the Basalt Creek Concept Plan, would apply three different residential zoning designations, Low Density Residential (RL), Medium-Low Density Residential (RML) and High Density Residential (RH), to 24.83, 59.83, and 3.36 buildable acres respectively, for a total of 88.02 buildable acres. The proposed residential areas will help to provide for the housing needs of existing and future City residents. This objective is met.

**(2) Provide housing opportunities for residents with varied income levels and tastes that are esthetically and functionally compatible with the existing community housing stock.**

[...]

**Finding:**

The proposed amendments are consistent with the residential designations in the Basalt Creek Concept Plan, and include both low and high density housing. The higher density housing is intended to provide more affordable housing options, while the low and low-medium levels provide a greater variety of lot sizes and densities to meet this objective. Applicable development standards found in the Tualatin Development Code would apply at the time of future development within the Basalt Creek Planning Area. This

objective is met.

**(4) Locate higher density development where it is convenient to the City's commercial core, near schools, adjacent to arterial and collector streets and, as much as possible, in areas with existing multi-family housing and provide residential opportunities in selected commercial areas through the Mixed Use Commercial Overlay District.**

[...]

**Finding:**

The proposed amendments would designate 3.36 acres of buildable land as High Density adjacent to the Horizon High School and Boone's Ferry Road, an arterial street, as well as the proposed area of Neighborhood Commercial within the Basalt Creek Planning Area. This objective is met.

**(6) Provide areas that will accommodate small-lot subdivisions.**

[...]

**Finding:**

The proposed amendments include proposed zoning designations (Low Density (RL) and Medium-Low Density (RML)) which allow for small-lot subdivisions. This objective is met.

**(11) Require that all residential development adjacent to Expressways be buffered from the noise of such Expressways through the use of soundproofing devices such as walls, berms or distance. Density transfer to accommodate the-se techniques is acceptable.**

[...]

**Finding:**

As shown on the City's Functional Classification and Traffic Signal Plan, no residential development exists adjacent to a roadway classified as an Expressway. This objective is not applicable.

**(13) Provide truck routes for industrial traffic that provide for efficient movement of goods while protecting the quality of residential areas.**

**Finding:**

The proposed amendments include all truck routes that were analyzed and included in the Basalt Creek Concept Plan (Exhibit 10, Figure 11-6). This objective is met.

**(14) Protect residential, commercial, and sensitive industrial uses from the adverse environmental impacts of adjacent industrial use.**

[...]



**Finding:**

The proposed zoning designations (Exhibit 11, Map 9-1) are consistent with the Basalt Creek Concept Plan, which considered the location of said designations to protect residential, commercial, and sensitive industrial uses from the adverse environmental impacts of adjacent industrial use. Application of TDC Chapters 7, 62, and 63 to the will provide specific protections from adverse environmental impacts from adjacent industrial use. This objective is met.

**(17) Protect wooded areas identified on the Natural Features Map found in the Technical Memorandum by requiring their preservation in a natural state, by integrating the major trees in-to the design of the parking lots, buildings, or landscaping areas of multi-family complexes and non- residential uses, or in low density areas through the small lot, common wall, or condominium conditional use. If it is necessary to remove a portion or all of the trees, the replacement landscape features shall be subject to approval through the Architectural Review process, except for conventional single family subdivisions.**

**Finding:**

The Natural Features Map (Map 72-2) does not include any identified wooded areas in the Basalt Creek Planning Area. This objective is not applicable.

**Chapter 06: Commercial Planning Districts**

**Section 6.030 Objectives.**

**The following are general objectives used to guide the development of this Plan:**

**(1) Encourage commercial development.**

**(3) Provide shopping opportunities for surrounding communities.**

**Finding:**

In an effort to serve the commercial need of the future residential areas in the Basalt Creek Planning Area, 2.89 buildable acres of land is proposed to be designated with the Neighborhood Commercial zoning designation. This will provide shopping opportunities for both the residential and employment community in the Basalt Creek Planning Area. This objective is met.

**(2) Provide increased employment opportunities.**

**Finding:**

The proposed area of Neighborhood Commercial (CN) zoning designation is not intended to be the significant job generating use in the Plan Area, however, the 2.89 acres is intended to provide an estimated 33 full time jobs (Exhibit 3, Page 181). The CN zoning designation will expand employment opportunities. This objective is met.

**(4) Locate and design commercial areas to minimize traffic congestion and maximize access.**

**Finding:**

The proposed area of Neighborhood Commercial zoning designation is located at the intersection Boones Ferry Road and Basalt Creek Parkway, within walking distance of future residential neighborhoods and uses the existing arterial roadway system to help minimize traffic congestion and maximize access. This objective is met.

**Chapter 7. Manufacturing Planning Districts**

**Section 7.030. Objectives**

**(1) Encourage new industrial development.**

**Finding:**

The proposed amendments would apply the Manufacturing Park zoning designation to approximately 92.95 buildable acres in the Basalt Creek Planning Area, which would encourage new industrial development and increase the City's industrial lands inventory. This objective is met.

**(2) Provide increased local employment opportunity, moving from 12 percent local employment to 25 percent, while at the same time making the City, and in particular the Western Industrial District, a major regional employment center.**

**Finding:**

The proposed amendments would designate approximately 92.95 buildable acres of land with the Manufacturing Park (MP) zoning designation, which will increase local employment opportunity and assist in moving the City towards the local employment objective while enhancing the industrial land base of Tualatin. This objective is met.

**(3) Improve the financial capability of the City, through an increase in the tax base and the use of creative financing tools.**

**Finding:**

The proposed amendments would enable the City to continue to grow the opportunity for future land development. Future development will increase the revenue generated through taxes to support local government services. This objective is met.

**(9) Construct a north/south major arterial street between Tualatin-Sherwood Road and SW Tonquin Road in the 124<sup>th</sup> Avenue alignment to serve the industrial area.**

**Finding:**

SW 124<sup>th</sup> avenue has been constructed between Tualatin-Sherwood Road and SW Tonquin Road, and will be available to serve the industrial use within the Basalt Creek Planning Area. The proposed amendments would update applicable Comprehensive Plan and Development Code provisions consistent with this objective. This objective is met.

**(12) Protect residential, commercial, and sensitive industrial uses from the adverse environmental impacts of industrial use.**

**Finding:**

The proposed amendments establish specific planning designations. In addition, all industrial development in Tualatin is required to comply with the provisions of TDC Chapter 63 (Industrial Uses and Utilities and Manufacturing Zones - Environmental Regulations) that helps protect residential, commercial, and sensitive industrial uses from the adverse environmental impacts of industrial use. The protections also include stormwater protections, as well as setbacks from sensitive areas. This objective is met.

**Chapter 9. Plan Map**

**Finding:**

The proposed amendments would add a new planning area, known as Planning Area 16. This would become a new subsection 9.046. The proposed new text summarizes the land uses proposed, consistent with the Basalt Creek Concept Plan. The proposed amendments apply the specific planning designations within the area and on Community Plan Map 9-1. This objective is met.

**Chapter 11. Transportation**

**Section 11.610. Transportation Goals and Objectives**

**(2) Goal 1: Mobility and access**

**Maintain and enhance the transportation system to reduce travel times, provide travel-time reliability, provide a functional and smooth transportation system, and promote access for all users.**

**Objectives:**

**Finding:**

The proposed amendments would implement the approved Basalt Creek Concept Plan. The Concept plan included transportation improvements identified by the Basalt Creek Transportation Refinement Plan. These include streets, pedestrian and bicycle facilities, and other forms of transportation, for the Basalt Creek Planning Area that link to the existing system serving the City. This objective is met.

**(3) Goal 2: Safety, improve safety for all users, all modes, all ages, and all abilities within the City of Tualatin.**

**Finding:**

The Basalt Creek Transportation Refinement Plan included detailed crash analysis to assure high risk areas were addressed in the design of the transportation network in Basalt Creek. The streets were designed to provide safe passage for all users, including emergency personnel. All roads, bike paths, and pedestrian paths included in the Basalt

Creek Concept Plan have been reflected in the proposed amendments. This objective is met.

**(4) Goal 3: Vibrant Community. Allow for a variety of alternative transportation choices for citizens of and visitors to Tualatin to support a high quality of life and community livability.**

**Finding:**

The proposed amendments identify a transportation system, including streets, pedestrian and bicycle facilities (Exhibit 11, Maps 11-1 through 11-4; TDC Chapter 72 and TSP Chapter 2). This objective is met.

**(5) Goal 4: Equity. Consider the distribution of benefits and impacts from potential transportation options, and work towards fair access to transportation facilities for all users, all ages, and all abilities.**

**Finding:**

The proposed amendments reflect and implement the approved concept plan. The Basalt Creek Concept Plan included many elements intended to be equitable, including a High Density Residential area intended to provide more affordable housing, close to shopping, jobs and transit. All transportation and pedestrian facilities will comply with accessibility requirements upon construction. This objective is met.

**(6) Goal 5: Economy. Support local employment, local businesses, and a prosperous community while recognizing Tualatin's role in the regional economy.**

**Finding:**

The Basalt Creek Planning Area was identified as a good location for a job center based on its location next to I-5 and existing industrial development. The traffic analysis completed for the Basalt Creek Concept Plan was created in conjunction with the 2035 Regional Transportation Plan (RTP) prepared by Metro. The improvements identified in the 2035 RTP would be expected to accommodate estimated growth in the area. The proposed changes to Tualatin's Transportation System Plan (TSP) are consistent with the 2035 RTP. This objective is met.

**(7) Goal 6: Health/Environment. Provide active transportation options to improve the health of citizens in Tualatin. Ensure that transportation does not adversely affect public health or the environment.**

**Finding:**

The proposed amendments identify a transportation system, including streets, pedestrian and bicycle facilities. All streets will have sidewalks and bike lanes. Additionally, the plan helps implement the Tonquin Ice Age Regional Trail System. This objective is met.

**(8) Goal 7: Ability to Be Implemented. Promote potential options that are able to be implemented because they have community and political support and are likely to be funded.**

**Finding:**

The proposed amendments would implement the Basalt Creek Concept Plan, which included several opportunities to include public participation including outreach events, surveys and open houses. The Basalt Creek Transportation Refinement Plan was created in cooperation with Metro, ODOT, Tri-Met, Washington County, and other surrounding organizations and jurisdictions to resolve regional and statewide transportation issues that impact Tualatin. Chapter 3 of the TSP identifies the variety of funding sources available at the City, County, Region, and State level and their applicability to specific project types. This objective is met.

**Chapter 12. Water Service**

**Section 12.020. Water Service Policies**

**12.020 City of Tualatin water service policies are to:**

**(1) Plan and construct a City water system that protects the public health, provides cost-effective water service, meets the demands of users, addresses regulatory requirements and supports the land uses designated in the Tualatin Community Plan.**

**Finding:**

The proposed amendments identify a water system to serve future development in the Basalt Creek Concept Plan. Because there currently are no public water lines located in the area, the routing of pipes has been modified to follow the proposed new roadways. Once development assumptions have been specified, more specific estimates of future infrastructure needs will be made. The proposed water system has been designed to protect the public health while providing cost effective water service, meeting the demands of users, addressing regulatory requirements, and supporting future residential, industrial and commercial uses within the area. This objective is met.

**(2) Require developers to aid in improving the water system by constructing facilities to serve new development and extend lines to adjacent properties.**

**Finding:**

The proposed amendments identify improvements necessary in the water system to support development. Developers will be responsible for providing utility connections to trunk line systems that serve their development. Costs are identified to allow private development funding of improvements. This objective is met.

**Chapter 13. Sewer Service**

**Section 13.015. Sanitary Sewer System Objectives**

**(1) Plan and construct a City sewer system that protects the public health, protects the water quality of creeks, ponds, wetlands and the Tualatin River, provides cost-effective sewer service, meets the demands of users, addresses regulatory requirements and supports the land uses designated in the Tualatin Community Plan.**

**Finding:**

The proposed amendments identify a sanitary system to serve future development in the Basalt Creek Planning Area. Because no sanitary system of adequate size currently exists within or near the area, development in the area will need to connect to eight gravity sewer mains that exist near the north planning area boundary and one force main currently used for Victoria Woods. The Basalt Creek Planning Area is not yet served by Clean Water Services (CWS). Expansion of the service district area to include Tualatin's portion of the Basalt Creek Planning Area needs to be approved by Clean Water Services at time of Annexation. The proposed sanitary sewer system has been designed to protect the public health and water quality of creeks, ponds, wetlands, and the Tualatin River, while providing cost effective sanitary sewer service, meeting the demands of users, addressing regulatory requirements, and supporting future residential, industrial and commercial uses within the area. This objective is met.

**(2) Provide a City sanitary sewer system in cooperation with Clean Water Services (CWS). The City is responsible for the collection system's smaller lines and the 65th Avenue pump station and CWS is responsible for the larger lines, pump stations and treatment facilities.**

**Finding:**

The proposed amendments identify a sanitary sewer system with lines that serve the Basalt Creek Concept Plan that will be under the City's jurisdiction. The system was designed and will be operated in accordance with Clean Water Services (CWS) requirements. This objective is met.

**(5) Require developers to aid in improving the sewer system by constructing facilities to serve new development as well as adjacent properties.**

**Finding:**

The proposed amendments identify improvements necessary in the sanitary sewer system to support development. Developers will be responsible for providing utility connections to trunk line systems. This objective is met.

**Chapter 14. Drainage Plan and Surface Water Management  
Section 14.040 Objectives.**

**14.040 The objectives of the Tualatin Drainage Plan and Surface Water Management regulations are:**

**(1) Provide a plan for routing surface drainage through the City, utilizing the natural drainages where possible. Update the plan as needed with drainage studies of problem areas and to respond to changes in the drainage pattern caused by urban development.**

**Finding:**

The proposed amendments identify a plan for routing surface drainage from future development in the Basalt Creek Planning Area. Basalt Creek itself flows to the south into Wilsonville as part of the Coffee Lake Creek Basin. Basalt Creek discharges into the Coffee Lake wetlands. Coffee Lake Creek flows south from the wetlands and combines with Arrowhead Creek before discharging to the Willamette River. Because no storm water system currently exists in the area besides street capacity, a new conveyance system will need to be installed along the new roadways. In addition, site development runoff will need to be treated and detained, if necessary, before being discharged to the public drainage systems. The proposed storm water system has been designed to meet peak flows and runoff volumes, and to meet CWS standards. This objective is met.

**(2) Coordinate the City's Drainage Plan and Storm Water Management regulations with the City's Floodplain District, Wetland Protection District and Natural Resource Protection Overlay District regulations and with the plans of USA and other regional, state, and federal agencies to achieve consistency among the plans.**

**Finding:**

The proposed amendments were developed in coordination with participating agencies in the Basalt Creek Concept Plan and took into account floodplain, wetlands and natural resource protection programs. The concept planning work for the Basalt Creek Concept Plan identified natural areas that are proposed to be included in the City's Natural Resources Protection Overlay (NRPO) (Chapter 72). This objective is met.

**(4) Identify and solve existing problems in the drainage system and plan for construction of drainage system improvements that support future development.**

**Finding:**

The proposed amendments plan for construction of drainage system improvements that support future development in the Basalt Creek Concept Plan. This objective is met.

**(15) Comply with Metro's Urban Growth Management Functional Plan, Title 3.**

**Finding:**

Title 3 requires local jurisdictions to limit or mitigate the impact of development activities on Water Quality and Flood Management Areas which includes wetlands and riparian areas. The Basalt Creek Concept Plan was developed factoring in Metro Title 3

requirements, which are discussed in more detail later in this Analysis and Findings (see discussion under Criterion G. Metro's Urban Growth Management Functional Plan. This objective is met.

## **Chapter 15. Parks and Recreation**

### **Section 15.020 Objectives**

[...]

**(2) Provide a high quality park and recreation system to offset the environmental impact of large areas of commercial and industrial development.**

**(3) Create a park and recreation system that provides diverse recreation opportunity**

#### **Finding:**

There are currently no parks in the Basalt Creek Planning Area. The proposed land use plan came directly from the adopted Concept Plan. All parks within the Basalt Creek area will be consistent with the Park Master Plan, which identified a need for a park within the Basalt Creek Planning Area but did not identify a specific site. Parks, trails, and open spaces are a permitted use in all of the residential districts and will be implemented as they develop, consistent with any requirements of the Park Master Plan. Therefore, while the proposed amendments do not directly reflect new park areas, parks planning will be done as identified through the Parks Master Plan. These objectives are met.

### **Section 15.110. Wetlands and Natural Areas Plan Objectives**

**(1) Identify and protect significant natural resources that promote a healthy environment and natural landscape that improves livability.**

**(2) Protect significant natural resources and provide fish and wildlife habitat, scenic values, water quality improvements, stormwater management benefits, and flood control.**

**(3) Protect significant natural resources that provide recreational and educational opportunities.**

#### **Finding:**

The City previously adopted an ordinance relating to water quality, flood plain management, and erosion control, to comply with Metro's Urban Growth Management Functional Plan (UGMFP) Title 3 (TDC Chapters 33, 36, 70, 72, and 74). The amendments were made to refer to Clean Water Services regulations, which had been found by Metro to be consistent with Title 3, thus bringing Tualatin into conformance with Title 3 as well. Compliance with Title 13 is satisfied by Tualatin's participation in the Tualatin Basin Plan and previously adopted amendments to the Comprehensive Plan and Development Code. Tualatin is within the Clean Water Services district. All



development must comply with Clean Water Services standards for stormwater. The TDC will apply to the Basalt Creek area upon adoption and annexation of any property to Tualatin. The conservation areas will be administered and protected by Clean Water Services and/or the City. Future development in Tualatin must comply with TDC Chapter 74 and Clean Water Services' Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat. These objectives are met.

**(4) Balance natural resource protection and growth and development needs.**

**Finding:**

The proposed amendments would implement the Basalt Creek Concept Plan. The concept plan was created by first understanding the constraints of the area. These included easements, natural features, wetlands and steep slopes to name a few. The transportation needs were then addressed because this area will be connecting several key transportation routes including playing a role in connecting I-5 and 99W. Once constraints and transportation were addressed, the land uses were designed. This approach assured that the needs of the environment, transportation, jobs, housing and open space were all balanced. In addition, future industrial development in the MBP Planning District will be required to comply with the environmental regulations of TDC Chapter 63, which apply to all industrial planning districts. This objective is met.

**(6) Allow public facilities such as sewer, storm water, water and public streets and passive recreation facilities to be located in significant natural resource areas provided they are constructed to minimize impacts and with appropriate restoration and mitigation of the resource.**

**Finding:**

In the event that public facilities identified in the proposed amendments cannot avoid natural resource areas, mitigation for these impacts will be addressed at the time physical development is proposed (TDC Chapter 72). This objective is met.

**Section G. Tualatin Development Code**

**The following Chapter of the Tualatin Comprehensive Plan are applicable to the proposed amendments:**

**Chapter 33 – Applications and Approval Criteria**

**Section 33.070 – Plan Amendments.**

**(1) Purpose. To provide processes for the review of proposed amendments to the Zone Standards of the Tualatin Development Code and to the Text or the Plan Map of the Tualatin Community Plan.**

**(2) Applicability. Quasi-judicial amendments may be initiated by the City Council, the City staff, or by a property owner or person authorized in writing by the property owner. Legislative amendments may only be initiated by the City Council.**

**Finding:**

The proposed amendments are legislative in nature and have been initiated by the City Staff. This criterion is met.

**(3) Procedure type.**

[...]

**(b) Map or text amendment applications which are legislative in nature are subject to Type IV-B Review in accordance with TDC Chapter 32.**

**Finding:**

The proposed amendments are legislative in nature and have been processed consistent with the Type IV-B requirements of TDC Chapter 32. This criterion is met.

**(4) Specific Submittal Requirements. An application for a plan map or text amendment must comply with the general submittal requirements in TDC 32.140 (Application Submittal).**

**Finding:**

The proposed amendments comply with the applicable submittal requirements of TDC 32.140. This criterion is met.

**(5) Approval Criteria.**

**(a) Granting the amendment is in the public interest.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which was adopted by the Tualatin City Council in August of 2018. The proposed amendments are a necessary step before urban development can occur within the Basalt Creek Planning Area, consistent with the area's inclusion in the Metro UBG. Statewide Planning Goal 2 requires all parcels in each city and county to be designated with a planning district. The proposed amendment will apply the Neighborhood Commercial (NC), Manufacturing Park (MP), Low Density Residential (LDR), Medium-Low Density Residential (MLDR) and High-Density (HDR) zoning designations within the Basalt Creek Planning Area, after future annexation of territory to Tualatin (Exhibit 11, Map 9-1). The amendments to the TSP demonstrate compliance with the public interest through compliance with the Oregon Transportation Planning Rule (TPR) and the Regional Transportation Plan (RTP), as implemented through the requirements of the Regional Transportation Functional Plan (RTFP). The proposed amendments are in the public interest. This criterion is met.

**(b) The public interest is best protected by granting the amendment at this time.**

**Finding:**

The proposed amendments would update the Tualatin Comprehensive Plan, Development Code, and TSP, to be applicable to the Basalt Creek Planning Area, upon annexation of an individual property to Tualatin. The TSP updates are required to ensure all streets within the Basalt Creek Concept Plan are fully incorporated into the City transportation network, and to assure compliance with the State Transportation Planning Rule (TPR) requirements as outlined in OAR Chapter 660 Division 12 (Section C, above), which demonstrates that the existing and planned street network can accommodate the proposed zoning designations. The public interest is best protected by granting the amendments and updates at this time. This criterion is met.

**(c) The proposed amendment is in conformity with the applicable objectives of the Tualatin Community Plan.**

**Finding:**

The applicable objectives of the Tualatin Community Plan, as contained in the Tualatin Development Code (TDC) (Chapters 1-30 of the code are the Community Plan), have been considered, and are discussed below. This criterion is met.

**(d) The following factors were consciously considered:**

**(i) The various characteristics of the areas in the City;**

**Finding:**

The proposed amendments are implementing the approved Basalt Creek Concept Plan. The plan area is located at the south end of the city with residential uses adjacent to the north, the Horizon High School to the north east, the Southwest Tualatin Plan area to the west and the City of Wilsonville to the south. The plan was designed in conjunction with the City of Wilsonville to assure the area transitioned between the two Cities. To the north, the plan features residential uses to help transition the existing residential development. Buffers are proposed between the plans proposed residential areas and the planned business park areas to help assure compatibility. Buffers are also proposed between residential uses and the proposed Basalt Creek Parkway. The private Horizon High school is surrounded by residential uses, with proposed neighborhood commercial nearby. The Business Park uses will have to comply with the requirements of district (zone) which include will essentially require any new development to feature lushly landscaped park-like settings, intended to foster a campus-like environment. These design features along with the preservation of the natural areas through NRPO's will help assure the characteristics of the area. This criterion is met.

**(ii) The suitability of the areas for particular land uses and improvements in the areas;**

**Finding:**

The Concept Plan explains that in 2004, Metro identified a shortfall of industrial land and a study identified good candidates for industrial development by looking at soil classification, earthquake hazard, slope steepness, parcel size, accessibility to regional transportation and necessary services, and proximity to existing industrial uses. Several areas of land identified as good candidates for industrial development were added to the UGB by Metro via Ordinance 14-1040B in 2004, two of which comprise the Basalt Creek Planning Area. The current 2040 Growth Concept Map identifies the Basalt Creek Planning Area as industrial, but the Ordinance does provide some flexibility to include housing in the Planning Area. The Ordinance identified “Outer Neighborhood” as a potential land use in the northern portion of the Basalt Creek Planning Area, to provide some housing and as a buffer for existing residential neighborhoods in Tualatin. All improvements required to implement the land uses are also reflected in the proposed amendments. This criterion is met.

**(iii) Trends in land improvement and development;**

**Finding:**

The trend for development in the Basalt Creek Concept Plan is for industrial and residential development as evidenced by existing uses in the area. In addition, the majority of the area has been designated Industrial by Metro, though the Ordinance (Exhibit 4) makes some allowance for residential as well. Some Neighborhood Commercial has been included to assure adequate commercial services are available to the new residential population as well as the employment uses proposed. The proposed amendments would apply land uses and street plans for the area, consistent with trends in land improvement and development in the area. This criterion is met.

**(iv) Property values;**

**Finding:**

Prior to 2004, the land in the Basalt Creek Concept Plan was outside of the UGB and regulated by Washington County. Currently the properties within the UGB expansion feature an FD-20, Future Development 20-acre minimum lot size, designation. By inclusion of the study area into the UGB and, subsequently, into Tualatin’s Urban Planning Area the value of property has likely increased. The area can now be developed to urban densities consistent with the Planning District (zoning/land use) designations (Exhibit 11, Map 9-1) and receive urban services, thus increasing property value. The overall industrial land market, however, will determine the final property value. This criterion is met.

**(v) The needs of economic enterprises and the future development of the area; needed right-of-way and access for and to particular sites in the area;**

**Finding:**

The Metro analysis associated with Ordinance No. 14-1040B (Exhibit 4) looked at the economic needs of the entire Metro area with respect to land that should be added to the urban growth boundary (UGB). The conclusion of the analyses was to add land for industrial purposes, within the Basalt Creek Concept Plan. At the local level, the proposed amendments would apply the Manufacturing Park (MP) zoning designation to approximately 92.95 net buildable acres of future development. The other land uses, while economic engines in their own right, such as the three residential designations and the Neighborhood Commercial, are intended to play a support role as well (Exhibit 11, Map 9-1). This criterion is met.

**(vi) Natural resources of the City and the protection and conservation of said resources;**

**Finding:**

As discussed previously in Section B under the finding for Goal 5, the natural resources are identified and protected through applicable regulations of the TDC, and protection and conservation of said resources is implemented by Clean Water Services. This criterion is met.

**(vii) Prospective requirements for the development of natural resources in the City;**

**Finding:**

No development of natural resources is proposed as part of the proposed amendments. This criterion is not applicable.

**(viii) The public need for healthful, safe, esthetic surroundings and conditions; and**

**Finding:**

The proposed amendments satisfy the public need for healthful, safe, esthetic surroundings and conditions by applying land use designations to the Basalt Creek Planning Area, to ensure compatibility with adjoining lands, implement transportation improvements, prescribe required infrastructure to serve the area and address environmental protection requirements. Further, Oregon Statewide Planning Goal 2 requires all parcels in each city and county to be designated with a planning district. Therefore, the public need for healthful, safe, aesthetic surroundings and conditions will best be served by granting the amendments at this time. This criterion is met.

**(ix) Proof of change in a neighborhood or area, or a mistake in the Plan Text or Plan Map for the property under consideration are additional relevant factors to consider.**

**Finding:**

The change that has occurred is the expansion of the UGB pursuant to Metro Ordinance No. 14-1040B (Exhibit 4) to include the Basalt Creek Planning Area. The proposed amendments are timely and necessary to apply urban planning designations to establish the type of development that may occur in the future. This criterion is met.

**(e) If the amendment involves residential uses, then the appropriate school district or districts must be able to reasonably accommodate additional residential capacity by means determined by any affected school district.**

**Finding:**

The proposed amendments are consistent with the Basalt Creek Concept Plan, which included school planning by the affected school district for the Basalt Creek Planning Area, the Sherwood School District. As noted above, the Sherwood School District has indicated that they have no planned facilities within the Basalt Creek Planning Area. Further, specific notice of the proposed amendments has been sent to the Sherwood School District, providing an opportunity to comment directly on the proposed amendments. This criterion is met.

**(f) Granting the amendment is consistent with the applicable State of Oregon Planning Goals and applicable Oregon Administrative Rules, including compliance with the Transportation Planning Rule TPR (OAR 660-012-0060).**

**Finding:**

Compliance with the TPR is addressed above under the findings for OAR Chapter 660 Division 12 (Section C, above). This criterion is met.

**(g) Granting the amendment is consistent with the Metropolitan Service District's Urban Growth Management Functional Plan.**

**Finding:**

Compliance with the Urban Growth Management Functional plan is addressed above under Section D (Metro Code). This criterion is met.

**(h) Granting the amendment is consistent with Level of Service F for the p.m. peak hour and E for the one-half hour before and after the p.m. peak hour for the Town Center 2040 Design Type (TDC Map 9-4), and E/E for the rest of the 2040 Design Types in the City's planning area.**

**Finding:**

The Basalt Creek Transportation Refinement Plan (Exhibit 2, Page 318) analyzed planned transportation infrastructure to determine the effectiveness of the identified infrastructure projects. Based on the criteria above, Level of Service E/E would apply to the Basalt Creek

Concept Plan. As demonstrated in Table 20 of the Refinement Plan, assuming all identified transportation infrastructure projects are constructed and land uses are built out (by the year 2035), all intersections will meet the standard listed above. The TSP makes all required street classification updates in the Basalt Creek area to accommodate the plan at the required traffic levels. This criterion is met.

**(i) Granting the amendment is consistent with the objectives and policies regarding potable water, sanitary sewer, and surface water management pursuant to TDC 12.020, water management issues are adequately addressed during development or redevelopment anticipated to follow the granting of a plan amendment.**  
[...]

**Finding:**

The analysis of Chapter 12, Water Services is provided above in response to Criteria 3 of this section. The proposed amendments identify a water system to serve future development in the Basalt Creek Planning Area (Exhibit 11, Map 12-1). Because there currently are no public water lines located in the area, the routing of pipes has been modified to follow the proposed new roadways. Once development assumptions have been specified, more specific estimates of future infrastructure needs will be made. The proposed water system has been designed to protect the public health while providing cost effective water service, meeting the demands of users, addressing regulatory requirements, and supporting future residential, industrial and commercial uses within the area. This criterion is met.



July 2, 2018 FINAL

(Adopted August 13, 2018 by City of Tualatin and August 6, 2018 by City of Wilsonville)



Exhibit 2 to  
Ordinance No. 1418-19

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Appendix H: Basalt Creek Concept Plan Transportation Technical Analysis and Solutions Memo

Appendix I: Basalt Creek Concept Plan Infrastructure Technical Memorandum

Appendix J: Basalt Creek Transportation Refinement Plan (2013)

Appendix K: Acknowledgements

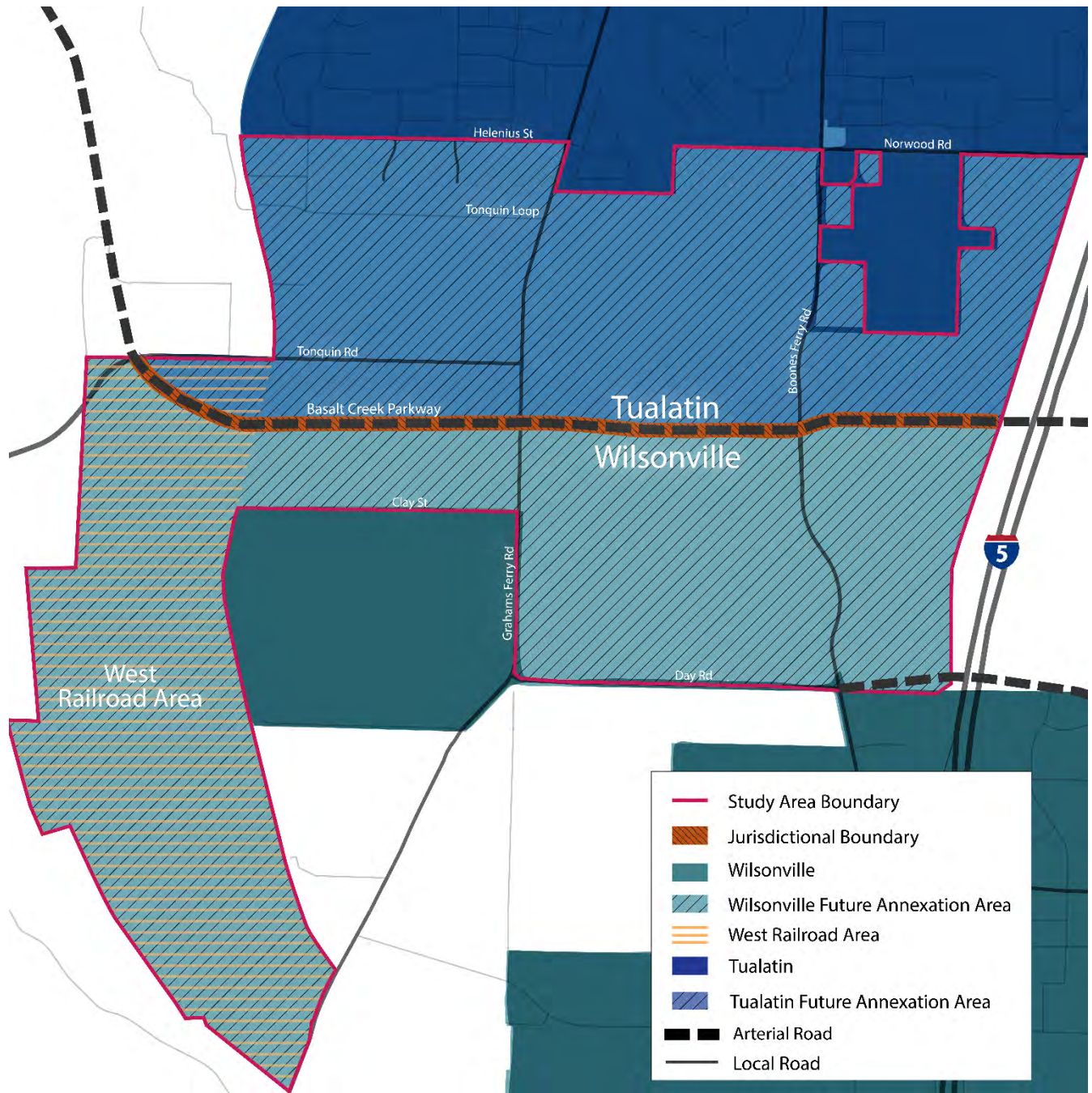
# Introduction

## The Basalt Creek Planning Area

The Basalt Creek Planning Area consists of 847 acres located in Washington County between the Cities of Tualatin and Wilsonville. The Planning Area is irregularly shaped, generally oriented east-west with an extension southward at the western edge, which is commonly referred to as the West Railroad Area. The West Railroad Area is divided from the rest of the Planning Area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The rest of the Basalt Creek Planning Area is bound by Norwood and Helenius Roads to the north, Interstate 5 (I-5) to the east, Coffee Lake Creek to the west, and Day Road to the south until it reaches Coffee Creek Correctional Facility, where the boundary turns north on Graham's Ferry and then westward again on Clay Road. The area also has distinctive natural features, particularly its namesake - Basalt Creek - and the surrounding wetlands habitat running north-south through the eastern half of the Planning Area. The primary existing land uses in Basalt Creek are rural agriculture, industrial, and rural residential consisting of low-density single-family housing. Washington County recently completed construction of a portion of the Basalt Creek Parkway, extending 124<sup>th</sup> Avenue and connecting Tualatin-Sherwood Road to Grahams Ferry Road. In the future, the Parkway will run east-west across the Planning Area between Grahams Ferry Road and Boones Ferry Road, and eventually extend over I-5. The parkway will be a high-capacity major freight arterial with limited access to local streets providing industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas.

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Figure 1 Basalt Creek Planning Area and jurisdictional boundaries.



A more detailed description of the Planning Area, including natural and historic resources, existing land uses and regulatory context can be found in the Existing Conditions Report (Appendix A).

## What is a Concept Plan?

A concept plan identifies a vision and guides future land use and transportation decisions for the planning area. It helps ensure the area has the land capacity to contribute to meeting local and regional land use and transportation goals. Concept plans also ensure compliance with state land use goals,

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regional policies, and other plans, including existing transportation plans. A concept plan sets the framework for future development and outlines an implementation strategy for future provision of urban services (water, sanitary sewer, and storm water systems), public services (such as transit, parks, and open space), and protection of natural and cultural resources.

## Basalt Creek Concept Plan

The Basalt Creek Concept Plan guides development in the Basalt Creek Planning Area over the next twenty years. To accomplish this, the plan:

- Establishes a vision for urbanization of the Basalt Creek Planning Area that will meet local and regional goals
- Coordinates future land use, transportation and infrastructure investments between Tualatin, Wilsonville, and Washington County
- Establishes a new jurisdictional boundary between Tualatin and Wilsonville (to determine which parts of the Planning Area may be annexed into and served by each city)
- Identifies preferred land uses across the area
- Recommends high-level designs for transportation and infrastructure systems to support future development consistent with local, regional and state goals
- Sets specific action items and implementation measures

*Figure 2 Basalt Creek Planning Area in regional context.*



In 2004, Metro identified the Basalt Creek Planning Area as a good candidate for industrial development because it is near I-5, adjacent to Wilsonville's industrial area to the south, and contains large, flat sites suitable for industrial users. Metro passed an ordinance in 2004 to annex land into the existing Urban Growth Boundary (UGB), which included the Basalt Creek Planning Area, to ensure a sufficient regional supply of land for employment growth over the next twenty years. Based on Metro's 2014 Employment and Housing Forecast, Metro projected the region would grow by 474,000 people and 365,000 jobs by



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2035. The Basalt Creek Planning Area was expected to accommodate about 1,200 new housing units and 2,300 new jobs (mostly industrial, with some service jobs and few retail jobs). A detailed explanation of these figures and the Industrial Land Alternative Analysis can be found in the Existing Conditions Report (Appendix A, starting on page 17).

In the Metro region, areas brought into the UGB are required to have a land use and transportation Concept Plan before urban development can occur. The intent of the Basalt Creek Concept Plan is to meet this requirement and provide a roadmap for the development of the area that is consistent with state, regional and local land use planning laws. This Concept Plan involved a collaborative effort between two local jurisdictions – the Cities of Tualatin and Wilsonville.

While several concept plans were developed over the last decade for other UGB annexation areas (e.g. Southwest Tualatin Plan, Tonquin Employment Area Plan, and Coffee Creek Industrial Area), Basalt Creek is somewhat unusual. Its large size, location between (rather than at the edge of) other urbanized areas, and requirement to be jointly planned by two different cities—each with their own identity, goals and local governance—make it different from most other concept plans.

While the process and context were unique, the final Basalt Creek Concept Plan incorporates the key elements consistent with other concept plans and meets all state and regional requirements for a concept plan.

*Table 1 Summary Table of Basalt Creek Concept Plan Elements*

Element	Description
Jurisdictional Boundary	Follows the alignment of the Basalt Creek Parkway centerline with Tualatin to the north and Wilsonville to the south.
Land Use and Development	Land uses in Wilsonville focus on employment, while Tualatin has a mix of employment and housing. Housing in the northern part of the area is meant to buffer existing residential neighborhoods from non-residential land uses. There is a small retail node just east of the Basalt Creek Canyon and north of the jurisdictional boundary in the Planning Area, which will serve residents and workers. The land suitability analysis influenced the most appropriate locations for employment-based land uses. Land use types and densities were balanced to meet obligations for providing regional employment capacity while limiting negative impacts on congestion and traffic levels.
Transportation	Major new roads and improvements will be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP), which is also coordinated with the 2014 Metro Regional Transportation Plan (RTP). Basalt Creek Parkway, portions of which are currently under construction, will be a major east-west arterial, with limited access (connecting only at Grahams Ferry and Boones Ferry Roads), creating a new connection between I-5 and 99W. Further roadway improvements—such as adding capacity to north-south collectors, widening Day Road to five lanes, and two additional I-5 crossings at Day and Greenhill—will be needed to handle future traffic levels as the area is built out. Local roads connecting to this network will be planned and built by property owners as the area develops.
Bicycle and Pedestrian Framework	Opportunities for bike and pedestrian connections are identified, and additional bike/pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards.
Transit	Transit service in the area will be coordinated between TriMet and SMART. Service will build on existing bus routes to enhance service and provide good connectivity both north-to-south and east-to-

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	west through the Planning Area.
Parks & Open Space	The Basalt Creek Canyon natural area spans both cities and there are opportunities for regionally-connected trails and open space in the Planning Area. The Cities will each work to create a park plan for the area as part of their respective citywide plans and will coordinate on trail planning particularly as it relates to the Basalt Creek Canyon.
Natural Resources	The Cities recognize that the Basalt Creek Canyon is a significant natural resource and have agreed to coordinate on a joint approach to natural resource management practices. There are also significant riparian and upland habitat areas in the West Railroad Area. All natural resources in the Planning Area are mapped on Figure 13.
Water	Each city will provide its own drinking water infrastructure within its jurisdiction, with connections to existing water lines.
Sewer	Each city will provide sanitary sewer service for development within its jurisdiction to the extent reasonably possible with the understanding that a future agreement may address potential cooperative areas. Tualatin will coordinate with its provider – Clean Water Services (CWS) – to extend service to this area.
Stormwater	New stormwater infrastructure will be primarily integrated with the local road network. Tualatin, Wilsonville and CWS acknowledge they must follow requirements established for their respective stormwater MS4 permits. Much of the area is in a basin that drains toward Wilsonville. Each City will serve its own jurisdictional area. The Cities and CWS will adopt an Intergovernmental Agreement that addresses areas where cooperative stormwater management is needed.
Implementation Strategies and Tools	Recommendations for a public facilities phasing plan include conceptual overviews of the recommended facilities and Class 5 concept level costs and a general overview of possible funding strategies. The development phasing will include recommended near and long-term strategies for land use development. Implementation recommendations include sequential action items necessary for implementing the plan and readying the Basalt Creek Planning Area for future development.

## The Planning Process

The Basalt Creek Concept Plan was developed through several years of planning that included extensive research and analysis and a variety of opportunities for input from stakeholders and citizens. The public was engaged at key points and invited to participate through a visioning workshop, an open house, online surveys, and community outreach meetings. The full Public Involvement Plan can be found in Appendix B.

### Decision Making Process

The Tualatin and Wilsonville City Councils were the ultimate decision-making body for the final Basalt Creek Concept Plan. Joint Council meetings were held involving both City Councils at important project milestones. This role included approval of the guiding principles, selection of the preferred land use scenario, and identification of the future jurisdictional boundary and key elements of the plan. Individual City Council meetings were also held to provide periodic updates and discuss measures, ordinances, and resolutions specific to each city to adopt and implement the Basalt Creek Concept Plan. To ensure the greatest level of cooperation and collaboration with local and regional partners, the planning process included a project management team with staff from both cities, an advisory Agency Review Team (ART), and both cities' Planning Commissions.

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## Joint Council

Joint City Council meetings were held at key decision-making stages in the project with the Joint Council serving as the final decision-making body for the plan. There were five Joint Council meetings between October 2013 and December 2015. The purpose of Joint Council meetings was to approve Guiding Principles, determine jurisdictional boundaries, select a preferred land use scenario, and identify key elements for the final concept plan. All Joint Council meetings were advertised and open to the public. Themes from the Joint Council meetings were further developed into the Guiding Principles and included:

- Meeting regional responsibility for jobs & housing
- Capitalizing on the Planning Area's assets
- Protecting existing neighborhoods
- Maintaining cities' unique identities
- Exploring creative approaches to land use, including integration of employment and housing
- Ensuring appropriate transitions between land uses
- Integrating high-quality design and amenities for employment

## Project Management Team

The Project Management Team (PMT) was composed of each city's project managers, department directors, relevant staff, and project consultant (see Appendix K for full list of members).

The PMT met regularly to check the status of major deliverables, track and maintain a regular project schedule, coordinate materials for individual and Joint Council work sessions and meetings, plan public events and outreach strategies, and develop consistent messaging for project outcomes. The Project Consultant team representatives participated in the PMT meetings on a bi-weekly basis as needed. The plan's content was guided and produced by the project consultant team and reviewed by the PMT.

## Agency Review Team

The Agency Review Team (ART) represented local service providers and regional partners, who advised staff members of both cities about regulatory and planning compliance (see Appendix K for full list of members). Input gathered from the ART was incorporated into the Concept Plan and included in regular staff updates to the Planning Commissions and City Councils. Involvement was required for some key agencies that needed to approve or concur with the Concept Plan, while other agencies were invited to participate in the planning process as their advice was needed on specific issues. Metro, CWS, Washington County, and the Sherwood, Tigard-Tualatin and West Linn-Wilsonville school districts participated in the ART to provide support and concurrence with the Concept Plan.

In addition to the above-mentioned, ART member agencies included the Oregon Department of Transportation (ODOT), Tualatin Valley Fire & Rescue, and the Bonneville Power Administration (BPA). Other agencies were invited to the planning process when their specific advice was necessary, specifically the City of Sherwood, City of Tualatin (including Planning, Community Development, Building, Community Services, Economic Development, Engineering, Parks and Recreation, and Public Works departments/divisions), City of Wilsonville (including Planning, Community Development, SMART Transit, Public Works, Engineering, Parks and Recreation, Natural Resources, and Building

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departments/divisions), Clackamas County, Northwest Natural, Portland General Electric, and Tri-Met. This collaborative analysis and joint decision-making set a framework for the Basalt Creek Concept Plan to have the greatest possible chance for success for the community.

The ART met three times throughout the project – in June and September of 2014, and then again in February 2016. The first meeting provided an opportunity to present an overview of the Basalt Creek Concept Plan project and process to the ART and inform members of key milestones and decision points where their input would be needed. The project consultant also presented the proposed methodology for the Existing Conditions report, particularly soliciting feedback on the market analysis, infrastructure analysis, and transportation analysis components. The second meeting served to solicit feedback from ART members on the draft Existing Conditions report, clarify issues surrounding infrastructure, provide an overview of public feedback, and present the land suitability analysis for review. The third meeting was held on February 19, 2016 to further discuss transit, parks and open spaces, schools, parks, and trails.

## Information Gathering

The project consultant conducted research on the existing conditions and future needs in the Planning Area, as well as reviewed previous planning efforts affecting the area. This research included land use, transportation, the real estate market, geology, water and sewer infrastructure, stormwater, natural resources and parks. The Existing Conditions Report provides additional background information in Appendix A.

## Public Involvement Plan

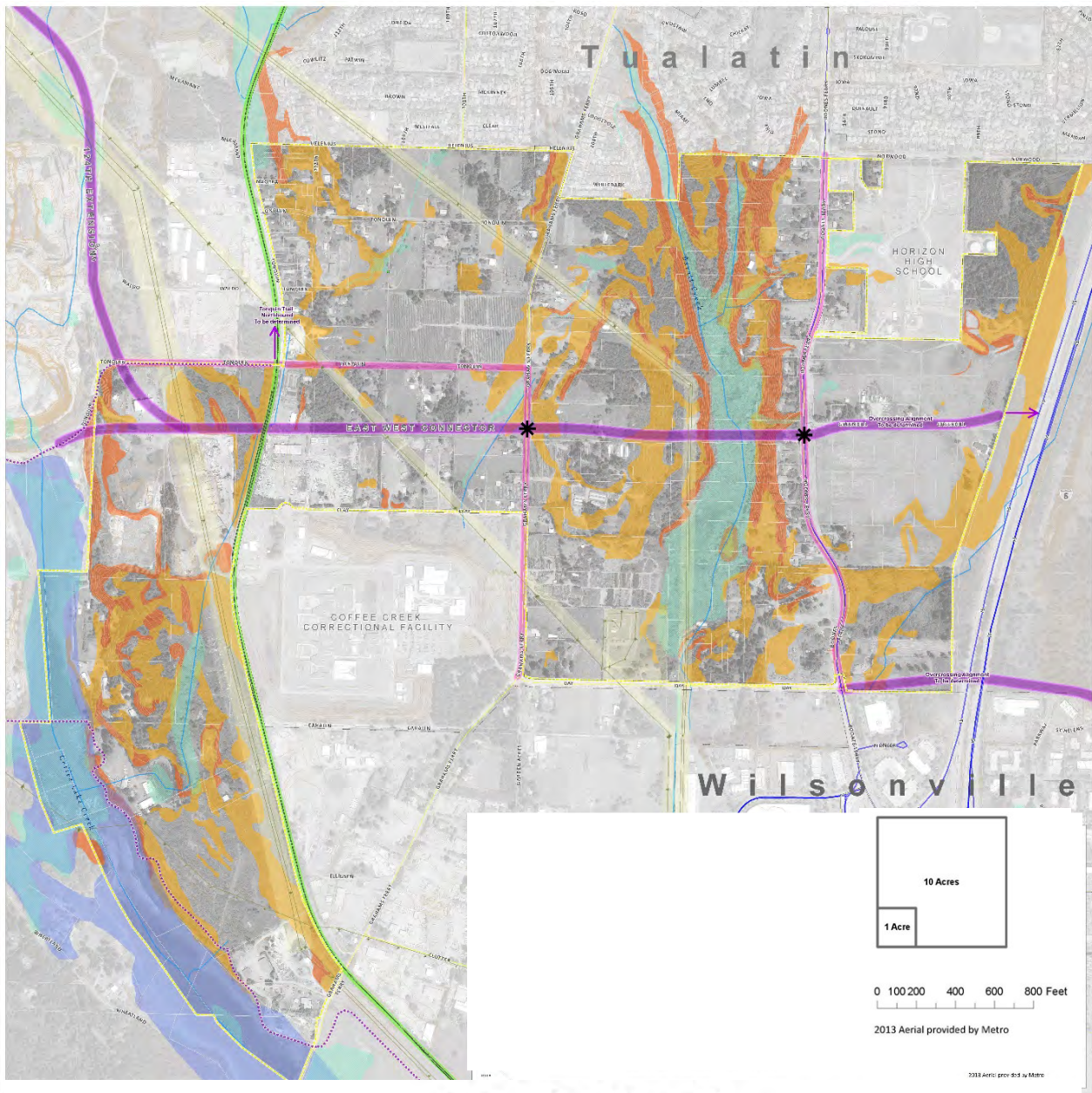
A Public Involvement Plan, developed by the PMT, was used to guide outreach strategies and events throughout the planning process (Appendix B).

## Public Workshop

The planning process began with a community workshop for the Basalt Creek Concept Plan on June 17, 2014. This was a visioning workshop and open house attended by roughly 40 people and solicited input on priorities and preferences for future land use and transportation in the Planning Area. Key outputs included initial scenarios that identified important issues for the area, including a desire to keep the Basalt Creek Canyon as open space, the need for residential buffer areas, traffic challenges and ideas for new parks. Results indicated a preference for appropriate transitions between land uses and protection of existing neighborhoods, but an openness to a range of employment and commercial uses. Instant polling at the workshop was combined with the results of the online survey for a total of 160 responses from participants living both inside and outside the Planning Area. Survey results included a strong interest in public access to natural resources and were less focused on housing or industrial warehousing. This participation informed the establishment of Guiding Principles for the project.

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Figure 3 Example of the Basalt Creek Planning Area Base Map used for workshop activity. Participants used these maps to draw and design a vision for future uses of the Basalt Creek Planning Area.



## Basalt Creek



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## Stakeholder Interviews/Focus Groups

The Basalt Creek concept planning process included over a dozen focus group meetings and stakeholder interviews with developers and property owners in June and July 2014. Developer discussions included industrial, office, retail, residential, and mixed-use development. Knife River, Coffee Creek Correctional, Ibach Citizen Involvement Organizations and the Chamber of Commerce from each City also provided input. These discussions focused on future industrial development types, housing preferences, land assembly, and employer amenities. Property owners expressed a desire for flexibility in land uses and concern over how development will impact quality of life in the area. Developers were concerned with industrial development types changing, along with changing housing preferences, the land assembly challenge, and what employers will consider amenities in the area. These discussions informed the Concept Plan's market analysis, land suitability analysis, building prototypes, development types and land use placements for testing different land use scenarios for the Planning Area.

## Open House

A second open house was held on April 28, 2016 to share the draft Concept Plan elements, including land use, road network and improvements, transit, bike, pedestrian and trail network improvements, parks, natural areas, and infrastructure systems. Members of the public were invited to share feedback on the Concept Plan generally as well as specific options for future parks, natural areas, and the bike, pedestrian and trail network. Participants expressed general support for the preferred alternative presented at the Open House, and during instant polling, shared a desire to use the area for recreation, neighborhood parks and conservation areas.

## Email and Website Updates

The Project Management Team (PMT) typically sent monthly updates to those on the interested parties list via email and to property owners via postal mail, which included approximately 300 people. Council and Planning Commission work sessions and updates were scheduled and held throughout the project, including before critical milestones and Joint Council meetings, all of which were open to the public and notice provided on City websites and the project website.

## Scenario Testing and Concept Plan Development

### What is Scenario Planning?

Scenario planning is a tool used to estimate the likely future effects of growth and development patterns in a specific area. This information helps local governments make decisions about what type of land use, transportation and infrastructure plans and policies will best meet community needs in the future. Scenario planning helps identify challenges and opportunities for desired growth and allows exploration of different approaches to achieve the community vision for an area. Unlike a plan, scenarios are very specific, intending to model likely future land uses. Learning from these, a plan can be developed to allow for several beneficial scenarios.

### Scenario Planning for Basalt Creek Planning Area

Scenarios were used to understand how different land use decisions, infrastructure investments, other regulations and policies might impact the future outcomes in Basalt Creek – and how well they achieve

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the guiding principles. The scenarios that were designed and tested for the Basalt Creek Planning Area integrated many different variables (such as different land uses and service areas) and the relationships between those variables. By modifying the scenarios, the impact of different sets of decisions were able to be better understood.

The scenario testing for Basalt Creek sought to answer questions about the implications of various development and infrastructure options. Taken together, these questions formed objectives for the scenario evaluation.

- Where should the boundary between Tualatin and Wilsonville be?
- What combination of land uses is most appropriate for the area?
- What infrastructure is needed to support future development, and what will be the cost of that infrastructure?
- Which agencies will provide public services to different parts of the area?
- How will traffic generated by new development in this area impact traffic flows and congestion levels, both locally and regionally?
- How will the benefits and costs of serving the area be balanced fairly between Tualatin and Wilsonville?

The project team created and evaluated a Development Base Case and tested Alternative Development Scenarios. These development scenarios used existing buildings from both jurisdictions to model potential future development and reflect existing zoning and development regulations in the Envision Tomorrow modeling program (see Appendices C1 and C2).

During the scenario development process, jurisdictional boundary discussions were ongoing and different scenarios considered different boundary alternatives. A series of five scenarios were developed in an ongoing iterative process that tested the following variables: the location and amount of different land uses, the location of the jurisdictional boundary, location of service boundaries, and design of infrastructure systems. The PMT also developed performance measures associated with the Guiding Principles, in addition to local and regional goals, to compare the different scenarios. As a complex set of conditions, the variables tested were interrelated and needed to be combined in scenarios to understand how changes in one variable impacted the others.

These scenarios were vetted by the project's PMT and each City Council, and then fully analyzed for the transportation, infrastructure, and land use implications. Based on these analyses, discussions among the PMT, and feedback from the Joint Councils, a preferred scenario was developed. The preferred scenario became the basis for the Basalt Creek Concept Plan.

### Final Plan Development

The final phase of the project included further refinement of the Concept Plan using the preferred scenario, setting the jurisdictional boundary, and drafting an implementation strategy for the Concept Plan. The final Basalt Creek Concept Plan was designed to meet all the requirements associated with areas added to the urban growth boundary (see Title 11 Compliance Memo in Appendix D) and was forwarded to Metro for review. The Councils from the City of Tualatin and the City of Wilsonville each adopted the Concept Plan by resolution. Comprehensive Plan amendments and implementation strategies and tools are to be consistent with this Plan.

## Concepts that Shaped the Plan

Guiding Principles represent the collective interests and goals for the Basalt Creek Planning Area as agreed to and established by the Joint Council. They provided a framework for gathering input and developing transparent and meaningful measures that helped inform the decision-making process for this plan (see Appendix E for Guiding Principles Memo which provides further descriptions).

1. Maintain and complement the Cities' unique identities
2. Capitalize on the area's unique assets and natural location
3. Explore creative approaches to integrate jobs and housing
4. Create a uniquely attractive business community unmatched in the metropolitan region
5. Ensure appropriate transitions between land uses
6. Meet regional responsibility for jobs and housing
7. Design cohesive and efficient transportation and utility systems
8. Maximize assessed property value
9. Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

In addition to the Guiding Principles, during a Joint Council meeting, the Councils also identified ten key elements for successful implementation of the Basalt Creek Concept Plan that relate to key functions such as the sewer, water, and transportation services, land use and natural resources in the area. These considerations informed the key elements of the Concept Plan (see Appendix E for 10 Considerations of Success for further descriptions).

### Planning Area Conditions

The project consultant team conducted research on the existing conditions and future needs in the Planning Area, as well as reviewed previous planning efforts affecting the area. The project team studied land use, transportation, the real estate market, geology, water and sewer infrastructure, stormwater, natural resources and parks.

### Planning Context and Urban Growth Boundary

The Portland Metropolitan Area Urban Growth Boundary (UGB) includes three counties and 24 cities. Metro administers the UGB, which includes a mandatory six-year assessment of whether it includes sufficient land to accommodate 20 years of expected development for residential and job growth.

During the 2004 analysis, Metro identified a shortfall of industrial land and a study identified good candidates for industrial development by looking at soil classification, earthquake hazard, slope steepness, parcel size, accessibility to regional transportation and necessary services, and proximity to existing industrial uses. Several areas of land identified as good candidates for industrial development were added to the UGB by Metro via Ordinance 04-1040B in 2004, two of which comprise the Basalt Creek Planning Area. The current 2040 Growth Concept Map identifies the Basalt Creek Planning Area as industrial, but the Ordinance does provide some flexibility to include housing in the Planning Area. The



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Ordinance identified outer neighborhood as a potential land use in the northern portion of the Planning Area, to provide some housing and a buffer for existing residential neighborhoods in Tualatin.

The industrial designation from Metro is defined within the Regional Framework Plan's Glossary as "an area set aside for industrial activities. Supporting commercial and related uses may be allowed, provided they are intended to serve the primary industrial users. Residential development shall not be considered a supporting use, nor shall retail users whose market area is substantially larger than the industrial area be considered supporting uses."

## The Land

### *Landscape Context*

The general character of the area's landscape was shaped by the Glacial Lake Missoula Ice Age floods, a series of cataclysmic floods that shaped the landscape of the Columbia River Gorge and the Willamette Valley during the last Ice Age. The Ice Age Tonquin Trail Master Plan describes the area as "comprised of upland prairie fragments, and oak and madrone woodlands. Rare wildflowers are found near basalt hummocks (scablands) to the west of the Planning Area, and rare reptiles (pond turtles) and amphibians (northern red-legged frogs) live in the kolk ponds." Remains from the Ice Age floods that can be seen in and around the Basalt Creek Planning Area include glacial deposits, scablands, kolk ponds (ponds formed by eddies during the Missoula Floods), and flood channels. The terrain includes significant slopes of more than 25% and with a change in elevation from 250 ft above mean sea level (amsl) to a maximum elevation of 350 ft amsl.

### *Existing Land Use*

The primary existing land uses in the Basalt Creek Planning Area are rural agriculture, industrial and rural residential consisting of low-density single-family housing. There are areas of agricultural uses, including a nursery, landscaping supply, and blueberry farms. Existing industrial land users include gravel quarries and cement manufacturing in the northwest corner of the Planning Area. The existing housing in the area consists of detached single-family on large lots. A significant portion of single-family homes are located on the eastern edge of the Basalt Creek Canyon along Boones Ferry Road.

### *Adjacent Land Uses*

The Planning Area is bounded to the north by Tualatin residential neighborhoods, to the south by Wilsonville commercial and industrial uses, I-5 to the east, and to the west by Coffee Lake Creek, wetland habitat, and rural and industrial lands.

- The southernmost residential neighborhoods of Tualatin, including recently-built subdivisions such as Victoria Gardens, are located to the north of the Planning Area. These neighborhoods are zoned a mix of low- and medium-low density residential and are comprised primarily of high-quality, detached, single-family homes. Also, to the north is the 30-acre campus of Horizon High School (a private high school). The campus is bordered on three of its sides by the Planning Area.
- To the west, the Planning Area is bordered by unincorporated portions of Washington County including the Southwest Tualatin Concept Plan area where active quarries and an asphalt plant are located. Further west of the Southwest Tualatin Concept Plan area is the Tonquin Employment Plan area which falls within the City of Sherwood's urban planning area. Most of this land is undeveloped or vacant at this time.

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- South of the Planning Area are existing and planned commercial, office and industrial uses located within the City of Wilsonville. The employment areas around SW Commerce Circle, Ridder Road, and 95<sup>th</sup> Avenue include advanced manufacturing, clean tech, warehouse, distribution, and logistics businesses. The Coffee Creek Planning Area abuts the Basalt Creek Planning Area along the south side of Day Road and south and west to the existing Wilsonville city boundary. The City adopted a Master Plan and Industrial Form-based Code for this area to create a high caliber business district.
- Adjacent to the southern border of the Planning Area is Coffee Creek Correctional Facility. This is a state-owned correctional facility with 1,250 female inmates, and a fluctuating number of male inmates (around 400) undergoing intake until they are transferred to another facility. The Correctional Facility employs 435 people with day and nighttime shifts comprising a 24-hour workforce.

### *Natural Resources*

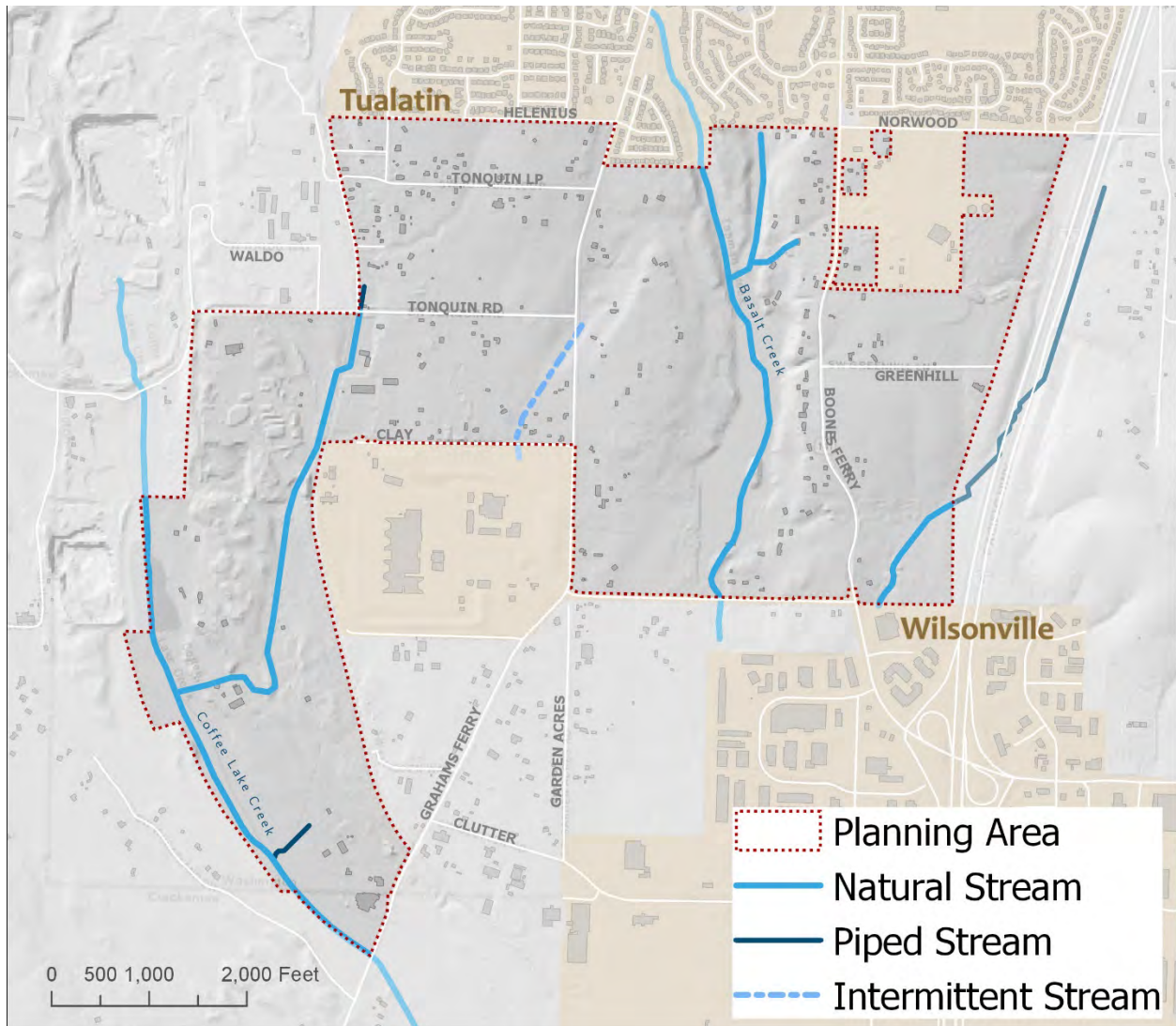
Wetlands, floodplain, upland habitat, streams, open water and riparian areas provide important natural resources in the planning area. Within the Basalt Creek Canyon and Coffee Lake Creek basin, there are open water, emergent and scrub-shrub wetlands. The small, forest patches scattered throughout the planning area provide travel corridors and habitat for a variety of species including Red-legged Frogs and the Pileated Woodpecker. Land suitability studies for this area identified constrained lands including 18,845 feet of natural streams; 1,402 feet of underground or piped streams, defined as water that flows under the surface in a definite channel; and 789 feet of intermittent streams in the Planning Area.

There are two main streams in the Planning Area, Basalt Creek (also known as Seeley's Creek or Tappin Creek) and Coffee Lake Creek and its east tributary, which run through the West Railroad Area. There is also an underground, piped stream near I-5 along the eastern edge of the Planning Area. Coffee Lake Creek forms the western boundary of the Planning Area. There are also 69 acres of wetlands (8% of the Planning Area), including 49 acres of open water in the Planning Area.

There are 116 acres of land designated by Metro as Water Quality and Flood Management Areas. Following Metro's designations and associated regulations, local jurisdictions determine development rules and requirements that affect these areas. Clean Water Services, who regulates environmental lands in the City of Tualatin and elsewhere in Washington County and the City of Wilsonville, have local ordinances in place that go beyond the level of conservation otherwise required by Metro. Existing local standards from each City would apply upon annexation of property into either Wilsonville or Tualatin.

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Figure 4 Map of Streams by Category.



## *Buildable Lands Assessment*

A buildable lands assessment for the Basalt Creek Planning Area (see Appendix F) screened out parcels where there is limited or no development potential to identify the places where development is most suitable given the environmental and regulatory context. There is a range of factors that influence development potential within the Planning Area, but they can be divided into two categories: hard and soft constraints. Hard constraints are either physical attributes or legal requirements that prohibit new development. These areas are excluded from the analysis. Soft constraints are where physical attributes or legal requirements allow some development with guidance on appropriate land uses and development densities. Assumptions regarding the amount of development in these areas followed Metro guidelines calling for restrained development.

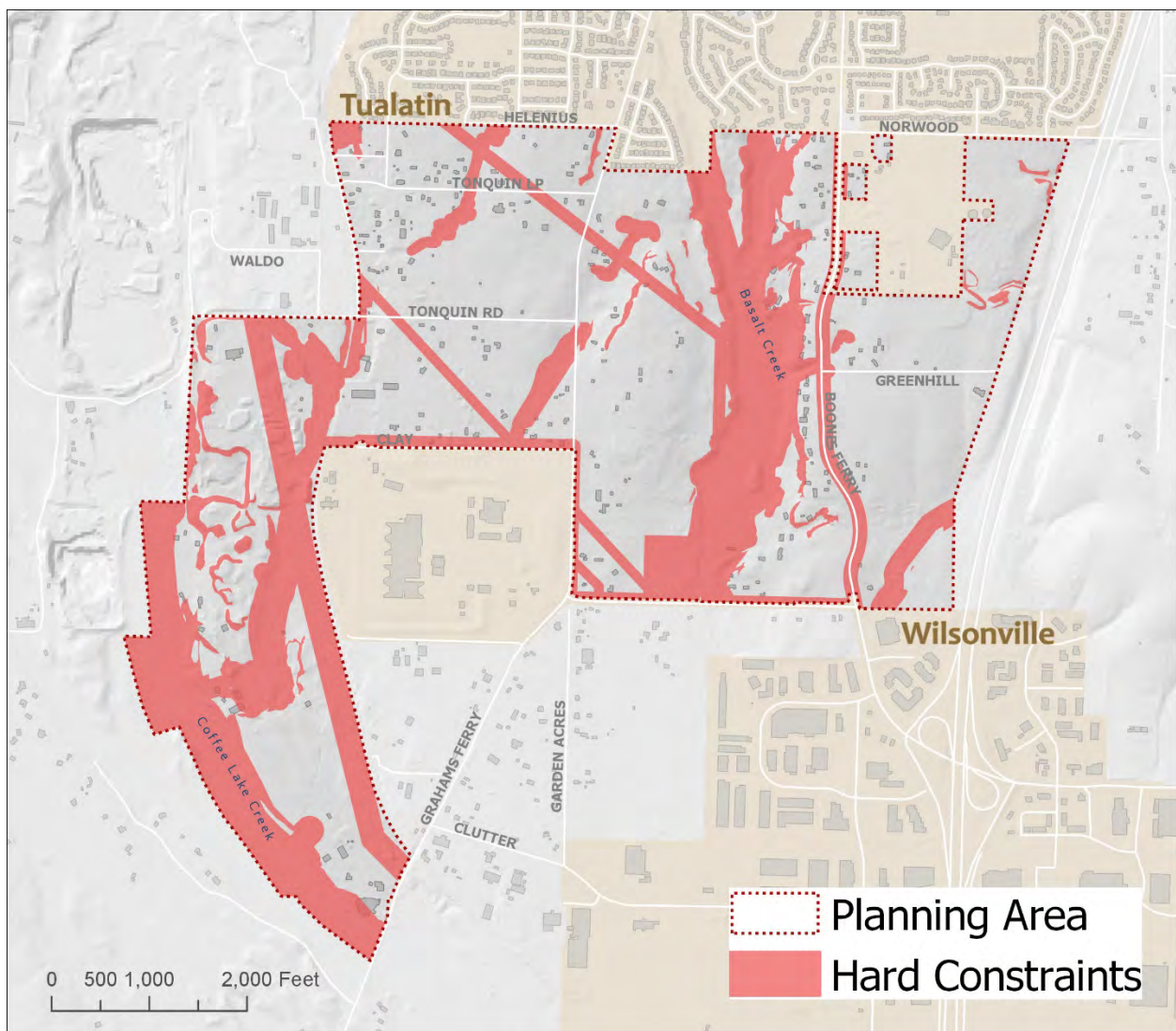
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## Land Suitability Analysis

Determining the development capacity for the Planning Area starts with the buildable lands assessment and then further analyzes the land supply to estimate development capacity on any given parcel. The Planning Area includes land that is constrained by streams and easements. This land supply analysis then evaluates existing land uses, as provided by tax lot data via Metro's Regional Land Information System (RLIS), visual surveys of the area via aerial photographs and online tools such as Google Earth, and site visits for verifying stream conditions and alignments.

After completing this more detailed review of the land supply to determine development suitability, the land suitability analysis is combined with the buildable lands assessment to remove constrained land and to create a geographically referenced database of developable land within the Planning Area.

Figure 5 Map of Hard Constraints within the Basalt Creek Planning Area.



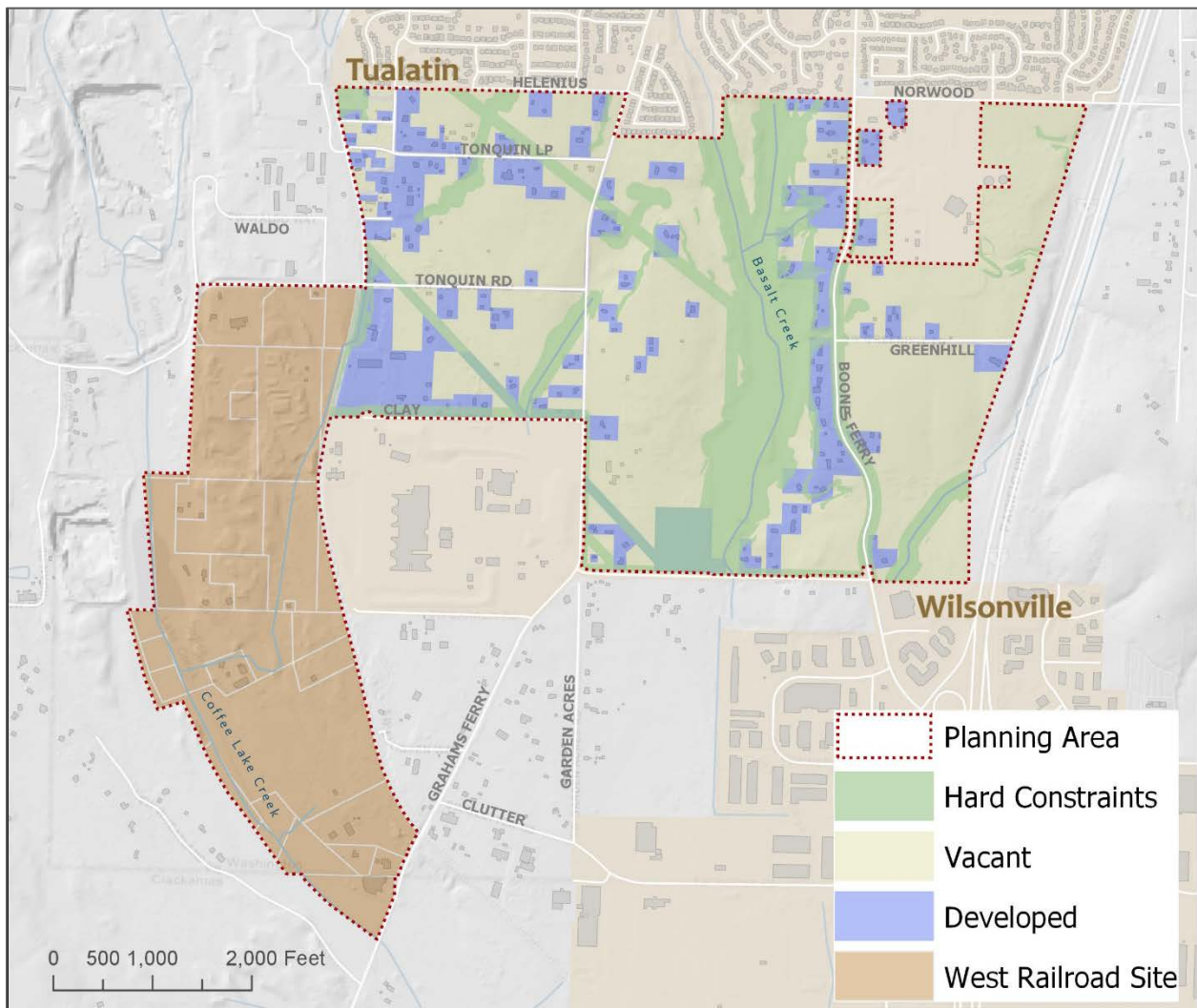
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The goal is to classify every parcel within the Planning Area into one of the categories described below:

Table 2 Land Supply within the Basalt Creek Planning Area by Type and with Acreage.

Land Type	Acres	Description
Vacant Land	331	Unconstrained land that is ready to build with no major structures located on the site
Developed Land	125	Land already built upon which includes acreage covered by roadways
Constrained Land	153	Land that cannot be built upon due to environmental or other hard constraints
West Railroad Area	238	Excluded from development plan due to large amount of constraints and limited access
<b>Total Land Supply</b>	<b>847</b>	

Figure 6 Land Supply by Type.



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There were no redevelopment assumptions incorporated in this analysis. The values associated with the existing buildings were high enough to preclude redevelopment for purposes of determining the development types used during scenario testing. Thus, the developable land estimate for the Planning Area is 331 acres. This analysis forms the foundation for determining land use and development capacity on each parcel in the Planning Area. The development plan for the Basalt Creek Planning Area excludes the West Railroad Area from development due to the large amount of constraints on the land and limited access.

## Infrastructure and Services

### *Roadways*

The Concept Plan looked at the existing transportation system and the planned transportation system developed as part of the TRP, which includes phased investments to support regional and local transportation needs through 2035. The plan provides 18 transportation investments broken into short, medium and long-term projects, all of which are important to ensure that the transportation network functions at acceptable levels over time. The key element is the East-West Connector to the 124th Avenue extension, the future and partially constructed Basalt Creek Parkway.

### *Sanitary Sewer*

Currently, no sewer service is provided to the Planning Area. Existing homes use septic systems. Wastewater conveyance to the south of the Planning Area is under jurisdiction of the City of Wilsonville. Sewer service to the north of the Planning Area in Tualatin is provided by the City of Tualatin and Clean Water Services.

The nearest treatment facility to the north of the Planning Area is the CWS Durham Advanced Wastewater Treatment Facility (AWTF). Eight gravity sewer mains exist near the north Planning Area boundary that could provide connection points for wastewater from the Basalt Creek Planning Area into the Tualatin collection system. The Victoria Woods Pump Station and associated force main are also located just to the north of the Planning Area boundary. From these connection points, wastewater flows by gravity toward the AWTF, crossing the Tualatin River via the Lower Tualatin Pump Station in Tualatin Community Park. Pump stations will be required to lift flows from the Planning Area into the existing gravity system. Expansion of the service district area to include Tualatin's portion of the Basalt Creek Planning Area needs to be approved by Clean Water Services at time of Annexation.

The nearest treatment facility to the south of the Planning Area is the City of Wilsonville Wastewater Treatment Plant (WWTP), located approximately 3.2 miles south of the Planning Area. This facility was recently expanded to accommodate growth within the current city limits and allow for additional buildout to accommodate growth outside the city limits in Urban Growth Boundary expansion areas. Approximately half (300 acres) of the Basalt Creek Planning Area was accounted for in the year 2030 build-out capacity assessment conducted as part of the facility expansion.

The City of Wilsonville's Coffee Creek Master Plan identifies a new sanitary main line to be constructed. After the adoption of that plan, more analysis was completed and determined the appropriate location of the sanitary sewer line to be along Garden Acres Road from Ridder Road and extending north to near Day Road and then continuing up Grahams Ferry Road. A second sanitary sewer line will extend from Garden Acres east and north to Day Road extending east to Boones Ferry Road. These lines are intended to provide conveyance of wastewater within the Coffee Creek area and are also intended to serve flows

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from the Basalt Creek Planning Area to the WWTP. The Sanitary Sewer Collection System Master Plan has analyzed a range of potential flows from the Planning Area.

The Tualatin Sanitary Sewer Master Plan Update is currently being updated and includes the Basalt Creek Planning Area as a sewer basin. The City of Wilsonville updated its Sanitary Sewer Collection Systems Master Plan (MSA, 2014) which included the Basalt Creek Planning Area as a contributing area. The resulting updated master plans identify the improvements needed to increase the capacity of each system to convey flow from the Basalt Creek Planning Area.

### *Drinking Water*

The Basalt Creek Planning Area currently has no municipal water infrastructure in place. Tualatin currently purchases its municipal water from the Portland Water Bureau. The City of Wilsonville Water Treatment Plant draws its potable water from the Willamette River. Based on the topography, the Basalt Creek Planning Area could be served from the south through The City of Wilsonville's distribution system or from the north through the City of Tualatin's distribution system. Lower elevations of the Basalt Creek Planning Area can be adequately served through existing lines in Wilsonville's Pressure Zone B.

### *Stormwater*

Existing stormwater infrastructure consists of roadside drainage ditches and culverts. Culverts in the Planning Area are under the jurisdiction of Washington County and may not have capacity for future urban conditions. Culverts to the south of the Planning Area are part of the City of Wilsonville stormwater system. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the Planning Area. Culverts may need to be upsized to provide adequate capacity for runoff from new impervious areas, unless onsite retention or infiltration is required when the location of public drainage or the topography of the site make connection to the system not economically feasible.

Basalt Creek itself flows to the south into Wilsonville as part of the Coffee Lake Creek Basin. Basalt Creek discharges into the Coffee Lake wetlands. Coffee Lake Creek flows south from the wetlands and combines with Arrowhead Creek before discharging to the Willamette River.

The City of Wilsonville's 2012 Stormwater Master Plan identifies capital improvement Project CLC-3 to restore a portion of the Basalt Creek channel, west of Commerce Circle, to increase capacity. The master plan also identifies Project CLC-1 for construction of a wetland for stormwater detention purposes, north of Day Road, to serve an area that includes the Basalt Creek Planning Area. The July 2014 Updated Prioritized Stormwater Project List identifies CLC-3 as a mid-term project (6 to 10 years) and CLC-1 as a long-term project (11 to 20 years).

Locations where stormwater runoff from the Basalt Creek Planning Area could connect to existing stormwater infrastructure will require evaluation of the conveyance systems at time of development.

### *Schools*

The Planning Area falls within the Sherwood School District, which has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School. Most of these schools are within three miles of the edge of the Basalt Creek Planning Area.

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The Planning Area is near Tualatin High School, one of two high schools in the Tigard-Tualatin School District. The district also includes three middle schools and ten elementary schools. It serves 12,363 students overall. Horizon Christian High School (private) has 160 students enrolled on their campus with a vision of serving up to 1,000 students in the future. Existing parks, libraries, and schools are mapped in the Existing Conditions Report (see Appendix A).

### *Parks*

No parks currently exist within the Planning Area. Wilsonville Parks owns and maintains 16 different public parks, the closest of which is Canyon Creek Park located in Northeast Wilsonville on the other side of I-5. It has 1.41 developed acres and 6.87 acres of natural area popular for picnics and walking. The Other Wilsonville parks are located approximately 2 miles south of the Planning Area, including Graham Oaks Nature Park, which will be connected to the Planning Area when the regional Ice Age Tonquin Trail is complete. City of Tualatin Parks and Recreation owns and maintains 9 different parks, with Ibach Park being the closest to the Planning Area. Ibach includes an award winning and nationally recognized playground that incorporates Tualatin's pre-historic, Native American, and pioneering past, with information on the cultural and natural history of the area.

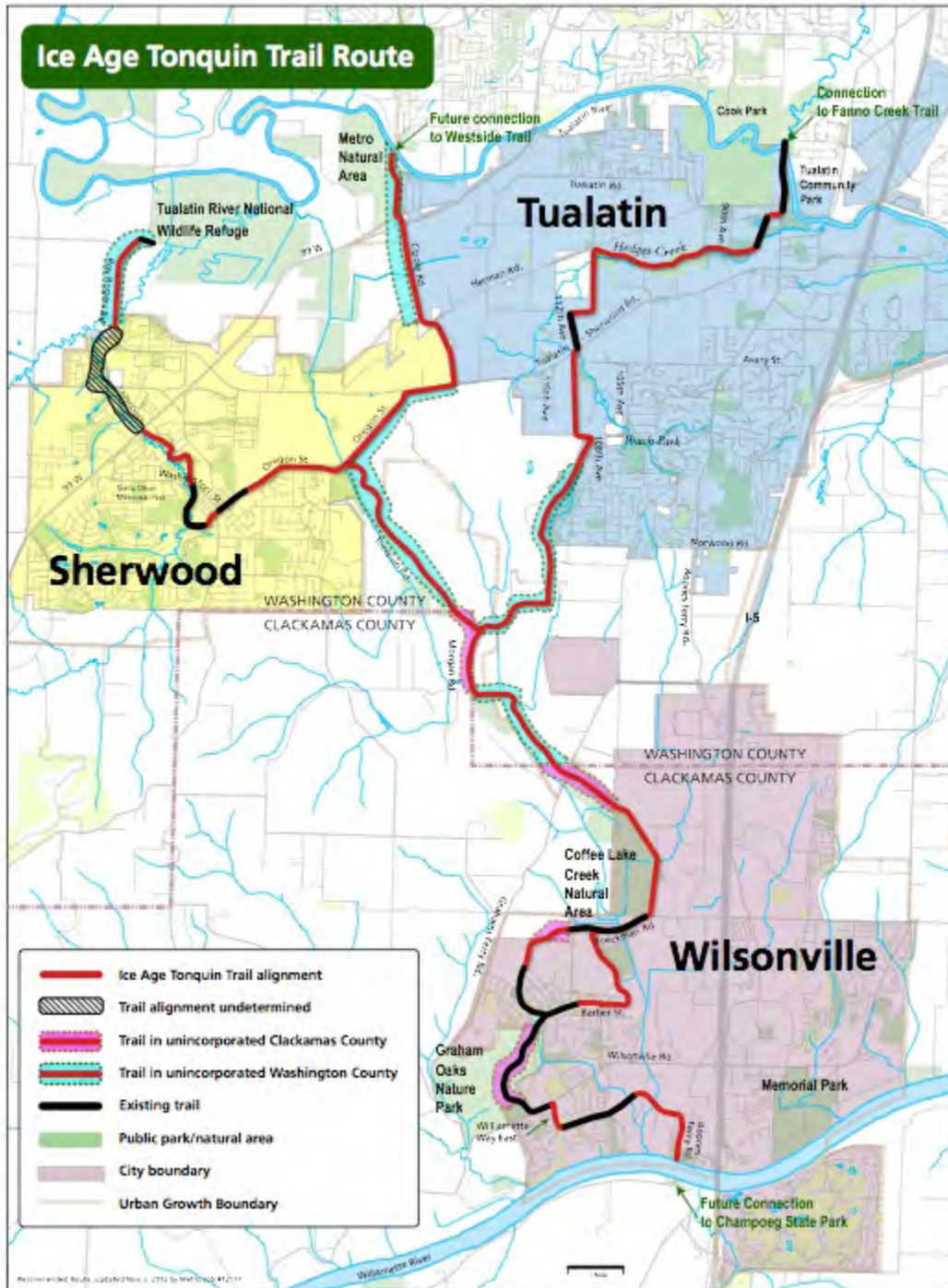
### *Trails*

Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional jurisdictions to embark on trail implementation efforts. The proposed trail alignments show about 22 miles of trails connected through Tualatin, Wilsonville and Sherwood, and includes a section traversing the Basalt Creek Planning Area.



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Figure 7 Map from the Ice Age Tonquin Trail Master Plan



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## Market Analysis

A market analysis (Appendix G) to identify the expected development potential for the Basalt Creek Planning Area as a future industrial and urban growth area was conducted by Leland Consulting Group.

The Planning Area is contiguous with several other employment and industrial areas in the southwestern part of the Portland metropolitan region. The market area for the Concept Plan includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas. Each of these three cities is expecting business expansion and job creation. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Industry clusters in which both cities are already highly competitive are expected to continue and provide significant business and job growth in the future. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. The amount of industrial development (including warehousing, production, flexible office/industrial space, high tech, etc.) in both cities is significantly larger than the amount of office development. Office development—nationally and regionally—is not expected to bounce back from the recession with the same resiliency as industrial space.

Employment development in the Planning Area will benefit from a number of competitive advantages. A major feature and competitive advantage of this “Southwest Metro” employment cluster in general, and the Basalt Creek Planning Area in particular, is its immediate access to I-5, the west coast’s most important transportation route. Additional advantages are access to I-205, Highway 217, nearby arterial roads, and transit service, a growing and educated workforce, and established and expanding industry clusters nearby. Employment corridors are located along transportation arterials that include the 124<sup>th</sup> Avenue Extension and the Basalt Creek Parkway located east west along the future jurisdictional boundary.

The market area’s location and current demographics are also encouraging for new housing development. The Planning Area is immediately south of several south Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. The neighborhoods create a positive environment for residential development along the northern edge of the Basalt Creek Planning Area.

The Planning Area is already served by several major regional and sub-regional retail nodes located nearby—Bridgeport Village, central Tualatin, and Wilsonville’s Argyle Square. Any commercial space built in the Basalt Creek Planning Area will primarily serve residents and employees, as is consistent with Metro’s employment area designation.

# Concept Plan for Basalt Creek

## Concept Plan Overview

The Basalt Creek Concept Plan guides development within the Planning Area over the next twenty years. It identifies preferred land uses across the area and coordinates future land use, transportation and infrastructure investments between Tualatin, Wilsonville, and Washington County. The partnership between the two cities which shaped this Plan must continue during implementation to drive successful development in the future.

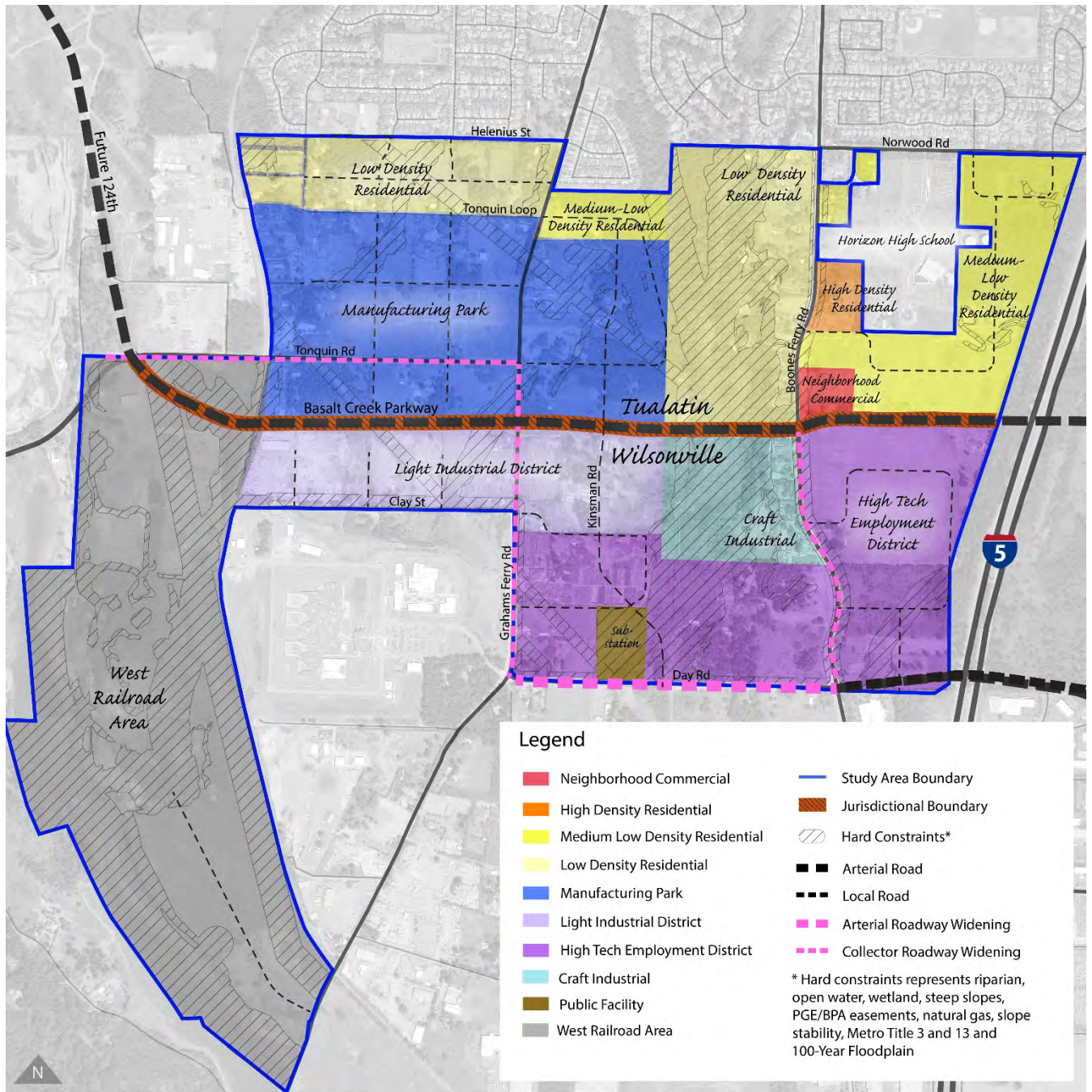
In Ordinance No. 04-1040B, the Metro Council concluded that the Basalt Creek Planning Area can be planned for industrial use given there are urban services in the vicinity and that urbanization will have no effect on agricultural practices on adjacent land due to its isolation from agricultural activities. The Metro Council identified the area as the most suitable exception area under consideration for warehousing and distribution, a significant industrial need facing the region. The land use framework for the Concept Plan supports job growth in the area, while preserving natural space, buffering residential areas, and improving connectivity throughout the Planning Area.

Key considerations and conclusions informed the Basalt Creek Concept Plan:

- While there is a unified Concept Plan for the Basalt Creek area, it was also important to customize the land use types and implementation measures for each city.
- Natural features, topography, and future roads identified in the Basalt Creek TRP influenced infrastructure service areas and the jurisdictional boundary.
- Operating separate infrastructure systems along the jurisdictional boundary affords each jurisdiction the ability to develop and manage their own public utility systems.
- The topography and geology in this area may present development challenges and infrastructure costs may be higher than average.
- Various employment types impact performance of the transportation system differently; for example, retail uses generate more trips than industrial or warehousing.
- There are uncertainties in estimating assessed value and property tax revenue of future development due to unpredictability of the market and the extent to which the modeled development types will be built over time; likewise, it is difficult to accurately estimate SDC revenue for future development.
- The West Railroad Area has significant environmental, infrastructure, and transportation constraints and costs to serve new development; this area is likely to take longer to develop than the rest of the Planning Area. When there is development interest, future planning would need to be conducted.

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Figure 8 Basalt Creek Land Use Concept Map



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## Key Elements of the Concept Plan

- Jurisdictional Boundary Determination
- Land Use and Development
- Transportation
- Transit
- Bicycle, Pedestrian and Trail
- Parks and Open Space
- Natural Resources
- Water
- Sewer
- Stormwater
- Implementation & Phasing

## Jurisdictional Boundary, Land Use and Development

The Basalt Creek Planning Area is divided between the Cities of Tualatin and Wilsonville, and the Basalt Creek Parkway serves as the jurisdictional boundary between the two. Of the 847 acres in the Basalt Creek and West Railroad Areas, approximately 367 acres will be in the Tualatin planning area and 480 acres will be in the Wilsonville planning area. The land use patterns in the Concept Plan are responsive to the setting and to the existing conditions. Since the area is well suited and intended for industrial and housing uses, much of the Planning Area is designated for employment land uses. The Concept Plan land use pattern also anticipates the inclusion of transitional areas via development design standards to buffer new industrial land from adjacent existing uses and neighborhoods.

The land use designations on the map represent real-world development types. Each development type (i.e. Manufacturing Park) is defined by a set of buildings, which are based on real buildings in each of the cities. Tualatin's land use designations which are north of the jurisdictional boundary are consistent with its current development code, and Wilsonville's land use designations, south of the jurisdictional boundary, are consistent with its current development code.

Using the land suitability analysis, and looking at adjacent land uses, the project team identified appropriate land use designations for properties within the Planning Area. These land use designations were further refined, and appropriate densities selected to provide for regional employment capacity and housing while also maintaining traffic counts consistent with the TRP.

Tualatin land uses include a mix of residential and employment development types, with the housing land use designations in the northern and northeastern portions of the Planning Area. The Plan calls for a small retail node just east of the Basalt Creek Canyon located to serve residents and workers.

Wilsonville land uses include a mix of employment development types and a modest opportunity for live/work housing. These land uses support adjacent and nearby industrial areas such as the Coffee Creek Industrial Area and provide flexibility to meet a range of market demands. These uses could also be a good fit for the City's Industrial Form-based Code, recently adopted for the Coffee Creek Industrial Area, if the City wanted to extend it north into the Basalt Creek Planning Area.

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## Development Types

Table 3 Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction

Jurisdiction	Land Use Designation	Buildable Acreage	Households		Employment	
			Count	Density per Gross Acre	Count (jobs)	Jobs per Gross Acre
Tualatin	High Density Residential	3.36	67	19.9	-	-
	Medium-Low Density Residential	59.83	374	6.3	-	-
	Low Density Residential	24.83	134	5.4	-	-
	Neighborhood Commercial	2.89	-	-	33	11.3
	Manufacturing Park	92.95	-	-	1,897	20.4
	Functionally Unbuildable	10.37	-	-	-	-
	<b>Tualatin Subtotal</b>	<b>194.23</b>	<b>575</b>			<b>1,929</b>
Wilsonville	Craft Industrial	1.25	6	4.8	27	21.7
	Light Industrial District	35.30	-	-	581	16.5
	High Tech Employment District	94.47	-	-	1,916	20.3
	Functionally Unbuildable	5.62	-	-	-	-
	<b>Wilsonville Subtotal</b>	<b>136.64</b>	<b>6</b>			<b>2,524</b>
<b>Total</b>		<b>330.87</b>	<b>581</b>		<b>4,453</b>	

### Tualatin

**Employment.** The Concept Plan allocates substantial land as Manufacturing Park, which is expected to accommodate 1,897 new jobs, calculated based on the expected square footage of development in this area and the average square footage needed per employee. The Manufacturing Park is located along the northern edge of the future Basalt Creek Parkway on the land west of Basalt Creek Canyon, including both sides of Tonquin Road and Graham’s Ferry (as shown on the above map).

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**Housing.** Most of the remaining land north of the proposed Basalt Creek Parkway (beyond employment land) is allocated to a mix of residential uses at varying densities. The Concept Plan organizes residential land uses into two general areas that are intended to have easy access to services and be connected to parks, schools, and natural areas.

1. The plan focuses the lowest density housing (a mixture of low-density and medium-low density) along the northern portion of the Planning Area and low density along the west side of Boone's Ferry Road, adjacent to existing neighborhoods of Tualatin. This land is expected to accommodate 134 new households.
2. The eastern portion of the Tualatin future annexation area is anticipated to be a mixture of high and medium-low density residential; the land immediately east of Boones Ferry Rd is intended for high density housing; The remainder of the land east and south of Horizon School is planned for medium-low density residential. This eastern subarea is expected to accommodate 407 new housing units in Tualatin. This land is near the intersection between Boones Ferry Road and the new Basalt Creek Parkway.

**Commercial.** Neighborhood Commercial is planned north of the jurisdictional boundary and east of the Basalt Creek Canyon at, or near, the northeast corner of the intersection of Boones Ferry Road / Basalt Creek Parkway. It is intended to serve residents and workers.

## *Wilsonville*

**High-Tech Employment District.** Most of the buildable acres in the Planning Area south of the proposed Basalt Creek Parkway are devoted to a mix of higher-density employment land. The High-Tech Employment District is expected to accommodate the largest number of jobs (1,916) with a mix of warehousing, manufacturing and office buildings. This land use is in the southern and eastern sections of the Planning Area, covering all Wilsonville land east of Boones Ferry Road and most of the land south of Clay Street extending to Day Road and bordered to the west by Coffee Creek Correctional Facility.

**Craft Industrial.** The southwest corner of the intersection of Boones Ferry Road and the new Basalt Creek Parkway is planned as Craft Industrial, which allows for a mix of smaller-scale commercial uses, which may include live-work units. These envisioned development types respond to the topography on those parcels and their location directly south across the Parkway from residential land and southwest of the neighborhood commercial node across the Parkway in Tualatin. Craft Industrial is a better fit with those surrounding uses, providing a transition to the higher intensity employment uses to the south. This area allows less than 20 percent residential use and is expected to accommodate 27 new jobs and 6 new housing units in the form of live-work units.

**Light Industrial District.** This land is located across the southern edge of the future Basalt Creek Parkway just north of Coffee Creek Correctional Facility and will be able to accommodate 581 new jobs primarily in warehousing and light manufacturing.

## *West Railroad Future Planning Area*

The West Railroad Area is divided from the rest of the Planning Area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The area is heavily constrained by wetlands habitat (as seen in Figure 5), steep slopes, and fragmented property ownership. Initial estimates show it would be costly to serve this area with adequate water, sewer, and transportation infrastructure due to

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its location. These initial cost estimates for the infrastructure are included in Appendix H (Basalt Creek Concept Plan Transportation Technical Analysis and Solutions Memo) and Appendix I (Basalt Creek Concept Plan Infrastructure Technical Memo). Topography and the PNWR line also create a relative separation between this area and the rest of the Basalt Creek Planning Area as well as access issues for freight trucks. Given these constraints, the area has potential for resource conservation and future public access to nature. Additional land uses may be appropriate but will need further analysis.

Because it is considered to have much lower development potential than the rest of the Planning Area, a future land use scenario was not created for this area at this time – it is being considered an area for future study and consideration. Once development and the extension of infrastructure occurs in the rest of Basalt Creek as well as the Coffee Creek Industrial Area, additional analysis should be completed on infrastructure service costs and appropriate land uses. The West Railroad Area is south of the Basalt Creek Parkway and in the City of Wilsonville future annexation area. Wilsonville’s Comprehensive Plan amendment to adopt this Concept Plan will include a designation of Area of Special Concern for the West Railroad Area. The area will require master planning before any development occurs.

## Transportation

### Key Transportation Solutions

The TRP sets the layout of major new roads and improvements for the area. Prior to land annexing into either city, a cooperative funding strategy needs to be agreed upon between the City of Wilsonville, the City of Tualatin, and Washington County to build out the transportation network as set forth in the TRP. The network must also coordinate with plans for the area as set out in the Metro Regional Transportation Plan.

The Basalt Creek Parkway, of which the segment between 124th Avenue/Tonquin Road to Grahams Ferry Road is already under construction, is the major east-west arterial through the area. The Parkway allows for limited local access providing important freight connections between Tonquin, Southwest Tualatin, and Basalt Creek Employment Areas to I-5. It also serves as a future jurisdictional boundary between Tualatin and Wilsonville.

Additional road improvements are necessary to handle projected traffic levels as the area develops, including adding capacity to north-south collectors and Day Road as well as two additional I-5 crossings (at Day Road and Greenhill). As the area develops, property owners will plan and build local roads connecting to this network. These roadway improvements will include enhanced bike and pedestrian facilities and connections to the future transit system.

### Roadway Network

The roadway network for the Basalt Creek Concept Plan is shown in Figure 9. The transportation network includes projects considered likely to be in place by 2035. Metro’s model for forecasting depends partly on the projects planned for the Basalt Creek Planning Area, as well as those planned for the region (Metro’s 2035 Gamma model). Metro’s 2014 RTP, which lists projects reasonably likely to be funded by 2040, informed this analysis. Table 4 shows potential capacity-related projects from the 2014 RTP list. The projects in the RTP originate from the Basalt Creek TRP (see Figure 10 below).



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The planned roadway network includes the projects and facilities described in Table 4 below, with one exception. The East-West Arterial Overcrossing is not included on Figure 9 as that segment of the Basalt Creek Parkway is anticipated to be constructed after 2040. Figure 9 also depicts where local connections may be needed to provide access and circulation to existing development and developable parcels. Both Level of Service (LOS) and Volume to Capacity (V/C) performance measures are shown. Level of service (LOS) ratings and volume-to-capacity (v/c) ratios are two performance measures of intersection operations.

**Level of Service:** relates the traffic service to a given flow rate of traffic and divides the quality of traffic into six levels ranging from Level A to Level F. A represents the best traffic where the driver has the freedom to drive with free flow speed and Level F represents the worst quality of traffic.

**Volume-to-capacity (v/c) ratio:** A decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. A lower ration indicates smooth operations and minimal delays as the ratio approaches 1.0 congestion increases and performance is reduced. Above that the intersection is at capacity and considered failing.

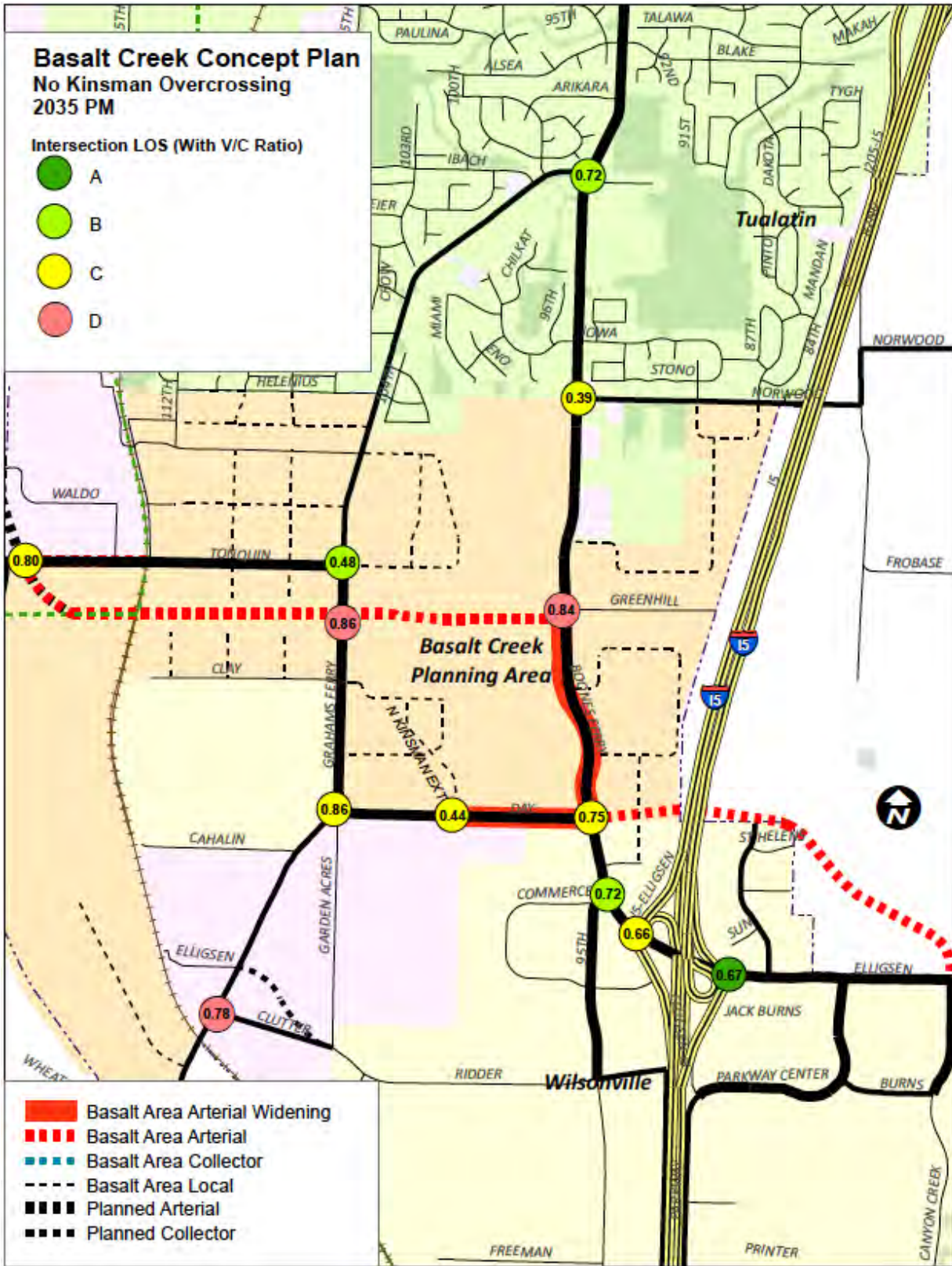
*Table 4 2014 RTP Projects Assumed for 2035 Forecasting*

Project Number	Project and Description	TRP Time Period	In Place by 2035?
10736	124 <sup>th</sup> Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – new two-lane roadway extension	2014-2017	Yes
11243	Day Rd. (Grahams Ferry Rd. to Boones Ferry Rd.) – widen to five lanes	2018-2024	Yes
10588	Grahams Ferry Rd. (Helenius St. to county line) – widen to three lanes	2025-2032	Yes
10590	Tonquin Rd. (Grahams Ferry Rd. to Oregon St.) – widen to three lanes	2025-2032	Yes
11438	Tonquin Rd./Grahams Ferry Rd. – add traffic signal	2025-2032	Yes
11469	124 <sup>th</sup> Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – widen to five lanes	2025-2032	Yes
11470	East-West Arterial (Grahams Ferry Rd. to Boones Ferry Rd.) – new five-lane roadway extension	2025-2032	Yes
11487	Boones Ferry Rd. (East-West Arterial to Day Rd.) – widen to five lanes	2025-2032	Yes
11488	Boones Ferry Rd./Commerce Circle/95 <sup>th</sup> Ave. – Intersection improvement and access control	2025-2032	Yes
11489	Boones Ferry Rd./I-5 Southbound – add second southbound right turn lane on ramp	2025-2032	Yes
11490	Day Rd. Overcrossing (Boones Ferry Rd. to Ellgsen Rd.) – new four-lane roadway extension/overcrossing of I-5	2033-2040	Yes
11436	East-West Arterial Overcrossing (Boones Ferry Rd. to east side of I-5) – new four-lane roadway extension/overcrossing of I-5	2033-2040	<b>No</b>

Source: <http://www.oregonmetro.gov/regional-transportation-plan>

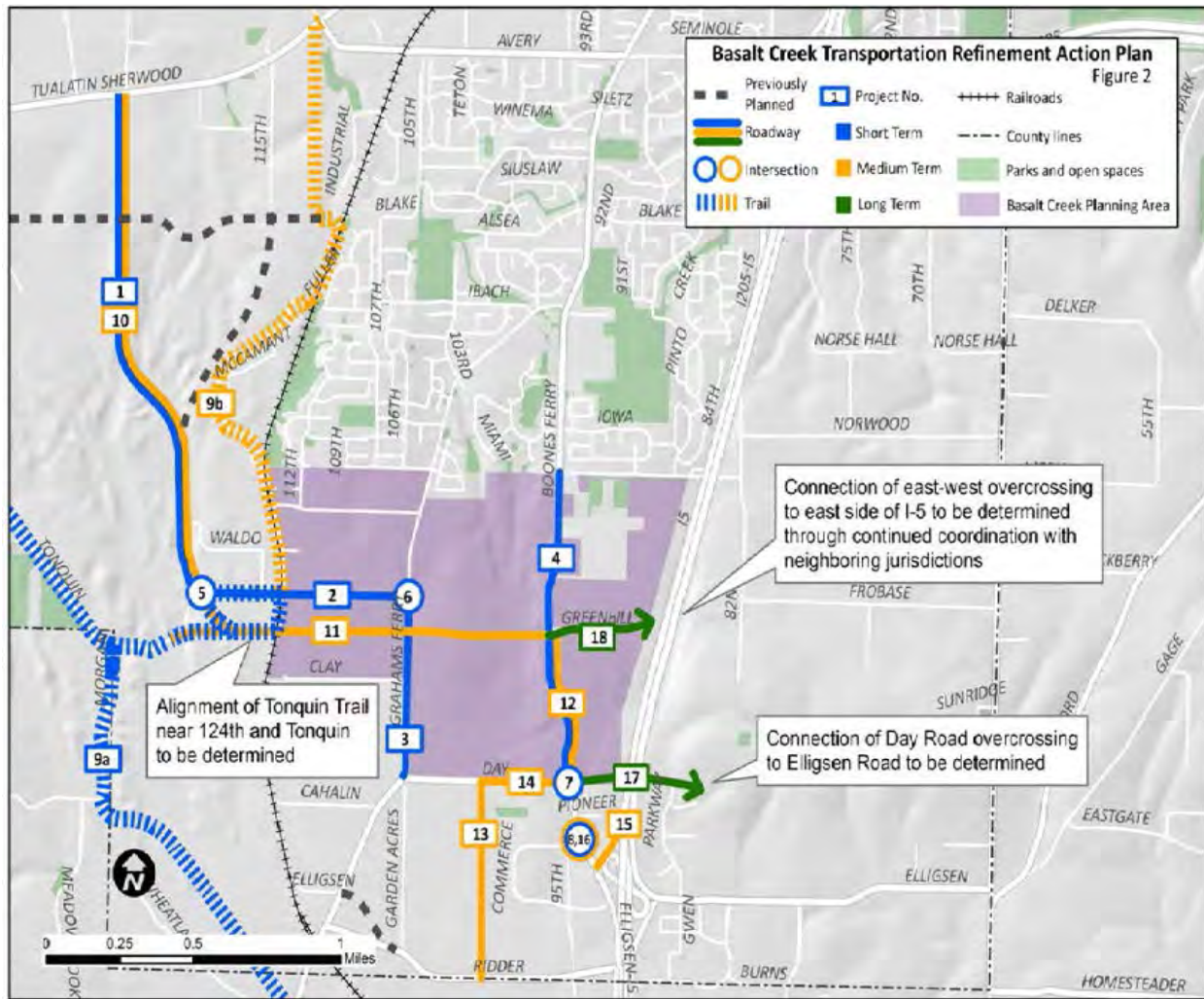
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Figure 9 Transportation Preferred Alternative 2035



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Figure 10 Basalt Creek Transportation Refinement Plan



See Appendix J for more information on the full project list.

The Concept Plan analyzed alternatives regarding future development – and therefore trip generation -- in the Basalt Creek/West Railroad area. The land uses assumed for the Concept Plan are key inputs in traffic forecasting and future traffic operations. Assumptions about regional land use (and intensity of trip generation) beyond the Concept Plan area in 2035 also have a strong impact on forecasting and future operations. Table 5 outlines the trip generation by land use in the Planning Area. The trips generated by the land uses in the Concept Plan are consistent with the trip generation assumed in the TRP and the 2014 RTP.

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Table 5 Trips by Land Use Designation

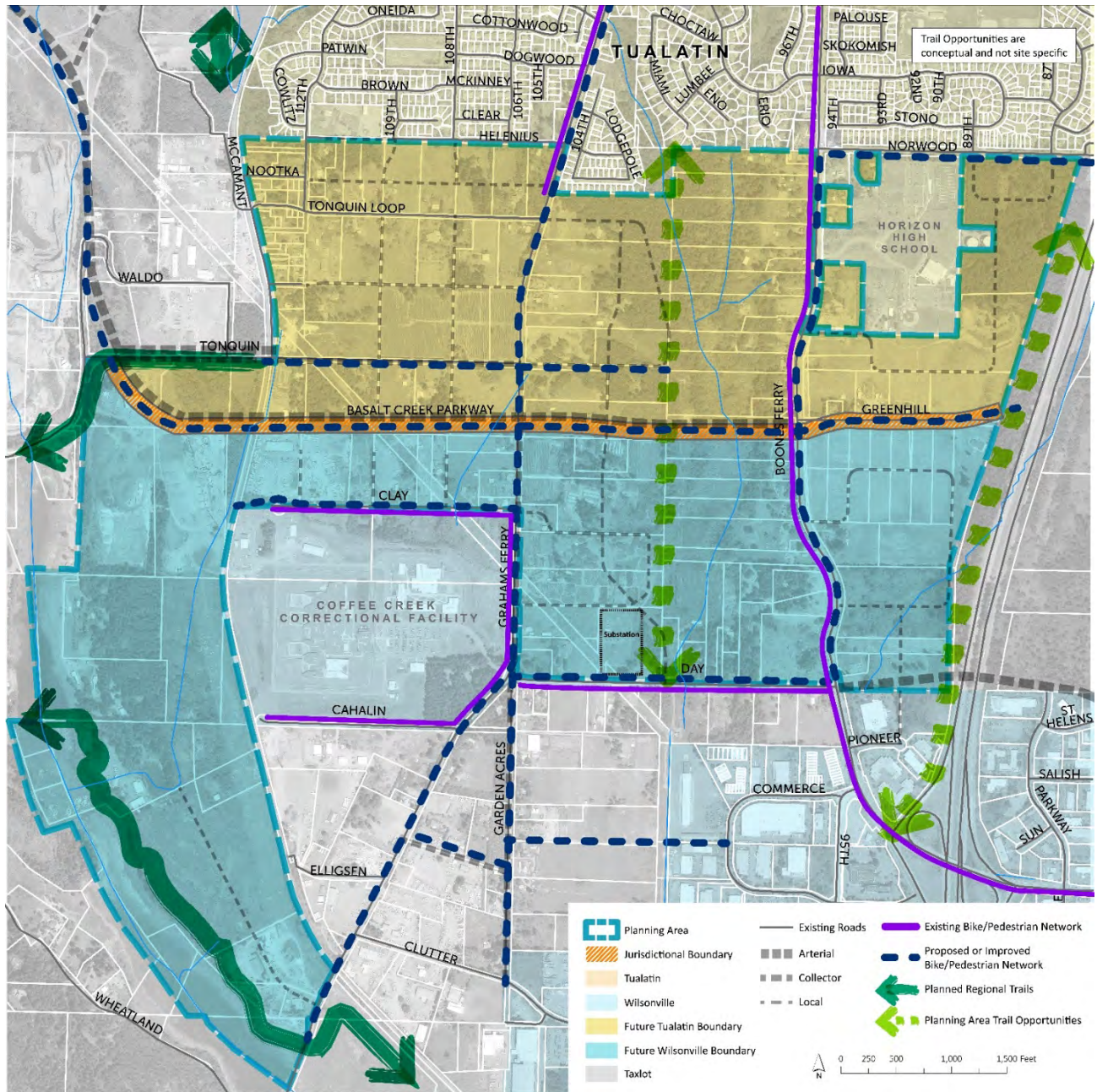
Jurisdiction	Land Use Designation	Trips	Trips per Acre
Tualatin	High Density Residential	42	12.52
	Medium-Low Density Residential	236	3.94
	Low Density Residential	85	3.41
	Neighborhood Commercial	24	8.26
	Manufacturing Park	725	7.80
	Tualatin Subtotal/Average	1,111	5.72
Wilsonville	Craft Industrial	16	12.95
	Light Industrial District	218	6.17
	High Tech Employment District	717	7.59
	Wilsonville Subtotal/Average	951	6.96
Planning Area	<b>Planning Area Average</b>		<b>6.23</b>
	<b>Total Trips</b>	<b>2,062</b>	

## Bicycle and Pedestrian Framework

As noted in the existing conditions, the bicycle and pedestrian network is incomplete in the Planning Area. Additional bike and pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards and in conjunction with predicted traffic flows. The map below illustrates the location of these proposed upgrades, along with identified trail opportunities that would further enhance connectivity in the Planning Area and to surrounding areas.

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Figure 11 Bikes, Trails, and Pedestrian Network Map



While existing bike and pedestrian facilities run along Boones Ferry Road, Day Road, and sections of Grahams Ferry Road, planned improvements will increase safety and completeness. The additional facilities will offer significant east/west connections along the new Basalt Creek Parkway and Tonquin Road as well as an important north/south connection along the length of Graham’s Ferry Road within the Planning Area. These improvements will make connections between the proposed neighborhood commercial area on Boones Ferry Road with residential neighborhoods and employment areas as well as the future transit network. Given the nature of the Basalt Creek Parkway, an over or underpass may be preferred or necessary to make the best bike/pedestrian connections in the Planning Area.

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Coordination between the cities, Washington County, Metro, ODOT, and possibly BPA will be necessary for a feasibility study, implementation and funding.

Most participants polled at the April 2016 Open House suggested they would like to use future bike and pedestrian facilities to access recreation or for exercise, with almost half anticipating using these facilities at least once a week. These new connections will not only provide improved connectivity but also valuable access to local recreational areas, trails, and natural areas.

With the conservation of significant natural areas, the plan outlines opportunities to connect these spaces to pedestrian and bike facilities in key locations to create active and passive recreation, outdoor education, and public art amenities. The two main opportunities for trails within the Basalt Creek Planning Area are a Basalt Creek Canyon Ridge Trail and the I-5 easement Trail, which are shown in Figure 11 as Planning Area Trail Opportunities marked by large light green arrows. When trail alignments are considered in the future, access to the natural resource will not take priority over protection and enhancement.

Currently, Basalt Creek Canyon is a barrier to east/west movement through the Planning Area. A north/south connection to the west of the Canyon would further improve the network and make connections to east/west roads that run north and south of the Canyon. The Basalt Creek Canyon Ridge Trail opportunity would be located upland, not within Basalt Creek, near or along the ridge of the Basalt Creek Canyon. This trail could be connected to the regional trail network by extending Tonquin Road with bike/pedestrian facilities across Graham's Ferry to the new ridge trail. There is also opportunity to create a trail parallel to I-5 in the ODOT regional easement that would provide an additional north/south connection that would connect to existing bike and pedestrian facilities.

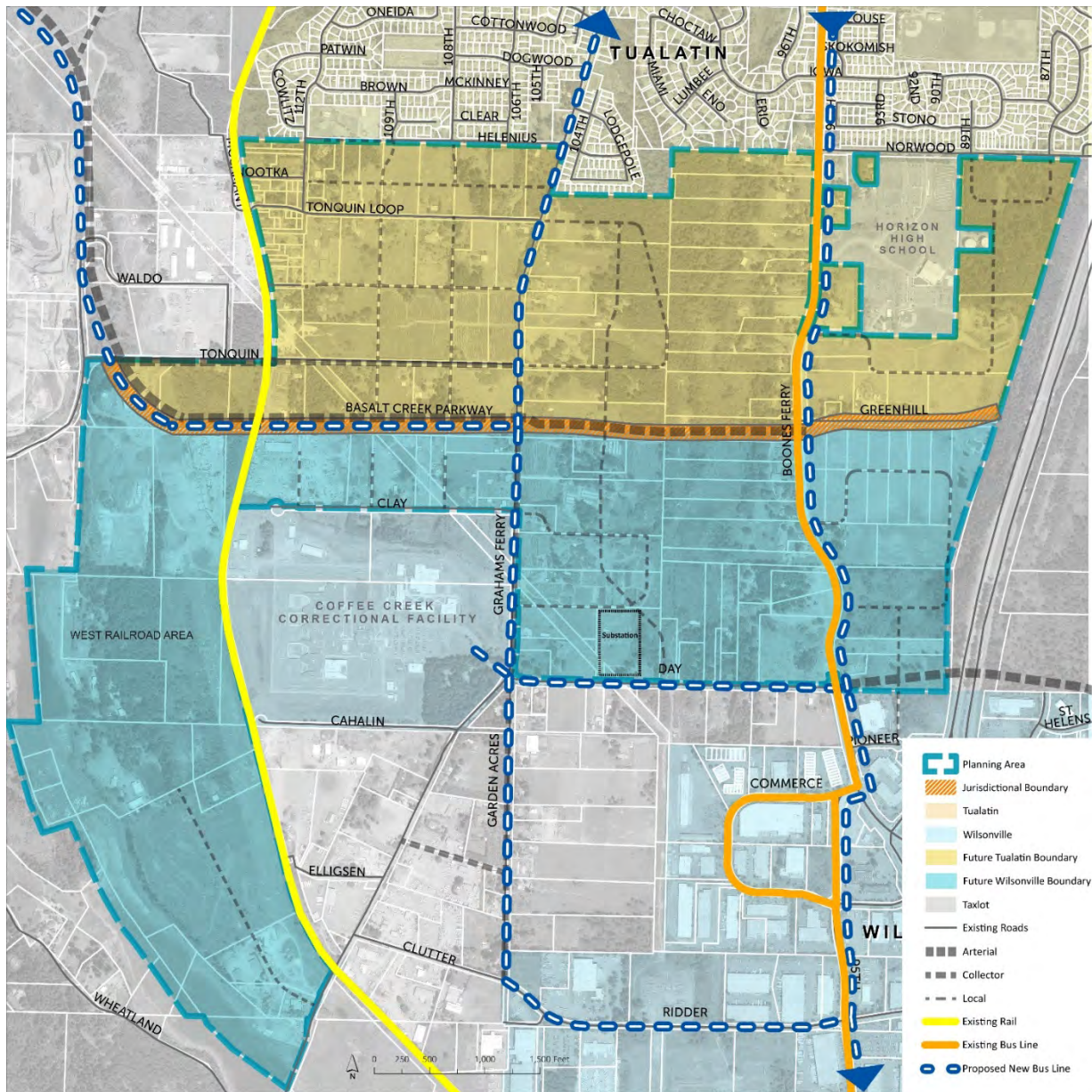
Decision-making on investments should prioritize connections that link pedestrian and bike networks to transit stops and near locations with higher planned density. Potential funding sources for improving the bike/pedestrian network include Washington County (MSTIP) and Metro (i.e. MTIP, RFFA, SW Corridor, Natural Area Bonds).

Coordination with Metro, Tualatin Community Services Department, and the Wilsonville Parks and Recreation Department will be necessary to establish a local trail network with regional connections. Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional implementation of the regional Ice Age Tonquin Trail, which is intended to complement the Ice Age Floods National Geological Trail Planning (the national trail will be a network of driving routes with spurs for biking and walking, from Montana to the Pacific Ocean). The preferred alignment for the regional Ice Age Tonquin Trail includes a section bordering the Basalt Creek Planning Area as part of a 22-mile trail alignment through Wilsonville, Tualatin, and Sherwood with trail facility types varying by location based upon landscape and setting. The Ice Age Tonquin Trail is intended to connect in the north to the Tualatin River Greenway Trail, Fanno Creek Trail, and the Westside Trail, and to the south to the Willamette River.

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## Future Transit Framework

Figure 12 Future Transit Framework



The creation of additional bus lines along existing and new routes in the Basalt Creek Planning Area will be necessary to increase connectivity and to support the job and household growth envisioned for this area. Transit service in the area requires coordination between TriMet and SMART to enhance service along existing bus routes and to provide effective connections north-to-south and east-to-west through the Planning Area. This service would also provide access to surrounding and regional employment centers and residential neighborhoods. Transit service should facilitate riders commuting to and from work and visiting major local destinations such as the Wilsonville and Tualatin Town Centers. As such, transit service should reflect development and density patterns as the area grows.

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SMART and TriMet routes will be integrated with the bike, pedestrian, and trail services with key access points along Grahams Ferry Road, Boones Ferry Road, Day Road, SMART Central, and the Correctional Facility. All extensions will comply with ADA requirements. SMART will continue to serve Wilsonville, including the areas annexed within the Planning Area into Wilsonville. The Cities will work with TriMet to integrate with SMART service. Lawmakers and staff will work together to ascertain the impacts of and process for a possible service boundary change.

The existing Portland and Western Railroad (PNWR) runs along the western side of the Basalt Creek Planning Area. In addition to transporting freight, it also provides the Westside Express Service (WES), a commuter rail line serving Beaverton, Tigard, Tualatin and Wilsonville. WES runs on weekdays during the morning and afternoon rush hours, with trains every 30 minutes, connecting commuters to both the TriMet and SMART transit systems. The feasibility of a new WES station serving the Basalt Creek Planning Area should be studied with increased development and ridership demand.

### Civic Uses

The Basalt Creek Concept Plan does not quantify the specific need or locations for civic uses such as libraries, parks and elementary schools within the Planning Area, but a minimum park space of a 15- to 20-acre Neighborhood Park is needed to serve Tualatin residents and businesses in the Planning Area. The facilities for provision of schools and parks will be determined and funded as development occurs in the area and will be based on level of service standards for the subsequent population expansion. However, during scenario planning, assumptions were built into the model for the size and capacity of residential development types to serve as a guide. The development scenarios assumed school districts, cities, and other service providers would use their site selection and land acquisition processes to acquire the land needed for these facilities. Locations of any necessary facilities will be determined through a collaborative planning effort between the cities and service providers, as such they are not included on any plan maps. Cities have decided to provide library services for the Basalt Creek population through existing libraries that will be sized to accommodate the additional demand.

### Schools

Capacity is the main concern for school planning. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Planning Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 1,156 future households in the Basalt Creek Planning Area.

The Planning Area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.

The Basalt Creek Planning Area is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow the District to accommodate an additional 2,000 students district-wide (according to information on the District's website <http://www.sherwood.k12.or.us/information/bond-visioning-process>).

Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The Planning Area is located very close to Tualatin High School. The Tigard-Tualatin



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School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the Planning Area and currently serves 160 students but plans significant expansion in the future.

The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the Planning Area. Although, the Basalt Creek Planning Area could provide opportunities for shared facilities, such as parks and recreation spaces.

### Parks and Open Space

One of the guiding principles of the Basalt Creek Concept Plan is to protect key natural resources and sensitive areas while making recreational opportunities accessible by integrating new parkland, open spaces, natural areas and trails in the Planning Area and connecting to existing regional networks.

The Planning Area provides an interesting opportunity for different types of parks, given the variety of land uses and the extensive Basalt Creek Canyon natural area: active and passive neighborhood parks, pocket parks, and even perhaps a large community or regional facility. It also provides opportunities for jogging, hiking, or other outdoor recreation by area employees and nearby residents.

Cities will determine specific locations of facilities as part of citywide parks planning and implementation, and will adopt funding methods for acquisition, capital and operating costs for parklands in the Basalt Creek Planning Area, including the use of their current System Development Charges for parks. Locating parks near schools, natural areas or other public facilities is preferable, especially when it provides an opportunity for shared use facilities. As in any park development, the acquisition is best done in advance of annexation and extension of services, with development of the parks occurring as the need arises.

At the time of this writing, both cities are going through a Park and Recreation Master Plan update. This update has considered the Basalt Creek Planning Area in the types of services and facilities that will be needed to serve residents and businesses in this area. Each City will include their respective portions of the Basalt Creek area in their independent Parks and Recreation Master Plan.

### Natural, Historical and Cultural Resources

#### Overview

The future vitality of the Basalt Creek Planning Area hinges on development that efficiently locates job growth on the land most suited for it, while preserving and capitalizing on the natural and cultural resources in the area. The identification of environmentally sensitive lands followed the regulatory framework described briefly below and is illustrated on the Natural Resources Map (Figure 13) and in the Existing Conditions Report (Appendix A starting on page 86).

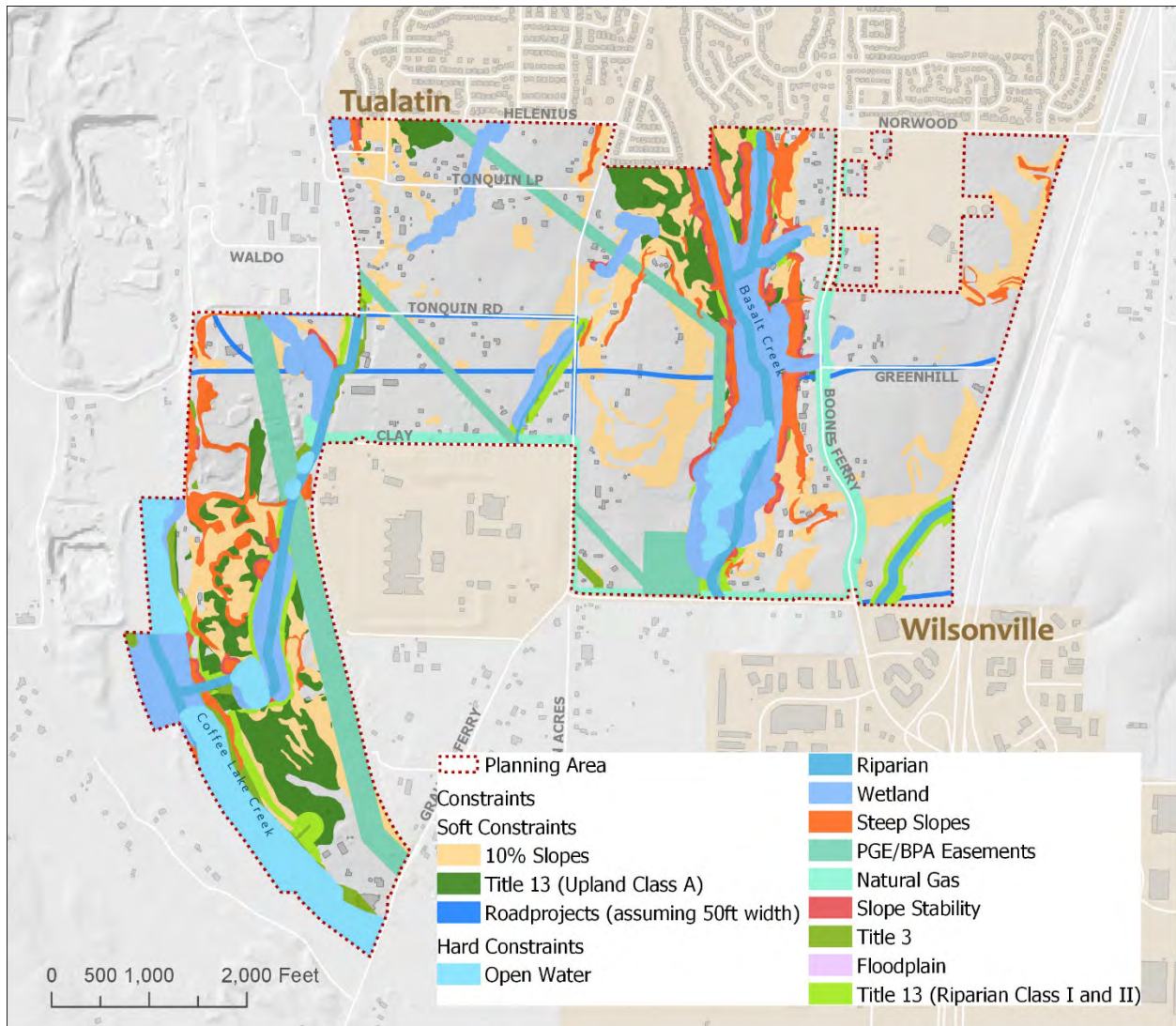
Developable lands for all scenario planning incorporated these findings. Since Clean Water Services and Wilsonville have local regulations compliant with state and regional environmental protection requirements, and in some cases that go above and beyond basic requirements, the constraints analysis used them as a foundation for determining the necessary buffering around a natural feature.

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Environmental constraints are summarized below and unless otherwise noted were fully excluded from the developable land input in the scenario testing for the Basalt Creek Concept Plan:

- Open Water
- Streams
- Wetlands
- Floodplains (50% reduction of developable area)
- Title 3 Water Quality and Flood Management protections
- Title 13 Nature in Neighborhoods (20% reduction of developable area in areas designated Riparian Habitat Classes I and II)
- Steep Slopes (25% slopes and greater)

Figure 13 Natural Resources Map



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## Regulatory Framework for Conserving Natural Resources

### Oregon Statewide Planning Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces

Goal 5 protects natural resources and conserves scenic and historic areas and open spaces by directing local governments to adopt protection programs. Titles 3 and 13 of Metro’s Urban Growth Management Functional Plan implements Goal 5 in the Portland Metro region.

### Metro Title 3: Water Quality, Flood Management and Fish and Wildlife Conservation

Title 3 requires local jurisdictions to limit or mitigate the impact of development activities on Water Quality and Flood Management Areas which includes wetlands and riparian areas. An inventory was conducted in 2001. There are 116 acres of land in the Basalt Creek Planning Area that have been designated by Metro as Water Quality and Flood Management Areas under Title 3. These lands are restricted for development and buffered by a vegetated corridor. Any development within the vegetated corridor must be mitigated by environmental restoration and/or stormwater retention and water quality measures. As a result of Title 3, these lands were excluded from the developable lands input in the scenario testing.

*Table 6 Title 3 Wetlands by Category and Acres*

Category	Acres	Description
Open Water	49 acres	Includes 50 ft. buffer
Streams	31 acres	Includes 15 to 50 ft. buffers
Wetlands	69 acres	Includes 25 to 50 ft. buffers

### Metro Title 13: Nature in Neighborhoods

Title 13 requires local jurisdictions to protect and encourage restoration of a continuous ecologically viable streamside corridor system integrated with upland wildlife habitat and the urban landscape. Metro’s regional habitat inventory in 2001 identified the location and health of fish and wildlife habitat based on waterside, riparian and upland habitat criteria. These areas were named Habitat Conservation Areas.

*Table 7 Title 13 HCA Categories with Acreage*

HCA Categories	Acres	Description
Riparian Wildlife Habitat Class I	130	Area supports 3 or more riparian functions
Riparian Wildlife Habitat Class II	31	Area supports 1 or 2 primary riparian functions
Riparian Wildlife Habitat Class III	7	Area supports only secondary riparian functions outside of wildlife areas
Upland Wildlife Habitat Class A	103	Areas with secondary riparian value that have high value for wildlife habitat
Upland Wildlife Habitat Class B	72	Area with secondary riparian value that have medium value for wildlife habitat
Upland Wildlife Habitat Class C	37	Areas with secondary riparian value that have low value for wildlife habitat
Designated Aquatic Impact	52	Area within 150 ft. of streams, river, lakes, or wetlands

# Exhibit 2 to Ordinance No. 1418-19

Areas	that are not considered regionally significant natural resources but could have some adverse impacts
-------	--

Development in Title 13 areas is not prohibited but generally discouraged within the Basalt Creek Planning Area. Areas designated Riparian Habitat Classes I and II require 20% reduction in developable lands. Low impact design and mitigation strategies would be important to any development that might happen to maintain the function of these important ecological areas.

Both the City of Wilsonville and Clean Water Services have local ordinances in place that go beyond the level of conservation required by Title 3 and existing local standards from each City would apply upon annexation of a Planning Area property into either Wilsonville or Tualatin. Future development in Tualatin must comply with Clean Water Services’ Design and Construction Standards & Service Provider Letters (SPLs) for impacts in sensitive areas such as vegetated corridors surrounding streams and wetland habitat, including the Tualatin River Watershed and the entire City of Tualatin. Within the City of Wilsonville, the Significant Resource Overlay Zone (SROZ) includes floodplains, wetlands, riparian corridors, and vegetated corridors. Impact areas are generally considered to be the areas within 25 feet of a Significant Resource area. Development can only be permitted through review of a Significant Resource Impact Report (SRIR) analyzing the impacts of development within mapped significant resource areas.

## Natural Resource Protection and Enhancement Strategies

Most of the land with environmental constraints is in or near Basalt Creek Canyon and the West Railroad Area. To protect the natural areas, the Cities have agreed to management practices consistent with Metro Title 3 and 13. The Canyon is very valuable to the area and it needs to be protected, while also having visual or physical public access points in appropriate locations to connect to the bicycle, pedestrian and recreational facilities in the area and to serve the needs of residents and local employees. Future protection and enhancement opportunities may include: controlling invasive plant species, such as reed canary grass, Himalayan blackberry and English ivy, reintroducing native plants into aquatic and upland habitats, retaining and installing snags and woody debris. Important species include Red-legged Frogs, the Pileated Woodpecker, Oregon white oak, Ponderosa pine, and Geyer willow (see Appendix A for more information).

## Cultural Resources

Community members through the planning process have identified the old Carlon Schoolhouse as a historically significant landmark. It sits off Grahams Ferry Road near Day Road and was in use as a school until the late 1800s. While the area has an interesting geologic history, it has not been identified as a resource for any significant archaeological artifacts.



*Figure 14 Picture of the Carlon Schoolhouse from Tualatin Life Newspaper on August 19, 2014 by Loyce Martinazzi*

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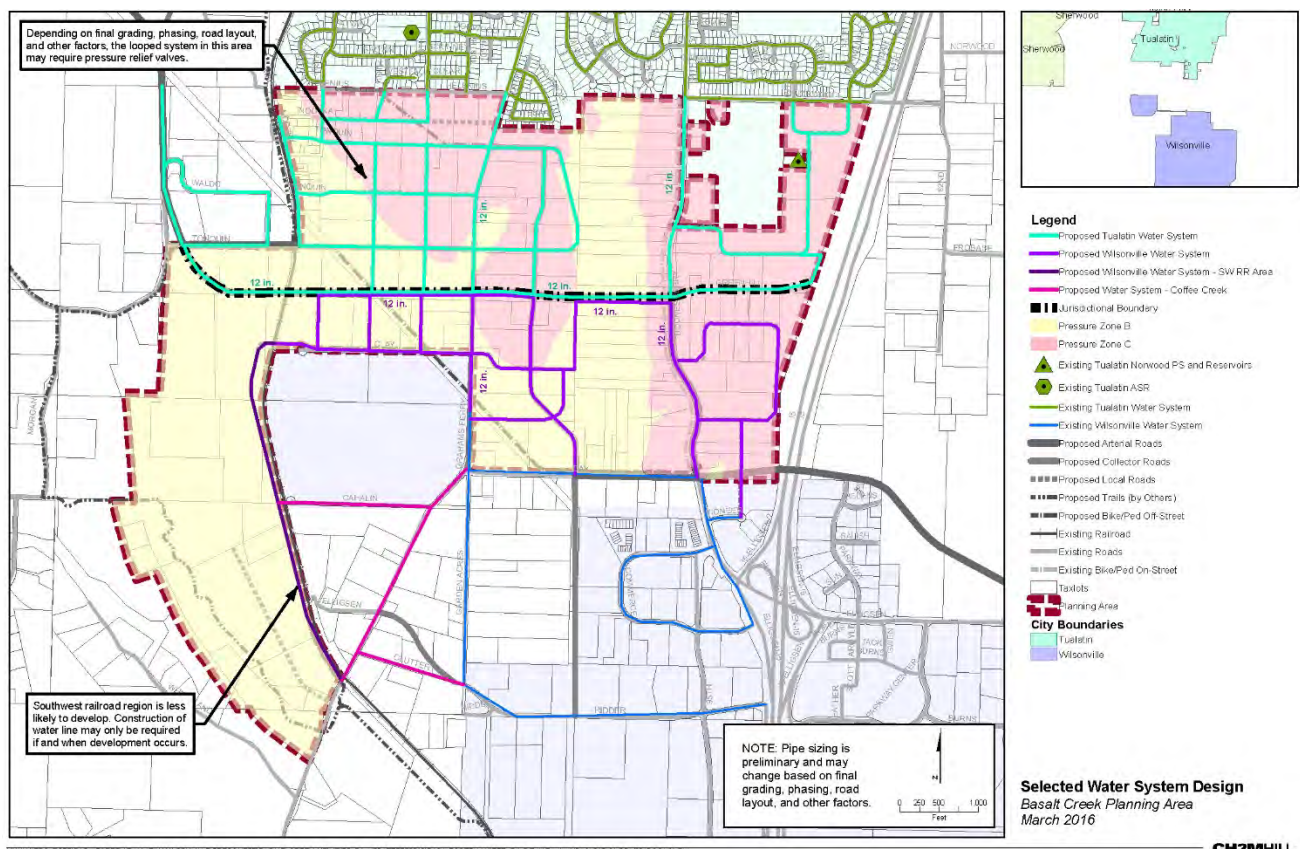
## Infrastructure

For the conceptual infrastructure systems, high level planning calculations were completed to estimate water demand and sewer flows (Appendix I). These values can vary widely depending on the actual future development. Each City's individual master plans will be used to provide demand and flow projections when further planning the area.

## Water

The conceptual water systems designed to serve the Basalt Creek Planning Area are shown below in Figure 15. The systems are independent looped systems that will not be connected to each other. Water lines for each city may be located along the proposed east-west arterial road, the future Basalt Creek Parkway, and other roadways throughout the Planning Area.

Figure 15 Water Systems Concept for Basalt Creek Planning Area



The existing service zones (levels B and C) from both communities provide sufficient pressure to provide service within each city's planning area. The Tualatin pressure zones B (ground elevations 192 feet to 306 feet) and C (ground elevations 260 feet to 360 feet) will serve the Basalt Creek Planning Area. To provide service to Wilsonville's pressure zone I C area (ground elevations 275 feet to 410 feet), the City has identified a need to install a booster pump station to serve the higher elevation areas (above approximately 285 feet) south of Greenhill Road. The booster pump station is one of the CIP projects listed in the 2012 Wilsonville Water Master Plan and has been included in the City's city-wide cost estimates.

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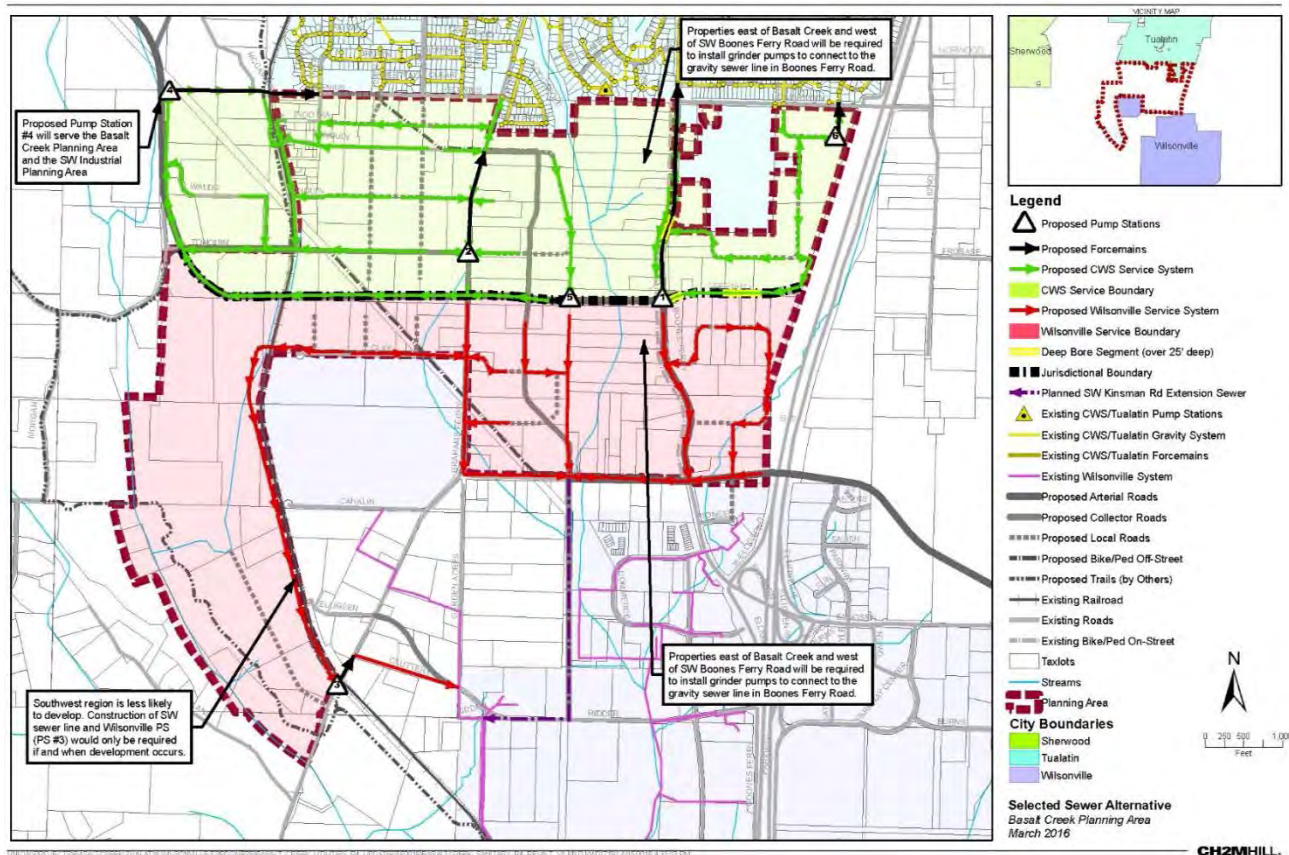
The Coffee Creek water system is shown outside of the Basalt Creek Planning Area (east of the railroad, west of SW Grahams Ferry Road, and south of SW Clay Road) to illustrate Wilsonville’s water system and how to connect services to the West Railroad Area. That portion of the system would be installed and funded by development within the Coffee Creek Master Plan area.

The West Railroad Area has a much lower potential for development due to several constraints including slope, geology, wetlands, habitat areas, access, and existing uses. Cost estimates to serve this area have been included as a separate column but would only be required if and when development occurs.

## Sanitary Sewer

The conceptual sanitary sewer systems are shown in Figure 16. While topography will be a major challenge, the sanitary systems use gravity as much as possible and sewers generally flow to the south and west following the slopes of the existing ground and along existing and proposed roadways and trails to avoid streams and natural areas. These systems include new pump stations, which are used to lift wastewater to higher elevations where it can then be transported by gravity flow systems.

Figure 16 Sanitary Sewer Systems Concept for Basalt Creek Planning Area



Five pump stations are proposed to serve the Tualatin system, managed and maintained by Clean Water Services (CWS), and one pump station is required for the proposed Wilsonville system.

In the area between Basalt Creek Canyon and Boones Ferry Road in both Tualatin and Wilsonville service boundaries, residents and business owners who wish to connect to the proposed gravity system (or are

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required due to septic failure) likely will require a private grinder pump to connect to public sewer. A grinder pump consists of a collection tank that grinds waste and pumps it to the public sewer system.

The conceptual sewer system connects to the existing Tualatin system at SW 112th Avenue between SW Cowlitz Drive and SW Nootka Street, at SW Grahams Ferry Road and SW Helenius Street, at SW Boones Ferry Road and SW Norwood Road, and at SW Vermillion Drive and SW Norwood Road. The sewer system connects to the existing Wilsonville system in Garden Acres Road to SW Day Road, Grahams Ferry Road and Boones Ferry Road (the sewer line initially contemplated in the Coffee Creek Master Plan and included in the analysis for this Concept Plan has changed, shifting from a SW Kinsman Road extension to Garden Acres Road).

### Stormwater Drainage

Stormwater detention and treatment will occur at local facilities and no regional facilities are planned for the area. Each City will serve its own jurisdiction area independently. The Cities acknowledge that they must follow requirements established in their guiding respective NPDES (National Pollution Discharge Elimination System) MS4 (Municipal Separate Storm Sewer System) permits. All flows that outlet within each city will be guided by their respective protocols, design standards, and/or stormwater management plans. Public stormwater systems are included in the road network cost estimate. Stormwater systems outside of the public right-of-way are assumed to be part of the development costs, which have not been estimated.

# Implementation and Phasing Strategy

## Implementation Measures

Implementing the Concept Plan will take a predictable path in this area:

- First, each City will work with the County to update their Urban Planning Area Agreement.
- Each City will also amend its comprehensive plan to include the essential elements of the Concept Plan.
- Next, the Cities ensure that the zoning and/or development code is updated to enable development in the Planning Area, and includes appropriate zoning standards
- Generally, annexation is predicated on investor interest, and the expectation is that investors will finance the extension of services.
- Either city may decide to invest in service extension as a way to spur development or may decide to help a group of investors develop an area, for example by providing the formation of a Local Improvement District of other funding mechanism.

## Action Items

### 1. Amend Urban Planning Area Agreements

Comprehensive planning within the regional Urban Growth Boundary (UGB) is coordinated between Washington County and cities through Urban Planning Area Agreements (UPAAs). Upon adoption of the Concept Plan both Cities will work with the County to update their respective UPAAs. The UPAAs will acknowledge the future jurisdictional boundary and outline what areas may be annexed into by each city. The amended UPAAs provide the transfer of planning authority to the Cities enabling them to proceed with annexation and development.

### 2. Amend Comprehensive Plans

Tualatin, which has a “one map” system where the zoning and comprehensive plan are essentially the same map, will be adopted after adoption of the Concept Plan anticipated by May 2019.

Wilsonville, which has a “two map” system where the Comprehensive Plan shows future conditions and not necessarily zoning, will adopt Comprehensive Plan amendments soon after the adoption of the Concept Plan. The Comprehensive Plan amendments will draw from the Concept Plan and use its definitions of uses and standards to design the amendments.

### 3. Assure zoning is compatible with future land use

Each city will need to assess its zoning codes and ensure that they permit the anticipated uses with appropriate development standards. This will be made fairly easy in that each city has its own development types, drafted around current zoning code standards. However, new uses anticipated in some of the development types will need some zoning code amendments.

In addition, the Cities will need to consider special design elements of the Concept Plan and determine if their respective development codes need to be updated. Specifically, the City of Tualatin will want to



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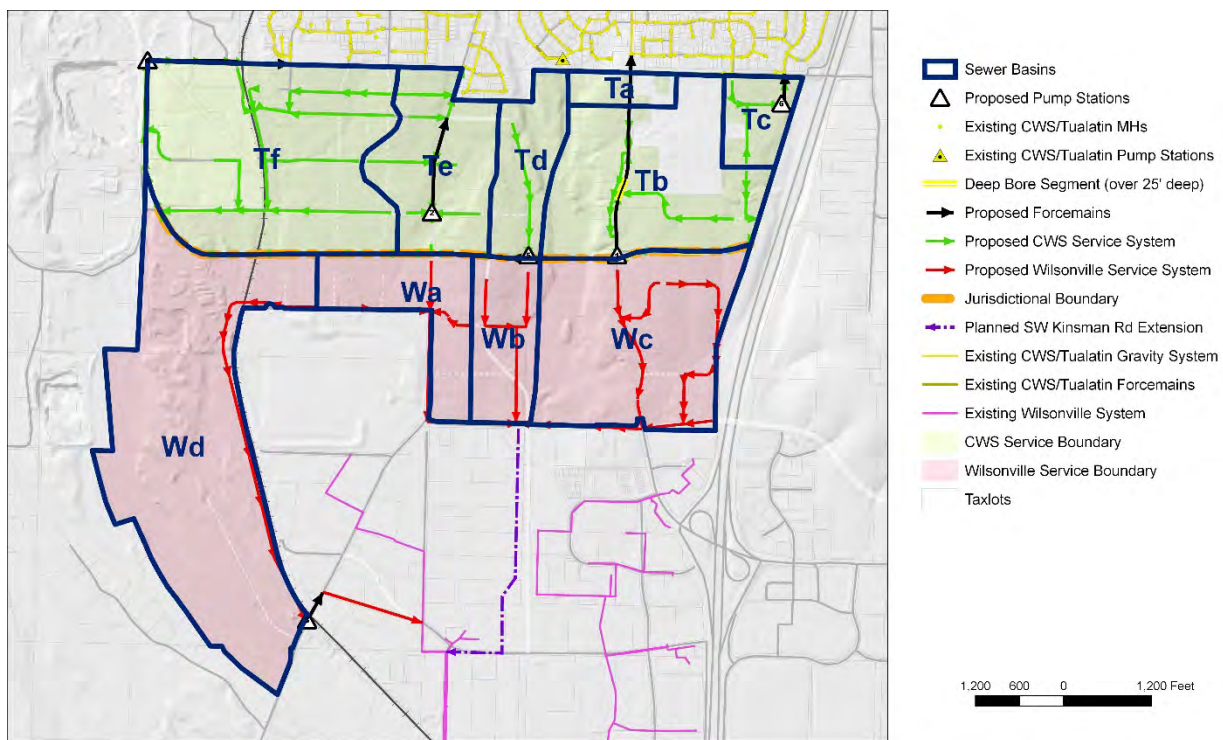
determine what design standards are relevant to creating appropriate transitions between residential and employment uses, and the City of Wilsonville will want to consider the application of its Industrial Form-based Code to help create a uniquely attractive business community.

## 4. Annex as demand occurs based on feasible phasing

Utility improvements will be made as properties are annexed and developed in each city, so phasing will be driven by the pace of development. Generally, utility improvements will begin at the boundaries of the Planning Area that are adjacent to the existing city services and progress outward. Most of the utility infrastructure follows existing or proposed roadways and construction should be coordinated with new road construction and existing roadway improvements.

The most formative of the utilities (sewer, water and roads) will be sanitary sewer. This is because it is a gravity system that must be hooked into an existing sanitary system or drained to a pump station that will lift the sewage via pressure line to an existing sanitary line.

Figure 17 Implementation Map



Based on the Sewer Master Plan, several natural phasing districts are evident. These are shown on Figure 17. Tualatin has six potential phases based on existing sewer basins and five pump stations. No one sewer basin is dependent on the other, so these areas could develop in any sequence. If the initial installation can install the pump station and pressure line, development can proceed in increments, from the pump station uphill to the extent of the sewer basin. Figure 17 shows Tualatin stages advancing from Ta through Tf.

Wilsonville has four basins, three gravity and one with a pump station. Figure 17 shows phasing progressing from Wa through Wd. District Wd, which serves the West Railroad Area, is the most

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constrained and likely to see development last in the Planning Area. The other three are gravity lines that can be constructed independently. They can proceed from the inlet to the existing gravity system uphill in the basin.

In both cities, the water and transportation infrastructure can be installed as needed although some enabling projects may be required to be constructed prior to development to connect properties to existing systems. Efficiency may be achieved when the underground utilities are constructed concurrently with the transportation system.

### 5. Consider capital improvements to spur development

In both systems, the sewer basin is large enough that it contains several property owners. Each city has a method of reimbursing the developer for installing infrastructure when other development hooks in. However, the Cities may find that in some cases, the property owners of developers cannot finance the infrastructure themselves. In that case, the city may decide to participate in one of several ways:

- Finance the infrastructure themselves, charging reimbursement as projects hook up
- Create a cooperative financing district such as a Local Improvement District or Reimbursement District, that would allow the infrastructure to be installed by a primary party and paid off over time by the property owners, relieving some of the burden of a large capital financial commitment
- Develop the infrastructure as an inducement for desired development, such as for an important job creating project

### 6. Master planning processes

Many of the ideas proposed in this Concept Plan will require project development to determine the specific needs, feasibility, locations, costs, and other details through each City's master planning process. Typically master plans are completed for infrastructure services, parks, open space, and trails. Master plans include public involvement processes, including Planning Commission review and City Council adoption.



## **BASALT CREEK CONCEPT PLAN**

Attachment A: Basalt Creek Concept Plan  
Technical Appendices (Final)



# Existing Conditions Report

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Basalt Creek Planning Area

October 2014



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# I. Introduction

In the Metro region, areas brought into the Urban Growth Boundary are required to have a land use and transportation Concept Plan. The intent of the Concept Plan is to provide a roadmap for the development of the area consistent with state, regional and local land use planning laws. This Existing Conditions report is the first step in the development of the Concept Plan for the Basalt Creek planning area. It includes detailed information on the existing landscape, regulatory, infrastructure, social and economic conditions within and relevant to the planning area.

The information presented in this Report provides the foundation from which to understand development capacity within the planning area, and the regulatory context in which development will occur. Here, analysis paints a quantitative picture of future growth potential, and identifies both opportunities and constraints for development of the area, using the regulatory framework as a guide.

This Report will inform land use and transportation decisions related to the Basalt Creek planning area, and provide the basis for the Concept Plan. The report is organized into eight sections (including introduction):

## II. Local and Regional Planning Context

Summarizes regional and local plans that influence the planning area. These plans also include regulatory requirements related to land development and provide an explanation of the area's regional role, as well as the constraints guiding the location of future development.

## III. Natural and Historic Resources

Summarizes the natural and environmental features of the area and identifies historic or cultural resources within the planning area. This section provides a context for how environmental features might shape development in the planning area as both amenities and constraints.

## IV. Public Facilities

Summarizes school, fire, library, park and police resources within or adjacent to the planning area. This information will inform decisions about additional resources that may be needed within the planning area to support projected growth.

## V. Commercial, Industrial and Residential Real Estate Markets

Analyzes the existing markets for employment and residential development relevant to the planning area. This section provides a foundation for understanding future real estate demand to inform the development of a land use plan that can accommodate projected growth and promote economic development.

VI. Infrastructure

Provides a detailed assessment of water, sewer and stormwater infrastructure capacity relevant to the planning area. This information provides a foundation for developing an infrastructure plan that is integrated with the existing system and provides efficient and cost effective solutions to serve the area.

VII. Transportation

This section describes information on projects planned and under development within the planning area and provides an overview of the transportation planning that has been completed to date. This section describes the transportation framework from which to build the local network as part of the Concept Plan.

VIII. Land Capacity Analysis

The land capacity analysis is a quantitative and spatial analysis of the planning area that implements the regulatory framework and identifies infrastructure and transportation constraints. This analysis provides the canvas on which to paint the Concept Plan.

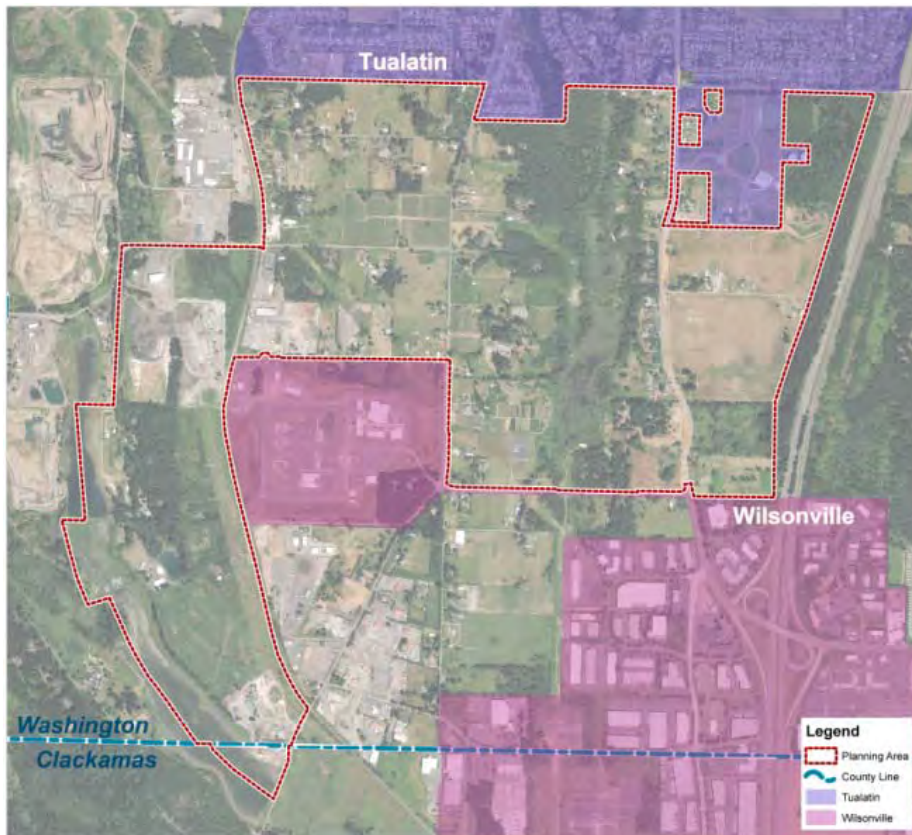


Figure 1 Basalt Creek planning area, City of Wilsonville and City of Tualatin boundaries. Source: Fregonese Associates 2014.

## Planning Area Boundaries

The Basalt Creek planning area consists of 847 acres between the cities of Tualatin (to the north) and Wilsonville (to the south). It is primarily within Washington County, with a very small portion in the southwest corner located in Clackamas County (Figure 1).

The planning area is irregularly shaped, with a “finger” that extends southward from the western side. Generally referred to as the West Railroad area, this portion is divided from the rest of the study area by the Portland and Western Railroad (PNWR) and the Coffee Creek Correctional Facility. The majority of the Basalt Creek planning area is generally bounded by Norwood and Helenius Roads to the north, I-5 to the east, Coffee Lake Creek to the west, and Day Road to the south until it reaches Coffee Creek Correctional Facility, where the boundary turns north on Graham’s Ferry and then westward again on Clay Road.

The southern residential communities in Tualatin and Horizon High School are not included in the study area. However, three large noncontiguous parcels in the area around Horizon High School are included in the planning area, as they are privately owned (Figure 2).

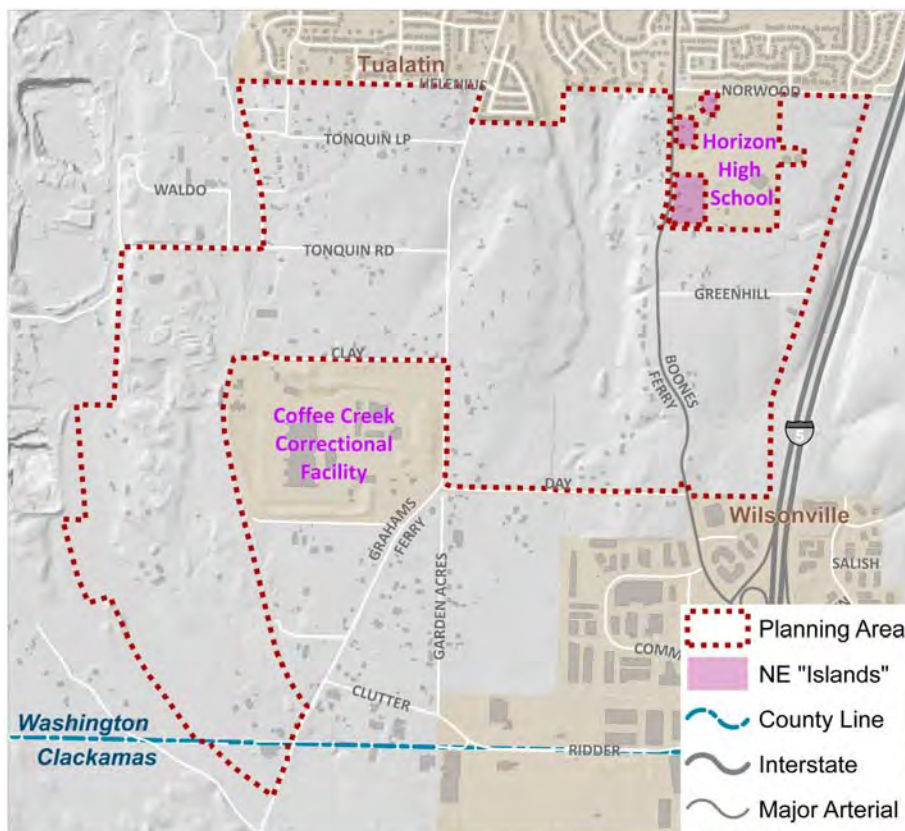


Figure 2 Planning area “islands,” Coffee Creek Correctional Facility and Horizon High School campus. Source: Fregonese Associates 2014.

## II. Local & Regional Planning Context

### Current Zoning

The majority of the Basalt Creek planning area falls within Washington County and is zoned as Future Development 20-Acre District (FD20). This interim designation was applied to the area following inclusion in the UGB (2004), through Washington County Ordinance No. 671 (2007). This designation will apply until the final Concept Plan is approved and Comprehensive Plan designations for the Basalt Creek area are adopted by each jurisdiction. The FD20 zoning designation is intended to encourage retention of existing land uses until these steps are complete. FD20 restricts subdivision of existing parcels into tax lots smaller than 20 acres.<sup>1</sup>

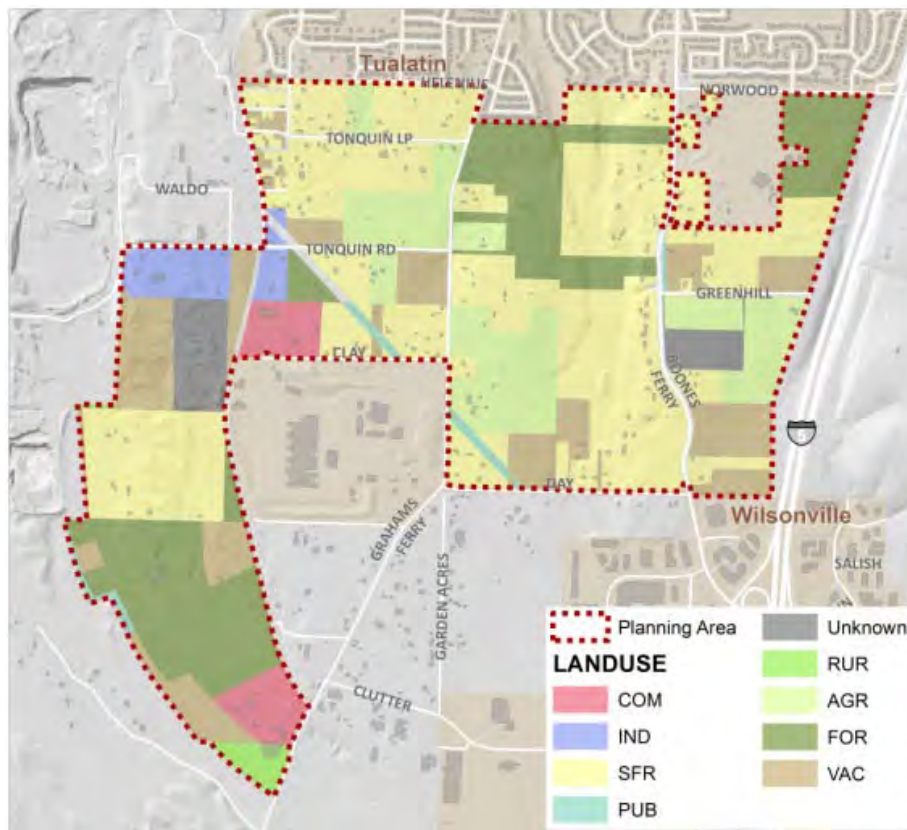


Figure 3 Existing land use in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

Each jurisdiction (Tualatin and Wilsonville) has a property owner-initiated annexation process, so changes to current zoning will happen at the time of annexation, on a parcel-by-parcel basis. A very small area (7.8 acres), in the southwest corner of the planning area falls within unincorporated Clackamas County (Figure 1), and is zoned as Rural Residential Farm Forest 5-Acre District (RRFF5).

<sup>1</sup> For a full description of allowed and prohibited uses in the FD-20 zone see the Washington County Community Development Code Section 308.

## Existing Land Uses

The primary existing land uses in Basalt Creek are rural agriculture, industrial and some rural residential consisting of low-density single-family housing (Figure 3). There are substantial areas of agricultural uses, including nurseries (such as Chick-a-Dee Gardens Nursery), landscaping supply (Pro Gro, in the furthest southwest corner of the planning area) and blueberry farms, among others. Existing industrial land users include gravel quarries and cement manufacturing (Knife River Corporation) in the northwest corner (Figure 4).

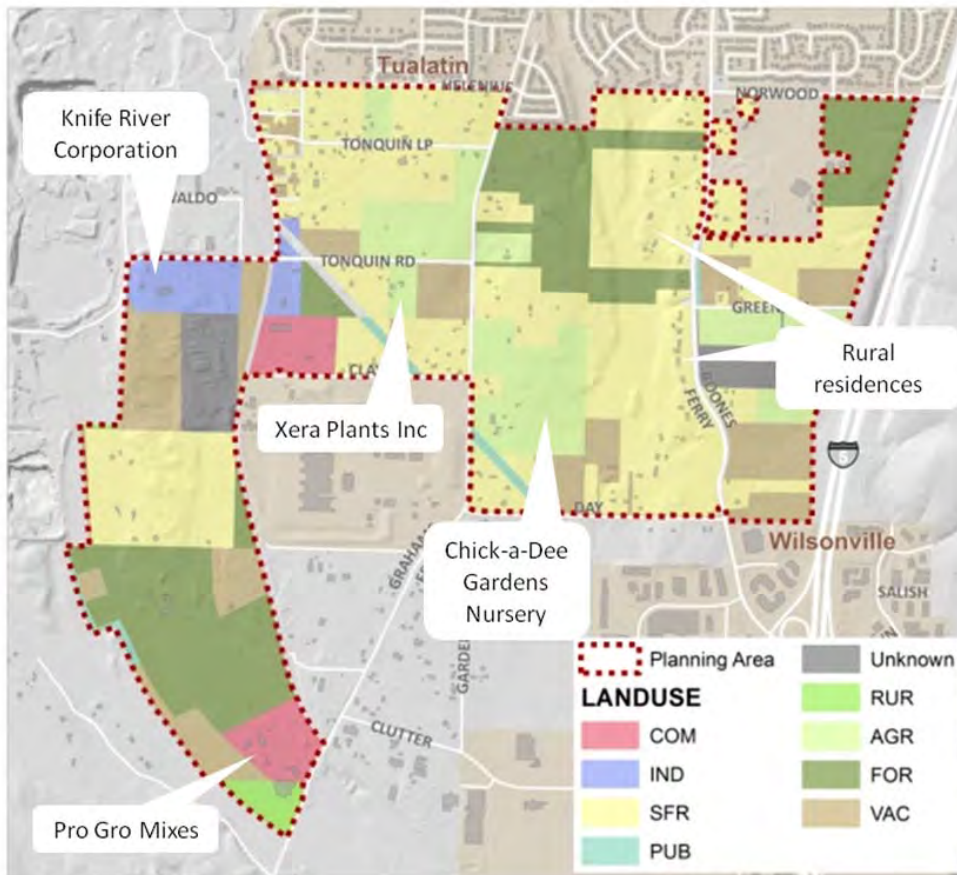


Figure 4 Locations of major businesses and residential areas in the Basalt Creek planning area. Source: Fregonese Associates, RLIS, Google Maps 2014.

Currently, 239 people live in the area in 90 single-family housing units, and 258 employees work in the area (Figure 5). The existing housing in the Basalt Creek area is detached single-family on large lots. Several single family homes are located on the eastern edge of the Basalt Creek ravine along Boones Ferry Road.

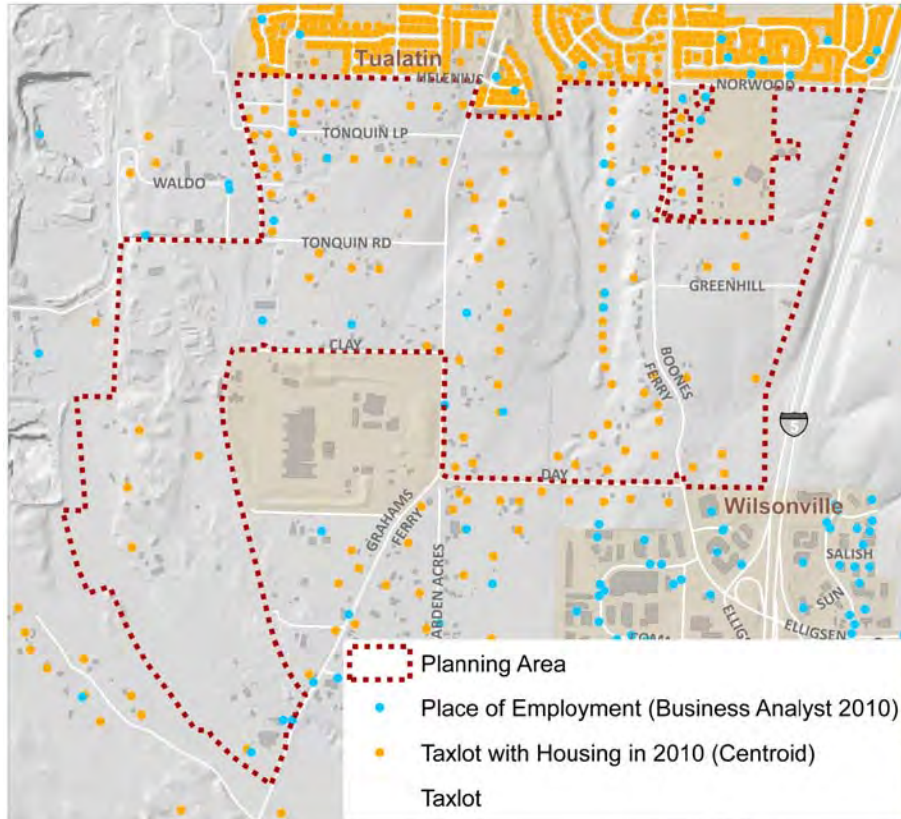


Figure 5 Existing Housing Units and Employment in the Basalt Creek planning area Source: Fregonese Associates, ESRI Business Analyst 2014.

### Adjacent Land Uses

The planning area is bounded to the north by Tualatin residential neighborhoods, to the south by commercial and industrial uses, I-5 to the east, and to the west by Coffee Lake Creek, wetland habitat, and rural and industrial lands (Figure 6).

The southernmost residential neighborhoods of Tualatin, including recently-built subdivisions such as Victoria Gardens, are located to the north. These neighborhoods are comprised primarily of high-quality, detached, single-family homes. Also to the north is the 30-acre campus of Horizon High School. The campus is bordered on three of its sides by the planning area (Figure 7). To the west, the planning area is bordered by unincorporated portions of Washington County (within the Southwest Tualatin Concept Plan area) and active quarries--including the Knife River Corporation quarry and asphalt plant, which falls partially in the planning area along Western Railroad. Further west of the Southwest Tualatin Concept Plan area is the Tonquin Employment Plan area which falls within the City of Sherwood's urban planning area (though not yet fully annexed). Most of this land is undeveloped or vacant.



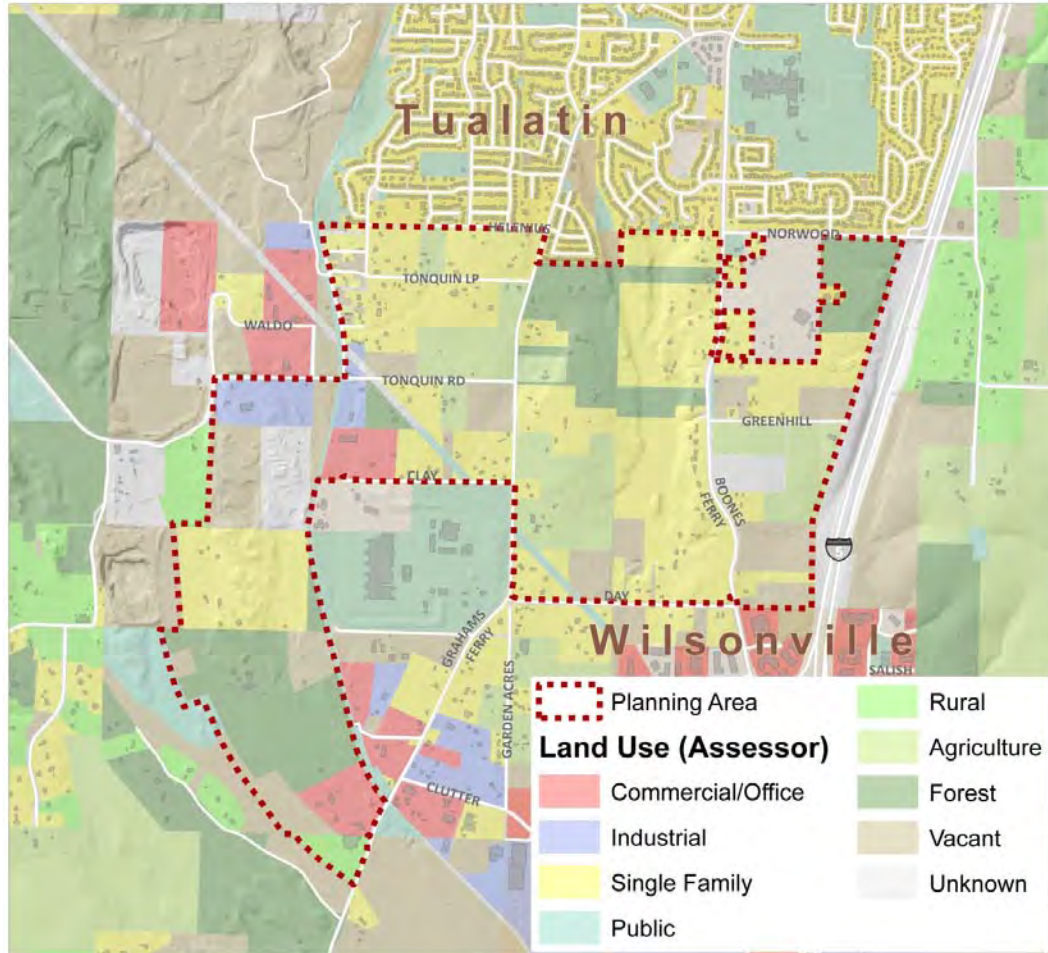


Figure 6 Land Uses Adjacent to Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

South of the planning area are commercial, office and industrial uses located within the City of Wilsonville. Also adjacent to the southern border of the planning area is Coffee Creek Correctional Facility (Figure 8). This is a state-owned correctional facility with 1,250 female inmates, and a fluctuating small number of male inmates (around 400) undergoing intake until they are transferred to another facility. The Correctional Facility employs 435 people with day and nighttime shifts comprising a 24-hour workforce.<sup>2</sup>

South of the Correctional Facility, also abutting the planning area, along the south side of Day Road, is the Coffee Creek planning area, for which the City adopted a Master Plan for industrial development. Figure 9 shows the Basalt Creek planning area and its geographic relationship to the Coffee Creek, Southwest Tualatin and Tonquin Employment planning areas. Figure 9 also shows existing commercial and industrial and employment areas.

<sup>2</sup> Reynolds, Vicki. Public Information Officer for Coffee Creek Correctional Facility. Personal communication, July 2<sup>nd</sup>, 2014.



Figure 7 Aerial image of the Horizon High School Campus (30 acres), just outside of the planning area. Source: Fregonese Associates 2014.

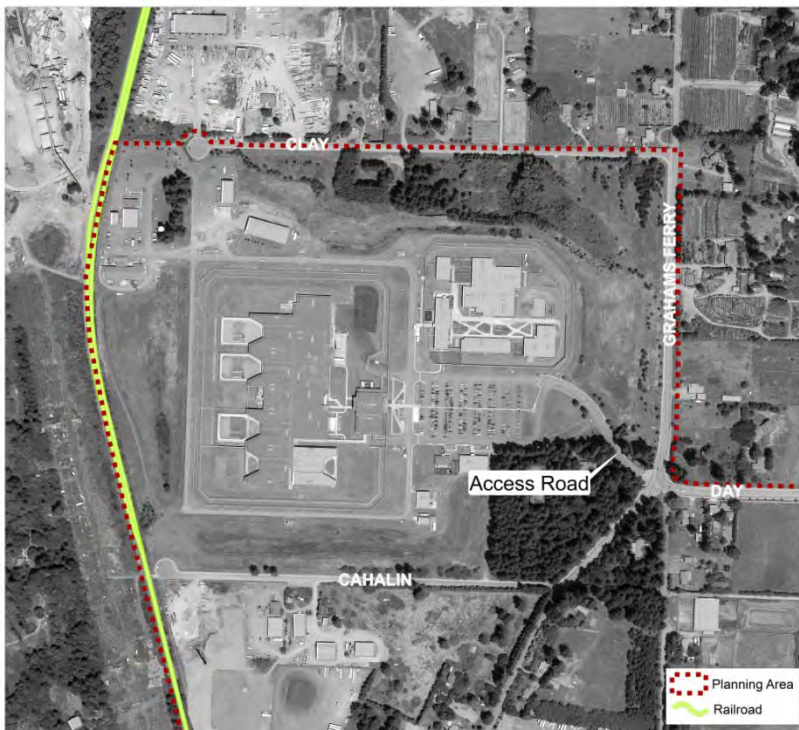


Figure 8 Aerial image of Coffee Creek Correctional Facility (108 acres). Source: Fregonese Associates 2014.

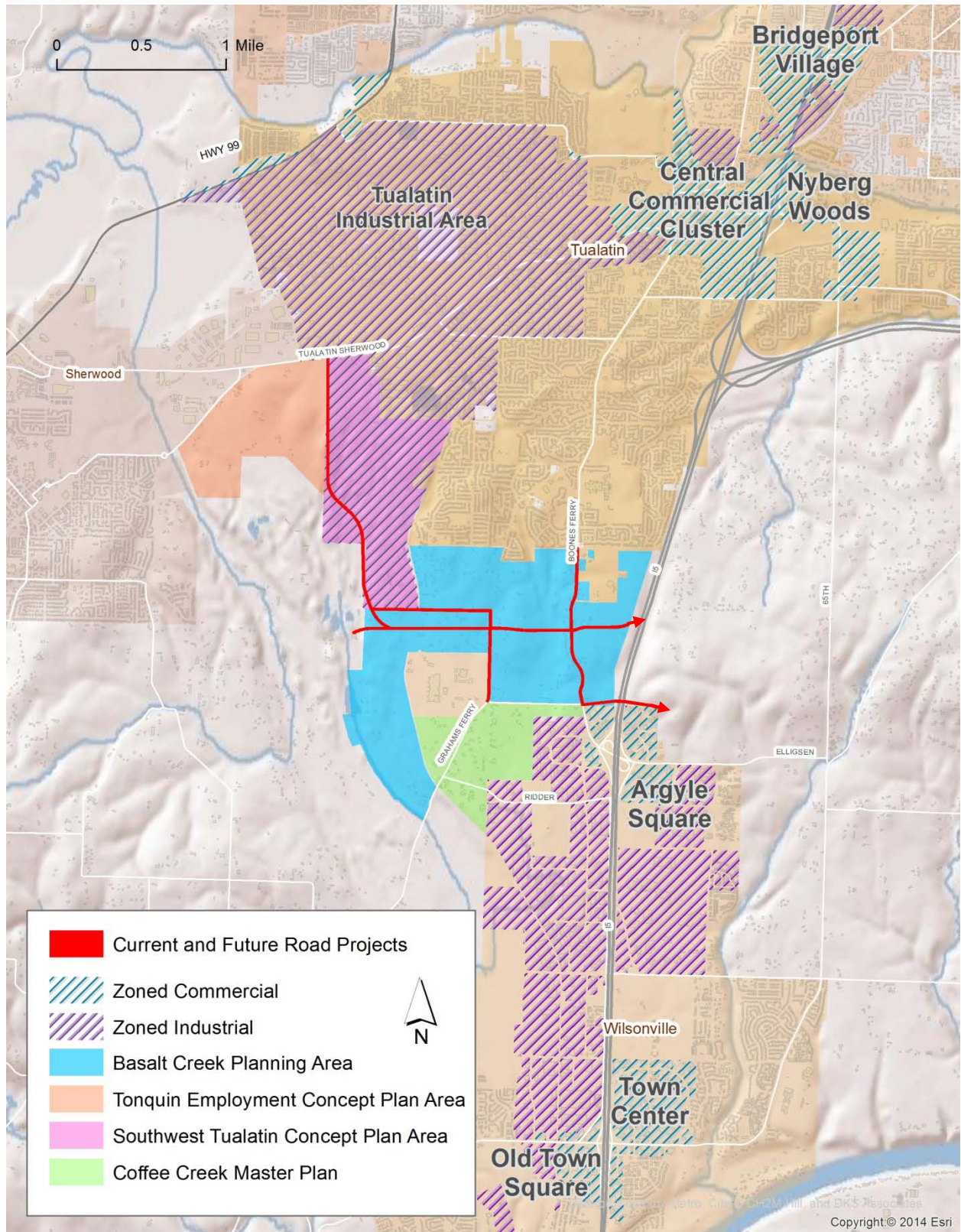


Figure 9 Planning and employment areas near the Basalt Creek planning area. Source: Fregonese Associates, Cities of Tualatin and Wilsonville 2014.

## Regional Plans and Regulatory Requirements

The 25 cities and three counties within the Portland Metropolitan Area share a single Urban Growth Boundary (UGB), administered by the Metro Regional Government. As required by state law, Metro assesses its Urban Growth Boundary every five years to determine whether it includes sufficient land to accommodate 20 years of development for residential, commercial, and industrial uses. In 2002 Metro passed Ordinance No. 02-696B, expanding the UGB by over 20,000 acres to accommodate forecasted increases in housing and jobs through the year 2022. This brought land around Damascus, Oregon City, Tualatin, Wilsonville, Beaverton and Hillsboro into the UGB.

In reviewing the 2002 expansion ordinance, the Land Conservation and Development Commission (LCDC) found that “the Council added capacity to the UGB but did not add sufficient capacity to accommodate the full need for land for industrial use.” In 2003 the LCDC ordered the Metro Council to add capacity to the UGB for the unmet portion of industrial land needs. Metro evaluated land adjacent to the UGB to determine which land would be most suitable for industrial employment. In 2004 the Council released an appendix to the 2002 Urban Growth Report that included an Employment Land Need Analysis for the years 2002-2022, in addition to an Industrial Land Alternative Analysis Study. These studies were used to identify additional industrial lands to be included in the 2004 ordinance.

Criteria used by the Council to determine suitability of land for industrial uses included soil classification (with a preference for lowest suitability farmlands), earthquake hazard, slope steepness, and parcel size (with a preference for larger parcel size). Among those lands deemed suitable, further factors to identify Industrial Areas and Regionally Significant Industrial Areas included: distribution (area serves to support industrial land for major regional transportation facilities), service (availability and access to specialized utilities), access (within two miles of I5, I-205, I-84, State Route 224), proximity (located within close proximity of existing like uses) and primary use (predominately industrial uses).<sup>3</sup>

Two areas of land identified in the 2004 ordinance as good candidates for industrial development now comprise the Basalt Creek planning area. In Ordinance 04-1040B, these two areas are referred to as the Coffee Creek (partial) and Tualatin study areas. The main section of the Basalt Creek area (identified in the 2004 ordinance as the Tualatin study area) was identified as suitable for industrial development due to its proximity to the I-5 corridor, and to an existing industrial area (in Wilsonville). In addition, portions of the area are relatively flat. The ordinance notes that, due to these characteristics, “...the Tualatin study area is most suitable for warehousing and distribution, among other industrial uses.”<sup>4</sup>

At the time of the Ordinance’s adoption, two major concerns were identified that resulted in additional conditions being placed upon the planning area: First, residents expressed concerns about compatibility between Tualatin’s southern neighborhoods and the proposed industrial uses in the planning area. Secondly, the cities of Tualatin and Wilsonville desired to preserve the opportunity to choose an

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<sup>3</sup> A detailed description of the methodology used for identifying Industrial Land can be found in Exhibits D and E to Ordinance No. 04-1040B, an Industrial Land Alternative Analysis Study (a 2004 addendum to Metro’s 2002 Urban Growth Report).

<sup>4</sup> Metro Ordinance No. 04-1040B Exhibit G P17

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alignment for the I-5/99W connector as the southern portion of the alignment passes through the Tualatin study area. In response to these concerns the Metro Council extended the deadline for Title 11 planning. The revised deadline called for Title 11 Concept Planning to occur within two years following the final alignment for the I-5/99W connector or within seven years, whichever was shorter.<sup>5</sup>

It is further stated in the 2004 ordinance (in response to the community concerns about transitions from residential to industrial lands) that so long as the South Alignment of the connector falls close to the one shown on the 2040 growth concept map it will serve as a buffer between the residential development to the north and industrial development to the south. Within the Ordinance a special section dedicated to specific conditions for particular areas states that “If the selected right of way for the connector follows the approximate course of the ‘South Alignment’ as shown in the Regional 2040 Growth Concept map...the portion of the Tualatin Area that lies north of the right of way shall be designated ‘outer neighborhood’ on the Growth Concept map; the portion that lies south shall be designated ‘industrial.’ The ordinance further states, “The government responsible for Title 11 planning shall consider using the I-5/99W connector as a boundary between the city limits of the City of Tualatin and the City of Wilsonville in this area.”<sup>6</sup>

As defined in the Metro Regional Framework Plan, a designation of “outer neighborhood” describes areas outlying cities that are primarily residential, relatively further from employment and shopping areas than other residential areas, and have larger lot sizes and lower population densities than inner neighborhoods.<sup>7</sup>

The Metro Regional Framework Plan describes the industrial designation as “an area set aside for industrial activities. Supporting commercial and related uses may be allowed, provided they are intended to serve the primary industrial users. Residential development shall not be considered a supporting use, nor shall retail users whose market area is substantially larger than the industrial area be considered supporting uses.”<sup>8</sup>

As stated in the 2004 Ordinance, the planning timeline for the Basalt Creek area was extended to allow for the planning of the I-5/99W Connector. The I-5/99W Connector Study recommended an alternative that spreads east-west traffic across three smaller arterials rather than a single expressway. Although specific alignments for these arterials were not defined, the eastern end of the Southern Arterial was generally located within the Basalt Creek planning area, south of Tonquin Road. The Basalt Creek Transportation Refinement Plan (TRP) established the specific alignment for this arterial (now referred

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<sup>5</sup> Metro Ordinance No. 04-1040B Exhibit F P2. The relative complexity of planning for this area (due to its equidistance from two cities, and the regional infrastructure improvements being considered in and around Basalt Creek) led Metro to grant an extension for compliance, moving the deadline from 2012 to September 2016 (through a Urban Growth Management Functional Plan compliance request).

<sup>6</sup> Metro Ordinance No. 04-1040B P3

<sup>7</sup> Metro Regional Framework Plan Appendix G-J Glossary P369

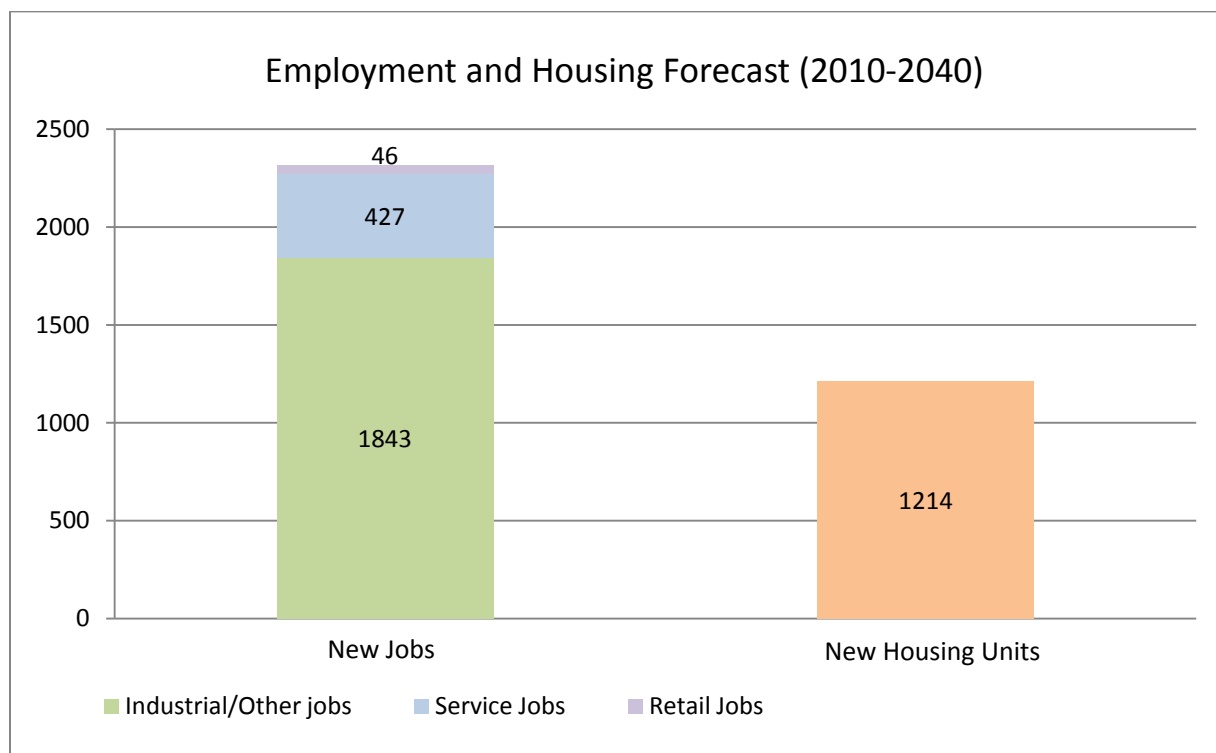
<sup>8</sup> Metro Regional Framework Plan Appendix G-J Glossary P366

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to as the East-West Connector). The TRP was completed in 2013 and several priority projects were adopted in the 2010 Regional Transportation Plan.<sup>9</sup>

The current 2040 Growth Concept Map identifies the Basalt Creek planning area as industrial, but the ordinance does provide some flexibility to include housing in the planning area. Table 1 summarizes the most recent forecast estimate (the Gamma Version) for the Basalt Creek planning area at the Transportation Analysis Zone (TAZ) level. An older forecast (the Beta Version), upon which the Basalt Creek Transportation Refinement Plan (TRP) was based, projected somewhat higher employment levels by 2035. Both forecasts will be used in concept planning for the Basalt Creek area, with the forecasts serving as “sideboards,” representing the high and low ends of the range of households and jobs the area may need to accommodate. The geographical units used for the forecasts are called Transportation Analysis Zones (TAZs). The boundaries and identification numbers of TAZs changed between the Beta (older) and Gamma (newer) forecast, and are both depicted on the map in Figure 10.

Table 1 Employment and Housing Forecast 2010-2035. Source: Metro 2014.



<sup>9</sup> An update to the Regional Transportation Plan (RTP) was published July 18<sup>th</sup>, 2014. Because the analysis for this report was completed before that date, 2014 RTP updates are not considered here. The updated Regional Transportation Plan can be accessed here: <http://www.oregonmetro.gov/regional-transportation-plan>

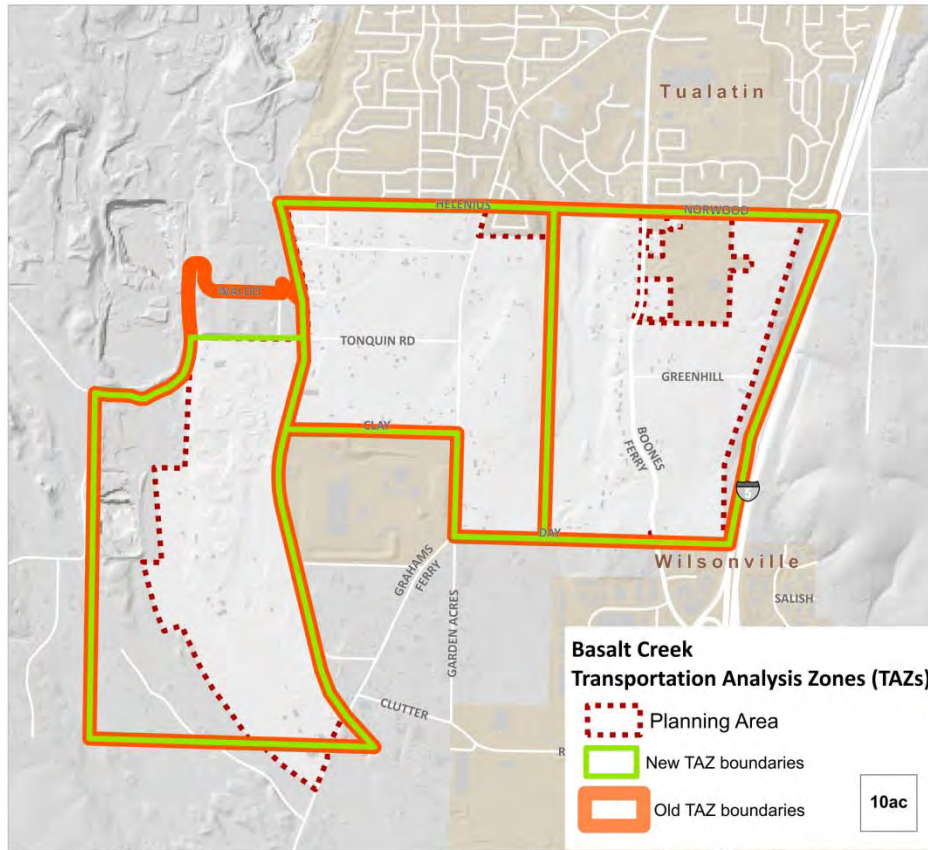


Figure 10 Transportation Analysis Zones (TAZs) covering the Basalt Creek planning area Source: Fregonese Associates, RLIS 2014.

## Local Plans

The following section provides a brief summary of local plans, focused on identifying the policies and goals relevant to the Basalt Creek planning area. Within these plans are goals and policies for transportation, land use planning and economic development. These will be used to guide the development of the concept plan and comprehensive plan recommendations.

### *Joint Plans*

#### Basalt Creek Transportation Refinement Plan (2013)

This plan was a joint effort between the Cities of Tualatin and Wilsonville, Washington County, and Metro. The primary purpose of the Refinement Plan is to establish a major transportation connection from Tualatin-Sherwood Rd to I-5 in North Wilsonville through the Basalt Creek planning area. This connection was identified as a regional transportation priority in order to connect and provide access to existing and future hubs of industrial land uses.

Through the Refinement Plan process, an alignment was established for what is, for now, being referred to as the East-West Connector (Project 11, Figure 11). It is intended to be a new major arterial with five

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lanes and vehicle access limited to three intersections – 124<sup>th</sup> Avenue (anticipating a southward extension of 124<sup>th</sup> to Tonquin Road in the near future, see Projects 1 and 10 in Figure 11), Graham’s Ferry Road and Boones Ferry Road. Tonquin Road (Project 2 in Figure 11) will be improved but left as a parallel three-lane property-access road.

While the primary focus of the Refinement Plan was establishing the alignment of the aforementioned East-West Connector, it includes recommendations for an additional 17 transportation investments broken into short, medium, and long term phases. These include improvements to Grahams Ferry Road, Boones Ferry Road, and Day Road to adequately meet the need for improved regional freight mobility.

Improvements to the section of Boones Ferry Road between Norwood and Day Roads have already been completed. This new roadway includes bike lanes and sidewalks. These projects combined with the East-West Connector provide the foundation for a robust transportation network and ensure the Elligsen Road interchange will function at a high level. The project to extend 124<sup>th</sup> Avenue is in the design phase, with an estimated completion date of December 2016.

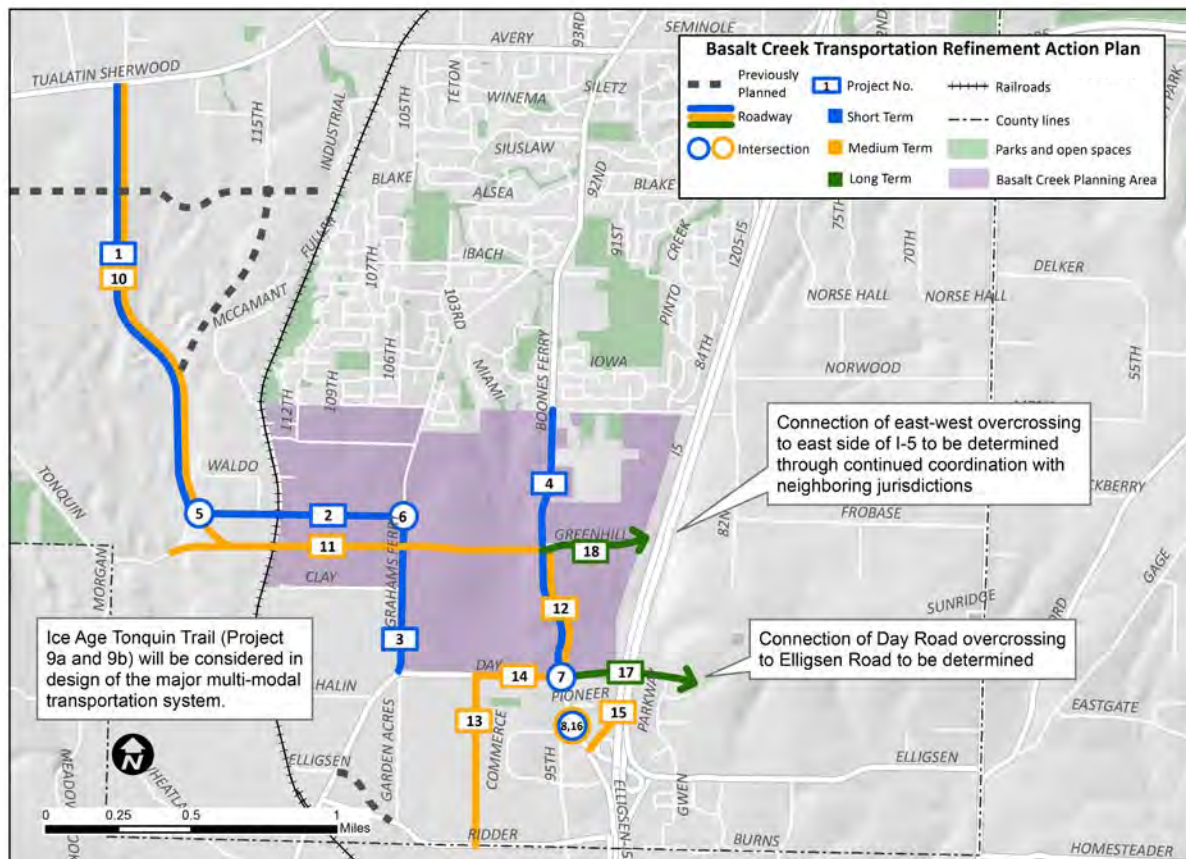


Figure 11 Projects identified in the Basalt Creek Transportation Refinement Plan (TRP).



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## *Wilsonville*

### Transportation System Plan (2013)

The TSP integrates goals to reduce vehicle collision rates, decrease VMT (vehicle miles travelled) per capita, and minimize vehicle delays for truck trips per capita. Other objectives include significantly increasing connectivity for walking and biking trips. Policy 27 of the plan states an intention to “upgrade and/or complete the street network on the west side of I-5, including Coffee Creek and Basalt Creek areas, to serve the warehousing, distribution, and other industrial uses located there.” The TSP proposes widening of Grahams Ferry Road if called for by the Basalt Creek Transportation Refinement Plan.

### Economic Development Strategy (2012)

This document was an update to a 2007 Economic Opportunities Analysis. The Strategy was produced to guide City investments and regulations as well as supporting efforts from the private sector. The resulting recommendations are long-term strategies oriented toward deliberative, balanced, efficient and fair economic development. These include: prioritizing land use and infrastructure planning, balancing economic development with quality of life, and treating all businesses fairly (whether they are new or established). The Strategy reviews factors impacting the Wilsonville economy, which will also have a substantial impact on economic development in the Basalt Creek planning area. Some of these include: regional and interstate accessibility; vacant land base; a balance between the number of jobs and available housing units, and local industry clusters. Actions from the Strategy include workforce development, promoting infill development and redevelopment, and streamlining the development code and permitting process, among others.

### Parks & Recreation Master Plan (2007)

The goal of the Parks and Recreation Master Plan is to promote “active and passive recreation opportunities in a safe, accessible, and comprehensive system of facilities, parks, trails and open spaces to support the recreational interests of citizens of all ages.” The plan calls for implementation of the Ice Age Tonquin Trail Master Plan in partnership with Metro, the Cities of Sherwood and Tualatin, and Washington County.

### Water System Master Plan Update (2012)

This update of the 2002 Water System Plan encompasses Wilsonville’s network of water pipelines, storage tanks, valves and hydrants. Its objective is to assure that good quality public facilities and services are available with adequate (but not excessive) capacity to meet community needs, serving all urban development within the incorporated City limits. In anticipation of future development, industrial demand estimates were increased by 25% to reflect potential redevelopment, infill, and higher-use water customers within existing structures. The planning process resulted in the creation and utilization of a “highly accurate and dynamic hydraulic model” of the water system that can be used to quickly investigate potential system impacts from new users. The plan does not specifically address the Basalt Creek planning area, though it includes the adjacent area on the south side of Day Road.

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### Stormwater Master Plan (2012)

This plan aims to implement a stormwater program that supports quality of life and meets regulatory requirements. It includes cross section illustrations of streetscape improvements recommended to mitigate stormwater issues. Stormwater patterns in the Basalt Creek planning area will impact stormwater management in Wilsonville, as Basalt Creek discharges into the Coffee Lake Creek wetlands west of the railroad, approximately midway between SW Freeman Drive and SW Boeckman Road. This plan notes that Basalt Creek overtops its banks during moderate storm events, flooding the parking lot along the western side of the Commerce Circle Business Park. Construction of a wetland for stormwater detention is a proposed flooding mitigation measure. The recommended location is at the crossing of Day Road over Basalt Creek, to provide temporary storage for increased runoff from future industrial development north of Day Road and decrease flooding around Commerce Circle.

### *Tualatin*

### Tualatin Tomorrow Vision and Strategic Action Plan (2014)

This Plan puts forth a vision for Tualatin in 2030. The plan includes an I-5/99W Connector to separate long-haul and regional commercial–industrial and commuter traffic from local traffic on Tualatin-Sherwood Road. Strategy TTC13 is to increase regional transit linkages (bus and rail, for example) with the cities of Sherwood, Lake Oswego, and Portland.

### City Council Goals (2013-2015, updated Feb. 2014)

Basalt Creek is specifically mentioned in Goal #8 of this City Council goals document, which is to “expand opportunities for vibrant parks and recreational facilities including greenway trails and bike/pedestrian trails.” Sub-goal 8.4 is to “plan and preserve natural resources through the Basalt Creek Concept Plan,” with the Community Development and Community Services Departments identified as playing leading roles in achieving this goal. Other goals include: a connected, informed and engaged citizenry, enhanced transportation options, and an expanded tax base strengthened through smart, balanced growth.

### Transportation System Plan Update (2014)

This update to the 2001 TSP includes seven project goals: access and mobility, safety, vibrant community, equity, economy, health and the environment, and feasible implementation. It includes recommendations to serve the varying needs of transit riders, bicyclists, pedestrians, freight traffic, and drivers. The Basalt Creek area was included within the Tualatin planning area boundary and thus is considered in this plan’s recommendations. The plan includes findings from the Basalt Creek Transportation Refinement Plan and includes the widening of Boones Ferry Road south of Norwood (now complete), the southward extension of 124<sup>th</sup> Avenue, and the upgrade of Grahams Ferry Road from a minor to major collector. It proposes looking for a potential shared use park-and-ride location in south Tualatin to expand transit access for residents of that area, which would also be useful for future residents of the northern part of the Basalt Creek planning area.

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The TSP also includes adding more bus pullouts along Boones Ferry Road, possibly extending into the Basalt Creek planning area. The bike/pedestrian map indicates the addition of a multiuse path across the northern portion of the Basalt Creek planning area. WES service enhancements are also explored, including the possibility of extending the line south of Wilsonville, adding more frequent service, and construction of an additional WES station in the south of Tualatin (near the Basalt Creek planning area). The TSP also discusses possible expansion of the Tualatin Shuttle program.

### [Linking Tualatin Market Study \(2012\)](#)

As part of the Linking Tualatin project a market study was prepared that outlines current and anticipated market conditions impacting viable development forms in the north part of the City. It covers housing, retail, office and industrial/flex space market conditions and demand projections. This study should be considered in planning for Basalt Creek because it is in the same general market area. This study also lists viable near-to-mid-term development forms,, which may also be appropriate for Basalt Creek. Key conclusions of the study include:

- The Primary Market Area (City of Tualatin) can expect continued growth in residential, retail, office and industrial uses
- The lower rents achievable in a suburban setting will limit some of the development types that the market is likely to bring into the area.
- Significant increases in density can be achieved without greatly raising construction costs.

### [Economic Development Strategic Plan](#)

This plan describes a high-level strategy to direct local economic development efforts in the City of Tualatin. It recognizes priorities for infrastructure development and quality of life addressed by other master plans, in addition to identifying important industry clusters. The Plan recommends approaches to retain and expand existing businesses as well as attract new businesses. The five target industry clusters identified include: advanced manufacturing; health care and related businesses; corporate and business services; food processing, distribution and wholesale; wood, paper, printing and related businesses.

### [Water Master Plan \(2013\)](#)

The Water Master Plan was a comprehensive analysis of the City of Tualatin’s water system. The plan covers Tualatin’s network of water pipelines, storage tanks, valves and hydrants. Its purpose is to identify system deficiencies, determine future water distribution system supply requirements, and recommend water system facility improvements that correct existing deficiencies and provide future system expansion. The Plan did not anticipate the Basalt Creek planning area, as concept planning and determination of the city limit boundary had not been complete. At the time of its writing, it was expected that the Water Master Plan would be updated in the future to include Basalt Creek.

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## Sanitary Sewer Master Plan (2014)

The 2014 Sanitary Sewer Master Plan is currently on hold until completion of the Basalt Creek planning process. It will provide a comprehensive analysis of the city's sanitary sewer system, including Tualatin's network of gravity & force main lines and pump stations. Its purpose is to identify system deficiencies, determine future collection system requirements, and recommend sanitary sewer system facility improvements that correct existing deficiencies and provide future system expansion.

## Area Plans

### *Coffee Creek Master Plan (2007)*

The Coffee Creek planning area is comprised of 216 acres to the south of the Basalt Creek area. It has been designated by Metro as a Regionally Significant Industrial Area (RSIA) and includes strict limits on the amount and size of retail, service, residential and office uses allowed to be developed there. Forecasts in the Plan suggest that between 1,736 and 1,890 jobs could be added to the area between 2006 and 2026, with over 90% identified as industrial.

No parcels in the planning area have been annexed yet; Wilsonville's process is property-owner initiated and the area has seen little development since the Plan's adoption. The City has identified form-based code as a tool to streamline the development process and is creating a Form Based Code (FBC) and pattern book to apply to the Coffee Creek area.<sup>10</sup> More information about how new infrastructure in the Coffee Creek and Basalt Creek planning areas might be coordinated, see Section V: Infrastructure.

### *Southwest Tualatin Concept Plan (2010)*

The Southwest Tualatin Concept Plan (SWCP) is a guide for the industrial development of a 614-acre area (448 net buildable acres) located outside the city south of SW Tualatin-Sherwood Road and generally between SW 115th and 124th Avenues. The Southwest Tualatin area is adjacent to and directly west of the Basalt Creek planning area, and is adjacent to/east of the Tonquin Employment Area. It extends south to Tonquin Road and is located in the vicinity of the Tigard Sand and Gravel quarry. A portion of the area was designated a Regionally Significant Industrial Area (RSIA) by Metro in 2004, with the assumption that it would be developed with a mix of light industrial and high-tech uses in a campus-like setting. The Concept Plan estimates that 3,500 new jobs will be located in the area by the year 2035 (2010 forecast).<sup>11</sup>

Currently there is no water or sewer infrastructure in this planning area. However, the City of Tualatin Water and Sewer Master Plans both include the Concept Plan area in the hydraulic modeling and capital improvement project (CIP) identification. Recommended improvements include:

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<sup>10</sup> City of Wilsonville Community Development Department webpage: <http://www.ci.wilsonville.or.us/594/Light-Industrial-Form-Based-Code>. Retrieved August 21st, 2014.

<sup>11</sup> This number is slightly smaller than the result from Metro's model, which forecast in 2005 that 3,735 new jobs would be added to the area by 2035.

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## Water

- A new Level A reservoir (CIP Project R-1) and pipeline projects (P-6 and P-16)
- 13,000 linear feet of 16-inch-diameter pipe to provide a looped water supply

## Sewer

- A new 24-inch pipeline located in Tualatin-Sherwood Road, extending from the Concept Plan area/URA easterly to SW Avery Street;
- Increase existing 12- to 21-inch pipe to 18-inch and 36-inch pipeline extending from near the SW Tualatin Sherwood Road/SW Avery Street intersection to the existing Bluff/Cipole Trunk
- Upsize existing trunk line pipe diameters.

## Stormwater

- New conveyance system along roadways
- Facility(ies) to treat and detain (if necessary) site development runoff

The sequencing of infrastructure construction will be coordinated with the timing of development in the area, as well as with the Basalt Creek planning area.

### *Tonquin Employment Area Concept Plan (2010)*

This planning area is comprised of 300 acres designated industrial land northwest of (but not adjacent to) the Basalt Creek planning area. It is bounded on its eastern edge by the future 124<sup>th</sup> Avenue extension. It was added to the UGB in 2004 and will be annexed to the City of Sherwood on a case-by-case, property owner-initiated basis. Creation of an Employment Industrial Zone is proposed to implement this plan. The regional employment forecast projects the addition of 2,290 more jobs during the next 20 years, 83% being industrial and 17% a mix of retail, commercial, services and office.

## III. Natural and Historic Resources

The purpose of this section is to describe the natural and historic resources in the planning area, as well as the regulatory framework through which they may be protected, conserved or mitigated for.

### Natural Features

The Basalt Creek planning area is named for the creek flowing north to south through the area, eventually draining into the Willamette River. Basalt Creek has alternatively been known as Seeley's Creek and Tappin Creek. The area primarily drains into the Willamette River; a small area in the northeast corner drains into the Tualatin River.

The general character of the area's landscape was shaped by the Glacial Lake Missoula Ice Age floods, a series of cataclysmic floods that formed the Columbia River Gorge and the Willamette Valley during the last Ice Age. Remains from the Ice Age floods that can be seen in and around the Basalt Creek planning area include glacial erratic, scablands, kolk ponds, flood channels and ripple marks. Today, the area has been described as being "comprised of upland prairie fragments, and oak and madrone woodlands. Rare wildflowers are found near basalt hummocks (scablands) to the west of the planning area, and rare reptiles (pond turtles) and amphibians (northern red-legged frogs) live in the kolk ponds."<sup>12</sup>

In 2009, federal legislation was passed to create the National Park Service's Ice Age Flood National Geologic Trail in order to bring the dramatic story of the Ice Age Floods to the public's attention. The Trail is intended to be a network of marked touring routes extending across parts of Montana, Idaho, Washington and Oregon, with several special interpretive centers located across the region. This federal legislation will help bring funding and tourism to local trails that will be a part of the region-wide Ice Age Trail network. Metro's Ice Age Tonquin Trail Master Plan provides a framework for local and regional jurisdictions to embark on trail implementation efforts. The proposed trail alignments show about 22 miles of trails connected through Tualatin, Wilsonville and Sherwood, and includes a several-mile section traversing the Basalt Creek planning area (Figure 12).

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<sup>12</sup> Ice Age Tonquin Master Plan, 2012 P24:  
[http://www.oregonmetro.gov/sites/default/files/tonquin\\_trail\\_master\\_plan.pdf](http://www.oregonmetro.gov/sites/default/files/tonquin_trail_master_plan.pdf)

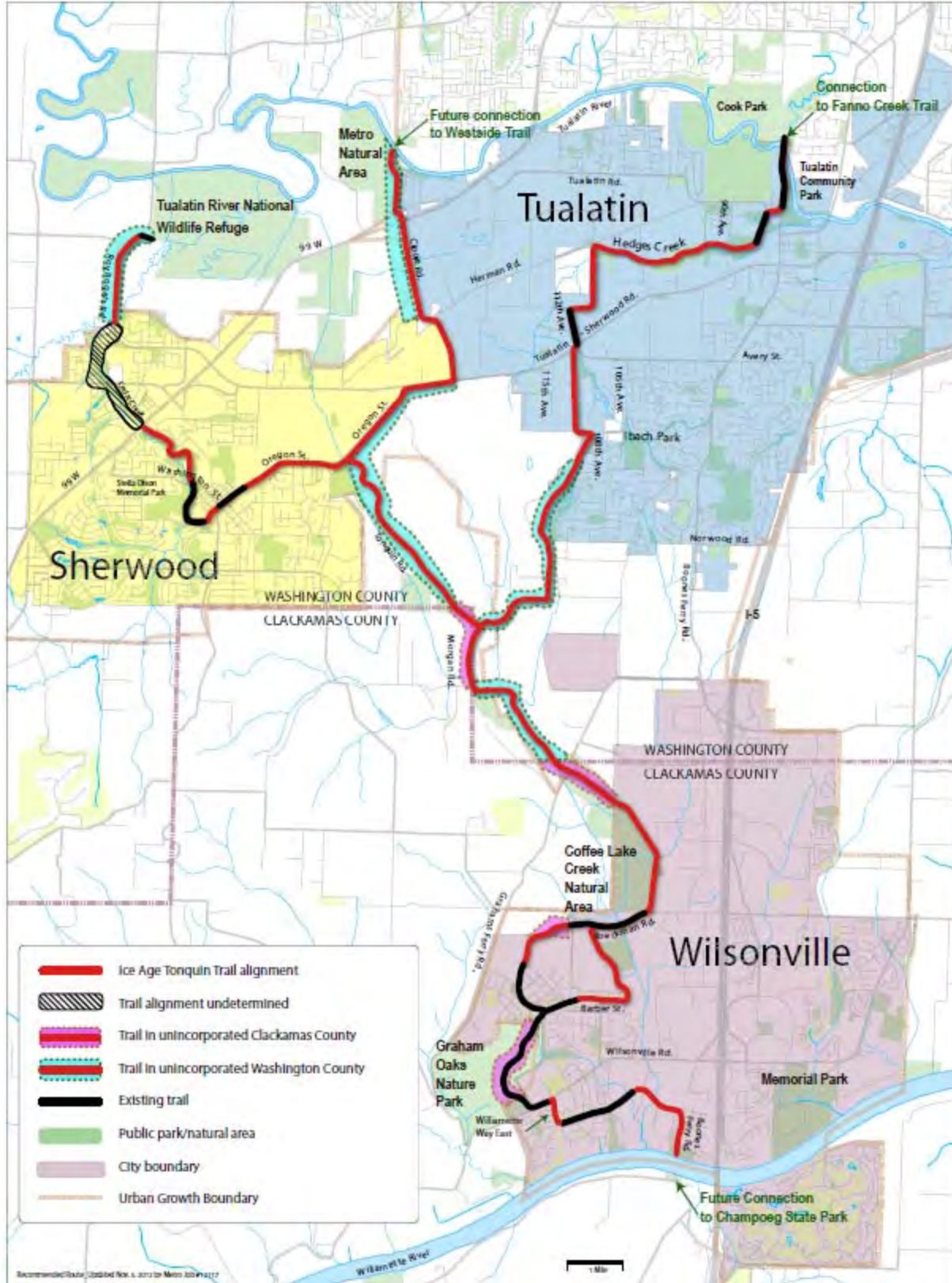


Figure 12 Proposed Trail Alignment from Metro's Ice Age Tonquin Trail Master Plan, 2013.

### Groundwater Hydrology

The Basalt Creek planning area falls primarily in the Middle Willamette Sub Basin, with a very small section in the northeast corner falling in the Tualatin Sub Basin (Figure 13). Within the Middle Willamette Sub Basin, the planning area is predominately in the Abernethy Creek Watershed (the small portion in the Tualatin Sub Basin is in the Fanno Creek Watershed). Abernethy Creek flows for approximately 16 miles through the hills east and north of Oregon City, joining the Willamette River from the east. The total drainage area of Abernethy Creek is 30 square miles.<sup>13</sup>

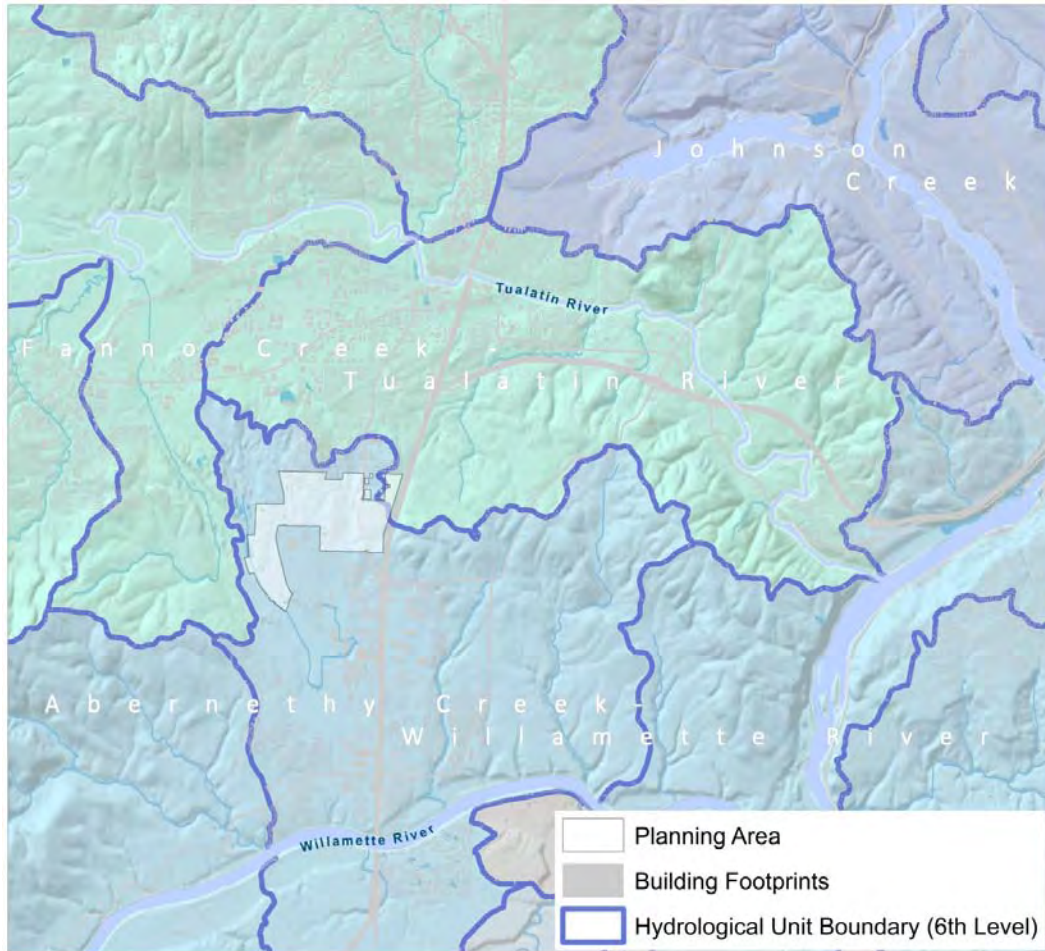


Figure 13 Basalt Creek planning area in the context of the Middle Willamette and Tualatin River Watersheds. Source: Fregonese Associates, RLIS 2014.

### Soils

Hydrologic soils are assigned a letter designation of A, B, C or D, based on the rate of water transmission through the soil, or how well the soil drains. Class A soils have the best infiltration and drainage. Class B soils will infiltrate water into the soil somewhat quickly and drain marginally well. They have a lower

<sup>13</sup> Flood Insurance Study for Clackamas County, Oregon, Vol. 1 (2008)  
<http://oregonriskmap.com/index.php/mappingtools/all-downloads/pdf/37-clackamas-co-fis-vol1/file>



runoff potential. Class C soil infiltrates fairly poorly and drains poorly. Class D soils infiltrate water into the soil very slowly and have correspondingly high runoff potential. There is no Class A soil in the planning area (Figure 14). Well-drained soils comprise 85% of the area and 13% of the area is comprised of poorly draining soils. The remaining 1.7% is split between moderately well- and somewhat-poorly drained soils.

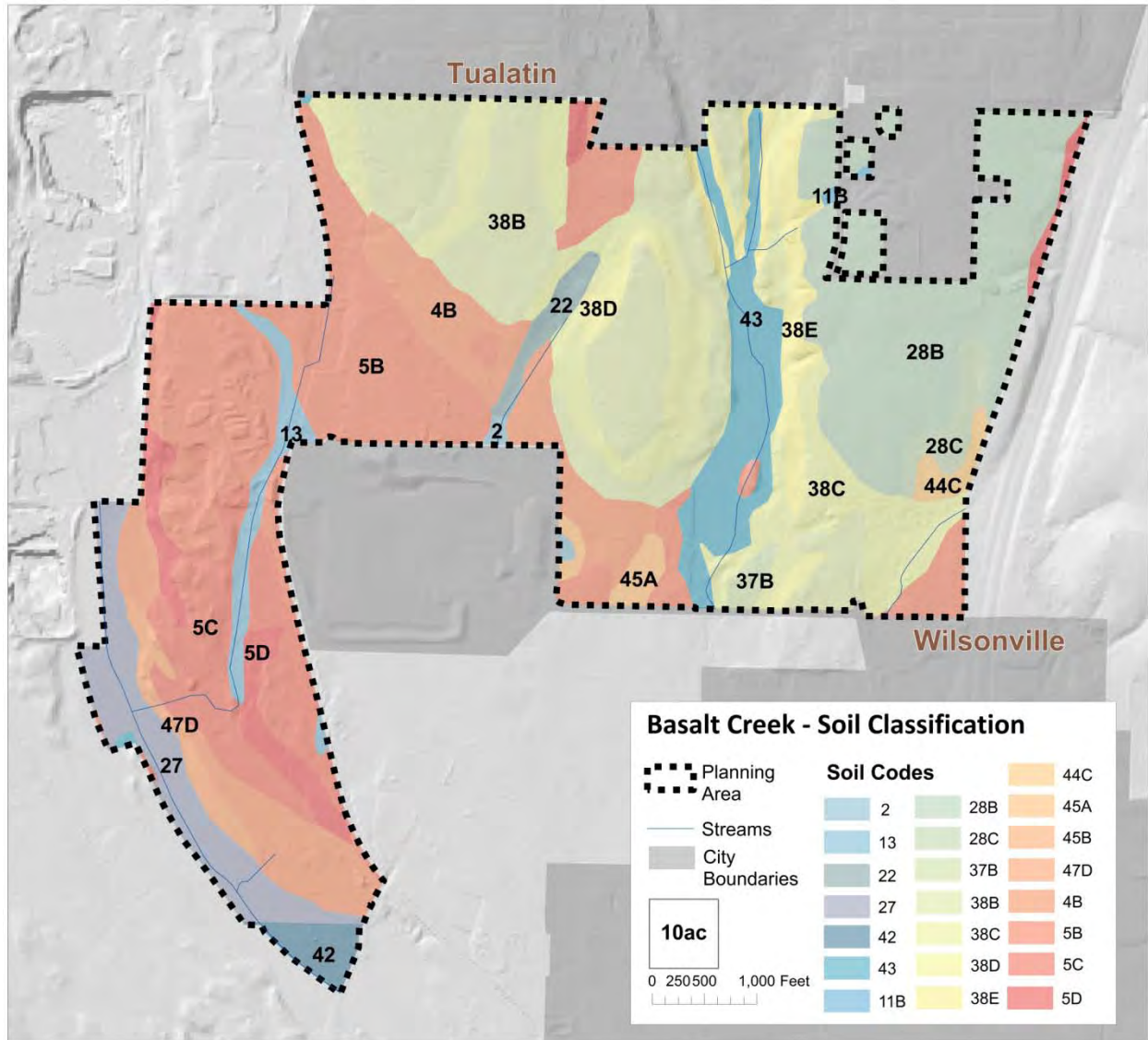






















Figure 14 Hydrologic Classification of Soils in the Basalt Creek planning area. Source: Fregonese Associates, USDA Soil Survey 2014.

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Table 2 Descriptions of Hydrologic Soil Classifications from Figure 14. Source: USDA Soil Survey 2014.

Map Symbol	Soil Code	Soil Description	Acres	% of Planning Area	Drainage
	2	Amity silt loam	1.9	0.2%	Somewhat poorly drained
	13	Cove silty clay loam	15.2	1.8%	Poorly drained
	22	Huberly silt loam	8.2	1.0%	Poorly drained
	42	Humaquepts, ponded	7.5	0.9%	Poorly drained
	43	Wapato silty clay loam	41	4.8%	Poorly drained
	11B	Cornelius and Kinton silt loams, 2 to 7 percent slopes	0.9	0.1%	Moderately well-drained
	28B	Laurelwood silt loam, 3 to 7 percent slopes	109	12.9%	Well-drained
	28C	Laurelwood silt loam, 7 to 12 percent slopes	10.4	1.2%	Well-drained
	37B	Quatama loam, 3 to 7 percent slopes	4	0.5%	Moderately well-drained
	38B	Saum silt loam, 2 to 7 percent slopes	131.5	15.5%	Well-drained
	38C	Saum silt loam, 7 to 12 percent slopes	102.7	12.1%	Well-drained
	38D	Saum silt loam, 12 to 20 percent slopes	12.1	1.4%	Well-drained
	38E	Saum silt loam, 20 to 30 percent slopes	30.1	3.6%	Well-drained
	44C	Willamette silt loam, 7 to 12 percent slopes	5.7	0.7%	Well-drained
	45A	Woodburn silt loam, 0 to 3 percent slopes	7.2	0.9%	Moderately well-drained
	47D	Xerochrepts-Rock outcrop complex	10.3	1.2%	Well-drained
	4B	Briedwell silt loam, 0 to 7 percent slopes	50.2	5.9%	Well-drained
	5B	Briedwell stony silt loam, 0 to 7 percent slopes	148.7	17.6%	Well-drained
	5C	Briedwell stony silt loam, 7 to 12 percent slopes	55.1	6.5%	Well-drained
	5D	Briedwell stony silt loam, 12 to 20 percent slopes	25.9	3.1%	Well-drained
	<b>Subtotals</b>		<b>839.4</b>	<b>99.1%</b>	

*Streams and Wetlands*

There are two main streams running through the planning area – Basalt Creek (also known as Seeley’s Creek or Tappin Creek) and an unnamed, intermittent creek to the west. Coffee Lake Creek forms the western boundary of the planning area (Figure 15).

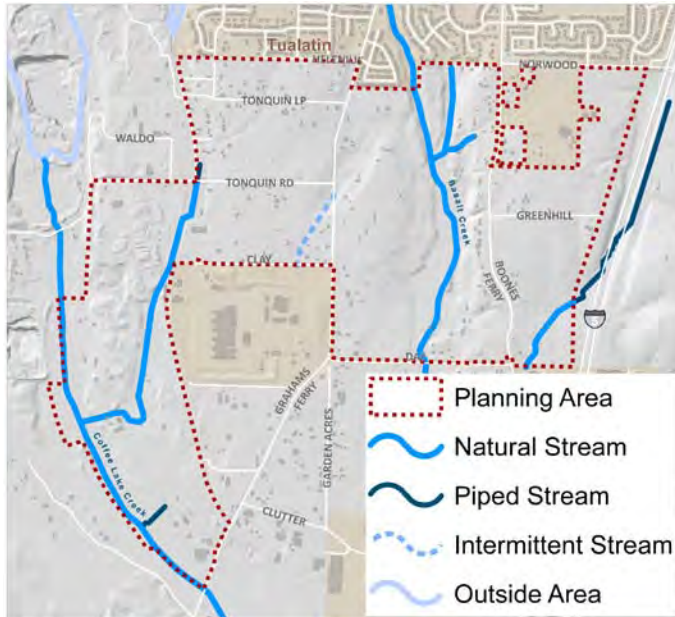


Figure 15 Natural, Underground and Intermittent Streams in Basalt Creek planning area. Source: Fregonese Associates, RLIS, City of Wilsonville field survey 2014.

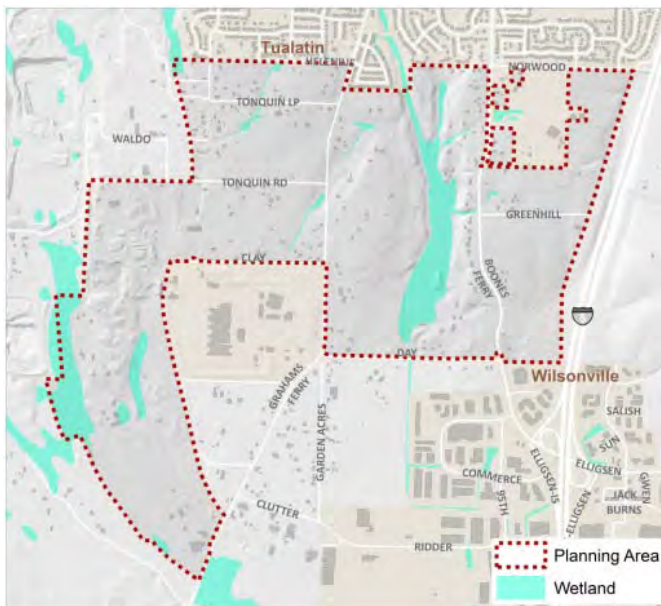


Figure 16 Wetlands in Basalt Creek planning area. Source: Fregonese Associates, RLIS, City of Wilsonville field survey 2014.

Through a combination of RLIS data and field work by the City of Wilsonville it has been determined that there are 11,478 feet of natural streams, 8,157 feet of underground streams and 1,402 feet of intermittent streams in the planning area.<sup>14</sup> In the plan area there are 69 acres of wetlands (8% of the planning area (Figure 16), including 49 acres of open water.

### *Floodplain*

On the western border of the planning area (Figure 17) there are 53 acres of land (6% of the area) around Coffee Lake Creek that are within the 1% annual chance flood event area, as designated by the Federal Emergency Management Agency (FEMA) in a 2005 revision of the Washington County Flood Insurance Study (FIS).<sup>15</sup> The small portion of the planning area within Clackamas County is unaffected by the 1% annual chance flood event area, as identified in the Clackamas County FIS (2008).<sup>16</sup>

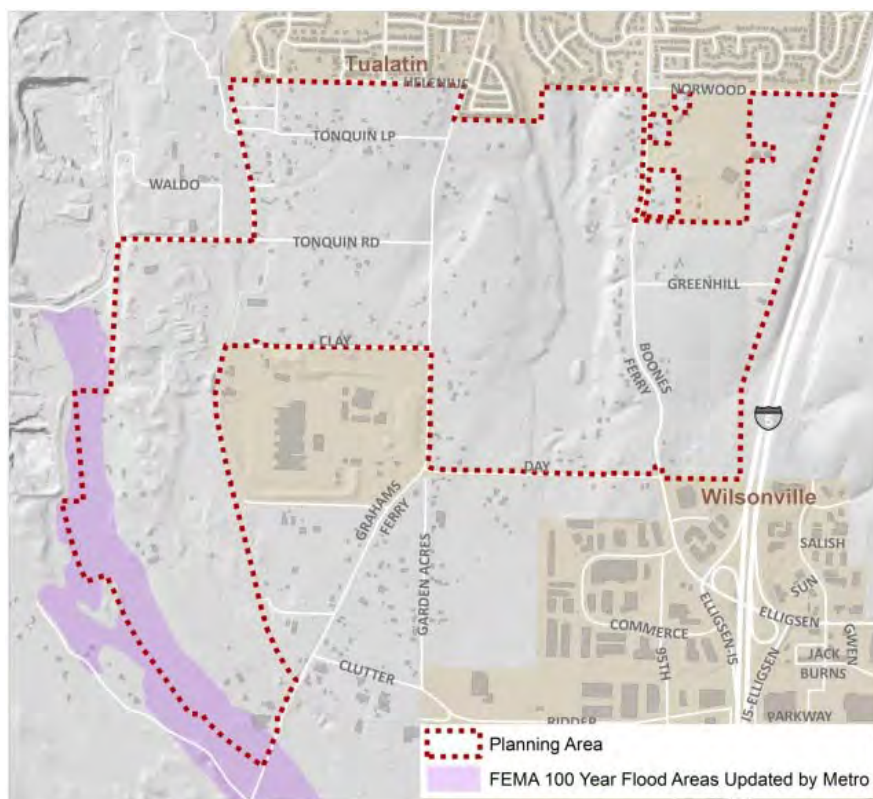


Figure 17 FEMA 1% annual chance flood event area in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014, FEMA 2007.

<sup>14</sup> Data sources: RLIS, Wetland Delineation Report for proposed Boones Ferry widening, additional wetlands digitized by FA based on 2013 and 2012 (leaf free) aerials.

<sup>15</sup> In 2005 the original 1980 FIS study was revised to incorporate new floodplain data for Ash Creek, Fanno Creek and Summer Creek in the unincorporated areas of Washington County in response to the largest flood event to occur since 1980, the November 1996 flood along Fanno Creek. Source: <http://www.oregonriskmap.com/index.php/mappingtools/all-downloads/pdf/174-washington-co-fis-2005-part1/file>

<sup>16</sup> FIS for Clackamas County, Oregon, 2008.

## Regulatory Framework for Conserving Natural Resources

### *Oregon Land Use Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces*

The purpose of Goal 5 is to protect natural resources and conserve scenic and historic areas and open spaces. It directs local governments to adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. In the Metro region Titles 3 and 13 of Metro's Urban Growth Management Functional Plan provides a regional framework for local governments to implement Goal 5.

### *Metro Title 3: Water Quality, Flood Management and Fish and Wildlife Conservation*

Metro's Title 3 requires local jurisdictions to limit or mitigate the impact of development activities on Water Quality and Flood Management Areas which include wetlands and riparian areas. In 2001 Metro conducted a regional inventory of wetlands and riparian areas protected by Title 3.

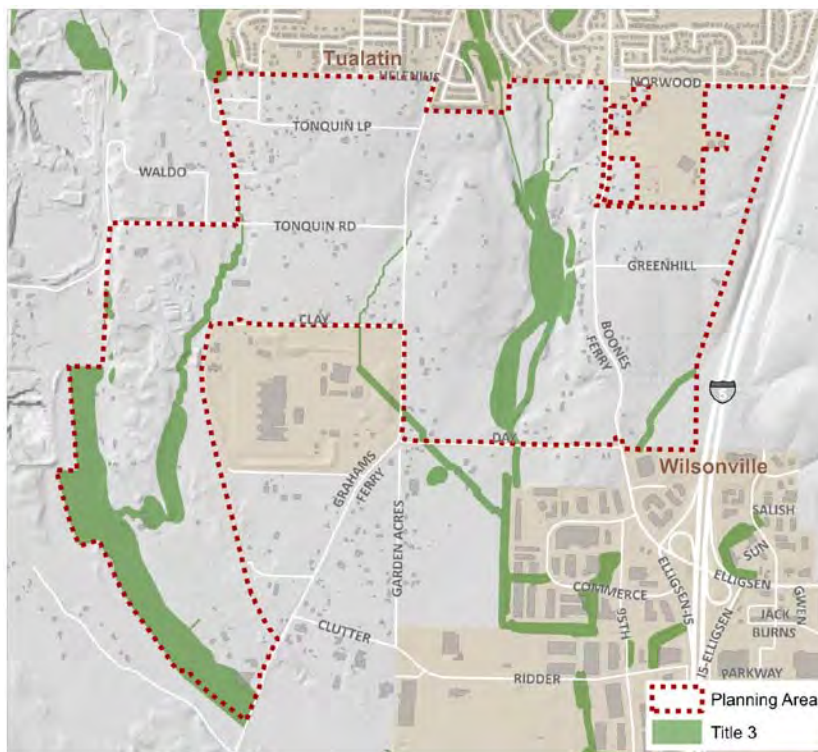


Figure 18 Title 3 lands (116 acres; 14% of total area) in Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

There are 116 acres of land in the Basalt Creek planning area that have been designated by Metro as Water Quality and Flood Management Areas under Title 3 (Figure 18). These lands are restricted for development and buffered by a vegetated corridor (the width of which is determined by factors described in the Natural Resources section of this document). Any development within the vegetated

corridor must be mitigated by environmental restoration and/or stormwater retention and water quality measures, as determined by the performance standards described in Metro's Title 3. Both the City of Wilsonville and Clean Water Services have local ordinances in place that go beyond the level of conservation required by Title 3 and so existing local standards from each City would likely apply upon annexation of a planning area property into either Wilsonville or Tualatin.

*Metro Title 13 – Nature in Neighborhoods*

Title 13 is a policy requiring local jurisdictions to protect and encouraging them to restore a continuous ecologically viable streamside corridor system integrated with upland wildlife habitat and the urban landscape. In 2001 Metro conducted a regional habitat inventory and identified the location and health of fish and wildlife habitat based on different sets of criteria for waterside, riparian and upland habitat. These areas were named Habitat Conservation Areas (HCAs).

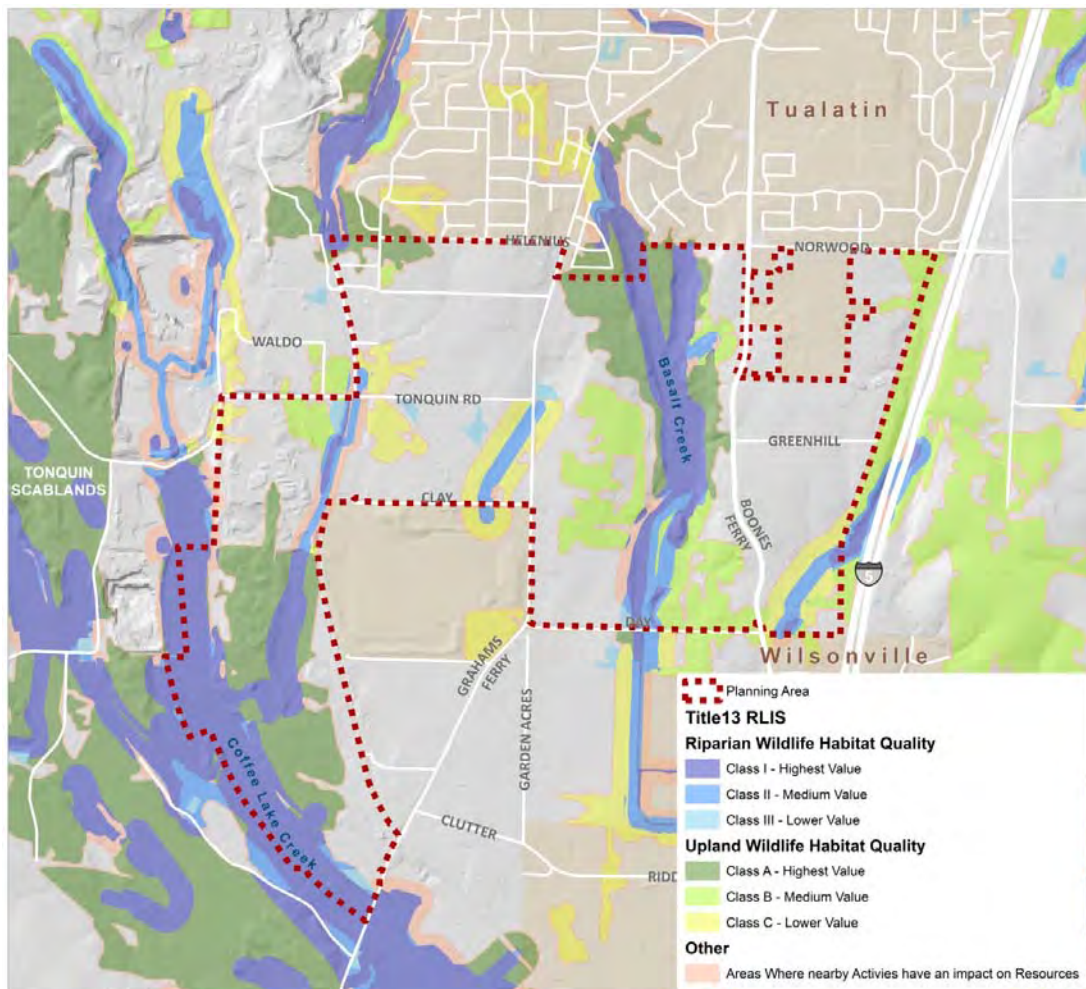


Figure 19 Title 13 lands in the Basalt Creek planning area (431 acres total, 51% of total area).<sup>17</sup> Source: Fregonese Associates, RLIS 2014.

<sup>17</sup> Note that most of these lands, other than Classes I and II of Riparian Habitat, can still accommodate some level of development.

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Development is not restricted in HCAs on land that was brought into the UGB before December 28, 2005<sup>18</sup>. However, it is strongly encouraged that HCAs are taken into consideration during the concept planning process. Development in areas designated as protected under Title 13 in the Basalt Creek area is generally discouraged. If development does take place incorporation of low impact design and mitigation strategies to maintain the functionality of these important ecological areas will be important.

In the planning area there are 130 acres designated as Riparian Wildlife Habitat Class I, 31 acres designated as Class II, and 7 acres Class III. In addition, 103 acres are designated as Upland Wildlife Habitat Class A, 72 acres are Class B, and 37 acres are Class C (Figure 19). Designated impact areas comprise 52 acres.

## *Washington County Comprehensive Plan – Rural/Natural Resource Element*

No land within the planning area is identified by the Washington County Comprehensive Plan as a Significant Natural Resource. The nearest Significant Natural Resource area is comprised of the Tonquin Scablands, to the west of Coffee Lake Creek.

## *Clean Water Services Design & Construction Standards (2007)*

Clean Water Services (CWS) is the regional agency that manages stormwater in the urban areas of the Tualatin River Watershed, including the entire City of Tualatin. CWS holds a regional National Pollutant Discharge Elimination System (NPDES) storm water permit. *Chapter 3: Sensitive Areas and Vegetated Corridors* describes the methodology used by CWS to determine mitigation requirements in sensitive areas such as vegetated corridors surrounding streams and wetland habitat.

**Table 3** Vegetated Corridor Widths Adjacent to the Sensitive Area Where Activity is Not Redevelopment. Source: Clean Water Services Design and Construction Standards, Chapter 3.

Sensitive Area Type	Width: Slope < 25%	Width: Slope ≥ 25%
<b>Existing or created wetlands:</b>		
< 0.5 acres and isolated	25 ft	Variable from 25-200 ft
< 0.5 acres and isolated	50 ft	Variable from 50-200 ft
≥ 0.5 acres	50 ft	Variable from 50-200 ft
Natural lakes, ponds, and in-stream impoundments	50 ft	Variable from 50-200 ft
<b>Springs:</b>		
Intermittent flow	0	15 ft.
Perennial flow	50 ft.	Variable from 50-200 ft
<b>Intermittent Streams draining:</b>		
< 10 acres	0	0
≥ 10 to < 50 acres	15 ft	Variable from 50-200 ft
≥ 50 to < 100 acres	25 ft	Variable from 50-200 ft
≥ 100 acres	50 ft	Variable from 50-200 ft
<b>Perennial Streams:</b>		
Other than Tualatin River	50 ft	Variable from 50-200 ft
Tualatin River	125 ft	Variable from 50-200 ft

<sup>18</sup> Metro Title 13: Nature in Neighborhoods 2007, S3.07 P85.

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These standards exceed the level of conservation required by Metro’s Title 3 (Table 3). Permitted development must comply with CWS’s Design and Construction Standards & Service Provider Letters (SPLs) for impacts to vegetated corridors.

## *City of Wilsonville – Significant Resource Overlay Zone (SROZ)*

Within the City of Wilsonville, the Significant Resource Overlay Zone (SROZ) includes floodplains, wetlands, and riparian corridors around significant resources and upland habitat, as well as vegetated corridors around areas designated as Significant Resources. Impact areas are generally considered to be the areas within 25 feet of a Significant Resource area. Development is allowed in portions of the SROZ (i.e. upland forests), but can only be permitted through review of a Significant Resource Impact Report (SRIR). An SRIR is a report that delineates specific resource boundaries and analyzes the impacts of development within mapped significant resource areas.<sup>19</sup> A table comparing these methodologies can be found in Section VIII: *Land Capacity Analysis*.

Table 4 Metro Water Quality Resource Area Slope Calculations. Source: Metro 2014.

Protected Water Feature Type	Slope Adjacent to Protected Water Feature	Starting Point for Measurements from Water Feature	Width of Vegetated Corridor (Setback)
Primary Protected Water Features	< 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	50 ft
Primary Protected Water Features	≥ 25% for 150 ft or more	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	200 ft
Primary Protected Water Features	≥ 25% for less than 150 ft	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	Distance from starting point of measurement to top of ravine (break in ≥ 25% slope), plus 50 ft
Secondary Protected Water Features	< 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	15 ft
Secondary Protected Water Features	≥ 25%	Edge of bankful flow or 2-year storm level; Delineated edge of Title 3 wetland	50 ft

<sup>19</sup> Full requirements for an SRIR can be found in Section 4.139.05 of the Wilsonville Zoning Code (pp. B-133 - 138). Section 4.139 also outlines mitigation standards for development encroaching on an Impact Area or Significant Resource Overlay Zone as well as development activities that would trigger a Class I or II Administrative Review Process, in addition to a list of special provisions.



## Cultural and Historic Resources

In addition to the unique geologic history of the Basalt Creek area, community members have identified the old Carlon Schoolhouse (Figure 20) as being historically significant. Off Grahams Ferry Road, behind Chick-a-Dee Nursery and not far from Day Road, the structure has often been overlooked as an important historic school that was used in the late 1800s, up until just before the first Tualatin schools. In 1939, the Carlon School District consolidated with Tualatin. It is still in good condition, maintained through a foundation.<sup>20</sup>



Figure 20: The Carlon Schoolhouse. Source: Martinazzi, Loyce. Tualatin Life Newspaper August 19, 2014.

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<sup>20</sup> Addington, Yvonne, Board Member of Tualatin Historical Society. Email communication, August 19<sup>th</sup>, 2014.

## IV. Public Facilities

### Schools

The study area falls within the Sherwood School District (88J), which has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School (Figure 21).

The planning area is near Tualatin High School, one of two high schools in the Tigard Tualatin School District. The district includes three middle schools and ten elementary schools. It serves 12,363 students overall. Horizon Christian High School (private) has 160 students enrolled on their campus with a vision of serving up to a 1,000 students in the future.<sup>21</sup>

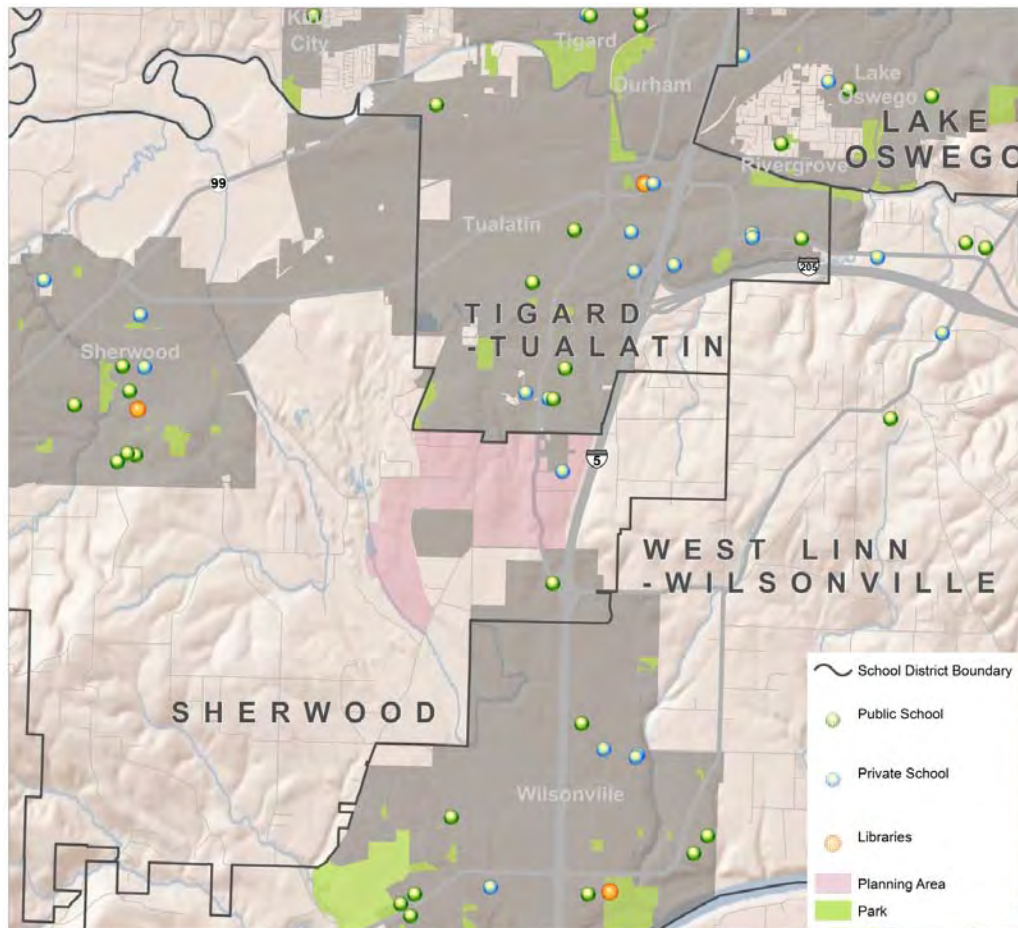


Figure 21 Schools, libraries and parks near the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

<sup>21</sup> Levasa, Roger. Director of Development for Horizon Church. Personal communication July 31<sup>st</sup>, 2014.

## Parks

Wilsonville Parks owns and maintains 16 different public parks. City of Tualatin Parks and Recreation owns and maintains 9 different parks (Figure 21).

## Libraries

There are three libraries in the general vicinity of the planning area (Figure 21): the Tualatin Public Library located at 18878 SW Martinazzi Avenue, serving 24,420 residents, the Wilsonville Public Library located at 8200 SW Wilsonville Road, and the Sherwood Public Library at 22560 SW Pine Street, which serves 17,579 residents.

## Fire

There are three Tualatin Valley Fire & Rescue (TVF&R) stations in general proximity of the Basalt Creek area (Stations 33, 34, 52). The TVF&R training center is just west of the planning area boundary (Figure 22).

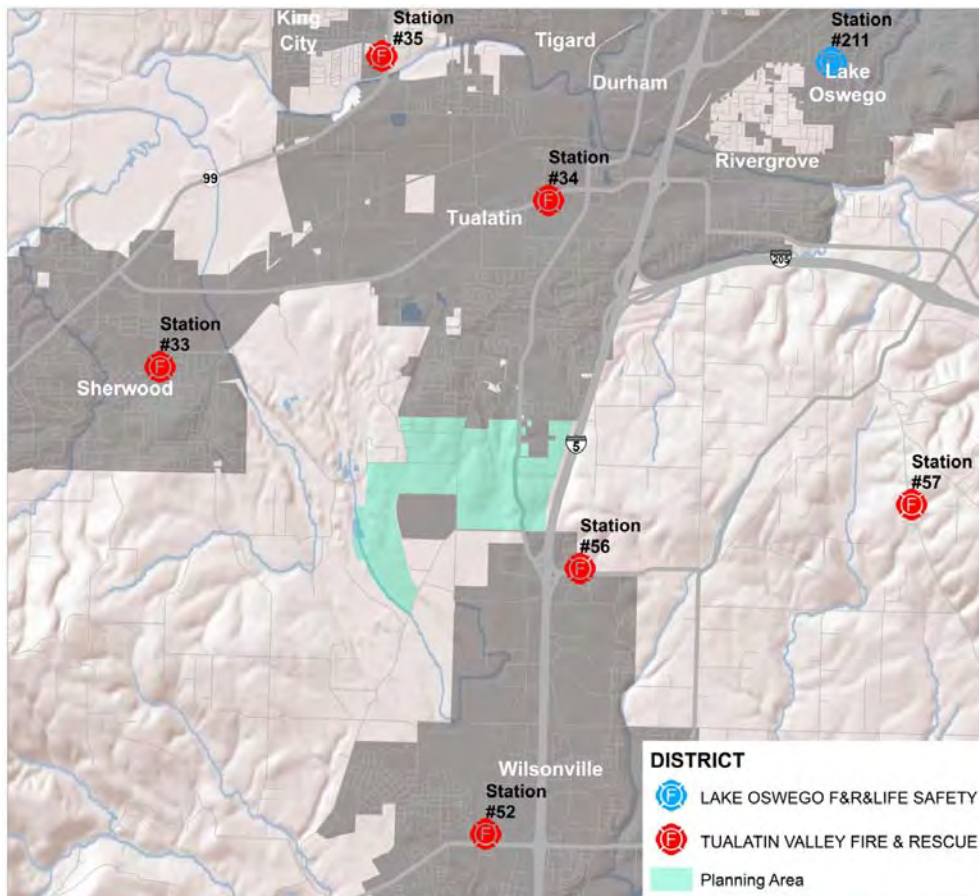


Figure 22 Fire station locations and service area boundaries near the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

## Police

Currently the Washington County Sheriff's Office provides law enforcement services in the Basalt Creek planning area. The Washington County Sheriff's Department and Jail are located about twenty miles from the planning area, in downtown Hillsboro.

Wilsonville contracts with the Clackamas County Sheriff's Office to provide law enforcement services to the City. The contract makes certain special services available to the City as well, including its detectives division, hazardous materials team, special investigations unit and traffic team. It also provides the city with a dedicated chief of police, school resource officer, and detective, in addition to 15 deputies. The Clackamas County Jail facility is located about 20 miles east of Wilsonville, in Oregon City.

The Tualatin Police serve the area inside the city's limits. The police department consists of 38 sworn officers and an additional 8.5 professional staff members providing administrative support.<sup>22</sup> The department includes a detective unit, police services unit, school resource unit, Honor Guard (volunteer-based), park rangers, police reserves and a traffic team. The Tualatin Police Department does not have a facility to hold prisoners, and utilizes the Washington County Jail in Hillsboro.

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<sup>22</sup> Tualatin Police Department Website: <http://www.tualatinoregon.gov/police/police-services-unit> retrieved July 31st, 2014.

## V. Commercial, Industrial & Residential Real Estate Markets

The purpose of this section is to provide a picture of existing real estate market conditions and the outlook for office, residential, and retail development in Basalt Creek and adjacent areas.



Figure 23 Photo of planning area: Grahams Ferry Road, looking north into the Basalt Creek planning area. Source: Leland Consulting Group 2014.

### Industrial and Office Market

Basalt Creek is located near the center of one of the region's largest clusters of employment land, which includes existing developed areas in the cities of Tualatin, Wilsonville, and Sherwood, as well as the planned future employment areas of Southwest Tualatin, Tonquin, and Coffee Creek). A market area was defined for this report so results can be compared with future analysis (Figure 24). The market area includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas.

The Metro Regional Government projects rapid employment growth of 2.3% annually for the market area through 2035—about 40% faster than the employment growth in the overall region (1.7%). This pattern indicates that ongoing business expansion and job creation is expected for these three cities, comprising a large portion of the southwestern metropolitan area.

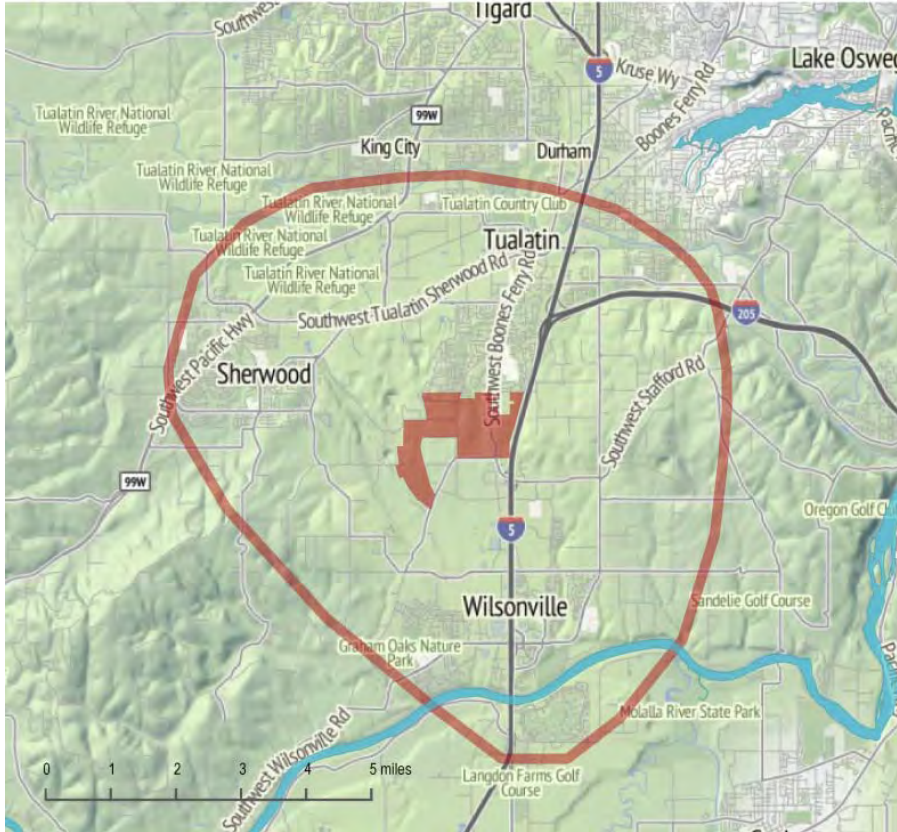


Figure 24 Market Analysis Area for the Basalt Creek area. Source: Leland Consulting Group, 2014.

Tualatin and Wilsonville have independently identified a series of industry clusters in which the two cities are already highly competitive, and in which they expect future significant business and job growth. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. Leading organizations within these clusters include Lam Research, Legacy Meridian Park Medical Center, the Oregon Institute of Technology, Mentor Graphics, and Xerox Corporation. Businesses in these categories would be well-suited to locate in the Basalt Creek planning area.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Development peaked during the 1990's and has slowed following the recession; however, industrial development in particular is expected to resume and accelerate in coming years due to a desire to “onshore” jobs (bring employment back from overseas), shorten supply chains, and take advantage of lower domestic costs in some industries. Between 1980 and 2014, the cities of Tualatin and Wilsonville saw on average over 400,000 square feet of industrial and office building development annually, and 56.6 acres of industrial and office land development annually. The amount of industrial development (including warehousing, production, flexible office/industrial space, etc.) in both cities is significantly larger (more than seven times) than the amount of office development. This general dynamic is expected to persist for the foreseeable future.

Building types vary significantly within the market area: some industrial facilities contain more than 200,000 square feet of building area, while many other small office and industrial flex spaces are less than 20,000 square feet in size. The floor area ratio (FAR) of most buildings, however, generally falls within the range of 0.2 to 0.4, which generally indicates one- to three-story buildings with large areas for parking and/or freight movement. A small number of office buildings have higher FARs up to about 1.0, which indicates more dense buildings and some structured parking.

Going forward, employment development in the Basalt Creek area will benefit from a number of competitive advantages. These include its direct access to I-5, superior to other employment areas in the region; access to I-205, Highway 217, arterial roads, and transit service; a growing and educated workforce; and established and expanding industry clusters.

## Housing Market

Basalt Creek's location is also an asset for residential development for housing: the planning area is immediately south of several South Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. The market area's current demographics are encouraging for new housing development. When compared to the Portland Metropolitan Area overall, this market area has a higher percentage of family households, larger households, higher household and per capita incomes, residents with college degrees, and residents who work in white collar jobs.

## Retail/Commercial Market

There are already several major regional and sub-regional retail nodes located to the north and south of the planning area—at Bridgeport Village, central Tualatin, and in Wilsonville. Thus any commercial space built in Basalt Creek will most likely serve primarily local residents and employees. These larger centers are located at I-5 interchanges. Retail in the Basalt Creek area would not have this same advantage. Whereas regional retail is anchored by fashion, consumer electronics, entertainment, and furniture/household goods, neighborhood retail is typically anchored by grocery stores, pharmacies and restaurants, and supplemented by other local goods and services.

## Industrial and Office Market Conditions

### *Regional Employment Context*

As discussed in *Section I: Local and Regional Planning Context*, Basalt Creek is contiguous with a number of other employment and industrial areas in the southwestern part of the Portland Metropolitan Region, including those in the cities of Tualatin, Wilsonville, and Sherwood. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region, comparable in size to the agglomeration in northern Hillsboro (though smaller than the employment lands near Portland International Airport).

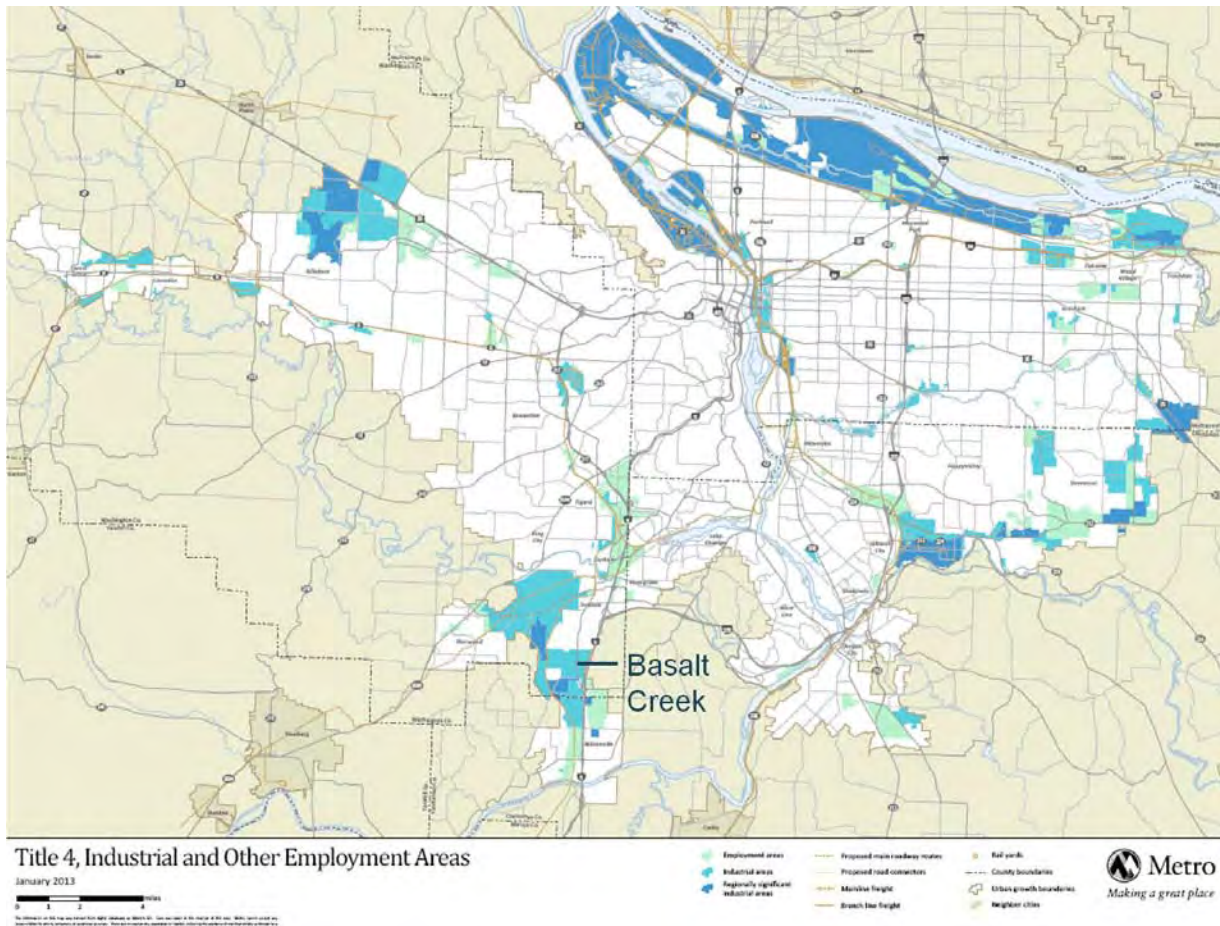


Figure 25 Title 4 Industrial and Other Employment Areas in Portland Metro Area. Source: Metro 2014.

A major feature and competitive advantage of this “Southwest Metro” employment cluster in general--and the Basalt Creek area in particular--is its immediate access to I-5, the west coast’s most important transportation route (Figure 25). Via I-5, the Basalt Creek area is closely connected to downtown Portland, numerous Willamette Valley communities, and major metropolitan areas in Washington and California. Interstate-205 and Highway 217 are also close by and easily accessible from the area. These freeway connections are a major benefit for industrial users (for whom distribution is an important site selection factor) and office-based businesses (which require access for their clients, suppliers, workforce, and collaborators).

### *Industrial and Office Development, 1980 to 2014*

Figure 26 and Figure 27 below show the pace of industrial and office development in the cities of Tualatin and Wilsonville beginning in 1980. The vertical columns represent the building area (square feet) of development within each of the two cities in a given year, while the dashed line is a longer-term trend line, showing a five-year rolling average of built area for both cities combined. These historical



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development trends are one data set that shapes expectations for future employment development in both cities and the Basalt Creek planning area.

Since 1980, both cities have seen considerably more industrial development than office development. Over this 34-year period, an average of 340,000 square feet of industrial space and 67,000 square feet of office space has been built in the two cities combined. Thus, the amount of industrial development has been about five times as great as office development.

## Industrial Development, Tualatin and Wilsonville, 1980 - 2014

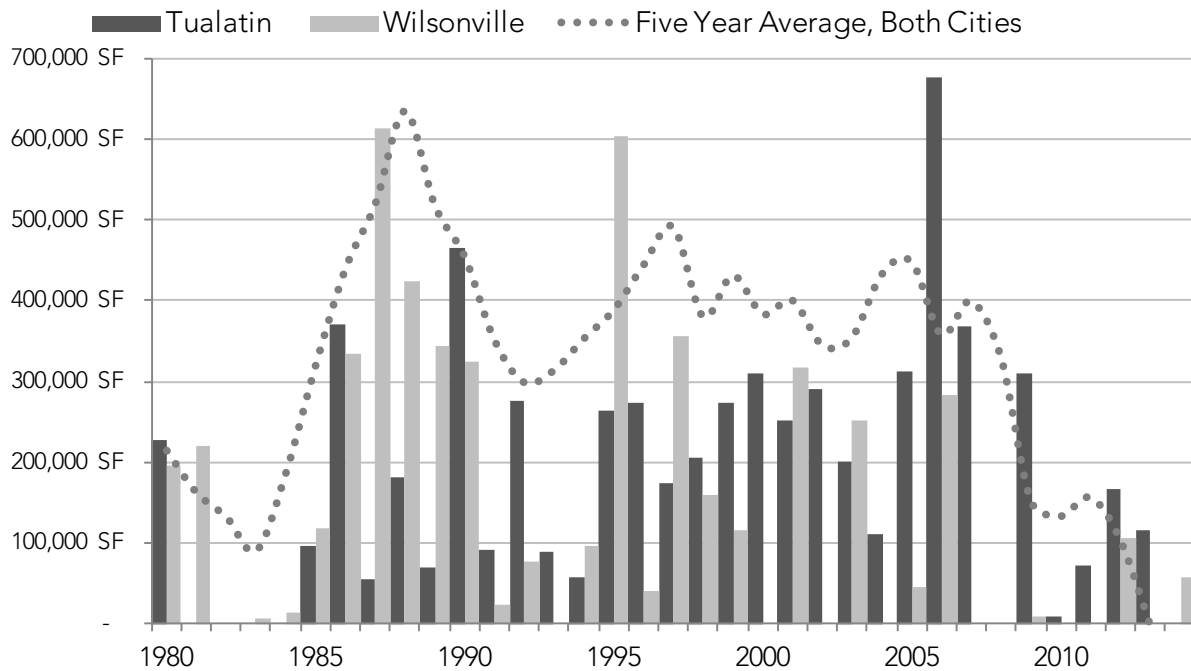


Figure 26 Industrial Development, Tualatin and Wilsonville, 1980 to 2014. Source: CoStar, Leland Consulting Group, 2014.

### Office Development, Tualatin and Wilsonville, 1980 - 2014

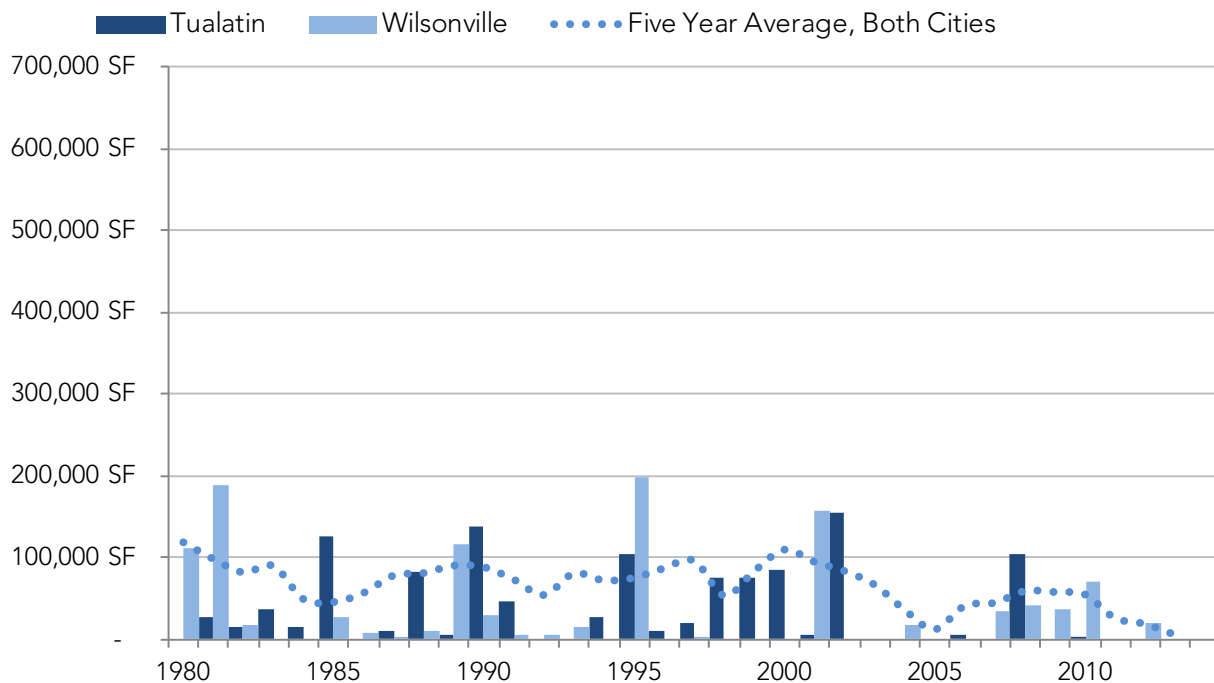


Figure 27 Office Development, Tualatin and Wilsonville, 1980 to 2014. Source: CoStar, Leland Consulting Group, 2014.

The past decade has been a slow period for both industrial and office development. The recession slowed industrial development beginning in 2008, particularly in Wilsonville. The pace of recent industrial development has been about half of development during the 1990s and early 2000s—considered to be a time of robust activity for industrial developers (see Figure 26). Office development has also slowed, although this trend began in 2003, before the recession. Office development in the past decade has also taken place at about half the pace of office development in the 1990s (Figure 27). Clearly, both industrial and office development go through significant peaks and troughs. By focusing on the five-year rolling-average trend line, however, a somewhat more consistent pattern of development can be seen.

#### *Employment Building and Site Attributes*

Table 5 shows some key attributes of industrial and office development in Tualatin and Wilsonville. From looking at these attributes, it can be determined that:

- On average, 43.1 acres of industrial land and 13.6 acres of office land per year have been developed in both cities combined. Wilsonville has seen about 25 acres of employment land development per year, 16.3 acres of industrial land, and 8.3 acres of office land. Tualatin has seen about 32 acres of employment land development per year, 26.8 acres of industrial land, and 5.3 acres of office land. Employment land in Basalt Creek is likely to develop more slowly than this pace because there is less

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developable land in the study area than the cities as a whole. However, development in Tualatin and Wilsonville can be used to gauge the rate of employment land development in Basalt Creek.

- Average industrial building sites (9.1 and 6.5 acres in Tualatin and Wilsonville respectively) tend to be larger than office building sites. Industrial buildings also tend to be larger than office buildings. Floor area ratios (FAR) are helpful to understanding the physical form of buildings on their sites. Most industrial buildings have a FAR of 0.2 to 0.4. Most office buildings have FARs between 0.3 and 0.5; however, there are some newer office buildings in Tualatin that feature structured parking and FARs up to 1.0. These FARs are consistent with Metro’s analysis and future projections.

**Table 5** Attributes of Industrial and Office Development in Tualatin and Wilsonville. Source: CoStar, Leland Consulting Group 2014. SF: Square feet; FAR: Floor area ratio, the ratio of a building’s size in square feet (or gross building area) to the size of the piece of land upon which it is built.

	Industrial			Office		
	Tualatin	Wilsonville	Total	Tualatin	Wilsonville	Total
<b>Total Area (SF)</b>	10,470,000	8,390,000	18,860,000	1,260,000	1,250,000	2,510,000
<b>Av. Annual Development, 1980 - 2014</b>						
<i>Square Feet</i>	186,960	150,980	337,940	34,632	32,985	67,617
<i>Acres</i>	26.8	16.3	43.1	5.3	8.3	13.6
<b>Building Averages, 2000 - 2014</b>						
<i>Square Feet</i>	60,224	80,000	-	31,807	35,000	-
<i>Acres</i>	9.1	6.5	-	4.2	2.0	-
<b>Typical Floor Area Ratios (FAR)</b>	0.2 to 0.4	0.2 to 0.4	-	0.4 to 1.0	0.3 to 0.5	-

It is of note that, while the averages shown here are useful for high-level planning purposes, both industrial and office buildings vary considerably in size, scale, and purpose. For example, the industrial building category includes flex buildings, which can often be divided into 5,000 square foot tenant spaces and feature significant amounts of office and showroom space. The industrial category also includes distribution and warehouse buildings, which can be hundreds of thousands of square feet in size. Sample industrial and office buildings are pictured below in Figures Figure 28, Figure 29 and Figure 30.

### *Typical Industrial Buildings: Office/Distribution and Flex*

The first building pictured below (Figure 28) is located in the Wilsonville Business Center west of I-5 and contains a mix of office space (left foreground) and warehouse/distribution space, where freight trucks are parked. The second building pictured below (Figure 29) is a typical flex industrial building located in the Tualatin Industrial Center, which features high ceiling heights, freight loading, and small, flexible spaces that can serve as a combination of office, showroom, and/or industrial.



Figure 28 Example of typical building with a mix of office space and warehouse/distribution space.



Figure 29 Example of typical flex industrial building, located in Tualatin.

### *Headquarters Office Building (Mentor Graphics)*

The Mentor Graphics building (Figure 30) is located east of I-5 between the Elligsen Road and Wilsonville Road interchanges. Despite its size and height, the FAR of the building is similar to other buildings in the area because of its extensive campus, landscaped areas, and surface parking.



Figure 30 Mentor Graphics Headquarters Office Building in Wilsonville.

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## Office Development Outlook

Office development—nationally and regionally—is not expected to bounce back from the recession with the same resiliency as industrial space. Office development in the short- and long-term faces several challenges. In the short-term, the Portland region’s employment levels have just recovered in 2014 to their pre-recession (2008) levels. While office vacancies are far lower than several years ago, there is not yet market pressure for new development. As Table 6 shows, the region is expected to add just 288,000 square feet of office in 2014, or 0.6% of the total regional inventory of nearly 47 million square feet. Tualatin’s current vacancy rate of 20.5% suggests a soft market, though that space will be occupied in the long term. The market is expected to improve as the region and nation continue to recover from the recession, and businesses grow and add jobs. However, office development is not expected to return to levels seen in the 1990s without a major upturn in the economy.

**Table 6** Current Office Market Summary, Portland Metro Region. Source: CoStar, Leland 2014.

Market	Existing Inventory		Vacancy %	YTD Net Absorption	Under Const. & Complete YTD	Class A Rates
	# Blds	Total RBA				
Portland CBD	374	26,309,983	10.0%	(36,157)	288,000	\$25.58
Lake Oswego/West Linn	142	1,144,080	8.5%	13,170	0	\$25.50
North Beaverton	151	3,246,113	6.7%	37,420	0	\$26.33
Sunset Corridor/Hillsboro	359	10,374,721	6.2%	111,442	0	\$21.53
Tigard	226	3,313,116	10.4%	35,859	0	\$24.27
Tualatin	68	1,263,266	20.5%	10,099	0	\$22.28
Wilsonville	59	1,252,446	7.1%	9,476	0	\$20.50
<b>Totals</b>	<b>1,379</b>	<b>46,903,725</b>		<b>181,309</b>	<b>288,000</b>	

## Tualatin and Wilsonville’s Economic Positioning and Goals

The Cities of Tualatin and Wilsonville are proactively pursuing economic development in order to provide high paying jobs for their residents, strengthen their tax bases, offer quality public services, and enable general prosperity in the communities. The two Cities’ main economic development plans relevant to Basalt Creek are shown in Table 7 below.

**Table 7** Relevant Economic Development Plans. Source: Cities of Tualatin and Wilsonville.

Tualatin	Wilsonville
<ul style="list-style-type: none"> <li>• Economic Development Strategic Plan (2014)</li> <li>• Industry Cluster Analysis (2014)</li> <li>• Linking Tualatin Market Study (2012)</li> <li>• Southwest Tualatin Concept Plan (2010)</li> </ul>	<ul style="list-style-type: none"> <li>• Economic Development Strategy (2012)</li> <li>• Coffee Creek Master Plan (2007)</li> </ul>

## Target Industry Clusters

Tualatin and Wilsonville have both identified a series of targeted industry clusters. According to Tualatin's Industry Cluster Analysis, a cluster is an agglomeration of similar and related businesses and industries that are mutually supportive, regionally competitive, attract capital investment, encourage entrepreneurship, and create jobs. For example, 57% of Tualatin's jobs fall within its five key industry clusters, which also provide wages that are on average 70% (\$35,000) higher than those in all other industries.

Clusters reflect a community's strengths and competitive advantages, suggest which sectors of the economy are most likely to generate jobs in the future, and provide policy makers with guidance about the types of land, buildings, infrastructure improvements, and other actions needed to grow jobs in the future.<sup>23</sup>

Both Tualatin and Wilsonville have determined that they excel in the following three industry clusters<sup>24</sup>:

### *Advanced Manufacturing (and related activities)*

This cluster is a significant driver of both cities' economies. It is Tualatin's largest cluster, accounting for 22% of jobs in the city. It accounts for a significant portion of Wilsonville's economy; computer and electronic product manufacturing was Wilsonville's largest industry sector as of 2012, and includes several of the city's largest employers such as Xerox, TE Connectivity, and Rockwell Collins.

The Oregon Institute of Technology (OIT), now educating students in the engineering, technology, management, and health sciences fields from its Wilsonville campus, is an important anchor institution for the Southwest Metro economy. The Cities are looking for ways to capitalize on OIT's presence and to strengthen partnerships between the school and private businesses.

Growth in this cluster will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to this cluster's continued success.

### *Corporate and Professional Services*

This cluster accounts for 12% of Tualatin's jobs, and was the second-largest industry sector in Wilsonville as of 2012. Major employers include: Portland General Electric (PGE) and Express Employment Professionals in Tualatin, and Mentor Graphics in Wilsonville. Growth in this cluster will result in ongoing demand for office land and buildings in Basalt Creek and other areas. A variety of locational factors tend to be important to corporate and professional service firms, including: a

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<sup>23</sup> Wilsonville's EOA uses the term industry "sectors." The terms cluster and sector are used interchangeably here

<sup>24</sup> The economic figures included below are drawn from the Cities' economic development plans.

skilled workforce, available land or office space, transportation connections, and nearby restaurants and commercial services.

#### *Health Care and Medical-Related.*

This cluster is important in both cities: it is the third-largest in Tualatin and fourth largest in Wilsonville. Tualatin's health care cluster is anchored by Legacy Meridian Park Medical Center (among Tualatin's largest employers), and also includes associated industries such as clinics, laboratories, physician offices, and assisted living centers. Wilsonville's largest health care-related employers (as of completion of the 2012 Economic Development Strategy) were Infinity Rehab and Avamere, both ambulatory (outpatient) service providers. Wages in this cluster are well above average.

Because of the diversity of health care businesses, firms in this cluster can operate in health care-specific zones (such as Tualatin's Medical Center zone), or general employment zones (such as Wilsonville's Planned Development Industrial zone). In some cases, health care firms that serve smaller, more localized populations can locate in retail/commercial zones.

In addition to the three clusters described above that have been identified as targets for both cities, Tualatin and Wilsonville have also identified these industry clusters:

#### *Other Industrial Clusters.*

Both Cities have identified additional industrial target clusters that could locate in the Basalt Creek area. Tualatin has identified two other industry clusters likely to generate demand for industrial land and buildings: food processing and distribution, and wood, paper, printing, and related industrial activities. Wilsonville identified a number of other industrial business types: light manufacturing and warehouse/showroom operations; specialty contractors and construction firms; sustainable product manufacturing and distribution; miscellaneous manufacturing; and wholesale trade.

Growth in these clusters will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to these clusters' ongoing success.

#### *Other Professional and Commercial Services.*

Wilsonville's 2012 Economic Development Strategy also identifies creative services (such as transportation logistics, legal services, management consulting, and accounting) as a target cluster. Similar to corporate and professional services, growth in this cluster should result in demand for office land and buildings in Basalt Creek and other areas.



Figure 31 Lam Research Facility, Tualatin. Photo credit: Tualatin Chamber.

### Sub-Regional Context

Transportation is fundamentally important to these employment areas, and transportation connectivity has the potential to make a whole that is greater than the sum of its parts by enabling firms to trade goods and services easily. I-5 is the most important single transportation corridor. The 124<sup>th</sup> Avenue Extension and East-West Connector will also be very important in knitting the employment areas together. Regional connectivity will be challenged due to the limited access nature of the East-West Connector. This large agglomeration of employment areas has the potential to create economic momentum, and also the potential to be a source of competition for the Basalt Creek area. This is because the areas can project a powerful combined brand, while also competing for individual employers who are looking for sites.

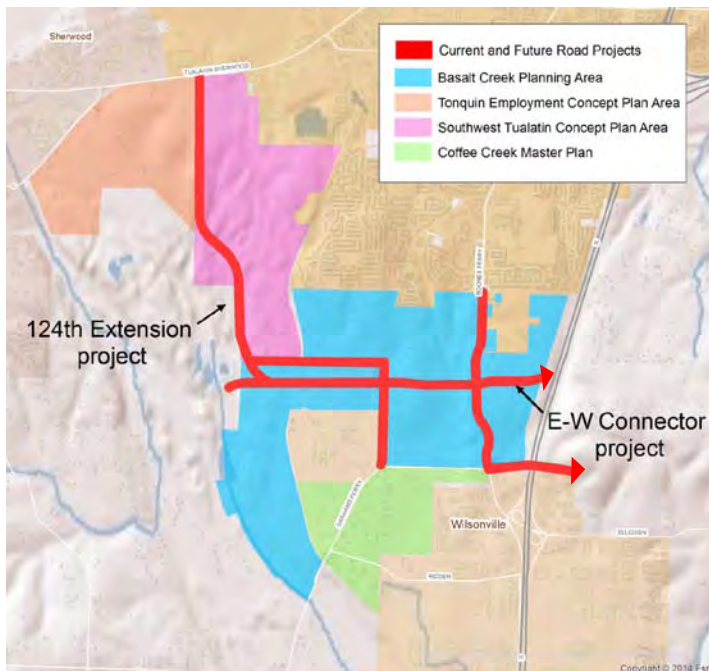


Figure 32 Major TRP road projects in relationship to the Basalt Creek planning area and planned areas nearby Source: Fregonesse Associates 2014.



## Established Employment Areas

The Tualatin and Wilsonville employment areas have capacity for additional businesses and jobs. To the west of I-5, Wilsonville's employment area tends to contain more industrial, manufacturing, distribution, and flex businesses and buildings; to the east of I-5, a larger share of businesses are office-based professional service firms, such as Mentor Graphics and Xerox Corporation. However, the zoning is the same (Planned Development Industrial) throughout the entire Wilsonville employment area.

## Planned Employment Areas

Southwest Tualatin, Tonquin Employment Area, and Coffee Creek are planned employment areas located within the UGB that have yet to be served by infrastructure or see new private development. Annexation and development in the areas are property-owner initiated. The following summarizes the current activity in each of the planning areas.

- The Southwest Tualatin concept plan area: Most of the area remains an active quarry; the City expects this use to continue for an indeterminate period.
- The Coffee Creek industrial area: No development or annexation has taken place in Coffee Creek since the adoption of the master plan; land assemblage challenges, and lack of City services and a financing plan to build those services are the primary obstacles to development here.
- The Tonquin employment area is a 300-gross-acre area located in the City of Sherwood. It is planned for light industrial development with a small amount of ancillary retail/commercial services.

## Employment Strengths and Challenges

Basalt Creek's primary strengths/competitive advantages and challenges vis-à-vis industrial and office development are as follows:

### *Strengths and Competitive Advantages*

- Tualatin and Wilsonville's established and successful industry clusters in advanced manufacturing, professional services, and a variety of other industrial and office-based employment categories. Large contiguous cluster of existing and planned employment areas.
- Excellent access to I-5, as well as I-205 and Highway 217. Additional transportation strengths include existing and planned arterial roads, and local and regional transit service provided by TriMet, WES Commuter Rail, and SMART.
- Educated workforce
- Market success of recent industrial, office, and retail developments

### *Challenges*

- Vision and regulation. This Concept Plan and subsequent Comprehensive Plan and zoning amendments need to be in place prior to development.
- Planning, financing, and construction of new infrastructure. This is because roads, water, sanitary sewer, and other infrastructure for urban expansion areas are expensive. Cities are often focused on maintaining and improving existing infrastructure and therefore do not budget to make extensive extensions. Developers of individual sites typically cannot afford to build out a comprehensive set of infrastructure to serve multiple properties.
- Lot sizes and property aggregation. There is a mix of large and small lots throughout the Basalt Creek area. The time and cost required to secure properties from multiple parties in order to aggregate developable industrial or office properties of adequate size can be a significant deterrent to developers.
- Natural features including wetlands and slopes. Basalt Creek and its surrounding slopes and wetland areas run north-south through the planning area, dividing it into east and west sections.
- The market for new office development continues to be slow. However, the planning area will not be ready for private development for several years, which may allow enough time for this market to recover.

### Housing Market Analysis

#### *Demographic Context*

The City of Tualatin, compared to the Portland Metropolitan Statistical Area (MSA), has a higher percentage of family households (two or more related people), larger average households, higher household incomes, and higher per capita incomes. A larger share of residents has college degrees (42.3%) and is employed in white collar jobs (67.5%) compared to the region. Tables Table 8, Table 9 and Table 10 provide additional perspective on the demographics of the subject cities compared to the Portland MSA.

Wilsonville, compared to the Portland MSA, has a higher percentage of family households and smaller households--likely because the city has a higher share of young households (in the 25-34 age category) and seniors, Baby Boomers, and retirees. Each age group has different housing preferences. Wilsonville also has a larger share of residents with college degrees (39.3%) and white collar jobs (70.1%).<sup>25</sup>

While the Basalt Creek market area includes both Tualatin and Wilsonville, its demographics are generally more similar to those in Tualatin. When compared to the Portland MSA, the market area has a

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<sup>25</sup> Data shows information about *jobs held by residents of the given geographical areas*, not the jobs within those areas

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higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs. In general, these demographics are favorable to housing development in the Basalt Creek area; they also reflect the types of residents most likely to locate in the planning area.

**Table 8** Demographic Summary of the Basalt Creek planning area. Source: ESRI Business Analyst, Leland Consulting Group. 2014 Data except where noted.

	Tualatin	Wilsonville	Basalt Creek
<b>Comparison to Portland MSA:</b>	<ul style="list-style-type: none"> <li>• More families</li> <li>• Larger HHs</li> <li>• Higher HH Income</li> <li>• Higher PC Income</li> <li>• More college degrees</li> <li>• More white collar emp.</li> </ul>	<ul style="list-style-type: none"> <li>• Fewer families</li> <li>• Smaller HHs</li> <li>• More Gen Y</li> <li>• More Boomers</li> <li>• More low-income HHs</li> <li>• More college degrees</li> <li>• More white collar emp.</li> </ul>	<ul style="list-style-type: none"> <li>• More families</li> <li>• Larger HHs</li> <li>• Higher HH incomes</li> <li>• Higher PC incomes</li> <li>• More college degrees</li> <li>• More white collar emp.</li> </ul>

**Table 9** Demographic Summary of the Basalt Creek planning area (Continued). Source: ESRI Business Analyst, Leland Consulting Group. 2014 Data except where noted.

Demographic Attribute	Tualatin	Wilsonville	Basalt Creek	Portland MSA
<b>Population</b>	26,520	21,235	73,786	2,296,285
<b>Number of Households</b>	10,170	8,638	28,121	896,982
<b>Family Households (2010 Census)</b>	68%	59%	68%	64%
<b>Household Size (Average)</b>	2.60	2.32	2.57	2.52
<b>Household by Size (2010 Census)</b>				
1 and 2 person	57%	68%	58%	61%
3 and 4 person	33%	25%	32%	29%
5 + person	10%	7%	10%	10%
<b>Median Household Income</b>	\$64,324	\$59,812	\$70,256	\$57,441
<b>Per Capita Income</b>	\$32,672	\$31,995	\$33,336	\$30,135
<b>Population By Age</b>				
0 to 24	35%	31%	34%	32%
25 - 34	14%	16%	13%	15%
35 - 44	15%	14%	15%	14%
45 to 54	14%	13%	14%	14%
55 to 64	13%	11%	12%	13%
65 +	9%	15%	11%	13%
<b>Median Age</b>	35.7	37.0	36.6	37.5

Key:  Low  High

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**Table 10** Demographic Summary of the Basalt Creek planning area (Continued). Source: ESRI, Leland Consulting Group. 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	Basalt Creek Market Area	Portland MSA
<b>Education and Employment</b>				
Less than High School	9.7%	8.0%	8.0%	9.4%
High School or Equivalent	16.5%	20.4%	18.2%	22.1%
Associate's or some college	31.5%	32.3%	32.5%	34.2%
Bachelor's or Advanced Degree	42.3%	39.3%	41.3%	34.3%
<b>Occupation</b>				
"White Collar"	67.5%	70.1%	69.3%	63.1%
"Blue Collar"	11.3%	14.1%	13.5%	19.5%
<b>Housing</b>				
Median Home Value	\$331,190	\$349,927	\$337,289	\$275,516
<b>Housing Tenure</b>				
Owner Occupied Housing Units	51.9%	43.4%	55.0%	56.2%
Renter Occupied Housing Units	42.6%	50.5%	39.8%	37.7%

Key: Low High

Finally, the South Tualatin residential neighborhoods immediately to the north of Basalt Creek reflect many of the demographic attributes typical of Tualatin’s population. The neighborhoods—including low volume local roads, street trees, parks, and schools—create a positive environment for residential development within the Basalt Creek area, particularly along the northern edge.

## Recent Housing Development

Table 11 below shows the recent residential permitting trends in the cities of Tualatin and Wilsonville, and in Villebois, a master-planned community in Wilsonville. Villebois is shown here because: it is the largest master planned community (482 acres) that has been developed recently in the Southwest Metro area; it is a defined area that has been planned to include a range of housing, parks, and commercial services; due to its success in the marketplace in recent years, housing absorption has been relatively rapid (adjusting for the recession), and many houses sell for a premium when compared to the competition in other areas. Naturally, recent housing built in these areas provides one benchmark from which to estimate future demand.

As Table 11 shows, the housing types that have been permitted and built in these areas correlate closely to the types of people and households who live there; the housing types also likely reflect zoning and other regulatory and market forces. Recent housing permitted in Tualatin is composed largely of large- and medium-lot single-family housing. No small lot single-family housing (lots smaller than 4,000 square feet) or attached single-family housing has been permitted since 2004. About 20% of the recently permitted housing in Tualatin is multifamily—market rate and affordable apartments, condominiums,

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and senior housing. Very little existing multifamily housing is located in the neighborhoods immediately north of Basalt Creek; most of Tualatin’s multifamily housing is clustered further north near downtown Tualatin, between Tualatin-Sherwood Road and Avery Street, and the Bridgeport Village area. The majority were built prior to 2000, although the 367-unit Eddyline at Bridgeport (under construction) is a notable exception. Historically, this multifamily share is relatively typical; multifamily has comprised about 20% of total housing in many communities during the past five decades.

Wilsonville’s housing is more diverse and features a significantly higher percentage of small lot single-family and multifamily housing, and much less large- and medium-lot single-family housing. Again, this is likely to due to market, demographic, and regulatory reasons. The broad housing mix reflects the presence and growth of the four “S groups” in Wilsonville: seniors, singles, single-parent households, and starter households. The large multifamily share (66%) is partially due to the large number of new 20- and 30-something households recently formed, which will slow in coming years. Villebois’ housing mix is similar to that in Wilsonville overall. However, during the time period surveyed (2000 to 2012) a larger percentage of small-lot single-family homes, townhouses and duplexes were built in Villebois, along with a smaller percentage of multifamily housing. Villebois’ developers and National Association of Realtors (NAR) surveys show that most American households, Baby Boomers included, prefer single-family homes over multifamily homes, but that they are quite open to smaller lot and home sizes, especially when the surrounding neighborhood is attractive and walkable.

**Table 11** Residential Development in Tualatin and Wilsonville by Housing Type. Sources: HUD; City of Wilsonville, New Home Trends, Leland Consulting Group. Due to data availability, Table 12 shows housing built in Tualatin between 2004 and 2014; and permits issued in Wilsonville between 2000 and 2012.

Housing Type	Tualatin	Wilsonville	Villebois
	Recent Permits	Recent Permits	Recent Permits
Large Lot Single Family	44%	9%	8%
Medium Lot Single Family	36%	10%	8%
Small Lot Single Family	0%	12%	35%
Attached Single Family	0%	2%	6%
Multifamily	20%	66%	43%
<b>Total</b>	100%	100%	100%

### Retail/Commercial Market Analysis

In addition to new residents and employees that may locate in the Basalt Creek area, the residents of the Tualatin neighborhoods located immediately to the north are important sources of support for retail. Residents spend more of their retail dollars locally than employees or passersby, and therefore are generally a more important source of demand for retail goods and services. Approximately 4,000

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households live in the area between Norwood Road and Tualatin-Sherwood Road. These households already have other places to shop, particularly on and near Tualatin-Sherwood Road. However, based on existing traffic counts and interviews with residents and developers, it is clear that some of these residents are already accustomed to driving south through the Basalt Creek area to access I-5 or other destinations.

Retailers also look at traffic counts as an important demand indicator, since retail relies on pass-by traffic for support. Boones Ferry Road carries average daily traffic (ADT) of about 15,000 in 2014<sup>26</sup>, which is high enough to suggest that it will be a good retail location in the future. Traffic counts on Grahams Ferry Road are below 6,000 ADT, and therefore it is likely to be a less desirable retail location. Traffic counts such as these likely reflect trips being made by residents and employees of the Southwest Metro area and beyond. The 124<sup>th</sup> Avenue Extension, which will be built to the western edge of the study area, and the planned East-West Connector Road that will run across the study area, are also important transportation arterials along which retail will seek to locate. A prime location for retail may be at the intersection of Boones Ferry Road and the East-West Connector Road.

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<sup>26</sup> Source: ESRI Business Analyst, 2014

## VI. Infrastructure

The objective of this section is to identify existing stormwater, wastewater conveyance and treatment, and potable water infrastructure that could be used to provide services for the Basalt Creek planning area. Existing jurisdictions and service agreements are also described, in addition to discussion of important areas of special consideration in and near existing receiving waters.

### Policy Guidance on Infrastructure

The discussion in this section is framed by the Cities' desire to have a better understanding of how provision of services such as wastewater collection and treatment and potable water distribution serving Basalt Creek can function in the most efficient and economical manner.

Specifically the Cities are interested in determining, from a technical standpoint, if wastewater can be conveyed and treated more efficiently and cost-effectively by relying on gravity or if pump stations are more appropriate. This should consider improvement costs related to the collection systems (such as incremental pipe capacity needs in both cities; pump station construction, long term operations and maintenance costs; and treatment capacity needs at both treatment plants). Should pump stations be less desirable from a technical standpoint, what are non-technical issues that would need to be resolved? Part of answering this question is to identify where specific areas of Basalt Creek naturally drain and whether it makes sense from a technical point of view for wastewater to cross jurisdiction boundaries. This evaluation raises a policy question for the City of Wilsonville of whether or not they are willing to collect and treat wastewater that could be generated by land outside of their City supposing the service lines and jurisdictional lines are not the same.

Additionally, the Cities desire to evaluate and determine if there are efficiencies for the water system if the source of water is from the Willamette River. Another topic to explore is if it is a good idea to interconnect the two systems. The Cities are asking if it makes more sense to provide water services to Basalt Creek from the south rather than from the City of Tualatin's existing system. This exploration presents another policy question for the City of Tualatin about accepting water from the Willamette River.

### Stormwater Infrastructure

Existing stormwater infrastructure within the Basalt Creek planning area consists of roadside drainage ditches and culverts. Culverts in the planning area are under the jurisdiction of Washington County and range from 12 to 30 inches, as shown in Figure 33. It is assumed that the existing culverts may not have capacity for future urban conditions and will need to be upsized to provide adequate capacity for runoff from new impervious areas, unless onsite detention or infiltration is required. Roadway drainage for SW Boones Ferry Road was recently transferred from the jurisdiction of Oregon Department of Transportation (ODOT) to that of Washington County, but the County does not yet have the

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geographical information system (GIS) data available. Culverts to the south of the planning area are part of the City of Wilsonville stormwater system.

Basalt Creek itself flows to the south into Wilsonville as part of the Coffee Lake Creek basin. Basalt Creek discharges into the Coffee Lake wetlands. Coffee Lake Creek flows south from the wetlands and combines with Arrowhead Creek before discharging to the Willamette River.

Existing stormwater drainage basins based on existing topography and infrastructure are also shown in Figure 33, along with Oregon State Planning Goal 5, Significant Resource Areas near receiving waters. As can be seen in Figure 33, large portions of the planning area are Significant Resource Areas. The City of Tualatin has jurisdiction over the stormwater conveyance system to the north of the planning area.

The City of Tualatin is a co-permittee of Clean Water Services (CWS) watershed-based National Pollutant Discharge Elimination System (NPDES) permit, which includes the municipal separate storm sewer system (MS4) stormwater discharge permit. The City of Tualatin owns and operates the stormwater system within the city.

The City of Wilsonville owns and operates the public stormwater conveyance system to the south of the planning area. The City of Wilsonville is an NPDES MS4 co-permittee with Clackamas County and twelve other cities and service districts within the County (Permit Number 101348).

The City of Wilsonville's 2012 Stormwater Master Plan identifies a capital improvement project to restore a portion of the Basalt Creek channel to increase capacity to accommodate impacts caused by a reverse grade south of Day Road near the Commerce Circle area. The project is programmed for mid-term (6 to 10 years) implementation in the July 2014 Prioritized Stormwater Capital Improvement Plan (July 2014 Prioritized Project list). The master plan also identifies a regional detention facility to serve an area that includes the Basalt Creek planning area. This project is identified in the July 2014 Prioritized Project List as a long-term project (10 to 20 years).

Locations where stormwater runoff from the Basalt Creek plan area could connect to existing stormwater infrastructure in the future are shown in Figure 33 and summarized in Table 12. Should these locations be considered to receive stormwater discharge from the Basalt Creek plan area, the downstream conveyance system will need to be evaluated for capacity and condition.

### Wastewater Infrastructure

Currently, no sewer service is provided to the planning area. Existing homes are, therefore, assumed to be using individually permitted and managed septic systems, but a public records request has not been made to confirm this assumption for each property in the planning area.

#### Wastewater Collection and Conveyance

Wastewater conveyance to the north of the planning area is under the jurisdiction of the City of Tualatin, who maintains a service agreement with CWS for wastewater collection and treatment at the Durham Advanced Wastewater Treatment Facility located at 16060 SW 85th Avenue in Tigard, a straight line distance of approximately 2.5 miles north of the Basalt Creek planning area. The City owns the



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wastewater conveyance system (up to 18-inch diameter) within the City, while CWS owns larger pipes, pump stations, force mains, and treatment facilities.

Eight gravity mains exist near the north planning area boundary and could provide connection points for wastewater from the Basalt Creek plan area into the Tualatin collection system. The 200 gpm Victoria Woods Pump Station and associated force main are also located just to the north of the planning area boundary, west of the southern end of SW Eno Place. From these connection points, wastewater flows by gravity toward the treatment plant, crossing the Tualatin River via the Lower Tualatin Pump Station in Tualatin Community Park and associated force main. Pumping would be required to lift flows from the planning area into the existing gravity system.

Wastewater conveyance to the south of the planning area is under jurisdiction of the City of Wilsonville. Wastewater from the City of Wilsonville is conveyed to and treated at the Wilsonville Wastewater Treatment Plant located at 9275 SW Tauchman Street, approximately 3.2 miles south of the planning area.

The City of Wilsonville's Coffee Creek Industrial Area Plan identifies a new sanitary main line to be constructed in a future segment of Kinsman Road between Ridder and Day Roads. These lines are intended to provide conveyance of wastewater within the Coffee Creek area and are also intended to serve flows from the Basalt Creek planning area. Three existing possible connection points into the Wilsonville collection system were also identified. From these connection points, wastewater flows by gravity to the Wilsonville Wastewater Treatment Plant. The ongoing Sanitary Sewer Collection System Master Plan project has analyzed a range of flows from the planning area to identify trunk capacity, pipe size, and improvements needed to accept flow from the planning area. Connection Point 10 at Pioneer Road in Commerce Circle would require a lift station to deliver flow from the planning area into the Wilsonville system.

A brief description and location of the eight potential points of connection to the Tualatin conveyance system and three existing potential points of connection to the Wilsonville conveyance systems are shown in Figure 34 and summarized in Table 13. Wilsonville's planned sanitary main line in Kinsman Road is also shown in Figure 34.

### Consideration of the Basalt Creek Planning Area in Sanitary Sewer Master Plans

The *Tualatin Sanitary Sewer Master Plan Update* has been put on hold until the Basalt Creek planning process is complete. The City of Wilsonville is in the process of updating its Sanitary Sewer Collection Systems Master Plan (MSA, 2014) and is including Basalt Creek as a contributing area. The resulting updated master plans will identify improvements needed to increase the capacity of each system to convey flow from the Basalt Creek planning area.

Clean Water Services conducted a system capacity evaluation to accept flows from the Basalt Creek planning area and the SW Concept Plan Area in addition to flows from the City of Tualatin (CH2M HILL, 2012). This study assumed that flow contributions would be routed to the Sherwood trunk line (located north of Tualatin-Sherwood Road) rather than through local service lines. A lift station would be required to convey flow from the Basalt Creek area to the Sherwood trunk line. The distribution of flow

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to each of the cities and where connections need to be made will be determined as part of the Basalt Creek Concept Plan.

### Wastewater Treatment

The nearest treatment facility to the north of the planning area is the CWS Durham Advanced Wastewater Treatment Facility (AWTF). This facility currently receives about 22.6 million gallons per day (mgd) in dry weather flow (CWS, 2013). Future flow projections, updated in 2011, did not include any areas outside of the existing Durham AWTF service area (CH2M HILL, 2011). Therefore, treatment of Basalt Creek wastewater flows at the Durham facility will require review of the plant capacity and analysis of impacts to level of service within the existing service area. In addition, expansion of the service district area to include the Basalt Creek planning area (or any portions thereof) needs to be evaluated.

The nearest treatment facility to the south of the planning area is the City of Wilsonville Wastewater Treatment Plant (WWTP). This facility was recently expanded to an average dry weather flow capacity of 4 mgd, with flow projections and design bases of improvements accounting for an ultimate buildout capacity of 7 mgd. The current 4 mgd is capacity designed to accommodate growth within the current city limits, and the 7 mgd buildout capacity is designed to accommodate additional growth areas outside the city limits. Expansion to 7 mgd can be achieved by adding a third primary clarifier and adding a membrane bioreactor to the aeration basins. Approximately half (300 acres) of the Basalt Creek planning area (identified as the “North Wilsonville” area in the technical assessments) was accounted for in the year 2030 buildout capacity assessment (7 mgd). Early development of the Basalt Creek planning area, in conjunction with other planned developments will require review of the timing of the next WWTP expansion phase.

### Potable Water Infrastructure

The delivery of potable water to customers is impacted by many factors. Of the many requirements, pressure and flow are two that are closely tied and impact all water infrastructure decisions. Residential water service typically has a minimum pressure of 30 pounds per square inch (psi) and a maximum dictated by plumbing code of 80 psi. The pressure in a gravity fed system similar to the Wilsonville and Tualatin systems is constantly fluctuating based on the demand on the system at any given time. As demand goes up, reservoir levels go down, causing pressure in the system to be reduced. When demand reduces, water is placed/pumped back into the reservoirs, bringing the system pressure back. Storage requirements on a system are driven by customer demand and fire flow requirements because these reservoirs are not only providing system pressure, but also emergency storage.

In order to evaluate how the Basalt Creek area will be served with water, the existing City of Wilsonville and City of Tualatin Water Master Plans were reviewed. Below is a summary of the information gathered from those reports, and how that might impact water service to the Basalt Creek planning area.

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## City of Tualatin

The City of Tualatin water system currently provides drinking water to approximately 26,000 people, through 6,700 residential, commercial, industrial and municipal connections. The system consists of four hydraulically connected pressure zones that include five steel storage reservoirs with a combined storage capacity of 13 MG. A sixth storage reservoir with an additional 1.0 MG capacity (in level C) is anticipated to be online in fall 2015. The water supply is purchased wholesale from the Portland Water Bureau with a maximum available capacity of 10.8 mgd. The current (2013) MDD is 9.5 mgd, providing approximately 1.3 mgd of excess capacity at this time. Projected MDD in 2039, without the Basalt Creek planning area, is 14.2 mgd. Table 14 shows the City's existing pressure zones.

## City of Wilsonville

The City of Wilsonville's water system currently provides drinking water to approximately 21,000 people. The system consists of three hydraulically connected services areas (A, B, and C) supplied by three steel storage reservoirs and a small underground concrete reservoir (Charbonneau) with a capacity of 7.6 million gallons (MG). Table 15 shows the capacity and hydraulic grade of each of the pressure zones.

The water supply source is the Willamette River Water Treatment Plant jointly owned by the City of Wilsonville and the Tualatin Valley Water District (TVWD). The plant has a current rated capacity of 15 mgd, but the buildings and piping and some of the unit processes were designed for an ultimate supply capacity of 70 mgd, with Wilsonville owning 20 mgd and TVWD owning 50 mgd of that capacity. The plant was designed for on-site expansion. TVWD sold 5.0 mgd of treated water capacity to the City of Sherwood in 2006. Based on Wilsonville's 2012 Water Master Plan, projected (2020) maximum day demands (MDDs) for the plant is 14.9 mgd, which includes the 5.0 mgd delivery to Sherwood, plus a 0.75 mgd allowance for new industrial users.

## Basalt Creek Planning Area

The Basalt Creek planning area currently has no municipal water infrastructure in place. The area topography ranges from approximately 250 feet above mean sea level (msl) to a maximum elevation of 350 feet msl. Based on the topography, the Basalt Creek planning area could be served from the south through The City of Wilsonville's distribution system (Pressure Zones B and C) or from the north through the City of Tualatin's distribution system from Pressure Zone B and C. Lower elevations of the Basalt Creek planning area (below elevation 285) can be adequately served by Wilsonville's Pressure Zone B through existing 15-inch and 18-inch distribution lines that are adjacent to the area. A political factor in determining service boundaries is Tualatin's requirement for a public vote before switching to water supply from the Willamette River; the City currently receives its potable water primarily from the Bull Run reservoir near Mount Hood. A vote would only be required if Willamette River water was used to serve a part of Basalt Creek that ended up within Tualatin's jurisdiction.

Tualatin's and Wilsonville's Pressure Zone C reservoirs are located adjacent to each other on the East Side of I-5. The I-5 pipe crossings that connect to these reservoirs are in different locations. Analysis

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needs to be completed to determine if the existing pipe configurations from each of these reservoirs provide adequate pressures to serve the higher elevations of Basalt Creek with emergency water demands. To provide for the additional flow to these higher elevations, it may be necessary to add booster pumping capacity within each City's water system. The City of Wilsonville master plan identifies a future I-5 crossing for their Zone C reservoir as well as a future Pressure Zone D reservoir that would address pressure needs to the higher elevations. Figure 35 identifies the potential pressure zones and existing adjacent infrastructure.

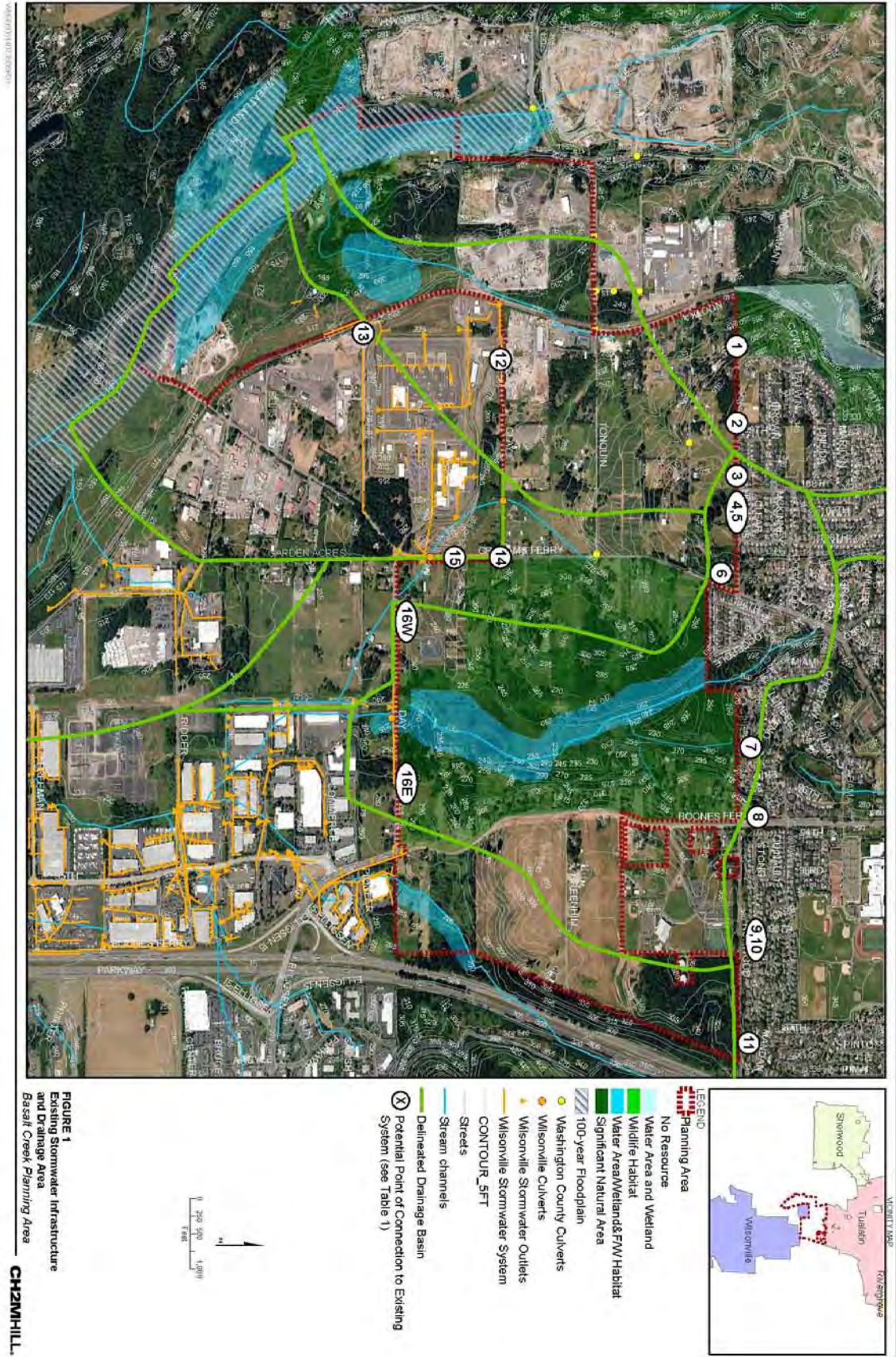


Figure 33 Existing Stormwater Infrastructure and Drainage Area near the Basalt Creek planning area  
Source: CH2M Hill, 2014

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**Table 12** Potential Points of Connection to Existing Stormwater Facilities for the Basalt Creek planning area. Source: CH2M Hill 2014.

Map ID	Description	Location	Outlet	
1	12-inch PVC	112 <sup>th</sup> Ave.	Outfall at SW Cowlitz Dr. to Kolk Pond, approximately 900 feet from planning area.	
2	12-inch PVC	109 <sup>th</sup> Ave. and in Helenius Rd. to the east of	Detention facility at SW Helenius Rd. between 109 <sup>th</sup> Ave. and SW 108 <sup>th</sup> Ave.	
3	12-inch PVC	108 <sup>th</sup> Ave.	Connection Points 3 through 6 all outlet to Basalt Creek, which runs through the eastern portion of the planning area. The outfall is located west of Lodgepole Rd. Basalt Creek runs south through the planning area, then through piped and natural channels for approximately 3 miles to the confluence with Coffee Lake Creek, which then flows another 1.5 miles through natural and straightened channels to the Willamette River. Basalt Creek forms a part of the City of Wilsonville's stormwater drainage system.	
4	12-inch PVC	106 <sup>th</sup> Ave.		
5	12-inch PVC	Helenius Rd., east of 106 <sup>th</sup> Ave.		
6	12-inch PVC	Grahams Ferry Rd. at Whitebark Ln. and at Helenius St.		
7	Detention and/or water quality facilities	South of Eno Pl. and Erio Pl.		Both facilities outlet to Basalt Creek.
8	15-inch ADS	Boones Ferry Rd. at Stono Dr.		Connection Points 8 through 10 ultimately outfall to a natural watercourse approximately 0.5 mile to the north of the planning area near Columbia Dr. and Chehalis St. in Tualatin. This watercourse then flows north for approximately 2.5 miles through natural and piped conveyance to the Tualatin River.
9	15-inch CSP	Stono Dr. between Boones Ferry Rd. and 89 <sup>th</sup> Pl.		
10	18-inch CSP	89 <sup>th</sup> Pl.		
11	12-inch CSP	Mandan Dr.	Outfalls at the Chieftain/Dakota Greenway outfall to a natural watercourse, which then flows 2.6 miles northeast to the Tualatin River.	
12	12-inch capped lateral (N)	Clay Rd.	Capped lateral connects to 12-inch main line in Clay Rd., which connects to private 12-inch line. This system outlets to a tributary of Coffee Lake Creek.	
13	42-inch pipe	Cahalin Rd. south of Coffee Creek Correctional Facility	Outlets to a tributary to Coffee Lake Creek, 3.4 miles upstream of the Willamette River (via natural and straightened reaches).	
14	12-inch capped laterals (N and E)	Intersection of Grahams Ferry Rd. and Clay Rd.	Two capped laterals connected to 12-inch main line in Grahams Ferry Road. Outlets to Basalt Creek tributary crossing north of Day Rd.	
15	12-inch capped laterals (E)	Grahams Ferry Rd. between Clay Rd. and Day Rd.	Two capped laterals connected to main line in Grahams Ferry Rd, connected to 12-inch main line, which outlets to Basalt Creek tributary	

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Map ID	Description	Location	Outlet
16E and 16W	12-inch and 15-inch pipe	Day Rd, east of Grahams Ferry Rd.	crossing north of Day Rd. 12-inch pipe connects curb inlets east and west of Basalt Creek culverts to 15-inch main line, which outlets to detention/water quality facility west of the Basalt Creek culverts, then connects to open and piped Basalt Creek channel to join Coffee Lake Creek after approximately 2 miles, which then flows an additional approximately 1.75 miles to the Willamette River.

ADS = Advanced Drainage Systems; CSP = corrugated steel pipe; PVC = polyvinyl chloride.

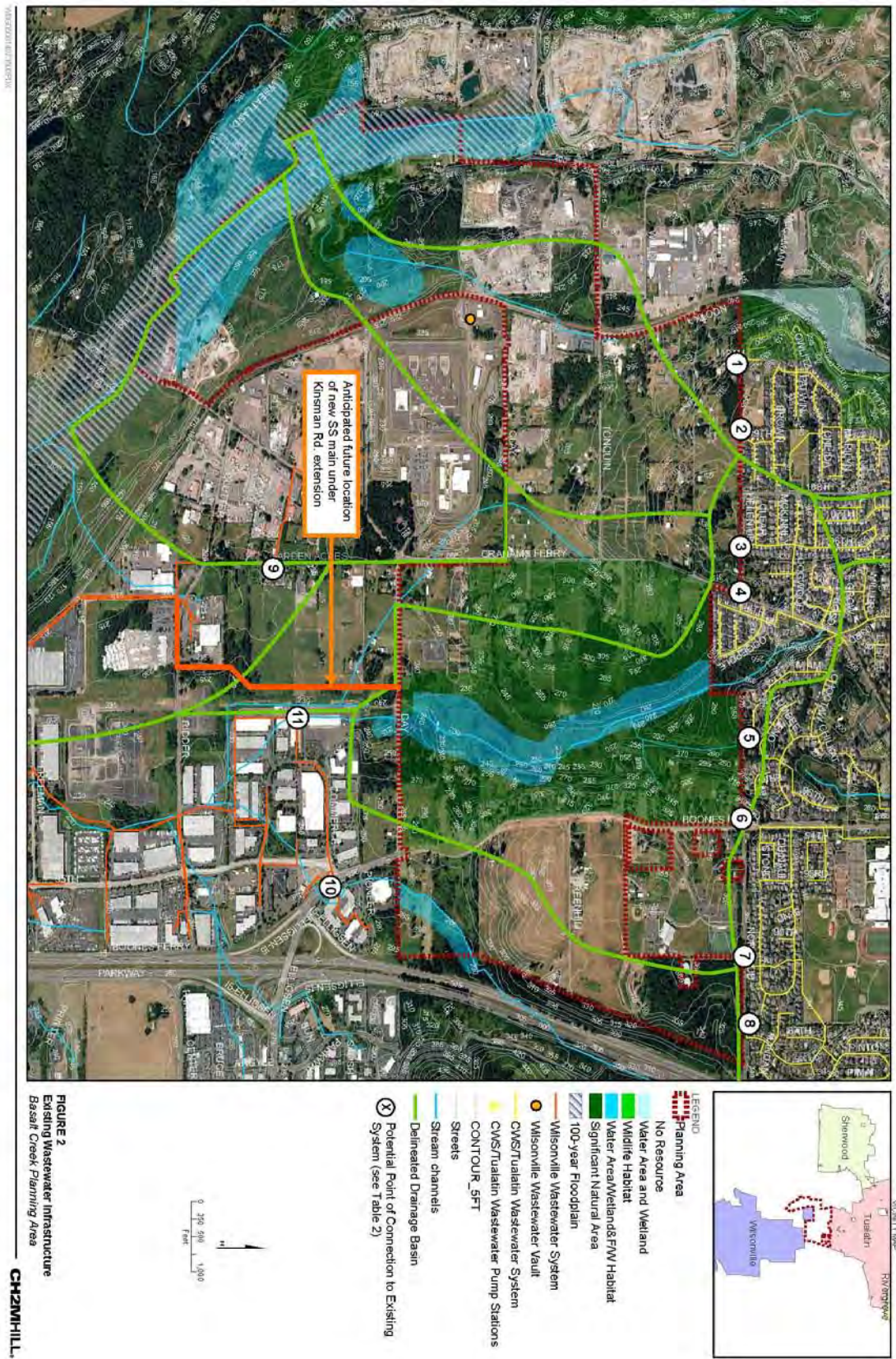


Figure 34 Map of Existing Wastewater Infrastructure near the Basalt Creek planning area. Source: CH2M Hill 2014.



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**Table 13** Potential Points of Connection to Existing Wastewater Systems for the Basalt Creek planning area. Source: CH2M Hill 2014.

Map ID	Facility Description	Location
1	10-inch gravity main	112 <sup>th</sup> Ave.
2	8-inch gravity main	109 <sup>th</sup> Ave.
3	8-inch gravity main	106 <sup>th</sup> Ave.
4	8-inch gravity main	Grahams Ferry Rd. @SW Helenius Rd
5	Victoria Woods Pump Station	Eno Pl.
6	8-inch gravity main	Boones Ferry Rd.
7	8-inch gravity main	Southwest of the intersection of Norwood Ave. and 89 <sup>th</sup> Ave.
8	8-inch gravity main	Vermillion Dr.
9	18-inch gravity main	Garden Acres Rd.
10	8-inch gravity main	Boones Ferry Rd. at Pioneer Court (Commerce Circle area)
11	12-inch gravity main	West of Commerce Circle

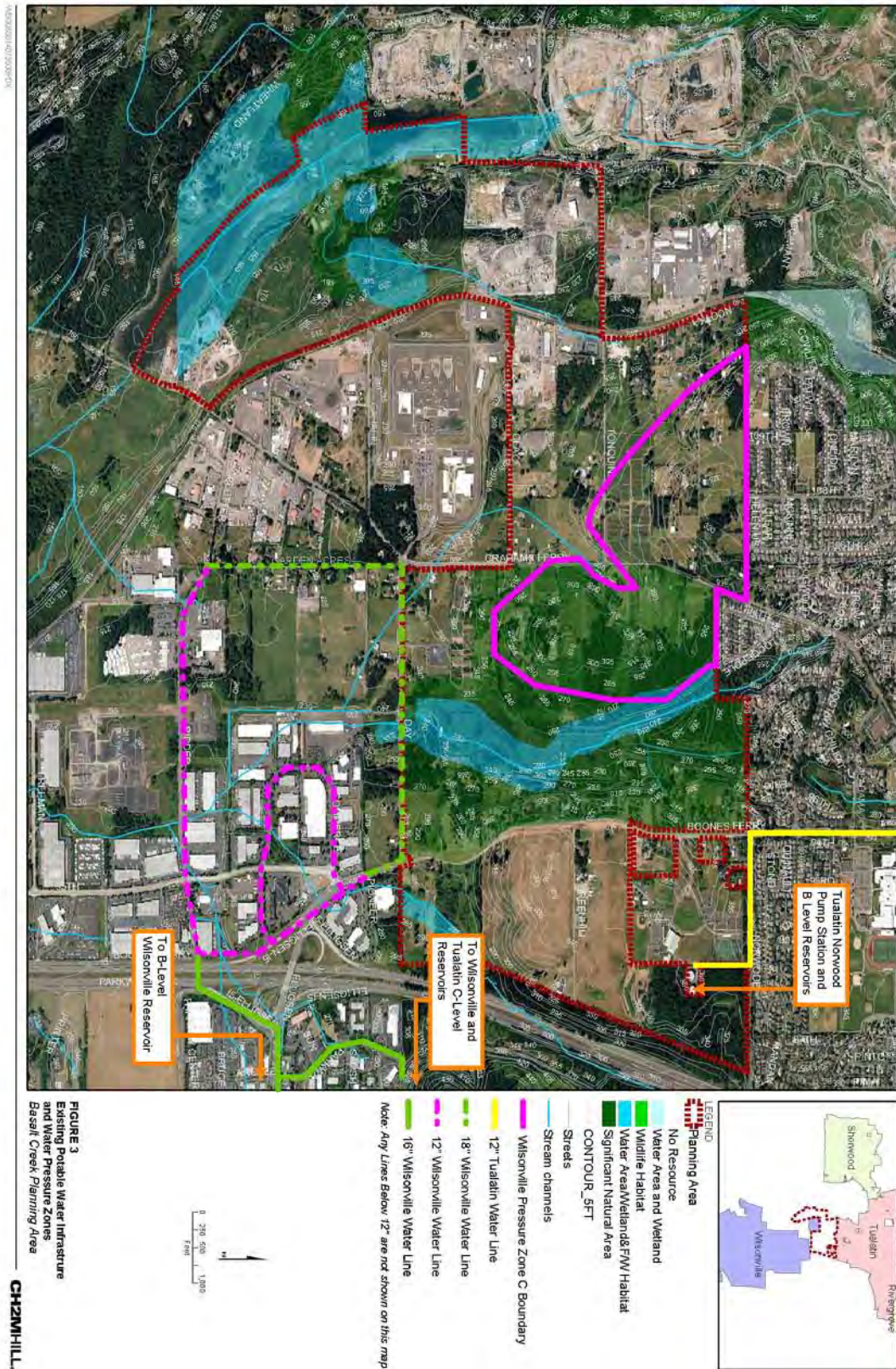


Figure 35 Map of existing potable water infrastructure and water pressure zones in and near Basalt Creek planning area. Source: CH2M Hill 2014.

Table 14 City of Tualatin Water System—Existing Pressure Zones. Source: CH2M Hill 2014.

Pressure Zone	Maximum/Minimum Hydraulic Grade Line (feet mean sea level)	Storage Volume (million gallons)
A	295	7.2
B	399	5.0
C	506	1.8
Bridgeport	360	-

Table 15 City of Wilsonville Water System—Existing Pressure Zones. Source: CH2M Hill 2014.

Pressure Zone	Static Hydraulic Grade Line (feet mean sea level)	Storage Volume (million gallons)
A	320	0.6
B	400	5
C	506	2

## VII. Transportation

This section documents the existing transportation system and presents the planned transportation system developed as part of the Basalt Creek Transportation Refinement Plan (TRP). The purpose of the TRP was to identify a major transportation connection between 99W and I-5, in furtherance of the I-5/99W Connector Studies which call for additional east-west traffic alternatives. The plan provides 18 transportation investments broken into short, medium and long term phases, all of which are critical to ensuring that the transportation network functions at acceptable levels over time. The key element is the East-West Connector to 124<sup>th</sup> Avenue extension. This section discusses the pedestrian and bicycle existing and planned facilities, the current transit system and planned improvements to transit, and details the motor vehicle conditions for base year (2010) and future year (2035) conditions based on the Basalt Creek TRP.

### Motor Vehicle System

This section documents base year and future year motor vehicle demand, presents intersection operations, and describes the planned improvements for the motor vehicle system.

#### *Motor Vehicle Demand*

Existing a.m. and p.m. peak hour (2010) motor vehicle volumes in the Basalt Creek planning area were collected for the Basalt Creek Transportation Refinement Plan, the SW 124<sup>th</sup> Avenue Extension Study, the Tualatin TSP, and the Wilsonville TSP. The 2010 volumes, along with percentage of truck traffic, are displayed in Figure 36. These plans applied the Metro Regional travel demand model to estimate 2035 future year p.m. peak hour motor vehicle volumes. The resulting 2035 volumes are displayed in Figure 37.

The Basalt Creek Transportation Refinement Plan applied the Metro regional travel demand model (2009 RTP), which provides estimates of both existing year (2005) and future year (2035) p.m. peak hour trips entering and exiting Transportation Analysis Zones (TAZs). TAZs divide the Portland Metro region into areas that represent sources of vehicle trips within the area, based on a combination of the roadway network, land use information, the Urban Growth Boundary (UGB), zoning, and comprehensive plan designations. Because the demand model covers both TAZs within and around the Basalt Creek planning area, the 2035 model volumes account for both local and regional growth.

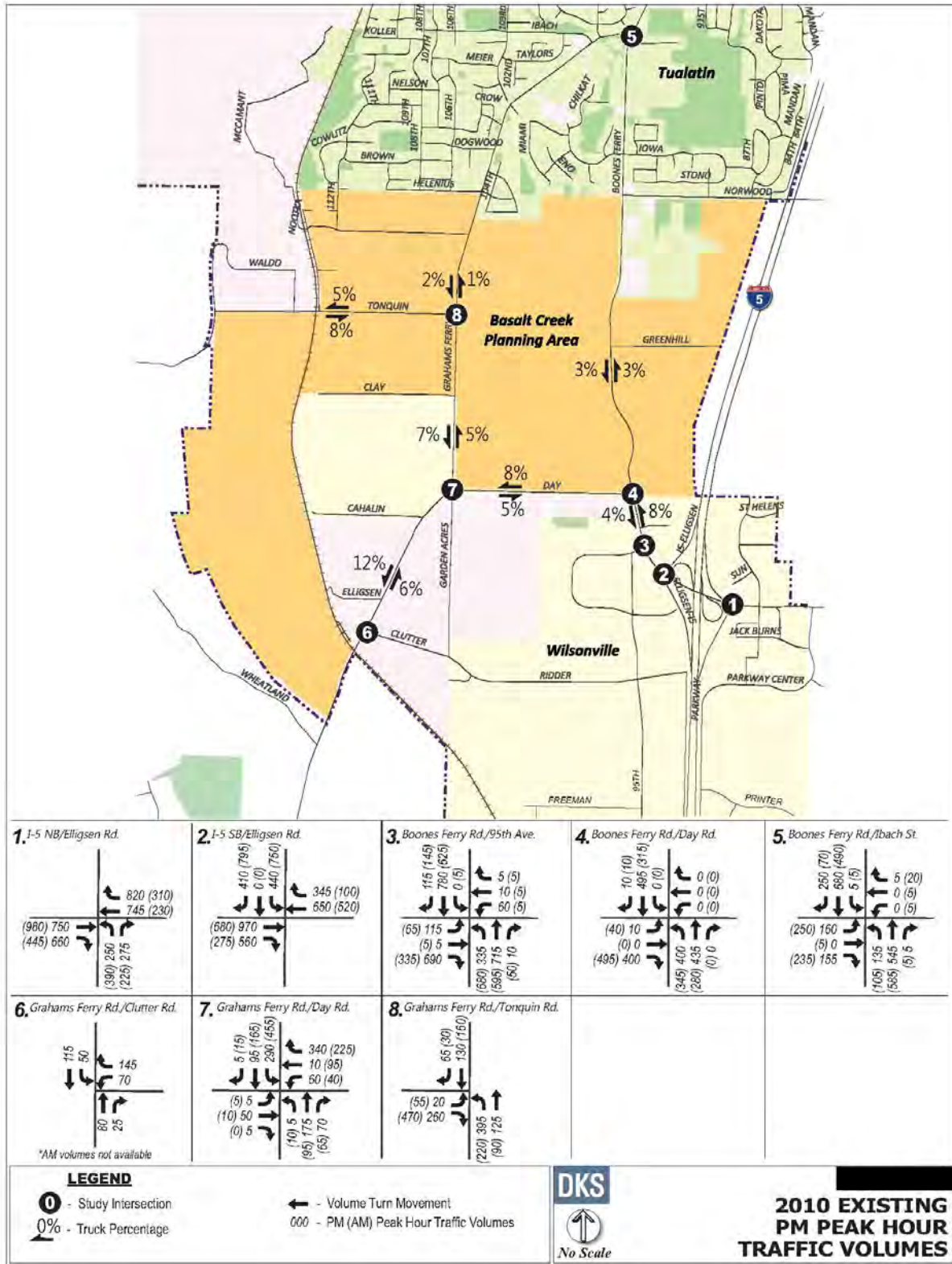


Figure 36 2010 Existing PM Hour Traffic Volumes by intersection in planning area. Source: DKS Associates 2014.

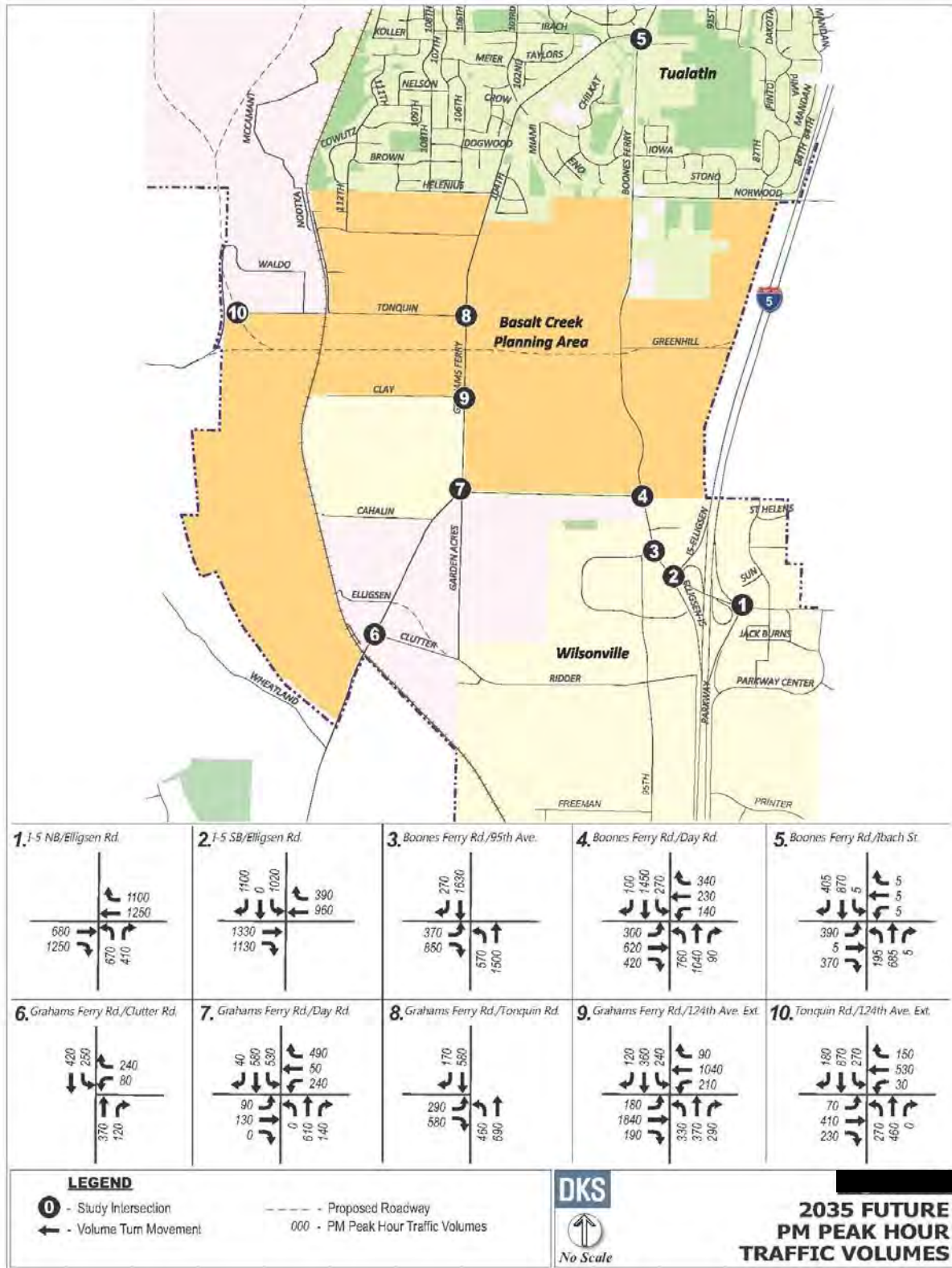


Figure 37 2035 Future PM Hour Traffic Volumes by intersection planning area. Source: DKS Associates 2014.

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As shown in Figure 38, the Basalt Creek planning area is made up of three TAZs. Table 16 provides model trip p.m. peak hour estimates for each of the three TAZs. Between 2005 and 2035, the planning area is expected to generate an additional 2,255 trips—a 460% increase from the 2005 estimate of 490 trips.

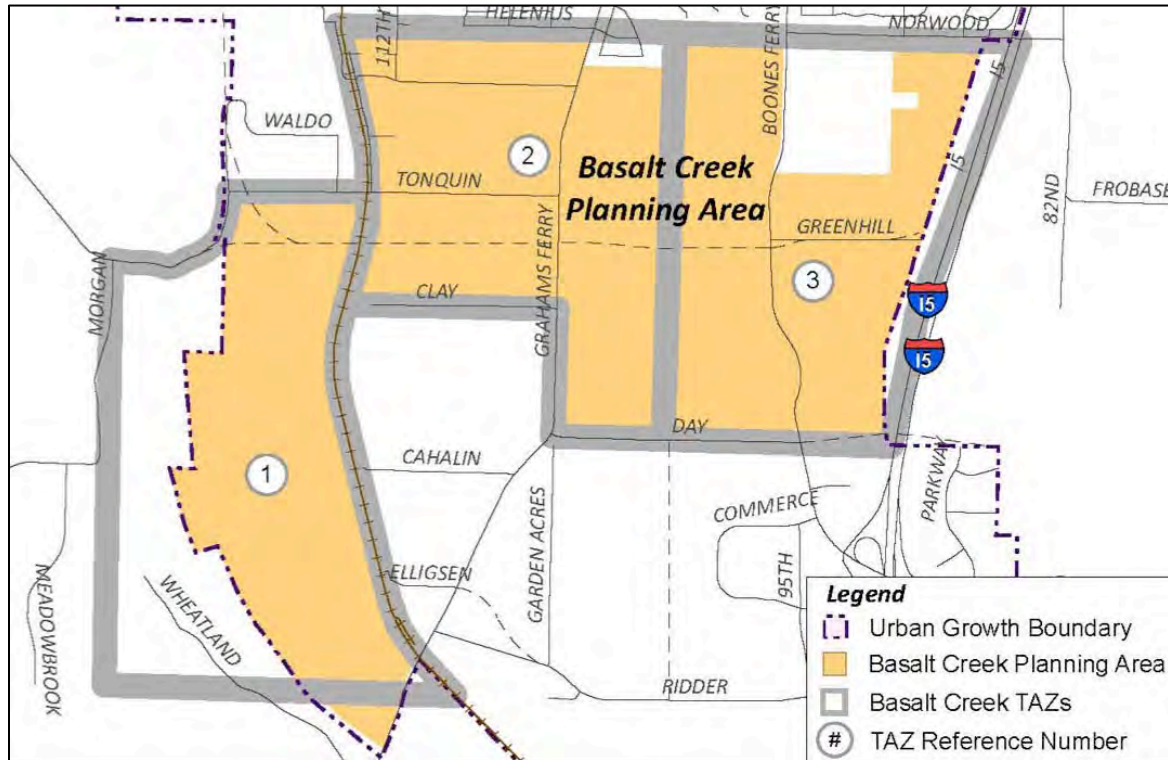


Figure 38 Basalt Creek planning area TAZ Structure. Source: DKS Associates 2014

Table 16 Basalt Creek planning area Estimated PM Peak Hour Trips<sup>27</sup>. Source: DKS, Metro.

TAZ	2005			2035		
	Entering	Exiting	Total	Entering	Exiting	Total
1	99	267	366	308	559	867
2	50	32	82	528	416	944
3	27	15	42	506	428	934
<b>Total</b>	<b>176</b>	<b>314</b>	<b>490</b>	<b>1,342</b>	<b>1,403</b>	<b>2,745</b>

<sup>27</sup> Within Metro’s regional model, TAZs 1-3 are represented by regional TAZs 1019, 1013, and 1014, respectively.

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The growth between the 2005 and 2035 model volumes was interpolated to represent model growth for the smaller 2010-to-2035 time increment. This interpolated growth was added to the base year (2010) traffic volumes shown in Figure 36, resulting in the forecast 2035 volumes shown in Figure 37.

## Motor Vehicle Operations

Based on the volumes shown in Figure 36 and Figure 37, previous planning studies have documented motor vehicle conditions near the Basalt Creek planning area for existing conditions and for the future planning horizon year 2035. The 2035 motor vehicle conditions assume that the 18 projects in the Basalt Creek Transportation Refinement Plan's Action Plan, shown in Table 18 and Figure 39, will be constructed by 2035.<sup>28</sup> The resulting 2010 and 2035 p.m. peak hour intersection operations are shown in Table 17.

Table 17 P.M. Peak Hour Motor Vehicle Operations. Source: DKS Associates, Metro 2014.

Intersection	Jurisdiction	Mobility Target	Existing Year (2010)		Future Year (2035)	
			PM LOS	PM V/C	PM LOS	PM V/C
I-5 NB/Elligsen Rd <sup>A</sup>	ODOT	0.85	A	0.55	B	0.82
I-5 SB/Elligsen Rd <sup>A</sup>	ODOT	0.85	C	0.60	C	<b>0.89</b>
Boones Ferry Rd/95th Ave <sup>A</sup>	Washington County	0.99	C	0.84	C	0.87
Boones Ferry Rd/Day Rd <sup>A</sup>	Washington County	0.99	C	0.64	E	0.99
Boones Ferry Rd/Ibach St* <sup>B</sup>	Washington County	0.99	B	0.70	D	0.98
Grahams Ferry Rd/Clutter Rd* <sup>C</sup>	Washington County	0.99	A/B	0.31	A/F	<b>&gt;1.50</b>
Grahams Ferry Rd/Day Rd <sup>A</sup>	Wilsonville	D	B	0.55	D	0.95
Grahams Ferry Rd/East-West Arterial <sup>A</sup>	Washington County	0.99	-	-	E	<b>1.00</b>
Grahams Ferry Rd/Tonquin Rd <sup>A</sup>	Washington County	0.99	A/B	0.44	C	0.88
124th Ave/Tonquin Rd <sup>D</sup>	Washington County	0.99	-	-	F	<b>&gt;1.50</b>

**Bolded and Red** indicates intersection does not meet mobility targets

Worst mainline LOS/worst side street LOS reported for unsignalized intersections

\*Existing year is 2011 for these intersections

<sup>A</sup> Operations from: Basalt Creek Transportation Refinement Plan, November 2012.

<sup>B</sup> Operations from: Tualatin Transportation System Plan, February 2013.

<sup>C</sup> Operations from: Wilsonville Transportation System Plan, June 2013.

<sup>D</sup> Operations from: SW 124<sup>th</sup> Ave Extension Traffic Impact Analysis Hybrid Scenario Report, January 2013.

<sup>28</sup> Not all 18 projects may be included in the 2014 financially constrained RTP project list.



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As shown in the above table, five of the ten study intersections are expected to operate worse than the accepted level of mobility in the 2035 p.m. peak hour.<sup>29</sup> While the mobility target shown for the I-5 ramps is 0.85, it may be increased to 0.90 if it can be shown with at least 95 percent probability that queues will not spillback onto the mainline or to the portion of the ramp needed for safe deceleration. Therefore, it is possible that the I-5NB/Elligsen Road intersection may meet the mobility target if queuing is not an issue. Further study is needed for a higher level of certainty.

It is important to note that the forecasting for Basalt Creek Transportation Refinement, 124th Avenue Analysis, and the two city TSPs was performed using earlier versions of the regional travel demand model that assumed more intense development in Basalt Creek and other adjacent areas. The regional model has since been updated (with Metro's "Gamma" model version, for the 2014 Regional Transportation Plan). While the new model was not used for the analysis summarized in this report, it is significant that the overall trip numbers for the planning area are lower due to a decreased forecast for housing units and retail jobs (which produce far more trips than industrial or other commercial employment). This decreased trip forecast (Table 18), in combination with a concept plan that will strategically consider appropriate land uses, multimodal transit networks, local road connections and existing plans for road expansions, will likely mitigate some of the operational deficiencies shown in Table 17.

**Table 18** Comparing Housing and Employment Forecasts for 2025 in the Basalt Creek planning area.  
Source: Metro 2014.

	New Households	New Retail Employment	New Service Employment	Other New Employment	Total New Employment
Forecast used in Basalt Creek TRP (Beta Version)	1386	467	581	1514	2562
New Forecast (Gamma Version)	1214	46	427	1843	2316
Change between Beta and Gamma forecasts	-172	-421	-154	+329	-246

The 124<sup>th</sup> Avenue extension is planned to be a five lane roadway; however, the operations shown for the 124<sup>th</sup> Avenue/Tonquin Road intersection assume 124<sup>th</sup> Avenue as a three lane facility. As a five lane facility, it is possible that the intersection may meet the mobility target.

At the time of the Basalt Creek Transportation Refinement Plan, the 2035 operational analysis assumed that the East-West Connector (i.e., 124<sup>th</sup> Avenue south of Tonquin Road) would be located north of Tonquin. However, the arterial is currently planned to be located south of Tonquin. Therefore, operations in Table 17 may vary—especially the Grahams Ferry Road/East-West Connector and Grahams Ferry Road/Tonquin Road intersections—assuming the south alignment of the arterial.

<sup>29</sup> Operational issues may also exist in the a.m. peak hour for one or more of the study intersections. Morning peak hour analysis was not available for this study.

## Basalt Creek Transportation Refinement Plan Projects

The Basalt Creek Transportation Refinement effort included a recommendation for phased investments to support regional and local transportation needs through 2035. The resulting Action Plan includes the projects shown in Table 18 and Figure 39. Analysis showed that the entire set of projects would be needed to support the local and regional growth reflected in the adopted 2035 RTP model (discussed earlier), and all projects on the list are included in the assumed network on which the operations results shown in Table 17 were based.

The Action Plan project list represents the transportation framework needed to accommodate the RTP's future growth assumptions. However, this framework is different from a list of "reasonably likely" projects (i.e., projects from a financially constrained plan) that would inform a Transportation Planning Rule analysis that would support changes to comprehensive plan/zoning designations. Table 18 includes information on whether each project is identified in the Federal RTP (i.e., reasonably likely) or whether the project was from the State RTP or another source (i.e., not reasonably likely).

Major capacity improvements beyond those listed in Table 18 are not anticipated. Therefore, the trips generated in the study area, as shown in Table 16, are considered "sideboards" for the Basalt Creek planning area, meaning that trip generation lower than these totals should allow the Action Plan network to operate acceptably in 2035. Within this framework, the East-West Connector is a special case requiring further discussion.

## East-West Connector Considerations

While the East-West Connector project is not part of the federal financially constrained project list in the adopted RTP, the first phase of this facility has been fast-tracked and funding has been identified for construction between 124<sup>th</sup> Avenue/Tonquin Road and Grahams Ferry Road and is recommended to be included in the 2014 financially constrained RTP list. Therefore, this section (part of Washington County's 124<sup>th</sup> Avenue Extension project) can be considered "reasonably likely" for TPR purposes.

Partner agencies on the Basalt Creek Transportation Refinement Plan identified key characteristics that should be included in the East-West Connector in order to support development. These included:

- Design for 45 mph and posted speed limit of 45 mph
- Access spacing of one-half mile to one mile

This means the only accesses provided within the study area would occur at the Grahams Ferry Road and Boones Ferry Road intersections. Additional roadway or pedestrian/bicycle crossings between the north and south sides of the facility would need to be grade-separated.

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Table 19 Basalt Creek Refinement Action Plan

ID	Project	Short-Term	Medium-Term	Long-Term	Cost (\$2012)	Previously Planned?
1	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Construct three lane road extension with bike lanes and sidewalks	x			\$20,000,000	Federal RTP
2	Tonquin Road (124 <sup>th</sup> Avenue to Grahams Ferry Road): Widen to three lanes with bike lanes and sidewalks, grade separate at railroad, improve geometry at Grahams Ferry Road <sup>1</sup>	x			\$10,500,000	Federal RTP
3	Grahams Ferry Road (Tonquin Road to Day Road): Widen to three lanes with bike lanes and sidewalks	x			\$5,400,000	Federal RTP
4	Boones Ferry Road (Norwood Road to Day Road): Widen to three lanes with bicycle and pedestrian improvements	x			\$10,800,000	In design
5	124 <sup>th</sup> Avenue/Tonquin Road Intersection: Signal (may include Tonquin Trail crossing)	x			_ <sub>2</sub>	-
6	Grahams Ferry Road/Tonquin Road Intersection: Signal	x			\$500,000	Federal RTP
7	Boones Ferry Road/Day Road Intersection: Add second southbound through approach lane	x			_ <sub>3</sub>	-
8	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Construct dual left-turn and right-turn lanes; improve signal synchronization, access management and sight distance	x			\$2,500,000	Federal RTP
9a	Tonquin Trail (Clackamas County Line to Tonquin Loop Road): Construct multi-use trail with some segments close to but separated from road	x			\$8,900,000 <sup>4</sup>	Federal RTP
9b	Tonquin Trail (Tonquin Loop Road to Tualatin-Sherwood Road): Construct multi-use trail with some segments close to but separated from road		x		\$7,100,000 <sup>4</sup>	Federal RTP
10	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Widen from three to five lanes with bike lanes and sidewalks		x		\$14,000,000	Federal RTP
11	East-West Arterial (124 <sup>th</sup> Avenue to Boones Ferry Road): Construct 5 lane roadway with railroad and creek crossings, integrate segment of Tonquin Trail <sup>5</sup>		x		\$57,900,000	State RTP
12	Boones Ferry Road (East-West Arterial to Day Road): Widen to five lanes with bike lanes and sidewalks		x		\$1,100,000	State RTP
13	Kinsman Road Extension (Ridder Road to Day Street): Construct three lane road extension with bike lanes and sidewalks		x		\$10,400,000	Federal RTP
14	Day Road (Kinsman Road to Boones Ferry Road): Widen to five lanes with bike lanes and sidewalks		x		\$5,800,000	Similar to RTP project
15	I-5 Southbound off-ramp at Boones Ferry Road/Elligsen Road: construct second right turn lane		x		\$500,000	No
16	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Access management		x		_ <sub>6</sub>	-
17	Day Road Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Elligsen Road			x	\$33,700,000 -\$44,100,000 <sup>7</sup>	State RTP
18	East-West Arterial Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Stafford Road. Integrate multi-use path in corridor that connects to Tonquin Trail			x	\$38,000,000	State RTP
<b>TOTAL</b>		<b>\$59M</b>	<b>\$97M</b>	<b>\$72-82M</b>	<b>\$228-238M</b>	

<sup>1</sup> Grade separation for Tonquin Road is optional. An at-grade crossing would reduce cost by around \$2,000,000

<sup>2</sup> Cost included in Project 1

<sup>3</sup> Coordinate with Project 4. Cost of approach lane included in estimate for Project 12

<sup>4</sup> Tonquin Trail cost estimated by Metro as part of trail planning effort

# Exhibit 3 to Ordinance No. 1418-19

<sup>5</sup> Project 11 can potentially be built in two phases funded separately, west and east of Grahams Ferry Road. However, traffic benefits needed in the medium term (around 2030) will not be realized unless entire project is completed

<sup>6</sup> Project details to be determined by further coordination between City of Wilsonville and ODOT. Cost expected to be minimal

<sup>7</sup> Specific alignment approaching Elligsen Road will determine project cost. Alignment to Parkway Center Drive is estimated at \$33,700,000, and alignment to Canyon Creek Road is estimated at \$44,100,000

\* Time frames may shift with updates to the RTP

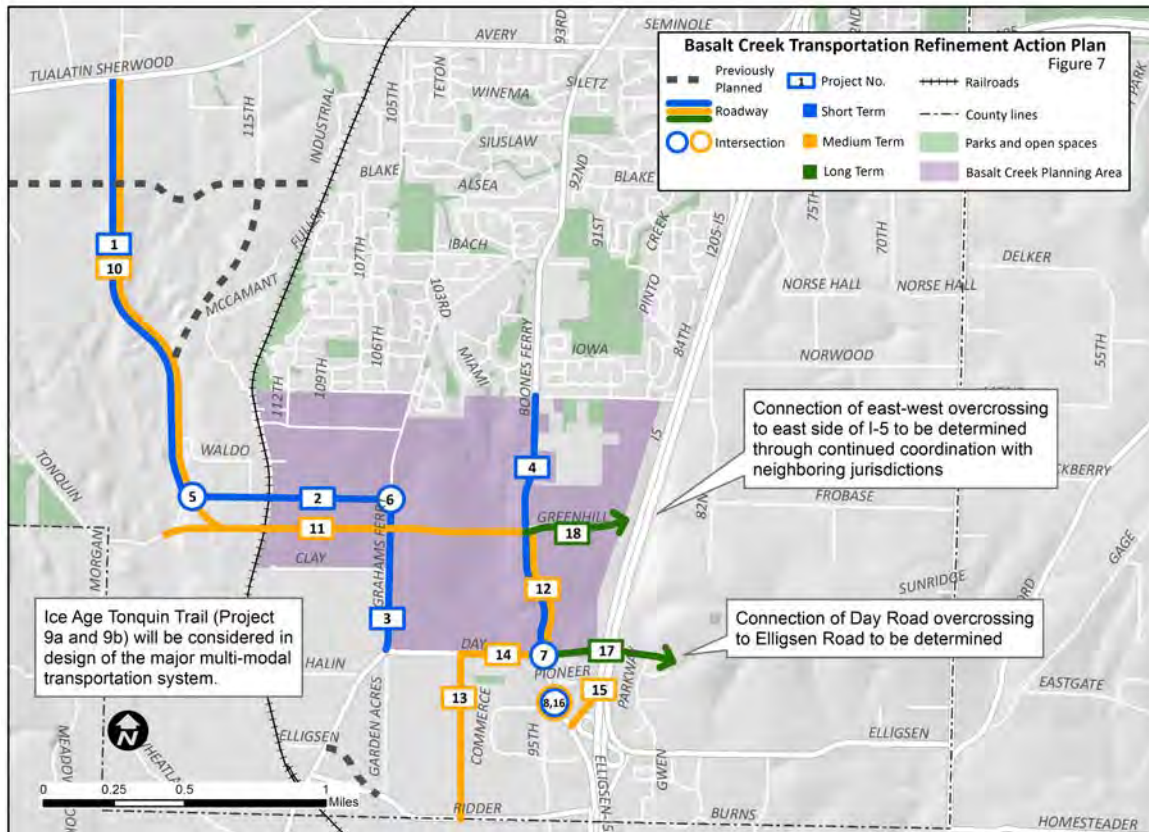


Figure 39 Basalt Creek Transportation Refinement Plan (TRP)

## Pedestrian and Bicycle System

The Basalt Creek planning area is primarily served today by Tonquin Road, Grahams Ferry Road, and Boones Ferry Road. However, except for Boones Ferry Road, as shown in Figure 41 and Figure 42, these roads generally do not provide adequate pedestrian and bicycle connections to the Basalt Creek planning area.

While there are adopted design standards and several planned projects that address deficiencies in the existing pedestrian and bicycle system, there are a few rural roads in the Basalt Creek planning area without planned pedestrian and bicycle improvements, including:

- 112<sup>th</sup> Avenue south of Brown Street
- Clay Street

# Exhibit 3 to Ordinance No. 1418-19

- Grahams Ferry Road north of Tonquin Road
- Tonquin Loop

As the area develops, these rural roads should be improved to meet urban standards.

## Transit System

TriMet currently runs a bus route on Boones Ferry Road through the Basalt Creek planning area (Route 96). This route connects north Wilsonville (at Commerce Circle), Tualatin, and downtown Portland with frequent commuter service during the weekdays. As shown in Figure 39, the route runs along Boones Ferry Road with stops spaced approximately ¼ mile through the Basalt Creek planning area. Weekend transit service, however, is not provided in the planning area.

South Metro Area Regional Transit (SMART) runs transit service to Commerce Circle via Route 2X (Barbur Boulevard Transit Center to SMART Central with a stop at the Tualatin Park & Ride and Route 5 (Commerce Circle to SMART Central). Route 2X runs limited service to Commerce Circle Monday through Friday; Route 5 runs with frequent service Monday through Friday.

TriMet’s WES commuter rail service runs along the rail tracks through the planning area, connecting Wilsonville to Beaverton. While it stops in Wilsonville and Tualatin, it currently does not stop in the planning area.

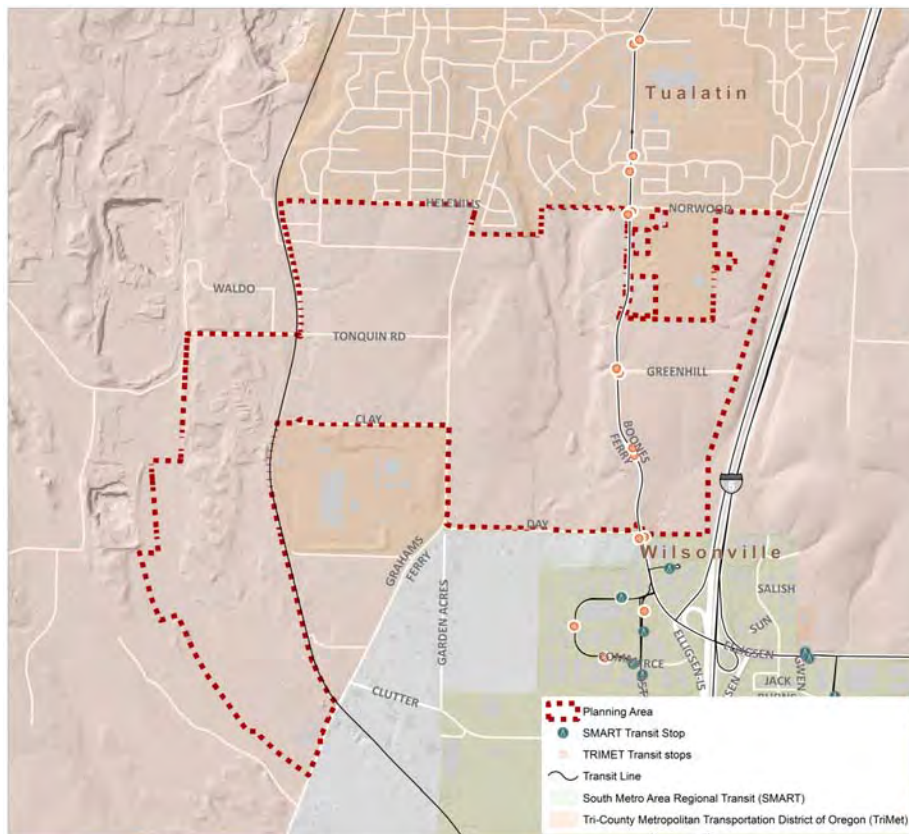


Figure 40 Transit service boundaries for TriMet and SMART in and around Basalt Creek area

## Exhibit 3 to Ordinance No. 1418-19

Overall, the combined TriMet/SMART transit system meets the needs of the typical commuter—outside of typical commute hours, however, transit service in the Basalt Creek plan area is nonexistent.

Two projects have been identified to enhance the transit system adjacent to the Basalt Creek planning area. These projects are from the Tualatin Transportation System Plan, which did not plan for projects in the planning area, and are estimated with a medium-term planning horizon (i.e., five to ten years):

- Look for potential park-and-ride locations south of Bridgeport Village.
- Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible

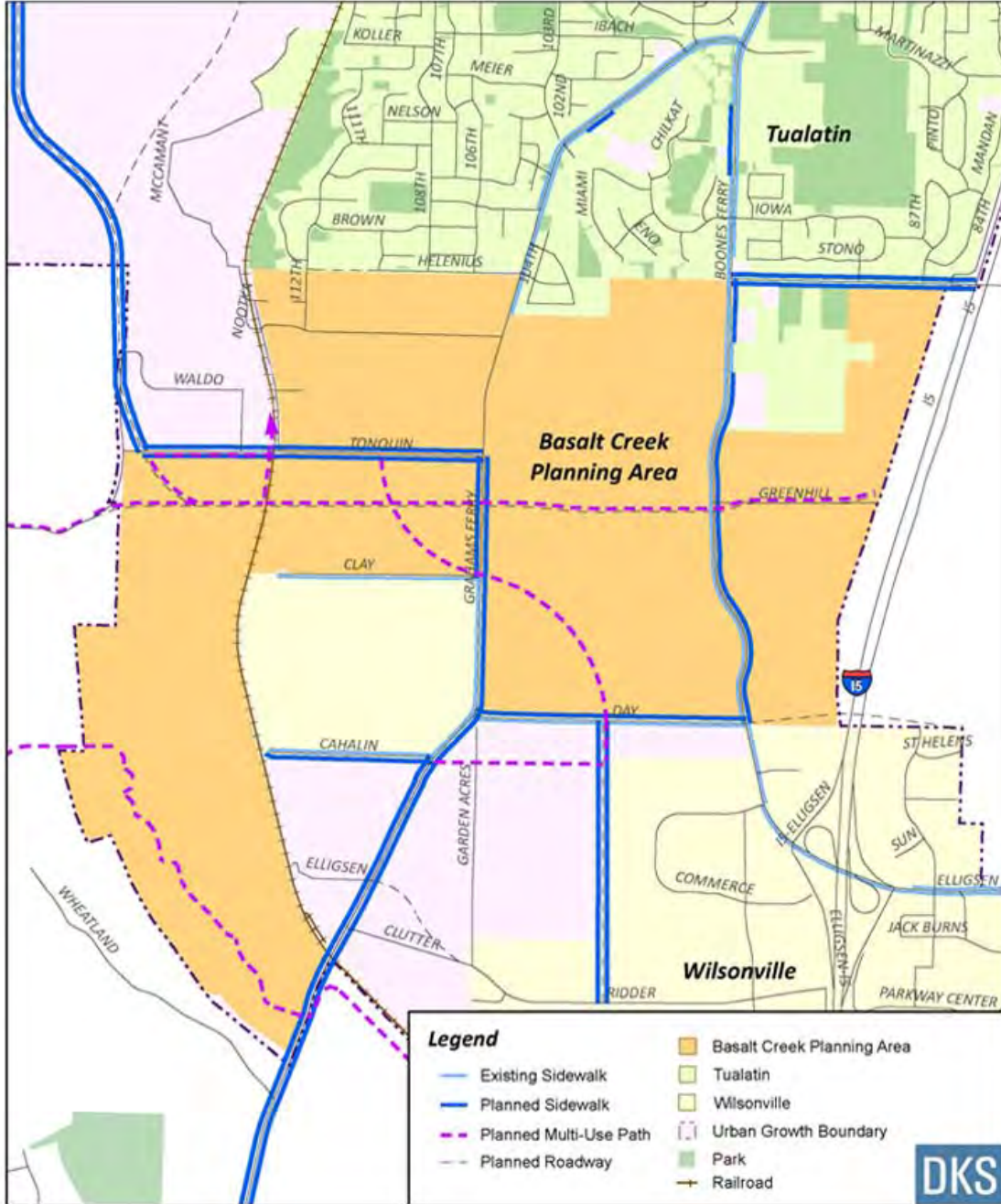


Figure 41 Existing Pedestrian system in Basalt Creek planning area. Source: DKS Associates 2014

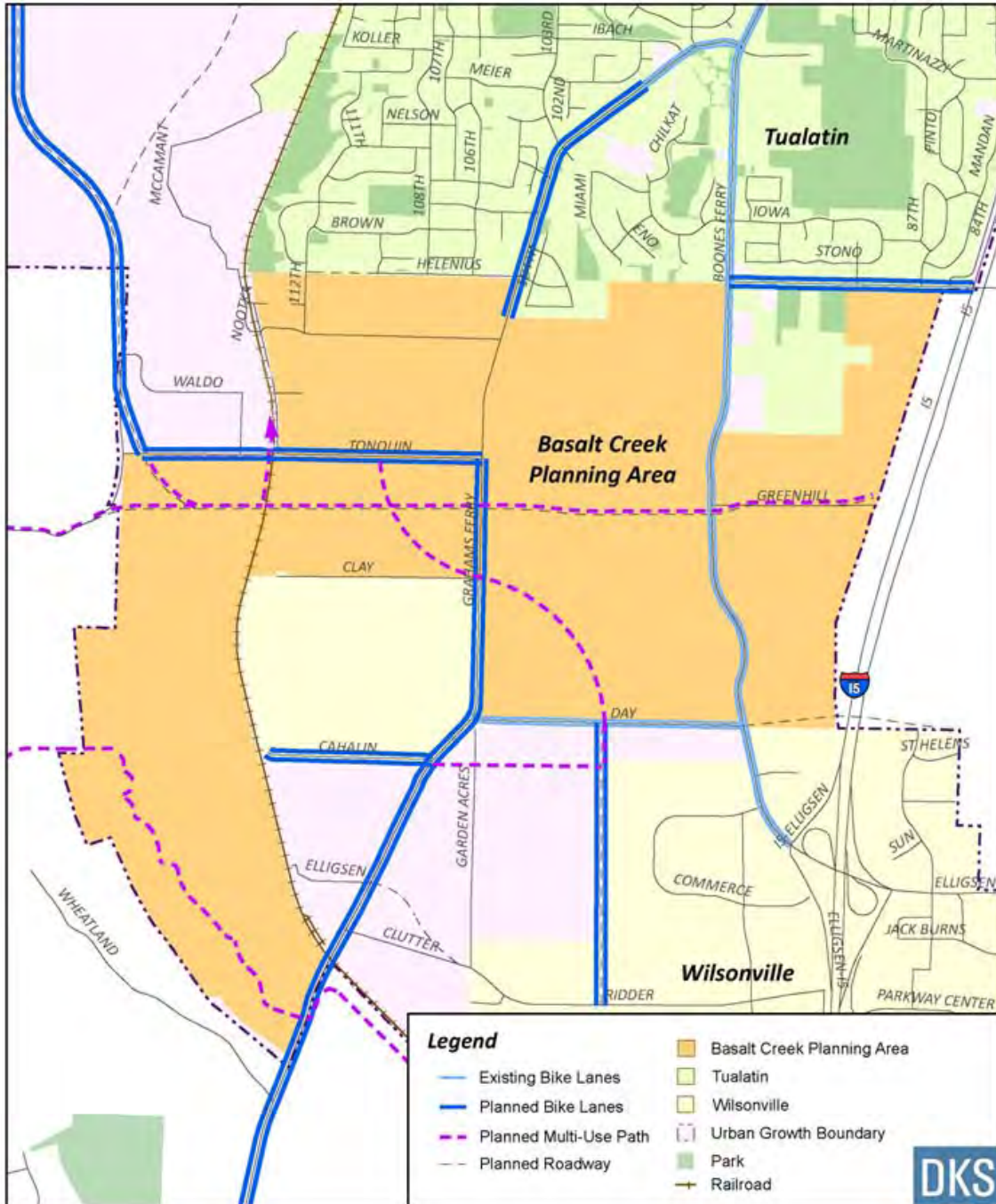


Figure 42 Existing bicycle system in Basalt Creek planning area. Source: DKS Associates 2014



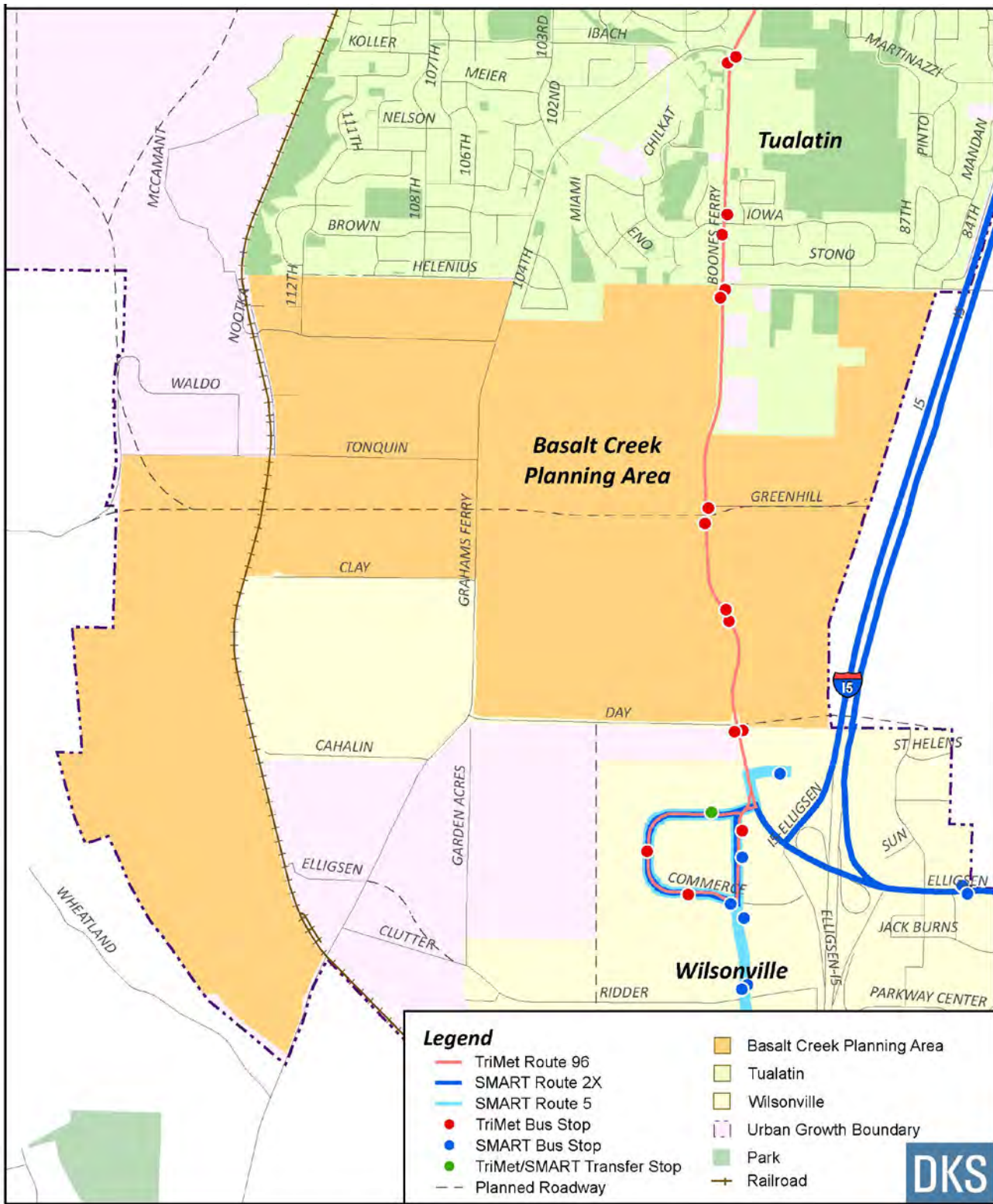


Figure 43 Existing transit system in Basalt Creek planning area. Source: DKS Associates 2014

## VIII. Land Capacity Analysis

The bulk of this section describes the methods and data sources used to perform the land capacity analysis for the Basalt Creek planning area. The results of the analysis are presented toward the end of the section.

### Methodology

The land capacity analysis is an estimate of the development potential within the planning area to provide a realistic estimate of where and how much land can be developed. The analysis is twofold: an assessment of “buildable lands” – areas that are suitable for development given the physical and regulatory constraints on the land, and two, an assessment of the land supply within the planning area. Land supply is an assessment at the parcel level that identifies areas that are not constrained and are either vacant or redevelopable.

### Buildable Lands

The buildable lands assessment focuses primarily on identifying places where there is limited or no development potential. These areas are screened out from the analysis to identify the places where development is most suitable given the environmental and regulatory context. There are a range of factors that influence development potential within the planning area, but they can be generally divided into two categories: hard and soft constraints. Hard constraints are either physical or legal requirements that prohibit new development. These areas will be fully excluded from the analysis with the assumption that no new development will occur in them. Soft constraints are also based on physical or legal requirements but do allow for some development, and provide guidance for assigning appropriate land uses and intensities. The analysis of constraints for the purpose of assessing land capacity focused primarily on environmental and manmade constraints. A conservative approach is taken in this analysis toward development in and around environmental constraints to emphasize preservation of natural resources.

### Hard Constraints

State, regional and local laws provide a range of protections for environmental features and habitat. This analysis provides a framework that meets:

- Oregon Statewide Planning Goal 5
- Metro Regional Functional Plan Requirements (Titles 3 and 13)
- Clean Water Services (CWS) Regulations
- City of Wilsonville Significant Resource Overlay Zone (SROZ) Development Code

Since local regulations are compliant with state and regional land use requirements, and in some cases go above and beyond what is required, this analysis uses the CWS and Wilsonville SROZ requirements as

the foundation for determining constraints. For the purpose of this analysis, where methodologies differ the approach that offers more protection is taken into account. The major differences between CWS and Wilsonville’s SROZ requirements are summarized in Table 20 below. The chief difference between the two is that Wilsonville differentiates for size and location of wetland and includes more drainage area classes.

Table 20 Comparing methodologies<sup>30</sup> for buffering natural resources between Clean Water Services and Metro’s Title 3/City of Wilsonville. Source: Fregonese Associates, Clean Water Services, City of Wilsonville and Metro 2014.

COMPARING BUFFERING METHODOLOGIES

WATER FEATURE	CWS	SROZ and Title 3
Primary Water Feature	50 ft	50 ft
Primary Water Feature -- With steep slope	Up to 200 ft	Up to 200 ft
Secondary Water Feature	15 ft/25 ft/50 ft	15 ft
Secondary Water Feature -- With steep slope	Up to 200 ft	50 ft
Slope Stability	Top of ravine plus 35 ft	

It should be noted that when actual development takes place, a more detailed and site-specific analysis will be undertaken and will include application of local regulations. The analysis in this report provides a detailed but high-level assessment of buildable lands for the purpose of creating the concept plan.

Hard constraints are split into two major categories: environmental and manmade. Basic environmental constraints are summarized below:

- Open Water
- Streams
- Wetlands
- Floodplains (50% reduction of developable area)
- Title 3 Water Quality and Flood Management protections
- Title 13 Nature in Neighborhoods (20% reduction of developable area in areas designated Riparian Habitat Classes I and II)
- Steep Slopes (25% slopes and greater)

Unless otherwise noted all of the constraints described above are fully excluded from the land being considered for development in this analysis.

<sup>30</sup> For definitions of features, please refer to CWS’s Design and Construction Standards - Chapter3, City of Wilsonville’s Significant Resource Overlay Zone (SROZ) Ordinance, and Metro’s Urban Growth Management Functional Plan

# Exhibit 3 to Ordinance No. 1418-19

The following describes the environmental hard constraints methods and findings in more detail. Maps showing the environmental constraints (open water, wetlands, streams, floodplains, and Title 3 and 13 areas) can be found in *Section III: Natural and Historic Resources*.

## *Open water*

All areas of open water in the planning area were digitized by Fregonese Associates based on 2013 and 2012 leaf-off aerials.<sup>31</sup> Forty-nine (49) acres of open water (which includes a 50-foot buffer surrounding water features) were excluded from the analysis.

## *Streams*

Three categories of streams were defined for the analysis and include:

- Natural streams (18,845 feet)
- Underground streams (789 feet)
- Intermittent streams (1,402 feet)

Stream categories determined by visual survey of 2013 and 2012 leaf-off aerials and intermittent stream and through field checks conducted by the City of Wilsonville. For the constraints analysis the following buffers were applied:

- Natural streams (50 foot buffer)
- Intermittent streams (15 foot buffer)

Underground streams were not considered in the analysis. A total of 31 acres of streams and associated buffers were excluded from the analysis.

## *Wetlands*

Wetlands were identified using RLIS, the Wetland Delineation Report for Proposed Boones Ferry Widening, and additional wetlands digitized by Fregonese Associates based on 2013 and 2012 (leaf-off) aerials. For the constraints analysis the following wetland buffers were applied:

- Wetlands (50-foot buffer)
- Isolated wetland and smaller than a half acre (25-foot buffer)

A total of 69 acres of wetlands and buffer areas were excluded from the analysis.

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<sup>31</sup> Leaf-off aerials are aerial photos taken during a season (usually winter) when there is a lack of foliage on deciduous tree and shrub species, and ground features (including water bodies) can be seen more distinctly.

### *Floodplains*

Areas identified by FEMA as being within the 1% annual chance flood event area were constrained by 50% for the analysis, resulting in a total of 53 acres of land within the 100 year floodplain.

### *Title 3-Designated Land*

Title 3 is a regulatory designation used by Metro to protect riparian resources such as streams, wetlands and floodplains. Title 3 restricts development within these areas to protect natural resources as well as life and property threatened by flooding. There are 116 acres of Title 3 land within the planning area.

### *Steep Slopes*

Steep slopes were analyzed using RLIS data and digitized slopes by Fregonese Associates using a 3-foot digital elevation model (DEM) provided by Metro (Figure 44). Using RLIS, only 41 acres of steep slopes were identified. The 3-foot DEM provides additional accuracy and added nine additional acres of steep slopes, for a total of 50 acres of slopes. The analysis includes non-isolated slopes, greater than half an acre, natural and or along a riparian area. These areas are excluded from the analysis.



Figure 44 Map showing classification of slopes by steepness in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

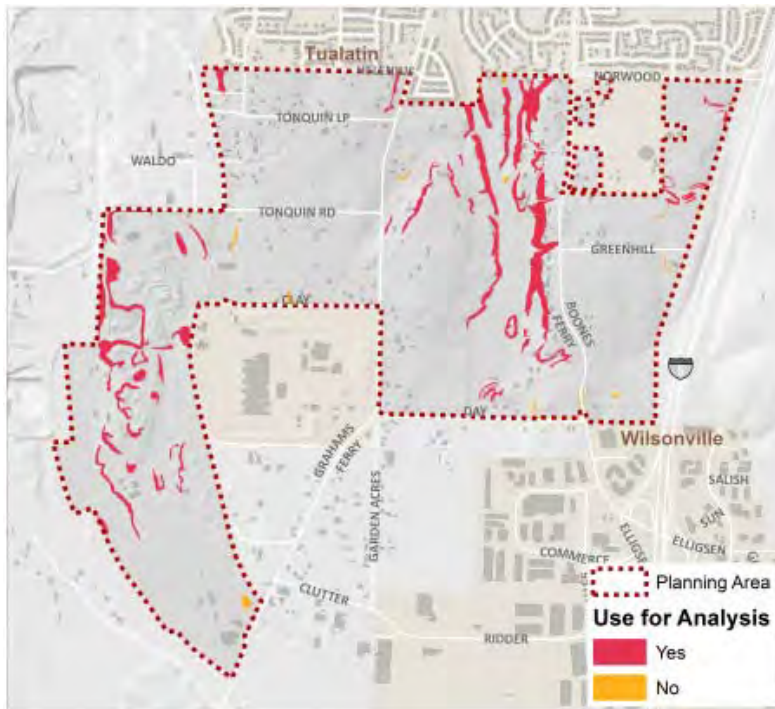


Figure 45 Slopes over 25% in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

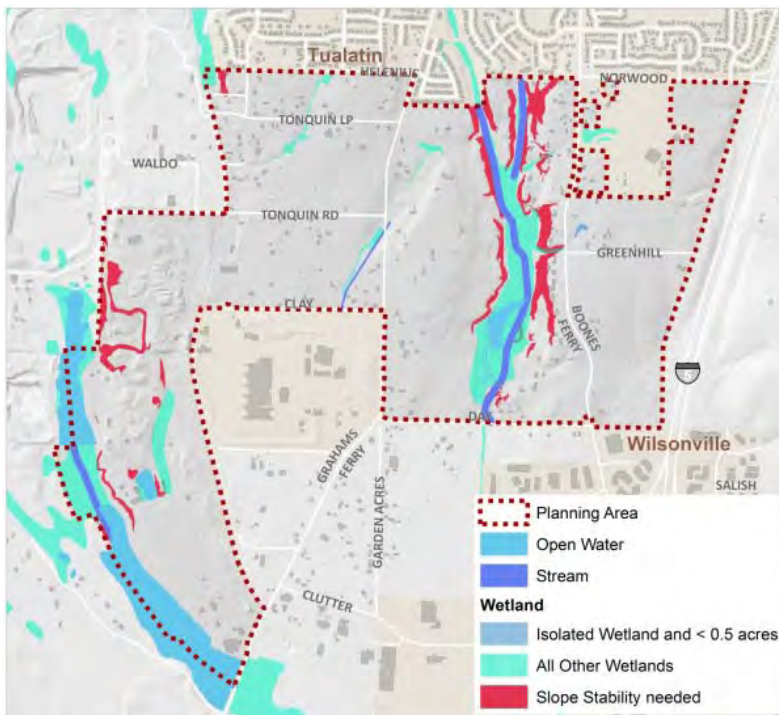


Figure 46 Slope stability in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014.

# Exhibit 3 to Ordinance No. 1418-19

## *Slope Stability*

Clean Water Services has a requirement for slope stability within vegetated corridors. CWS requires an additional 35 feet for steep slopes within a vegetated corridor from top of ravine. This affects streams, open water and wetlands. The slope stability is in effect for a distance of up to 200 feet. This removes an additional area of 11 acres from the analysis (Figure 46).

## *Manmade Constraints*

Basic manmade constraints include:

- Easements
  - BPA easements
  - PGE easements and substation
  - Natural Gas Pipeline
- Roads
  - Existing
  - Future/planned roads and expansions included in the Basalt Creek Transportation Refinement Plan

All of the manmade constraints are fully excluded from the buildable lands. The following describes the methodology and findings for the manmade constraints:

- Almost 16,000 feet of transmission lines crossing the area
- Two Easements:
  - BPA: 42.3 acres
  - PGE: 18.0 acres plus 4.1 acres substation
- Two Natural Gas lines:
  - 25.7 acres
- For constraints analysis:
  - Remove from buildable land

## *Roads*

There are four major road projects:

- East-West Connector (6,460 feet)
- 124<sup>th</sup> Ave. Extension (890 feet)
- Boones Ferry Road (4,860 feet)
- Two 2035 I-5 Overcrossings (approx. 4,000 feet)

Soft constraints:

- Inverse buffering of tax lots along the alignments by 10-foot increments to accommodate for projects

Additional road projects:

- 11,512 feet

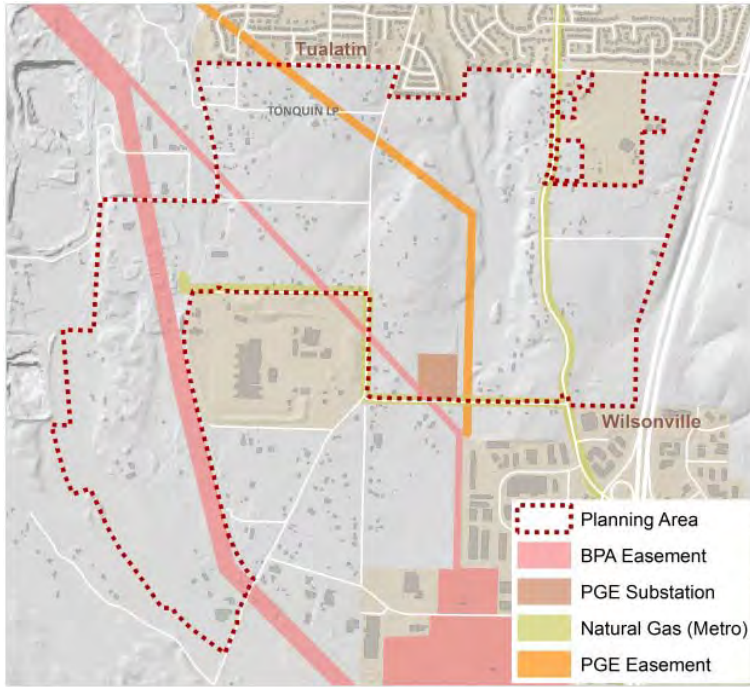


Figure 47 Infrastructure constraints in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

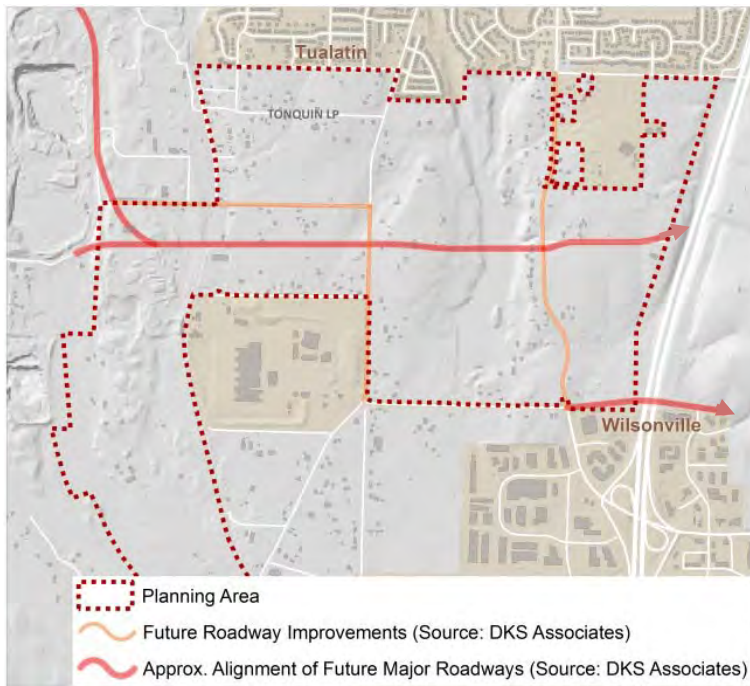


Figure 48 Road constraints in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014



### Soft Constraints

Soft constraints provide guidance for determining suitability for different land uses in areas that are environmentally constrained. Two key soft constraints are included in the analysis: Slopes greater than 10% (as a constraint for industrial suitability) and Title 13 protections of upland habitat

### Title 13 – Designated Land

Title 13 refers to Nature in Neighborhoods. It was adopted by Metro in 2007 as an enhancement to Title 3. Title 13 encourages the protection of habitat and conservation efforts. For our analysis we restricted development within the Riparian Class I and II. There are 431 acres of Title 13-designated land in the planning area. For the constraints analysis, the developable acreage was reduced by 20%. Title 13 is considered a soft constraint, as it is a policy guidance designation but not regulatory.

### Constraints Summary

Overall 35% (297 acres) of the total land area within the Basalt Creek planning area is constrained.

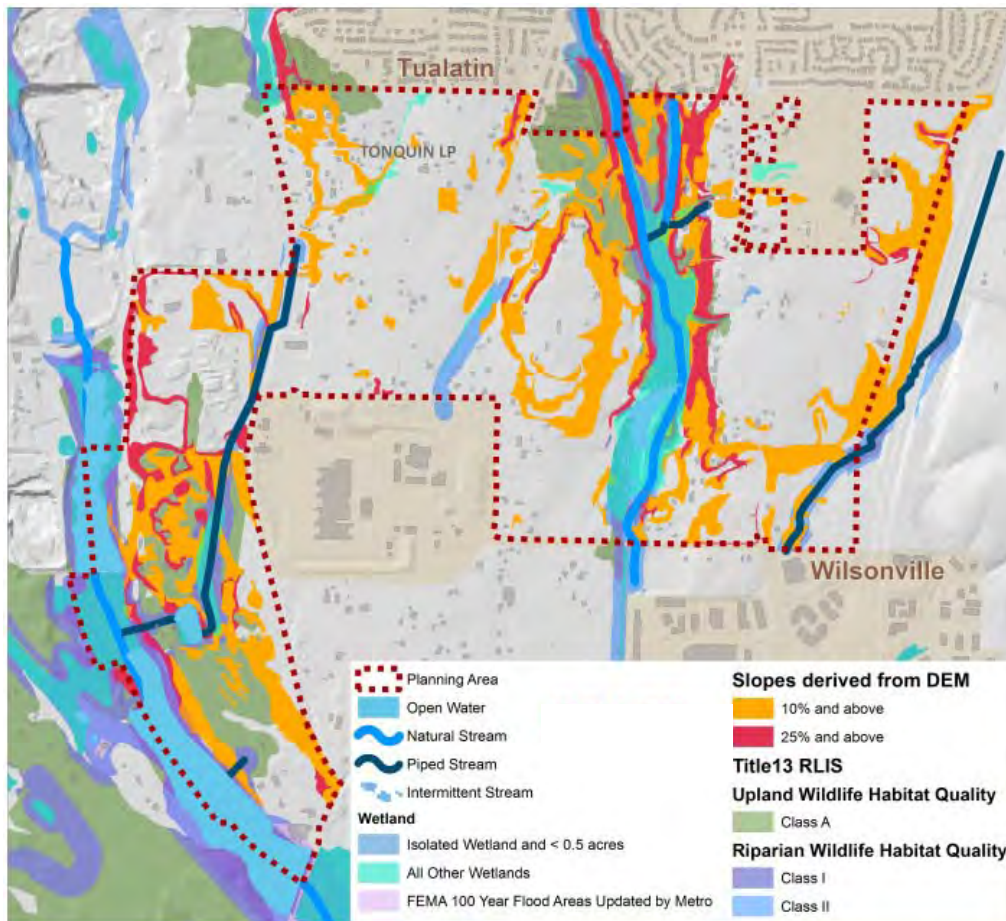


Figure 49 Map of development constraints (excluding roads) in the Basalt Creek planning area.  
Source: Fregonese Associates, RLIS 2014

Figure 50 below illustrates the land area that is either fully or partially constrained based on the methodology described above.

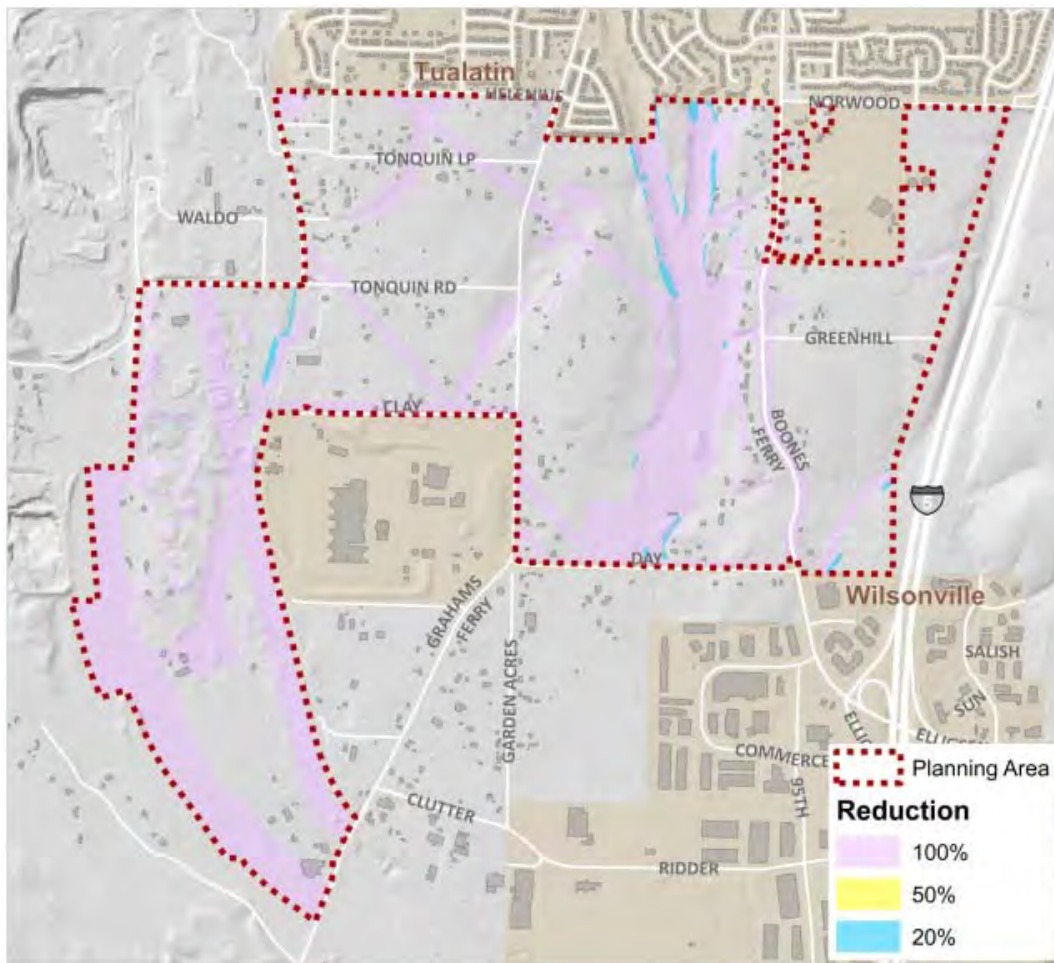


Figure 50 Map of all constrained area (hard constraints) in the Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

## Land Supply

The second step in the buildable lands analysis examines the potential for new development or redevelopment of existing uses within the planning area. While much of the land within the planning area is vacant, there are existing businesses, homes and other uses within the area that are considered. This part of the analysis brings together the buildable lands analysis with an assessment of developable land within the planning area to provide an estimate of land supply available for development. This analysis is conducted at the tax lot level because land uses are tied to property lines.

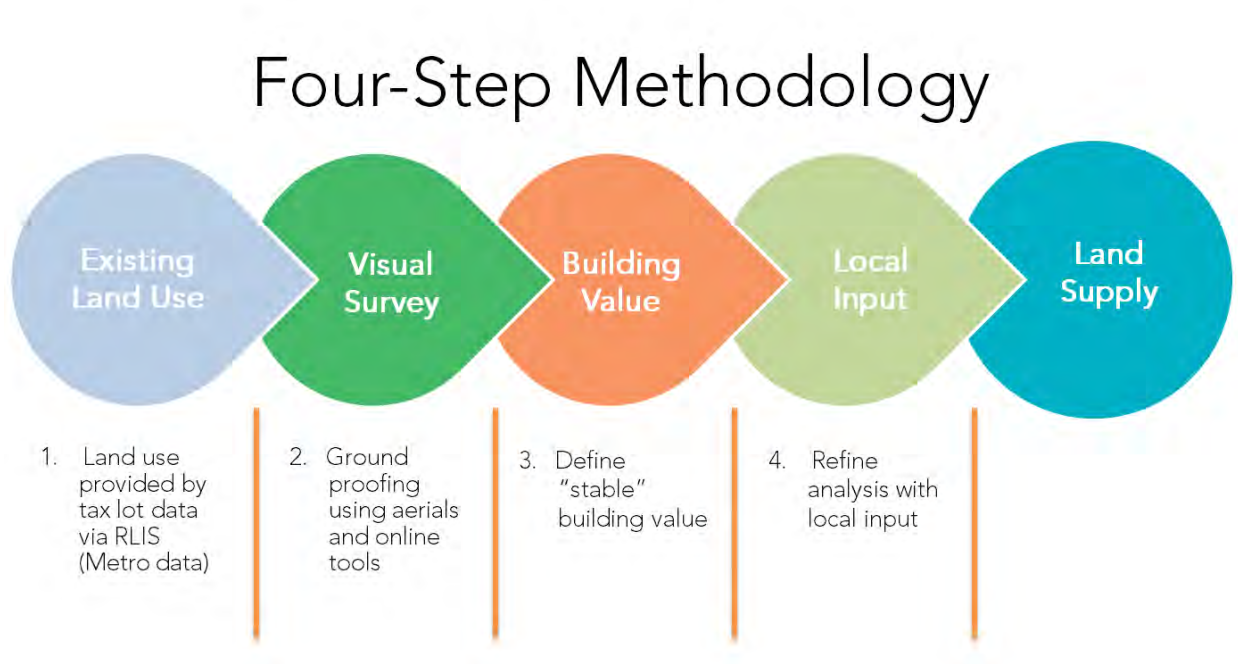
The outcome of this analysis is to classify every parcel within the planning area into one of the three categories described below:

- Vacant Land – Land ready to build, no major structure on site
- Redevelopable Land – Land with existing uses but have redevelopment potential
- Stable Land – Land and structures on it will not change in the future

The land supply analysis is then combined with the buildable lands to create a geographically referenced database of land capacity within the planning area.

The land supply analysis is based on four major steps (Figure 51):

- Existing Land Use – Land use provided by tax lot data via RLIS
- Visual Survey – Ground proofing via aerials and online tools
- Building Value – Define “stable” and redevelopment potential via building value
- Local Input – Refine analysis with local input



**Figure 51** Graphic illustration of four-step methodology for analyzing land supply. Source: Fregonese Associates 2014.

*Existing Land Use*

In this step parcels are categorized into either developed or vacant land. Step one is based on existing land use using tax lot data provided by RLIS. Parcels that are considered developed are classified in RLIS as:

- Commercial
- Industrial
- Public
- Residential

Parcels that are considered vacant are classified in RLIS as:

- Rural
- Forest
- Agriculture
- Unknown
- Vacant

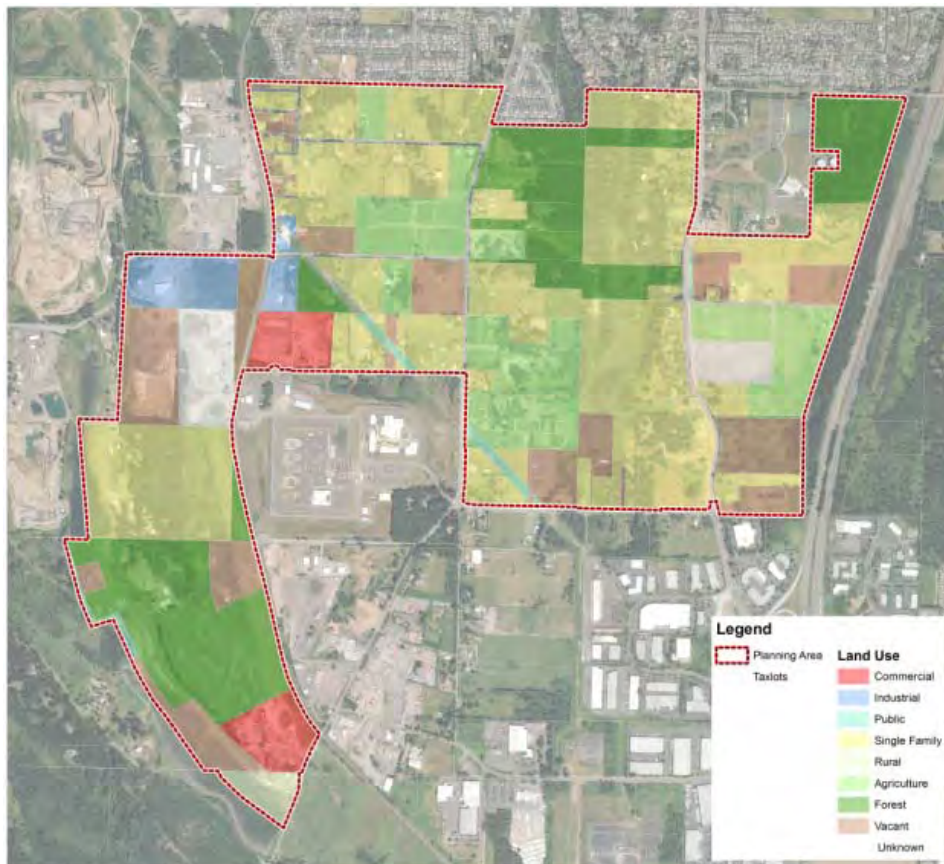


Figure 52 Map of existing land uses inside Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

Visual Survey

In step two Fregonese Associates used a visual survey, other data resources and online tools to confirm and refine tax-lot-based classification of developed and vacant land. First, the vacant and developed land inventory (RLIS March 2014) was utilized to further refine the tax-lot-based analysis. The vacant and developable lands inventory is not limited to the tax lot lines and uses a “cookie cutter approach” around buildings to adjust for large amount of “unused” land on a development lot that may have an existing structure. Using this dataset as a guide in parallel with aerial photography, Google Map Street View, and Bing Map Bird’s Eye the parcel dataset was refined.

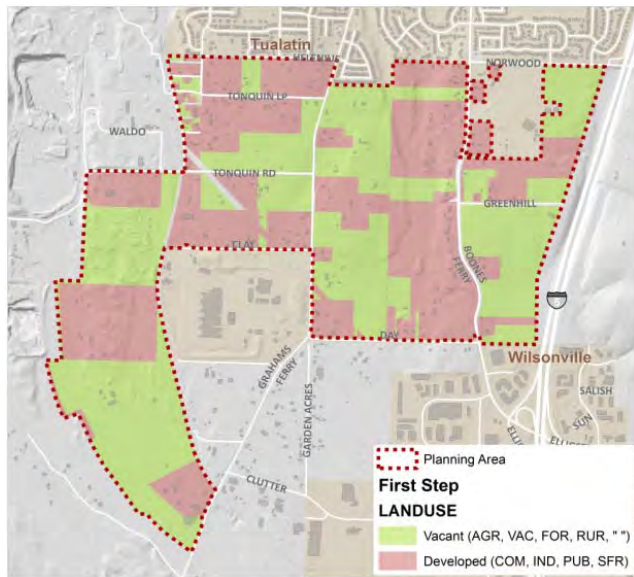


Figure 53 Vacant and Developed land as identified by Metro data. Source: Fregonese Associates, RLIS 2014

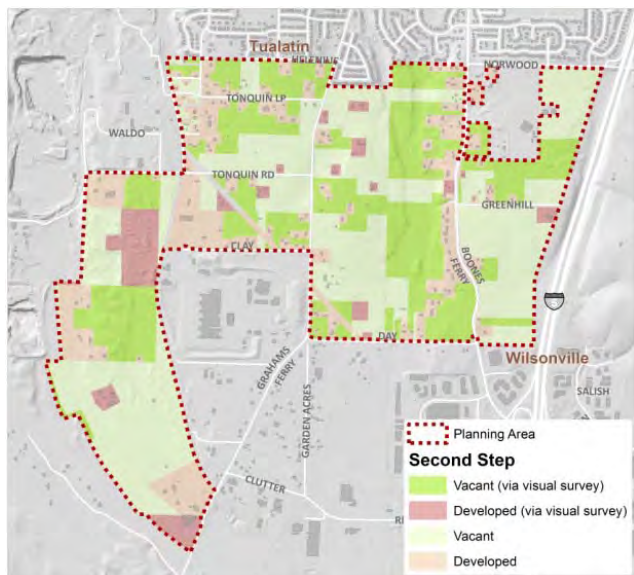


Figure 54 Map of Vacant and Developed land identified via visual survey in Basalt Creek planning area. Source: Fregonese Associates, RLIS 2014

*Building Value*

Once vacant and developed lands were identified an assessment of redevelopment potential was conducted. This step analyzes developed parcels classified under steps 1 and 2 and subdivides them into two categories: redevelopable or stable. Redevelopable means there is an existing use that will likely redevelop over the planning period and can thus be considered as part of the land capacity. Tax lots defined as stable are where no changes in existing land use are expected, so no additional growth in households and employment are expected. Tax lots classified as stable are fully excluded from the buildable lands.

First, tax lots with non-commercial structures on developed land were classified as stable. This captures residential uses in the planning area. The average building value (\$125,474) was then used to create a break point for building value to estimate redevelopment potential. Tax lots with a building value of \$150,000 or more were included in the analysis as “stable” the remainder are classified as redevelopable. This cutoff point was based on a combination of average building value and input from local property owners about their interest in redeveloping.<sup>32</sup>

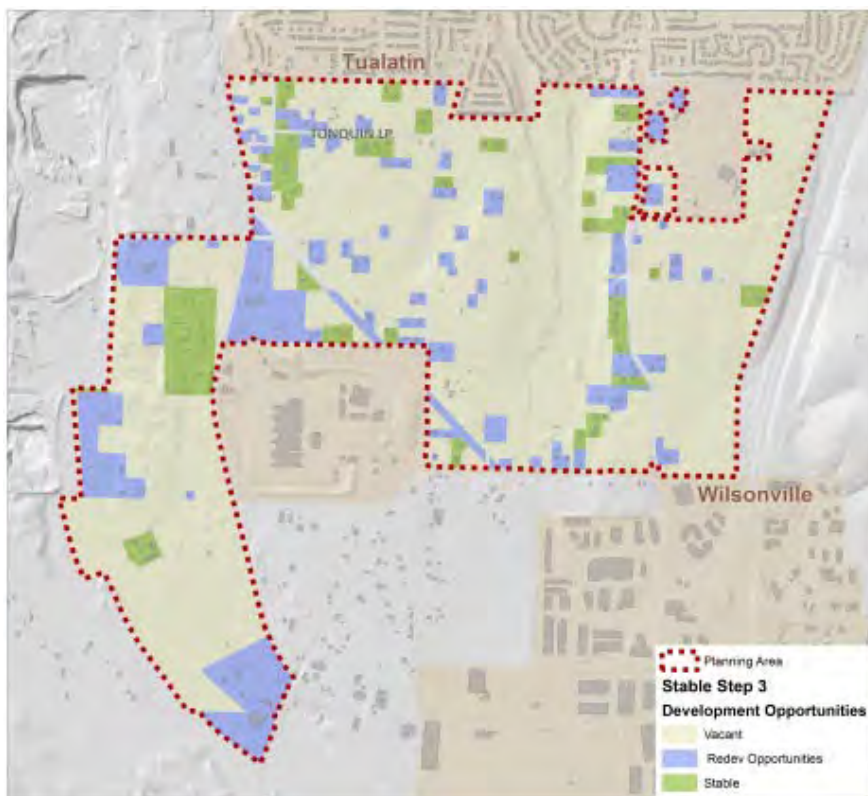


Figure 55 Vacant, Stable and Redevelopable Land in the Basalt Creek planning area, as identified by combining Metro data and visual survey data. Source: Fregonese Associates, RLIS 2014.

<sup>32</sup> Raising the cutoff from \$125,000 to \$150,000 makes an assumption that most properties will redevelop as they have been developed previously under rural circumstances. There are a reasonable number of properties in the third and fourth quantiles of property values that are stable, but not as many as are likely to redevelop.

### Local Input

The final step refines the stable and redevelopable tax lot inventory using information gathered through the planning process. A number of stakeholder interviews and focus groups were held with property owners in the planning area. Input gathered from these meetings was used to refine the assumptions from steps 1-3.

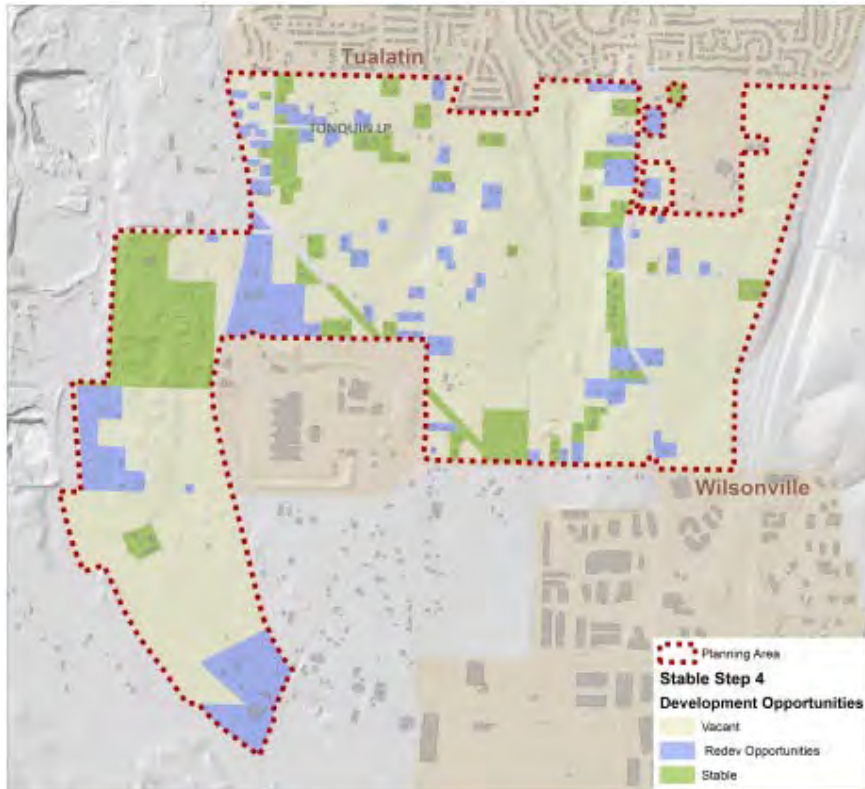


Figure 56 Final Map of Vacant, Stable and Redevelopable Land in the Basalt Creek planning area, as identified by combining Metro data, visual survey data, and local input from property owners. Source: Fregonese Associates, RLIS, local property owner input 2014.

### Land Supply Findings

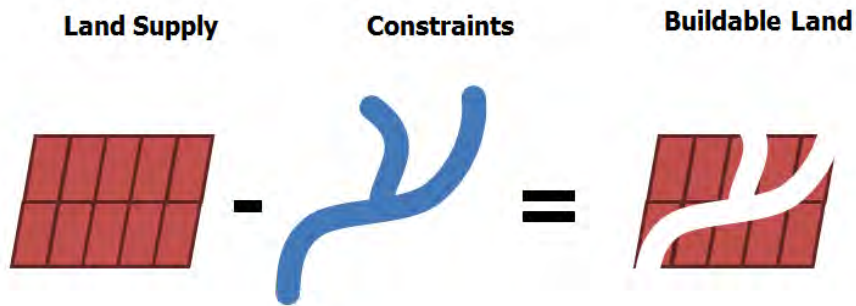
Through the process described above 43 tax lots within the planning area are defined as stable. Absent any constraints the land supply for the planning area includes:

- 596 acres of vacant land
- 117 acres of land with redevelopment potential
- 109 acres of stable land

The remaining acreage is covered by roads.

## Land Capacity

The final step in determining the land capacity for the planning area brings together the buildable lands and the land supply analysis to provide a robust estimate of land development capacity within the planning area.



**The land capacity estimate for the planning area is 391 acres.** This land capacity analysis will form the foundation for determining land use suitability and creating the development alternatives in the next phase of the project.



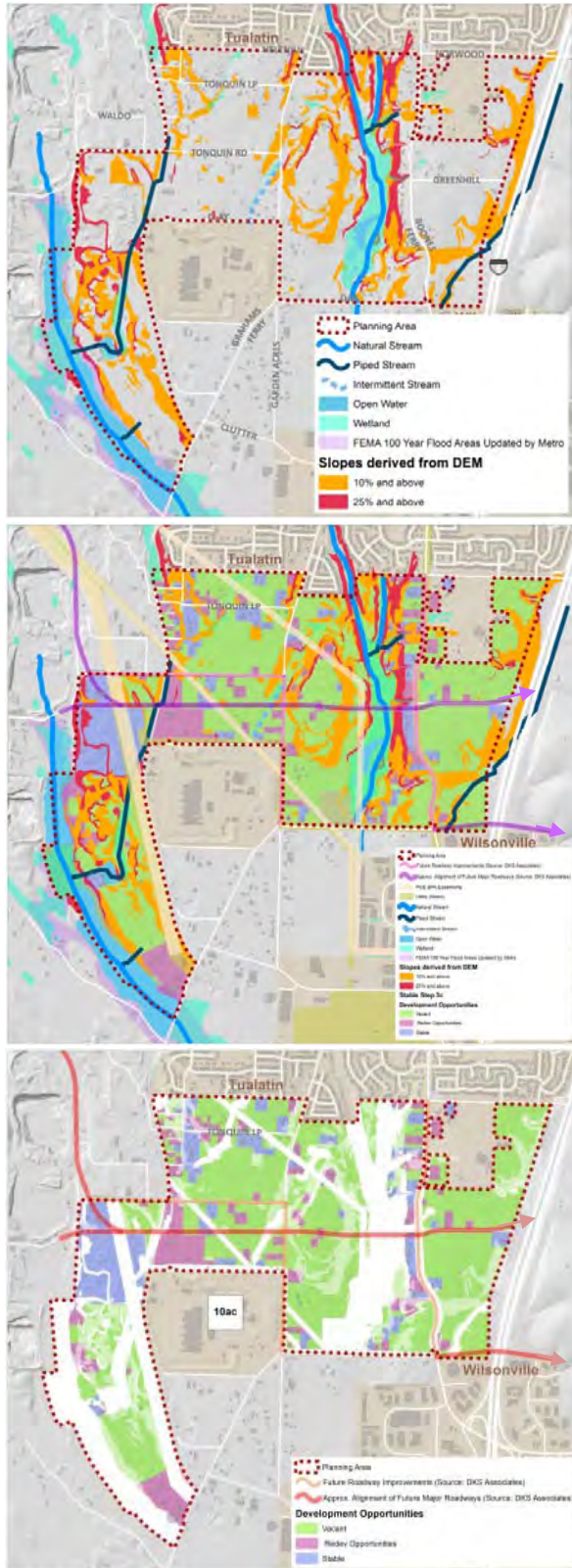


Figure 57 Sequence of maps illustrating the data and steps used to determine the total acreage of developable land in the Basalt Creek planning area. Source: Fregonese Associates 2014.

Public Involvement Plan  
Basalt Creek Concept Plan  
April 2014

## OVERVIEW

This document outlines the Public Involvement Plan for the Basalt Creek Concept Plan and includes in detail the outreach, education and communication services that the project team, comprised of the Fregonese Associates Team (FA Team) and staff from Tualatin and Wilsonville, will use to engage the public and stakeholders in development of the Concept Plan. The FA team will work closely with cities of Tualatin and Wilsonville Project Management Team (PMT) to coordinate and develop a transparent planning process based on the best available data, including meaningful public engagement strategies to prioritize critical issues. The FA Team will communicate clear and realistic growth scenarios and ultimately develop consensus around an achievable preferred land use strategy.

This memo is organized around four **major tasks**:

- I. Engagement Materials
- II. Targeted Stakeholder Outreach
- III. Public Events and Online Surveys
- IV. Informational Updates & Announcements

Within each of the major tasks, **task deliverables** from the detailed scope of work are included and outlined in detail. For each **task deliverable**, the Public Involvement Strategy includes the following information:

- **Description and Purpose**  
Describes the purpose of the deliverable to provide context for the activity and its relationship to the overall project
- **Materials**  
Each task deliverable may contain one or more than one set of materials, which will be identified in this section
- **Roles**  
Anticipated roles are identified for the PMT and FA Team within each task

### Roles and Responsibilities Framework

- The **Fregonese Associates Team** (FA Team) refers to the prime project consultant, Fregonese Associates, and includes the sub-consultants CH2M Hill (CH2M), Leland Consulting Group (LCG),

and DKS Associates (DKS), collectively referred to in this document as the FA Team. As the prime consultant, Fregonese Associates staff will lead the consultant team, working as the point of contact for the PMT, identifying methods and analysis approach, developing the outreach strategy, and managing the project timeline based on the agreed-upon work program.

- **Project Management Team (PMT)** consists of the project managers from the Cities of Tualatin and Wilsonville. The project managers from each city will make decisions as a team and communicate with the FA Team as one decision-making entity. To streamline the revision process throughout the project, the FA Team requests that all feedback is consolidated through the PMT. Once established, the agreed-upon deadlines for review must be met to keep the project on schedule. The PMT will manage the process of keeping staff from their respective individual cities informed during plan development. The PMT will also coordinate information distributed to the community. Any information distributed publicly for the Basalt Creek Concept Plan will be reviewed in advance by the PMT.
- The **Agency Review Team (ART)** is tasked with the primary role of advising staff members of both cities about regulatory and planning compliance. Input gathered from the ART will be included in regular staff updates to the Planning Commissions and City Councils. Involvement in this group will be required for some key agencies that need to approve or agree with the concept plan, while other agencies will be invited to participate in the planning process when their advice is needed on specific issues. The ART will include members from the following organizations:
  - Essential Agencies
    - Metro
    - ODOT
    - Tualatin Valley Fire & Rescue
    - Washington County
    - Bonneville Power Administration
  - Invited Agencies
    - City of Sherwood
    - City of Tualatin (Departments other than Community Development/Planning)
    - City of Wilsonville (Departments other than Community Development/Planning)
    - Clackamas County
    - Clean Water Services
    - Northwest Natural
    - Portland General Electric
    - Sherwood School District
    - SMART
    - Tigard/Tualatin School District
    - Tri-Met
    - Wilsonville/West-Linn School District

Major agreements will be discussed at meetings, but some elements or decisions for moving forward with technical work may be made outside of team meetings. As appropriate, the ART

will be consulted with and informed. As requested, additional staff from each agency will be copied on communications for meetings, review of materials, and general coordination.

- **Joint Council** refers to Council Meetings involving Councils from both the City of Tualatin and the City of Wilsonville. The Tualatin and Wilsonville City Councils will be the ultimate decision-making body for the final Basalt Creek Concept Plan. Both City Councils are tasked with approving the guiding principles, selecting the preferred land use scenario (which will also include the provision of public services), identifying future jurisdictional boundaries, and approving the Final Basalt Creek Concept Plan.
- The **Tualatin City Council** and the **Wilsonville City Council** will convene independently to review and discuss issues that require greater input from their respective City Councils. Specifically, measures, ordinances, and resolutions to amend the individual Cities' Codes will be needed to implement the final plan. The Tualatin City Council and the Wilsonville City Council will receive regular briefings from their respective staff throughout the planning process.
- The role of the **Tualatin Planning Commission** and the role of the **Wilsonville Planning Commission** will be to consider input gathered through community engagement and from the ART and make recommendations to their respective City Councils. In addition, they will serve in their advisory capacity to respectively amend the Tualatin Community Plan Map and the Wilsonville Development Code and Comprehensive Plan to implement the final Basalt Creek Concept Plan.

### Revision Process

For all deliverables there will generally be two rounds of review and document editing, with approximately one week for each round (one week for the PMT to review an initial draft, and another week for the consultant to make revisions and submit to PMT for final comments and edits). This timeframe, however, is general. The exact timeframe for the revision process of each deliverable will be determined on a case-by-case basis according to the level of complexity and lead time necessitated by respective public meeting laws of each City. For example, materials for use at Individual and Joint Council meetings must be submitted to city recorders' offices at least one week in advance of the meeting date. In some cases, the PMT may need more than one week to submit comments to the consultant, as they will be coordinating and consolidating comments between the Cities of Wilsonville and Tualatin.

### Public Involvement Strategy Goals

The Cities of Tualatin and Wilsonville are committed to public involvement that:

- Provides early and ongoing opportunities for stakeholders to raise issues and concerns
- Facilitates equitable and constructive communication between the public and project team
- Empowers residents to become involved with the project
- Encourages participation with other planning efforts in both cities
- Provides the public with balanced and objective information to help them understand the problem, alternatives, opportunities and solutions

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- Offers alternative accommodations to encourage participation of all stakeholders regardless of race, ethnicity, age, disability, income, or primary language
- Builds on existing communication networks and resources of both cities

## Types of Involvement

The following categories can be used to group public participation activities by depth of engagement. A table below organizes these activities by stakeholder group, while the “Communication Methods” section presents the same information, organized by milestones. It is important to note that many outreach activities can achieve multiple levels of engagement, depending on the activity objective, design, and contextual factors.

### **Informing**

This level of participation will focus on educating and informing all interested parties (even those who are just peripherally interested) about the project background, status updates, public events and participation opportunities and major milestones and decision points. The level of technical detail about a given topic will be tailored to be audience-appropriate. For example, the level of detail about environmental constraints analysis methodology will be greater at an ART meeting than at a public open house, because ART members are staff or regulating and enforcing agencies. However, more detailed information will often be made available to the public should a reasonable request for it be made. Informing is the most broadly used level of engagement in many cases because it is a precursor to higher levels of engagement and must reach a large number of stakeholders.

### **Consultation**

Consultation with stakeholders entails asking them to provide input on the goals, alternatives and plan. This level of engagement is critical for identifying major issues and concerns among particular stakeholder groups as well as the general public. Different opportunities for providing input will be designed to be appropriate for a range of stakeholders. In essence, this level involves “checking in” with stakeholders to say, “did we get it right?” Surveys and open houses can achieve this level of engagement, among others.

### **Participation**

Participation requires that stakeholders are helping to define and shape project goals, evaluating options and alternatives, and possibly helping to shape recommendations to be included in the plan. Public meetings, workshops, or work sessions can achieve this level of engagement.

### **Collaboration**

Stakeholders help to craft alternatives in collaborative engagement activities. It involves a high level of project detail and usually long-term commitment to reviewing background documents. Technical experts as well as elected officials and decision-makers are commonly leaned upon to perform these duties, though citizen advisory committees and stakeholder group representatives may also contribute substantial efforts. The audience for this level of engagement includes stakeholders who have a higher

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level of interest in the project and those who will be interested and impacted by the outcomes of the project.

## **Partnership**

The most engaged level of participation, partnership entails shared responsibility for developing and implementing solutions, as well as decision-making authority. This level of engagement frequently occurs at the institutional level, with public agencies and elected bodies, as well as private-sector representatives, cooperating to agree upon and apply solutions to realize the best possible outcomes for the public interest. The City Councils of Tualatin and Wilsonville will have the final decision making authority for the project. Informed by the input from the public workshop and staff, the City Councils will review information and make their recommendations.

## **Communication Methods**

The project team will utilize online and print communication methods to inform stakeholders about public events and opportunities to participate in the development of the plan. The following list identifies public activities and the expected communication methods which will be used to advertise these activities and events.

Council meetings for either City:

- Community calendars for individual cities
- Basalt Creek project website

Public workshop and open house announcements, including online surveys:

- Community Calendars for both Cities
- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

Release of draft plan document for review:

- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

Release of final plan document for review:

- City of Tualatin and City of Wilsonville Facebook pages
- Basalt Creek Twitter feed
- Basalt Creek project website
- Press releases to local media

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STAKEHOLDER GROUP	OUTREACH ACTIVITY	PROJECT TOPICS	PARTICIPATION LEVEL				
			Partner	Collaborate	Involve	Consult	Inform
<b>Property Owners</b>	1. Focus group	Project background, Existing conditions, Guiding principles, Alternative scenarios			X		X
	2. One-on-one interviews	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	X
	3. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	X
<b>Business Owners</b>	1. One-on-one interviews	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	
	2. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	X
<b>Developers</b>	1. Focus group	Project background, Existing Conditions, Development opportunities & barriers				X	X
<b>Residents</b>	1. One-on-one interviews	Existing conditions, Guiding principles, Alternative Scenarios				X	X
	2. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	X
<b>General Public</b>	1. Project website	Project background, Project Calendar, Project FAQ, Public event announcements/reminders, Online survey link, Comment form					X
	2. Posted flyers	Workshop & open house announcements/reminders					X
	3. Email	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					X
	4. Facebook/Twitter	Link to project website, Brief project updates, Link to Online Survey, Link to online comment form, Public event announcements/reminders, Results of open houses & Workshops, Results of elected officials' and public agency decision points, Link to draft Concept Plan, Link to final Concept Plan					X
	5. Newsletters	Project background, Project updates, Public event announcements/reminders, Results of public events, Results of Elected officials and public agency decision points					X
	6. Online Survey	Project background, Existing conditions, Guiding principles, Alternative Scenarios				X	
	7. Online Comment form	All				X	
<b>Informed Public</b>	1. Open House	Alternative scenarios, Draft preferred scenario		X			
	2. Workshop	Project background, Existing conditions, Guiding principles, Alternative scenarios		X			
	3. Draft Review	Draft preferred scenario		X			
	4. Public Hearings	Final preferred scenario, Jurisdictional boundary			X		
<b>Hard-to-reach Groups</b>	1. Phone calls	Project background, Public event announcements/reminders					X
	2. Mailers	Project background, Public event announcements/reminders					X
	3. Multi-lingual materials	Project background, Public event announcements/reminders					X
<b>Elected Officials</b>	1. Informational briefings	Project updates, Public feedback, Major milestones (existing conditions, draft and preferred scenarios), Preparation for decision points					X
	2. Work sessions	Concept plan discussion, Jurisdictional boundary discussion		X			
	3. Draft review	Jurisdictional boundary, Final concept plan		X			
	4. Plan acceptance	Jurisdictional boundary, Final concept plan	X				
<b>Non-profits, schools, religious and advocacy groups</b>	1. Email	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					X
	2. One-on-one interview	Existing conditions, Guiding principles, Alternative scenarios				X	
	3. Open House	Alternative scenarios, Draft preferred scenario			X		
	4. Workshop	Project background, Existing conditions, Guiding principles, Alternative scenarios			X		
<b>Media</b>	1. Press releases	Project updates, Public event announcements/reminders, Online survey link, Link to comment form, Results of public events, results of Elected Officials and Agency decision points, Link to Concept Plan draft, Link to final Concept Plan					X

# I. OUTREACH MATERIALS

## Deliverables

1. General Milestone Calendar
2. Project Branding (Logo)
3. Stakeholder Contact List
4. Periodic Email Updates
5. Press Releases
6. Newsletter Articles
7. Materials for Project Website
8. Social Media

## 1. General Milestone Calendar

### Description and Purpose

A milestone calendar will be created to communicate an overview of the project process and timeline to the general public, key stakeholders and decision makers. The General Milestone Calendar will be an attractive, easy-to-understand flow diagram communicating the timing and sequence of major project milestones, public engagement opportunities and decision points. This graphic will be utilized in print, online and in presentations.

The purpose of a general milestone calendar is to:

- a) Facilitate public understanding of the general flow and sequencing of project tasks
- b) Alert the public, key stakeholders and decision makers in advance of critical junctures where their input is needed, including but not limited to:
  - a. Public meetings and events
  - b. Review/comment periods for draft concepts and documents
- c) Communicate updates in the timing or sequencing of key milestones

### Materials

*Key dates to show on the General Milestone Calendar will include but not be limited to the following:*

- ART meetings
- Joint Council Meetings
- Planning Commission Meetings
- Development of Guiding Principles
- Existing Conditions Report
- Public Workshop
- Development of Alternative Scenarios
- Public Open House



- Development of Final Plan
- Plan Acceptance Decision
- Availability of draft jurisdictional boundary memo for public review (review/comment period)

## Roles

### Project Management Team

- Review and provide feedback on General Milestone Calendar
- Distribute the final General Milestone Calendar to agency leads and other decision makers

### FA Team

- Design the Draft General Milestone Calendar
- Integrate comments and feedback
- Deliver final Calendar (electronic format) to the PMT and upload to project webpage

## 2. Project Branding

### Description & Purpose

The FA Team will develop a project logo which will be used on all outreach materials, reports and the website to create and reinforce the project identity. The purpose of branding is to establish a recognizable identity for the project. The FA Team will provide web and print-ready formats of the final logo to the PMT. File formats will include JPEG, Adobe Illustrator and PNG.

### Materials

A project logo and associated graphics will include attractive, easy-to-understand visual elements that reinforce agreed-upon guiding principles and project priorities.

## Roles

### PMT

- Provide feedback on the project logo

### FA Team

- Design project logo
- Distribute a web- and print-ready version of the logo for use by the PMT; upload and incorporate into project website
- Incorporate the project logo in PowerPoint presentations, outreach materials, reports and the project website materials

### 3. Interested Persons Contact List

#### Description & Purpose

The FA Team will collaborate with the City of Tualatin and City of Wilsonville to effectively utilize the existing contact list of interested persons. Stakeholders on the contact list will receive periodic email updates corresponding to major project milestones, including notices of public events. The stakeholder contact list will be managed by the City of Tualatin and used to send project update messages via email.

#### Materials

The master contact list will include names, email addresses, phone numbers, and addresses of stakeholders. This contact list should also track stakeholder types (i.e. property owner, business owner, resident) and organizational affiliations. The contact list can be used to track additional stakeholder information, such as identifying interview candidates, focus group members, or workshop attendees.

The contact list should include but not be limited to the following:

- Property Owners and Neighbors
- Other residents and tenants
- Tualatin Community Representatives (CIOs)
- Wilsonville Community Representatives
- Tualatin Business Representatives
- Wilsonville Business Representatives
- Westside Economic Alliance Representatives
- Horizon School Representatives
- Agency Review Team
- Stakeholder Interviewees

#### Roles

##### PMT

- Collect new contact information from stakeholders by providing and collecting sign-in sheets at the public workshop and open house
- Manage and update master email distribution list
- Reach out to community groups to request permission to add their members to the outreach contact list
- Protect the addresses and privacy of individuals on the contact list
- Provide the FA Team with existing project email distribution lists. May necessitate merging of lists between organizations

##### FA Team

- Protect the addresses and privacy of individuals on the contact list
- Provide PMT with access to contact information collected through online surveys

## 4. Email Updates

### Description & Purpose

The purpose of on-going communications via email (using the Interested Persons contact list described above) is to highlight positive momentum toward achieving community goals. Email updates will be sent to the email distribution list described above to communicate project milestones and to notify stakeholders of the public workshop, open house, online surveys, online public draft documents, etc, as needed.

### Materials

General project updates may include, but not be limited to the following information:

- Status of the project in relation to the General Milestone Calendar
- Upcoming opportunities for public engagement
- Links to results and images from recent outreach activities
- Links to the online surveys
- Links to the project webpage
- Public availability of draft or final documents
- Outcomes of Joint Council meetings or major decision points
- Contact information for project management

### Roles

#### PMT

- Establish a PMT strategy for review of email content
- Review and approve a template for email updates
- Review and approve content for email updates
- Establish a project email address and contact for email blasts

#### FA Team

- Prepare an email template in Mailchimp (or similar service) to manage messaging to email distribution list
- Prepare content for email updates in consultation with the PMT
- Send email blasts prior to public meetings and at key milestones, once content is approved by PMT

## 5. Press Releases

### Description & Purpose

Project press releases will be issued jointly by the City of Tualatin and the City of Wilsonville on project-branded letterhead to reach local and regional media contacts at key milestones. The City of Tualatin, City of Wilsonville and the FA Team will jointly prepare and review press releases prior to issuing them.

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Each City will send the releases to their local media contacts and they will also be shared with regional media contacts via the FlashAlert Newswire ([www.flashalert.net](http://www.flashalert.net)). Press releases will also be shared via the project's Twitter account, each City's Facebook page, and each City's website. Each press release will have two contacts—one from the City of Tualatin and the other from the City of Wilsonville. The FA Team will post the press releases on the project website.

### Materials

Press releases will be posted on each City's websites, Facebook pages, project-specific Twitter feed, and on the Basalt Creek project website.

### Roles

#### PMT

- Draft press releases at key project milestones
- Review, edit and approve content
- Issue press releases to local and regional media contacts
- Post press releases to project Twitter feed, City Facebook pages, City websites, and the project website.
- The project contacts for each City will respond to media inquiries in a timely manner and report back to the PMT
- Media coverage will be shared on the project-specific Twitter feed

#### FA Team

- In coordination with the PMT, draft and edit press releases and post press releases and media coverage to project website

## 6. Newsletter Articles

### Description & Purpose

Both the City of Tualatin and the City of Wilsonville have monthly newsletters that are mailed to their residents. Each City will be independently responsible for drafting and running articles in their newsletter at key milestones throughout the project. These articles may be based on the project press releases, but also may include information about upcoming meetings and other related content.

### Materials

Newsletter articles will be run in each City's newsletter at key milestones throughout the project.

### Roles

#### PMT

- Draft articles at key milestones based on press releases or other content
- Review, edit and approve articles
- Run and distribute articles in each City's monthly newsletter and on the project website

#### FA Team

- In coordination with the PMT draft and edit articles and post to project website

## 7. Materials for Project Website

### Description & Purpose

The existing project website will be utilized to provide project information such as background, objectives, milestones, and key engagement opportunities, as well as a venue to post draft and final documents for public review.

The overarching goals of the project website are distributing information to the public and key stakeholders and gathering their feedback at decision making points. The website should include the following:

- Project background and timeline
- Updates on milestones and key decision points
- Announcements of public involvement opportunities
- Results of outreach efforts
- Downloadable PDFs of website content and other engagement materials including project background and timeline, event announcements, etc.
- Links to the project's Facebook page and Twitter feed, as well as other relevant projects such as the SW Tualatin Concept Plan, Coffee Creek, 124<sup>th</sup>, Boones Ferry Road, etc.

### Materials

The FA Team will update, manage and provide text and images for website updates to the PMT corresponding to key milestones and decision points, public involvement opportunities, and draft and final documents as identified in this Public Involvement Plan. These updates will be tracked on a detailed (internal) Project Team Timeline and coordinated on an as needed basis.

### Roles

#### PMT

- Review, edit and approve website content
- Provide and host website URL
- Prepare and update a FAQ about the project

#### FA Team

- Provide initial review of the website structure and content and implement any changes or additions with PMT oversight
- Establish an RSS feed on the project website
- Provide draft and finalized content updates including PDFs, text and graphics to the PMT for approval

- Coordinate email blasts and website updates
- Manage and upload new materials for the website that are included as part of the Public Involvement Plan

## 8. Social Media

### Description & Purpose

Facebook page and Twitter feeds will provide another means for stakeholders to stay connected with the project progress. The Cities of Tualatin and Wilsonville will utilize their existing Facebook pages and Twitter feeds to provide Basalt Creek Plan updates and links to the Basalt Creek webpage including notices of public events and when new material is posted to the Basalt Creek project website. Posts will be added throughout the project at major milestones and as there are noteworthy updates to report. The City of Wilsonville will also develop a twitter feed specific to the Basalt Creek project which will help further advance public information and guide interested parties to the Basalt Creek Website.

### Materials

Facebook and Twitter content posted to City sites and a Basalt Creek specific Twitter feed.

### Roles

#### PMT

- Create brief, periodic Facebook and Twitter posts
- Review, edit and approve content
- Post content to Facebook and Twitter
- Content for updates will be generated by the PMT in collaboration with the FA Team.

#### FA Team

- In coordination with the PMT generate content and provide advice for Facebook and Twitter posts

## II. TARGETED STAKEHOLDER OUTREACH

### Task Deliverables

1. Interviews
2. Stakeholder Groups
3. Agency Review Team (ART)
4. Planning Commission Briefings
5. Individual Council Information Sessions
6. Joint Council Decision Information Sessions

## 1. Interviews

### Description & Purpose

The purpose of stakeholder interviews is to gain a better understanding of stakeholder goals and interests. These meetings will serve to highlight key issues of concern within the planning area, and other issues that relate to development and implementation of a project vision for the concept plan. These interviews will likely take place within the first six months of the project.

The FA Team will interview a selection of four community members, property, and business owners and other stakeholders identified by the PMT, selected from the following community groups:

- Property and business owners in Basalt Creek
- Community representatives from both Cities
- Residents of Basalt Creek
- Business owners/ representatives from both cities
- Westside Economic Alliance
- Horizon Church

### Materials

Materials will include an interview guide with general interview questions and topic areas for discussion.

### Roles

#### PMT

- Identify interview candidates
- Make initial contact with interview candidates, assess willingness to participate
- Identify priority questions and topic areas to discuss with interviewees
- Help identify and secure locations for interviews

#### FA Team

- Identify interview candidates in partnership with the PMT
- Review list of interview candidates with PMT
- Lead and facilitate the stakeholder interview discussions
- Create and print maps to guide interview conversations
- Keep a written record of interview conversations
- Provide notes of interview findings to the PMT

## 2. Focus Group Meetings

### Description & Purpose

Focus group meetings will be conducted with 6-7 participants and will be based on an open discussion format facilitated by the FA Team. These meetings will serve to highlight key issues of concern within the planning area, and other issues that relate to development and implementation of a project vision

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for the concept plan. These meetings should take place within the first six months of the project. The FA Team proposes to conduct two focus groups meetings, one with developers and one with key property owners. Focus group member candidates will be identified through collaborative efforts between the FA Team and the PMT.

## Focus Group #1: Developer Roundtable

The Developer Roundtable is a forum which will be used to gather valuable information related to general and specific development opportunities and barriers in Basalt Creek. Involving developers at the local and regional level will help characterize and contextualize development potential and constraints in the area.

## Focus Group #2: Property Owner Meeting

The Property Owner Meeting is a stakeholder meeting for a small group with 6-7 property owners from the area (preferably a mix of both commercial and residential property owners). This meeting will provide a forum to learn about property owner priorities, concerns and suggestions for the future of Basalt Creek.

## Materials

A short presentation will be made to both groups on the overall project. Materials will include a facilitator's guide including questions and topic areas for discussion.

## Roles

### PMT

- Identify stakeholder group candidates
- Work with the FA Team to expand and revise list
- Make initial contact with candidates, assess willingness to participate
- Identify priority questions and topic areas to discuss
- Identify and reserve meeting locations
- Track responses and confirm attendance of invitees

### FA Team

- Identify stakeholder group candidates, advise on developers to include
- Work with the PMT to expand and revise list
- Develop a facilitators guide
- Lead and facilitate the stakeholder group discussions
- Create and print maps to guide conversations
- Keep a written record of group discussions
- Provide meeting notes to PMT



### 3. Agency Review Team (ART)

#### Description & Purpose

An Agency Review Team (ART) will be formed to guide the development of the Concept Plan. The primary role of the ART is to advise the project team about regulatory and planning compliance. The ART will consist of representatives from regulatory agencies identified in the “Roles and Responsibilities Framework” section at the beginning of this document. They will meet preceding major project milestones to provide technical input for Concept Plan development.

#### Materials

For all ART meetings:

- Meeting agenda
- Materials/documents for review
- PowerPoint presentations
- Presentation technology (projector, screen, etc.)

#### Roles

##### ART members

- Provide guidance to project team on specific technical questions and issues
- Act as liaisons to their own agencies
- Review and provide feedback on draft concept plan

##### PMT

- Identify and invite individuals to join the ART
- Distribute meeting agenda and meeting materials to ART members prior to meetings
- Keep the official written record of meetings including attendees, notes, comments, outcomes and next steps
- Write and distribute meeting summaries to ART members
- Provide space and printed materials for meetings
- Provide periodic updates on feedback from the ART to the Planning Commission and City Councils

##### FA Team

- Create meeting agendas
- Facilitate meeting discussions, which may include short presentations
- Create meeting materials to support agenda
- Provide PMT with FA team notes to support the development of the official written record

## 4. Planning Commission Briefings

### Description & Purpose

Planning Commission Briefings are intended to provide project updates to the Cities individual Planning Commissions prior to major decision points to identify any issues and gather feedback from the Commissions. These briefings will include, at a minimum:

- Project Updates
- Concept Plan Discussion
- Jurisdictional Boundary Discussion
- Concept Plan Acceptance

Briefings to the Planning Commissions will take place prior to Individual Council briefings. The Planning Commission engagement is important to set the stage for future comprehensive plan amendments and other planning actions that will happen within each jurisdiction as a result of the concept plan acceptance.

### Materials

Meeting agendas will be developed to focus on gathering feedback and information from the Planning Commissions including:

1. Jurisdictional Boundaries Recommendation
2. Draft Preferred Scenario
3. Draft Concept Plan

### Roles

#### PMT

- Schedule briefings
- Create meeting agendas
- Keep written record of meetings and provide FA Team with meeting notes

#### FA Team

- Provide feedback on meeting agenda

## 5. Individual Council Information Briefings

### Description & Purpose

Individual Council briefings are intended to provide project updates at key points throughout the planning process. Briefings will include:

- Project updates
- Discussions about major milestones (Existing Conditions, draft and preferred scenarios)
- Identification of Council concerns and gathering feedback to inform the concept planning process

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- Preparation of Council members for upcoming Joint Council decisions points

The FA Team assumes that PMT staff will brief their Councils as the project progresses. Individual Council update sessions with the FA Team will focus on building the capacity of each Council to make informed decisions when Joint Council action is required. The staff of each City will present materials to the Individual Councils.

## Materials

Meeting agendas will mirror major project elements that require a more detailed level of understanding among the Councils. Detailed briefings will allow Councils to validate project direction and provide guidance to the PMT and FA Team. Following are the suggested meeting topics for the FA Team to present to each Council for their input:

1. Draft Existing Conditions
2. Draft Alternative Scenarios
3. Draft Preferred Scenarios

## Roles

### PMT

- Schedule informational briefings (3 presentations to each Council with FA present; 6 meetings total)
- Keep written record of meetings and provide FA Team with meeting notes

### FA Team

- Attend meetings and present to Councils (or provide materials for PMT staff to present)
- Provide PowerPoint presentation or other written materials in advance, consistent with the individual cities' requirements

## 6. Joint Council Decision Information Sessions

### Description & Purpose

The Joint Council meetings will include informational presentations, facilitated discussions, and action regarding key decision points. There are four key decision points:

- Adoption of Guiding Principles and Review of Existing Conditions
- Decision on a Preferred Scenario
- Decision on Jurisdictional Boundaries
- Approval of Concept Plan

These meetings will be critical for Joint Council decision-making. The FA Team will collaborate with the PMT to determine which content to present. The FA Team will develop presentations to illustrate the evolution of the project process and provide key data and information critical to relevant decision

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points. The Individual Council briefings will be coordinated with Joint Council meetings to deliver information in an efficient manner conducive to informed and effective decision-making.

In addition to meetings focused on the four key decision points, the FA Team will participate and lead a discussion with the Joint Council to elicit feedback for the development of the final concept plan and jurisdictional boundaries. These meetings will serve as informative discussion sessions to guide concept plan development, as well as a decision on a jurisdictional boundary. These sessions will cover:

- Alternative scenarios. The FA Team will present findings from the alternative scenarios, organized by relationship to Guiding Principles. The FA Team will facilitate a discussion of alternatives and solicit feedback. This feedback will be used to craft a preferred scenario oriented toward adoption by the Joint Council.
- Draft Preferred Scenario. The FA Team will present the draft preferred scenario. The Joint Council will have the opportunity to provide feedback on the direction of the preferred scenario. This will build on previous efforts to ensure key issues and concerns related to the concept plan are addressed.

The FA Team will collaborate with the PMT to determine the most effective methods for gathering Joint Council feedback. Methods may include instant polling questions and/or facilitated discussions.

### Materials

For each Joint Council meeting:

- Meeting agenda
- PowerPoint presentation
- Background documents
- Key discussion questions and instant polling (if used)

### Roles

#### PMT

- Schedule Joint Council meetings (up to 6)
- Keep a written record of the meetings and provide FA Team with meeting notes

#### FA Team

- Draft and revise presentations for meetings
- Present key materials and facilitate discussions, as needed
- Integrate Joint Council feedback into preferred scenario and subsequent revisions

## V. PUBLIC EVENTS & ONLINE SURVEYS

### Deliverables

1. Public Workshop
2. Public Open House
3. Online Surveys

### 1. Public Workshop

#### Description & Purpose

The FA Team will work with the PMT to design and run a public workshop that will inform the creation of a range of scenarios. We will understand stakeholder priorities through instant polling and a mapping exercise. The workshop will also inform stakeholders about the project objectives and background (through the brief presentation at the outset). Subsequent activities will be aimed at eliciting feedback about the community's vision for the Basalt Creek area. This feedback will help clarify priorities for the concept plan and inform the development of alternative scenarios.

#### Workshop Format

##### Group Presentation

The meeting will start with a brief PowerPoint Presentation from the PMT and the FA Team. The presentation will cover the planning process from start to finish, and include a description of project goals, activities and guiding principles. A project timeline with key public involvement dates will be shared with participants.

##### Instant Polling

The group presentation will transition into a set of 10 – 20 instant polling questions, which will ask stakeholders to respond to multiple choice questions about their priorities for the project. The polling results will be collected using clickers – remote devices that send instant polling results to the computer of the presenter. The tallied results can be shown immediately on the screen for all the audience to see. The FA Team will work with the PMT to develop the instant polling questions.

Example questions may include:

- Of these listed ideas, which is the most important for the future of Basalt Creek?
- Which is the least important?

To what extent do you agree or disagree with the following statements? (Scale of 1-5)

- Conservation is the top priority
- Economic development is the top priority
- Balance between conservation and development is the top priority

### Mapping Exercise

The FA Team will utilize a custom map-based exercise to gather information on community aspirations for future land uses, multimodal transportation network, employment, parks and open spaces. Following the group presentation and instant polling exercise participants will divide into small groups to perform a collaborative mapping exercise. Each group will be facilitated by a FA Team/PMT member, with assistance from other project team staff. Participants will work together in small groups using maps and icons representing future development and transportation investments. The FA Team will use the Envision Tomorrow (ET) suite of planning tools to digitize and analyze maps and comments from the public workshop to uncover themes and unique solutions to guide the scenario development and the development of a final concept plan and vision for the planning area.

### Materials

- PowerPoint presentation, including project background, objectives and timeline
- Instant Polling questions – responding to suggested guiding principles, prioritizing future policies and actions for Basalt Creek area
- Basemap – Basalt Creek project area chipsets for mapping activity
- Additional materials on boards in the meeting room as defined by FA Team and PMT
- Event flyer
- Event email announcement
- Agenda
- Sign in sheet
- Instant polling clickers and TurningPoint software
- Facilitator instructions
- Scissors, markers, and pens

### Roles

#### PMT

- Identify and reserve a venue for the workshop
- Advertise workshop; print and distribute flyers announcing workshop
- Review workshop materials (workshop flyer and email announcement, agenda, presentation, instant polling questions, maps, chips)
- Assist and organize volunteers to serve as facilitators for the event
- Provide light refreshments

#### FA Team

- Produce agenda for workshop
- Produce marketing materials to advertise public open house approximately one month in advance of the event. Materials include email announcements, project website announcements, announcement flyer or postcard.
- Prepare workshop agenda

- Develop and revise presentation, including instant polling questions
- Present at workshop
- Facilitate workshop activities, including instant polling and mapping exercise

## 2. Public Open House

### Description & Purpose

The public open house will provide participants with a comprehensive look at how each of the alternative scenarios performs, as measured against the project's evaluative criteria and guiding principles. General performance categories include transportation, housing choice, employment and infrastructure. In the brief Summary Presentation the FA Team will describe the project's public outreach and stakeholder engagement process and how public feedback was used to inform the development of the alternative scenarios.

The presentation will also briefly cover project background and objectives followed by a presentation of the alternative scenarios, accompanied by descriptions of how they each performed in different evaluative areas and indicators. The presentation will be followed by instant polling questions to understand people's preferences for different elements of each scenario, and the degree to which they support or do not support alternatives in the context of performance measures.

The FA Team will process and analyze results of the open house. Results will be communicated at ART meetings and informational Council meetings, as well as through email and website updates. Results will also be integrated into the Summary Presentation to be delivered at ART and Joint Council meetings.

### Materials

- PowerPoint Presentation, including a brief description of the project background, description of each scenario and its outcomes relative to project guiding principles and projected impacts on transportation, housing choice, employment and infrastructure indicators.
- Instant Polling questions – responding questions about support or lack of support for different elements of different scenarios (the results of which will feed into the development of the preferred scenario)
- Event flyer
- Event email announcement
- Agenda
- Sign in sheet
- Instant Polling clickers & TurningPoint software

### Roles

#### PMT

- Discuss open house approach
- Identify and secure location for open house

## Exhibit 3 to Ordinance No. 1418-19

- Review open house content
- Provide staff to assist at open house
- Provide light refreshments
- Provide open house related updates to the Planning Commission and City Council
- Integrate workshop results into Summary Presentation on public outreach

### FA Team

- Produce agenda for public open house
- Produce maps and other print materials for one public open house
- Produce marketing materials to advertise public open house approximately one month in advance of the event. Materials include email announcements, project website announcements, announcement flyer or postcard.
- Provide summaries of feedback (instant polling) from the open house event in PowerPoint

## 3. Online Surveys

### Description & Purpose

The purpose of the online surveys will be to electronically replicate the engagement opportunity of the public workshops and in-person outreach events in order to engage a broader group of stakeholders. To the extent possible, the online survey will follow the presentation and include instant polling questions from the public workshop and open house. The online format will allow participants to click through the presentation at their own pace, and then to answer the same instant polling questions asked at the workshop and open house.

The analysis of the survey results will be integrated with the feedback from the public workshop and other outreach opportunities, and used as a guide both to develop scenarios and then to select or create a preferred scenario.

The online surveys will be designed to be user-friendly and straightforward. Each survey will be open for approximately two weeks following the public events. The FA Team will process and analyze results of the survey. Survey results will be communicated at ART meetings and informational Council meetings, as well as through email and website updates.

### Materials

The FA Team will develop, conduct, and analyze the results from two online surveys. Links to the online surveys will be distributed to the stakeholder contact list via email as well as posted on the project website. Materials will include an online version of the workshop presentation, a survey posted to the project website, and a summary of survey results in PowerPoint presentation slide format.



# Exhibit 3 to Ordinance No. 1418-19

## Roles

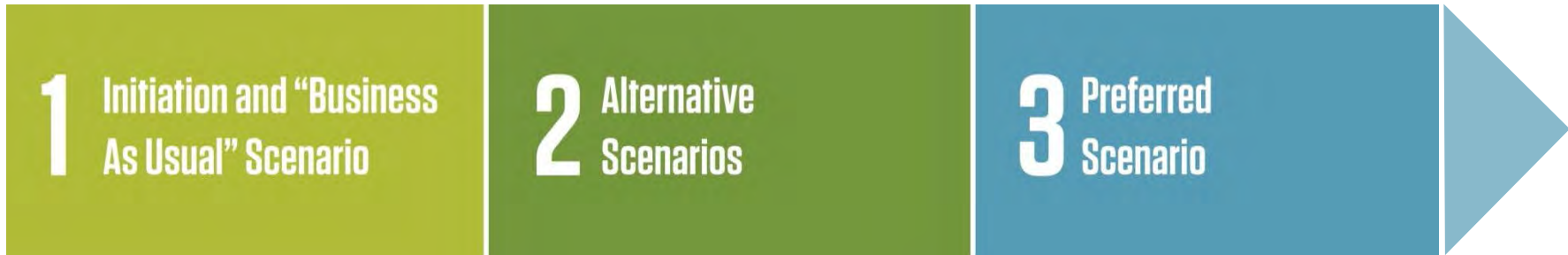
### PMT

- Provide a list of initial ideas for survey content
- Review, edit and approve website content

### FA Team

- Draft survey
- Incorporate edits from PMT
- Convert the survey into an online format and include on the project website
- Email survey link to stakeholder contact list
- Collect survey results
- Organize survey results into a summary
- Provide survey results summary to City Staff and present results to the ART; staff will present at individual Council sessions

# Scenario Planning Overview



*"Where are we headed currently?"*

*"What are the possibilities?"*

*"Where do we want to go?"*

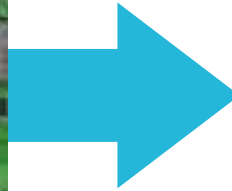
# The Present



Where we are today

# Understand Existing Conditions

# The Present



# The Future



Planning the future

# The Traditional Approach



Imagine where you want to go  
The Scenario Approach

A



B



C



D



# The Scenario Approach

# Scenarios are Crash Test Dummies

- We can test a variety of different ideas to see how each performs



# Scenario Process

- Develop Guiding Principles
- Analysis: Metro Forecast, Constraints, Land Suitability
- Seek Public Input: Design Workshop
- Create Base Case Scenario
- Create Scenario Alternatives (iteratively)
- Evaluate and Communicate
- Select Preferred Alternative



# Testing Scenarios and Choosing a Preferred Scenario

- Create and evaluate several scenarios
- Present scenarios and evaluation results to public and decision makers
- Determine jurisdictional boundary between two cities
- Select preferred scenario to inform final land use concept for the Basalt Creek Concept Plan

# Why create Guiding Principles?

- Represent **collective interests** and goals for planning area
- Provide **framework** for gathering input
- Help to develop **evaluation criteria** (indicators)

# Basalt Creek Guiding Principles

- Maintain and complement the Cities' unique identities
- Capitalize on the area's unique assets and natural location
- Explore creative approaches to integrate jobs and housing
- Create a uniquely attractive business community unmatched in the metropolitan region
- Ensure appropriate transitions between land uses
- Meet regional responsibility for jobs and housing
- Design cohesive and efficient transportation and utility systems
- Maximize assessed property value
- Incorporate natural resource areas and provide recreational opportunities as community amenities and assets

# Scenarios help us explore big questions...

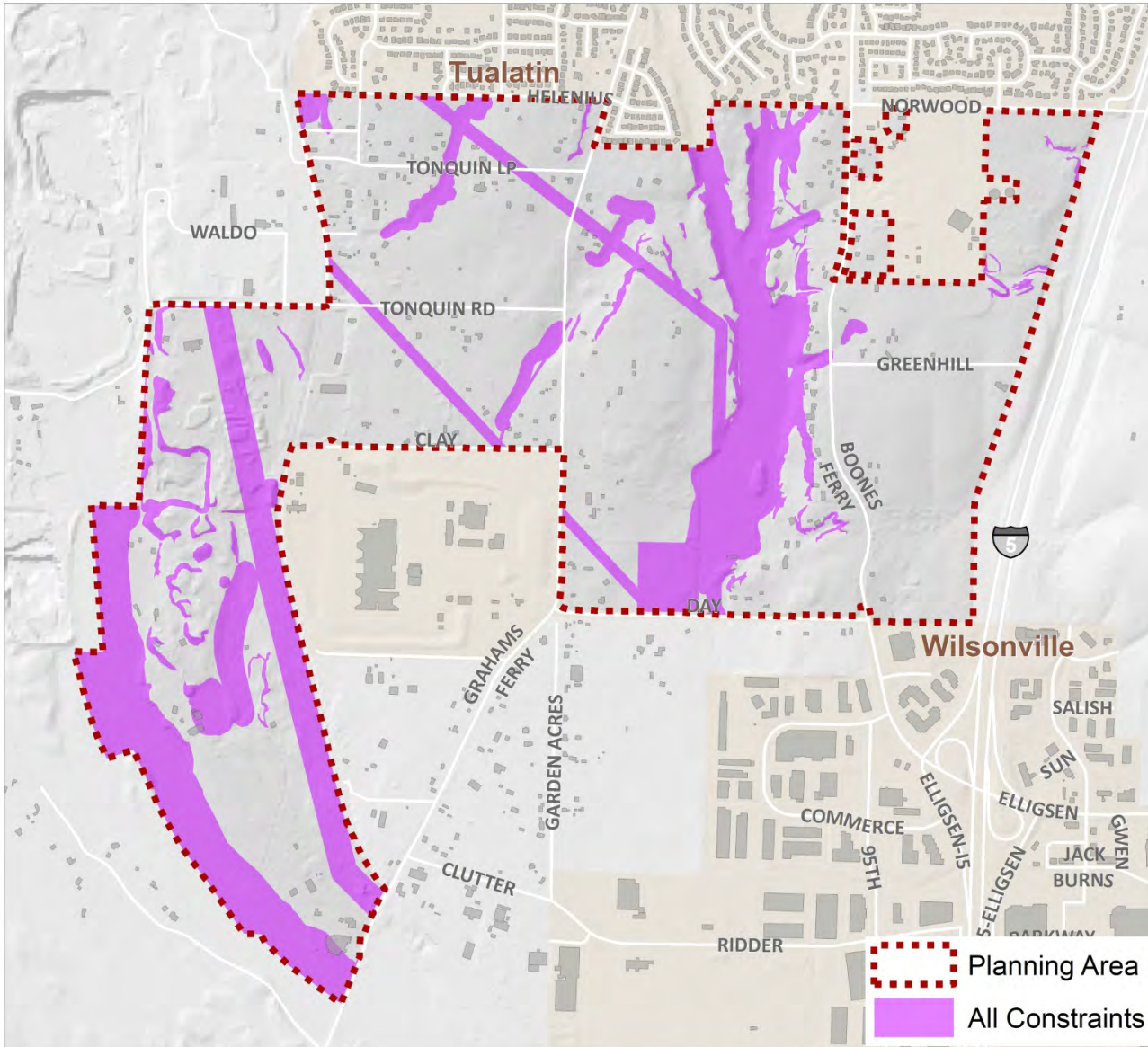
- Where should the boundary between Tualatin and Wilsonville be?
- What combination of land uses is most appropriate for the area?
- What infrastructure is needed to support future development, and what will be the cost of that infrastructure?
- Which agencies will provide public services to different parts of the area?
- How will traffic generated by new development in this area impact traffic flows and congestion levels, both locally and regionally?
- How will the benefits and costs of serving the area be balanced fairly between Tualatin and Wilsonville?

# Constraints

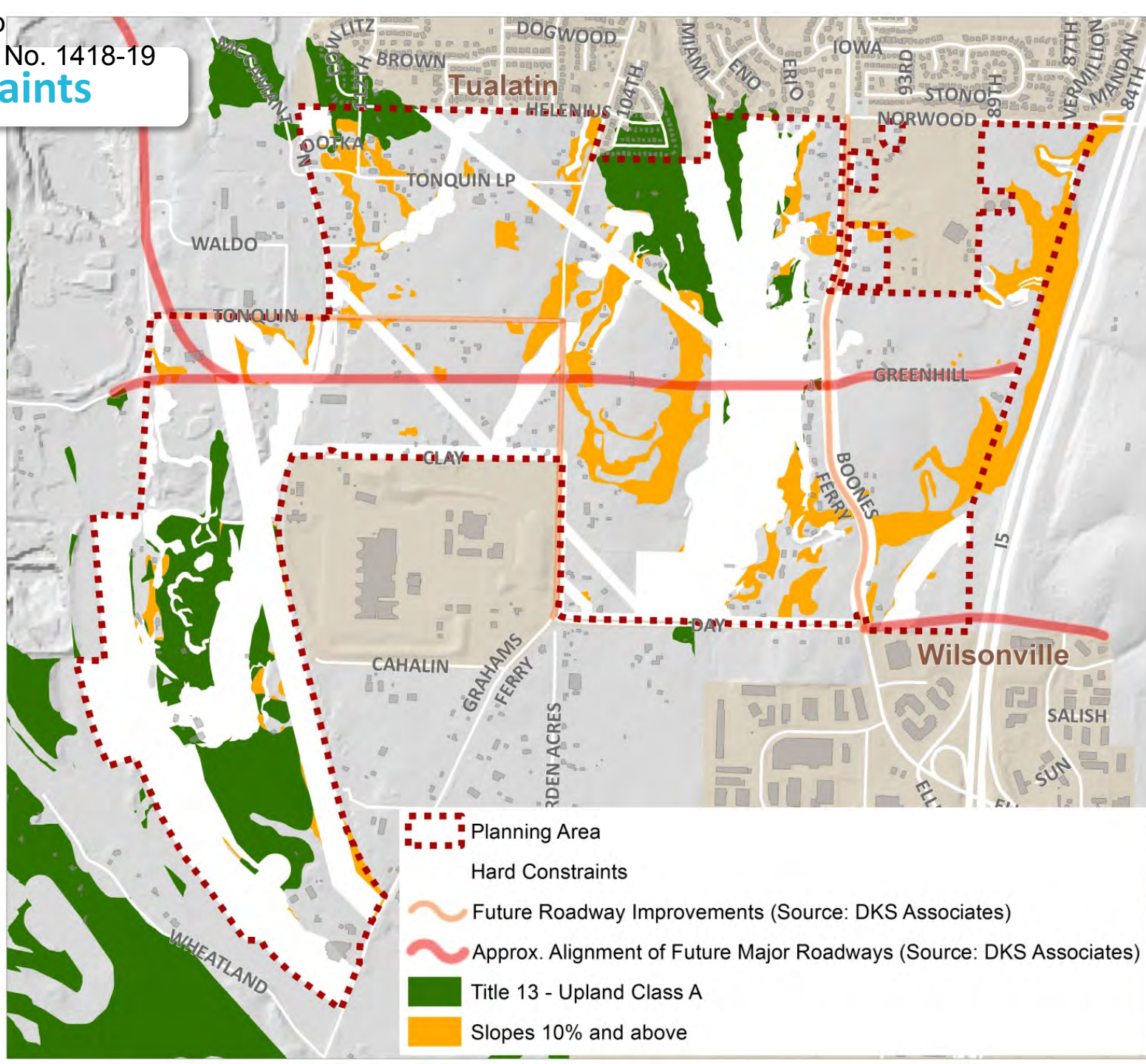
- Hard constraints are areas where development is not feasible because of policy or physical condition.
- Soft constraints are areas where development intensity may be reduced because of policy or physical conditions.

# All Hard Constraints

- **234** acres constrained
- Study area total is **847** acres
- **28%** constrained



# Soft Constraints



- Planning Area
- Hard Constraints
- Future Roadway Improvements (Source: DKS Associates)
- Approx. Alignment of Future Major Roadways (Source: DKS Associates)
- Title 13 - Upland Class A
- Slopes 10% and above

# Land Supply

## Vacant Land



Ready to build, no major structure on site

## Redevelopable Land



Some redevelopment potential  
(expansion of current use or  
change in use)

## Stable Land



Structures on land, will not  
change uses in the near  
future



Exhibit 3 to  
Ordinance No. 1418-19

# Stable, Vacant & Redevelopable

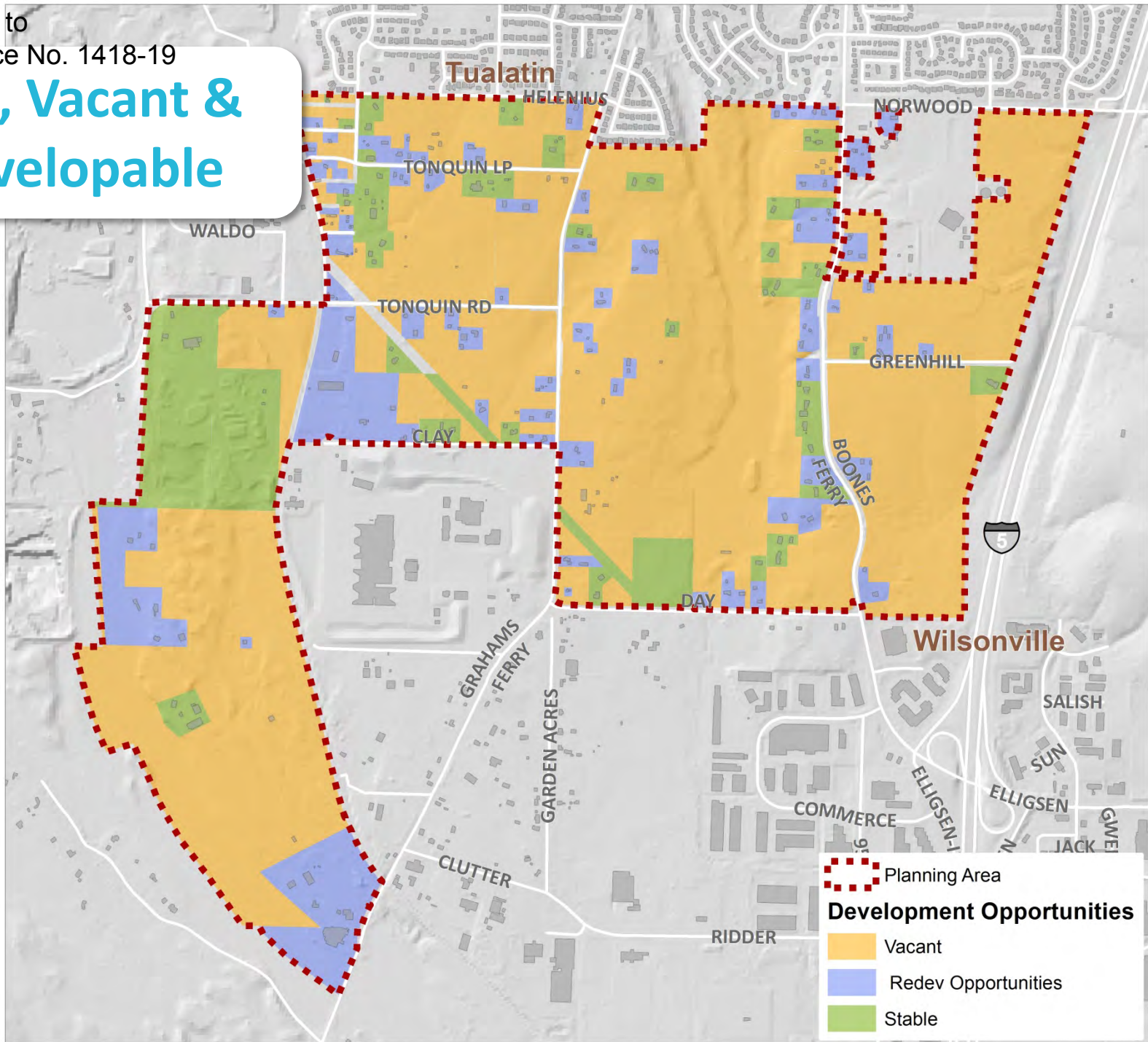
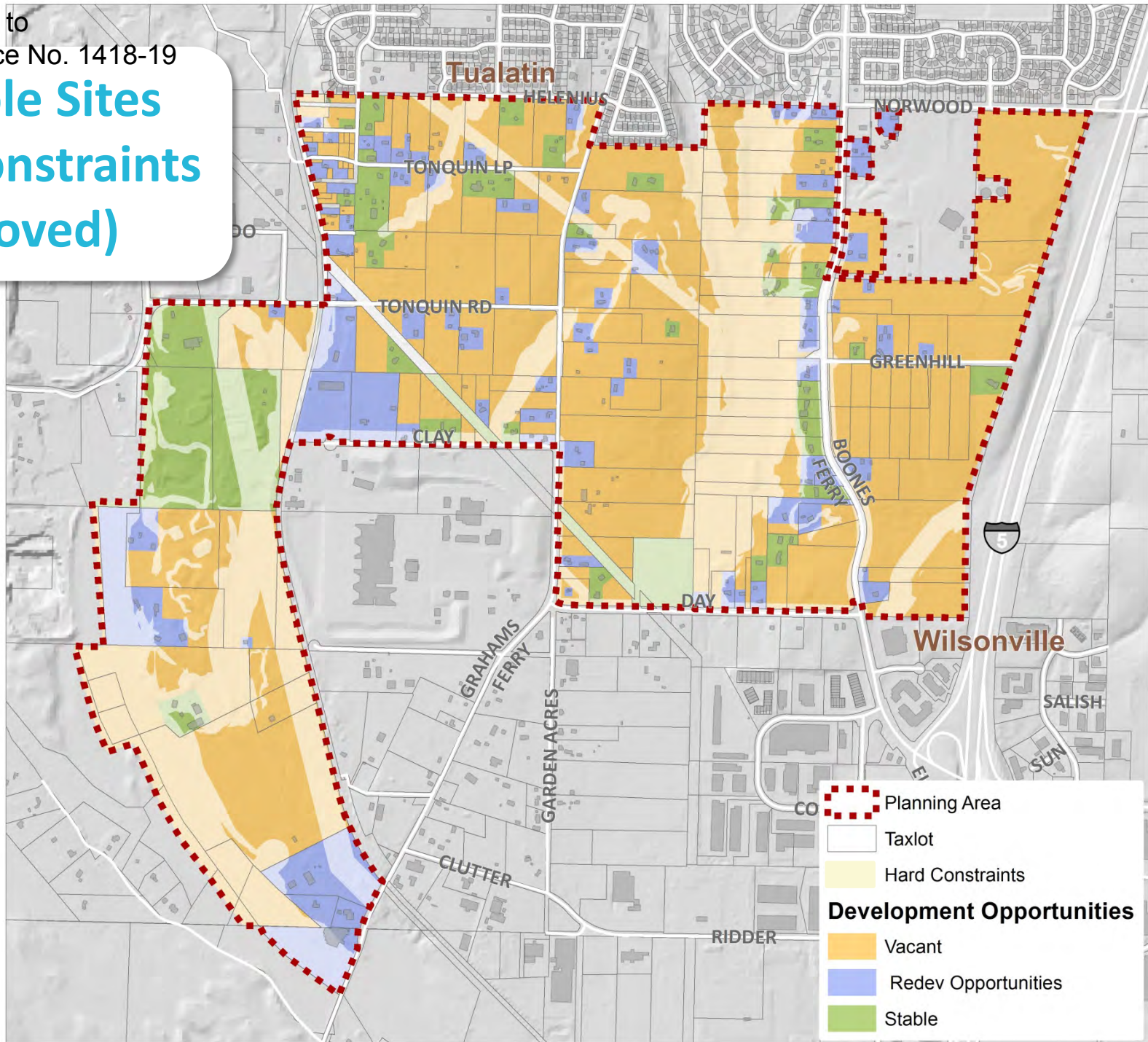


Exhibit 3 to  
Ordinance No. 1418-19

# Suitable Sites (hard constraints removed)

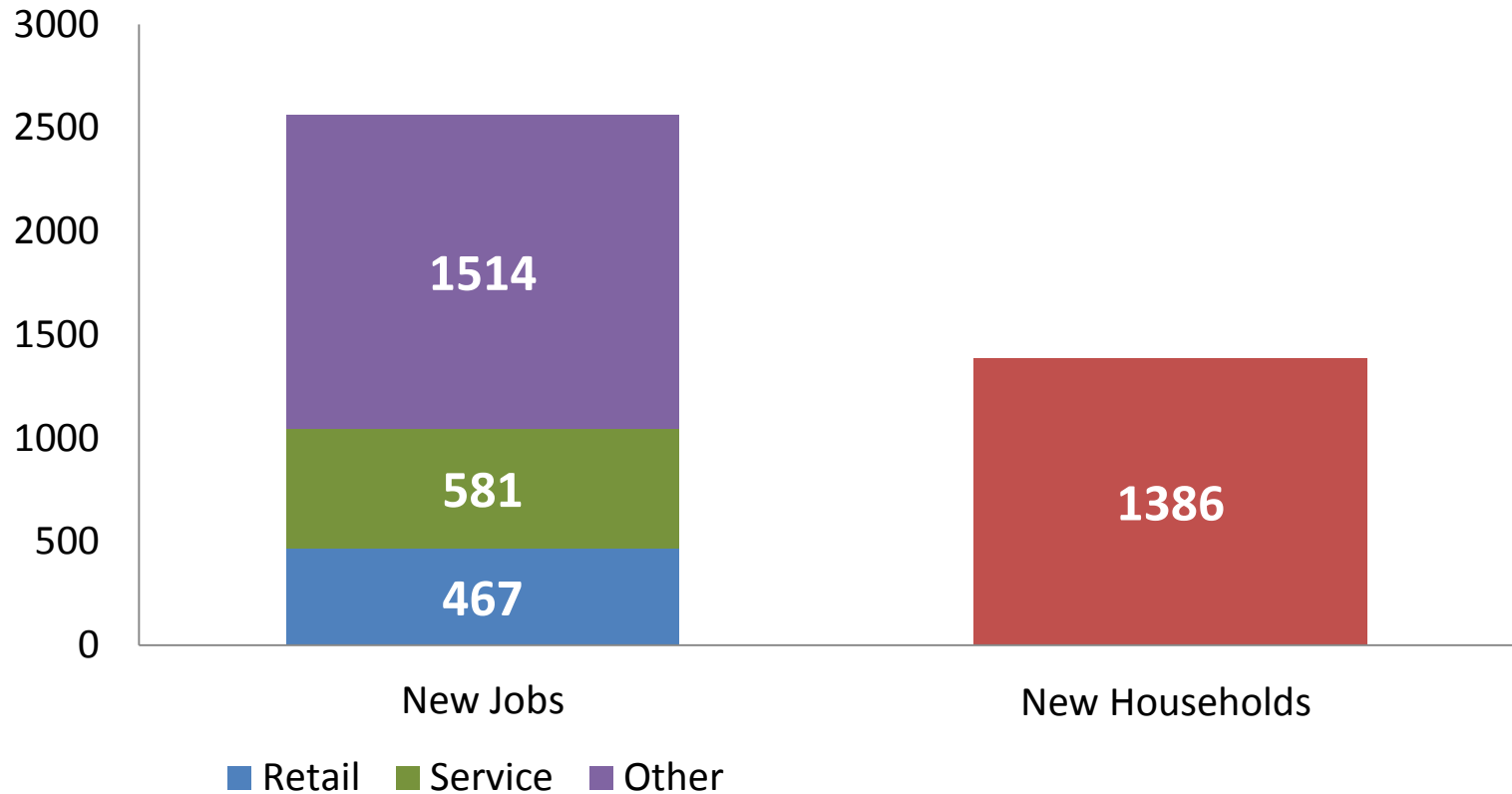


CO

- Planning Area
- Taxlot
- Hard Constraints
- Development Opportunities**
- Vacant
- Redev Opportunities
- Stable

# Metro Forecast for Basalt Creek

## 2035 Forecast (based on 2005)



# Public Input at Design Workshop

- Community input helps guide scenario development and design process
- April 2014



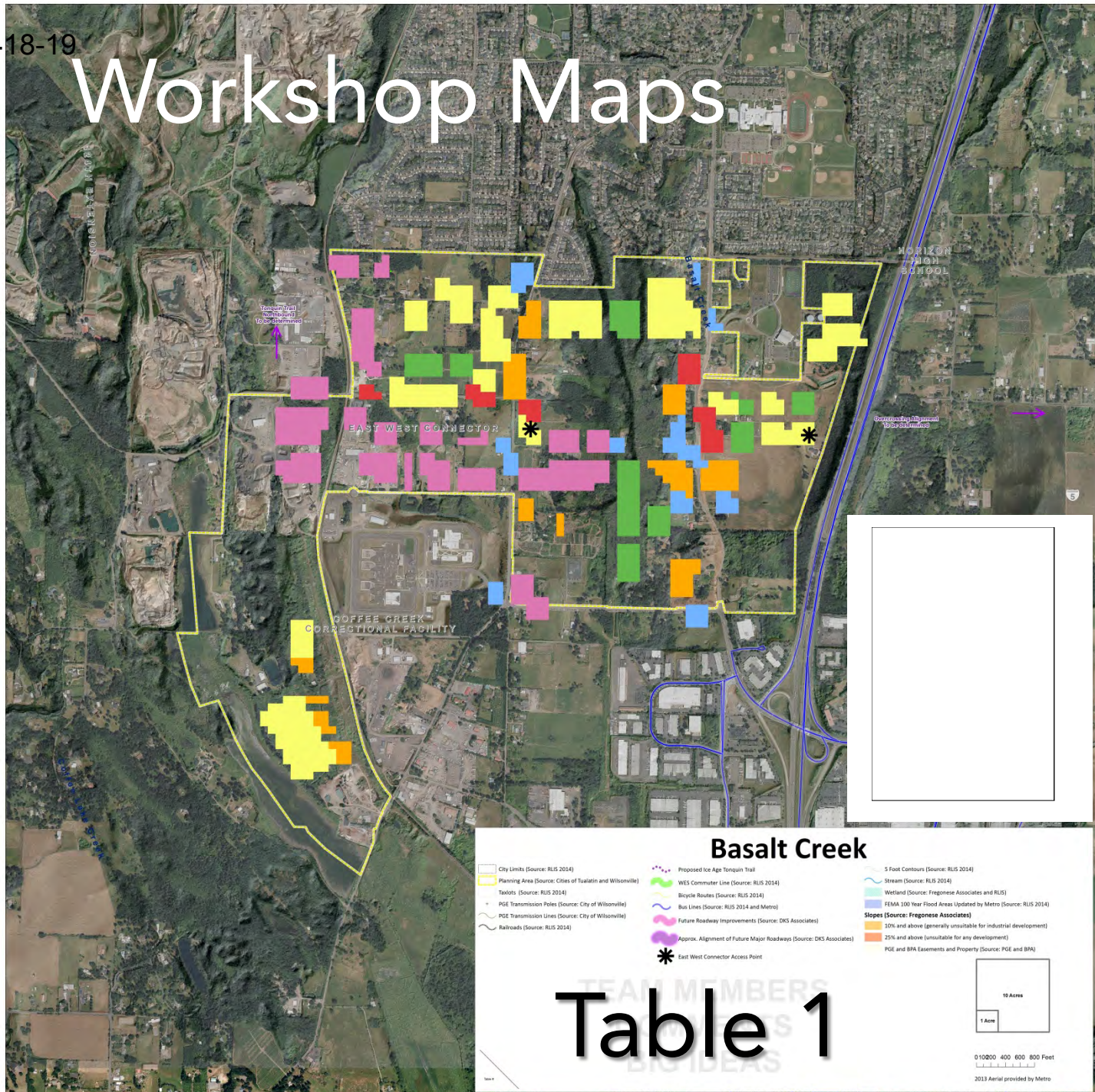
# Workshop Maps

## Goals

- Housing/schools close together
- Public amenities around wetlands
- Housing where there is transportation and other existing infrastructure
- Transit options that allow people to make trips without their cars
- Make the wetlands a source of pride and natural beauty (visual focal point/vistas)

## Comments

- Civic entertainment use – public theater?
- Seems like E-W Connector will determine how land uses are arranged
- Couth the nursery along Graham’s Ferry be encouraged to develop as a unique attraction?
- This is an opportunity do something different – provide public amenities that make the community proud.



# Table 1

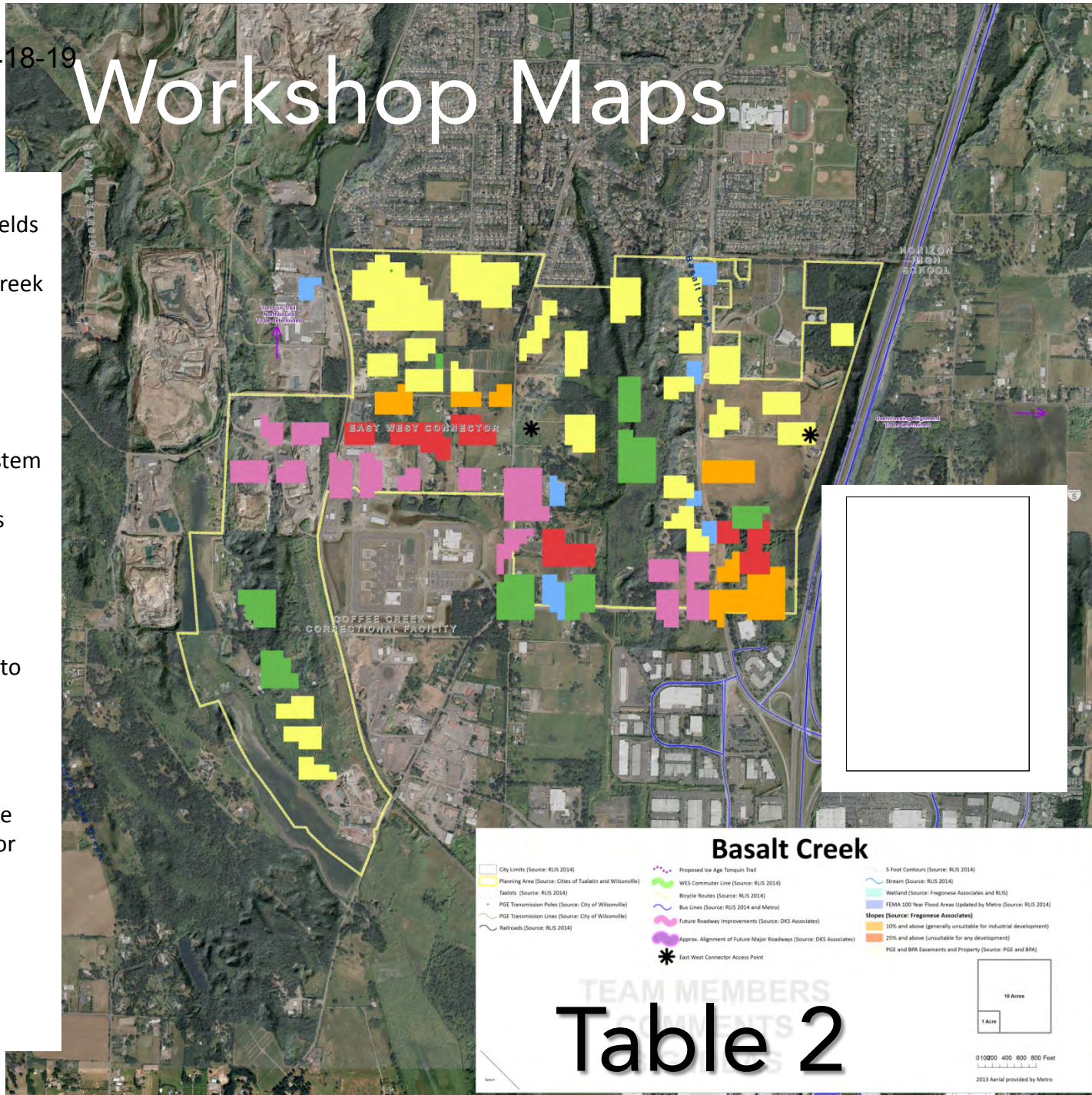
# Workshop Maps

**Goals**

- Increase recreation, more sports fields (plenty of them in Tualatin)
- Parks/natural area around Basalt Creek - preservation – West Railroad
- Concern around runoff into Basalt Creek
- Joint rec center
- Housing in Tualatin
- Incorporation into regional trail system along Basalt Creek
- Concern about widening of Boones Ferry for peds and bikes
- Location of EW/Boone’s Ferry
- Water/sewer lines
- EW Connector at Boone’s Ferry
- Smother transition from industrial to housing
- Stop at WES –Trans
- Recreation (shared facilities)
- Natural area protection
- Housing –not everything need to be industrial south of the EW Connector

**Big Ideas**

- Connect to WES
- Smooth transition between uses
- Brew Pubs
- Crosswalks across Boone’s Ferry



**Basalt Creek**

<ul style="list-style-type: none"> <li>City Limits (Source: RLS 2014)</li> <li>Planning Area (Source: Cities of Tualatin and Wilsonville)</li> <li>Taxlots (Source: RLS 2014)</li> <li>PGE Transmission Poles (Source: City of Wilsonville)</li> <li>PGE Transmission Lines (Source: City of Wilsonville)</li> <li>Railroads (Source: RLS 2014)</li> </ul>	<ul style="list-style-type: none"> <li>Proposed Ice Age Tomquin Trail</li> <li>WES Commuter Line (Source: RLS 2014)</li> <li>Bicycle Routes (Source: RLS 2014)</li> <li>Bus Lines (Source: RLS 2014 and Metro)</li> <li>Future Roadway Improvements (Source: DKS Associates)</li> <li>Approx. Alignment of Future Major Roadways (Source: DKS Associates)</li> <li>East West Connector Access Point</li> </ul>	<ul style="list-style-type: none"> <li>5 Foot Contours (Source: RLS 2014)</li> <li>Stream (Source: RLS 2014)</li> <li>Wetland (Source: Froggese Associates and RLS)</li> <li>FEMA 100 Year Flood Areas Updated by Metro (Source: RLS 2014)</li> <li>Bus Lines (Source: RLS 2014 and Metro)</li> <li><b>Slopes (Source: Froggese Associates)</b></li> <li>10% and above (generally unsuitable for industrial development)</li> <li>25% and above (unsuitable for any development)</li> <li>PGE and BPA Easements and Property (Source: PGE and BPA)</li> </ul>
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10 Acres  
1 Acre

0 100 200 300 400 500 600 700 800 Feet  
2013 Aerial provided by Metro

TEAM MEMBERS  
COMMENTS  
Table 2

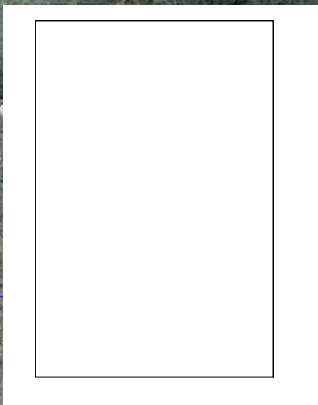
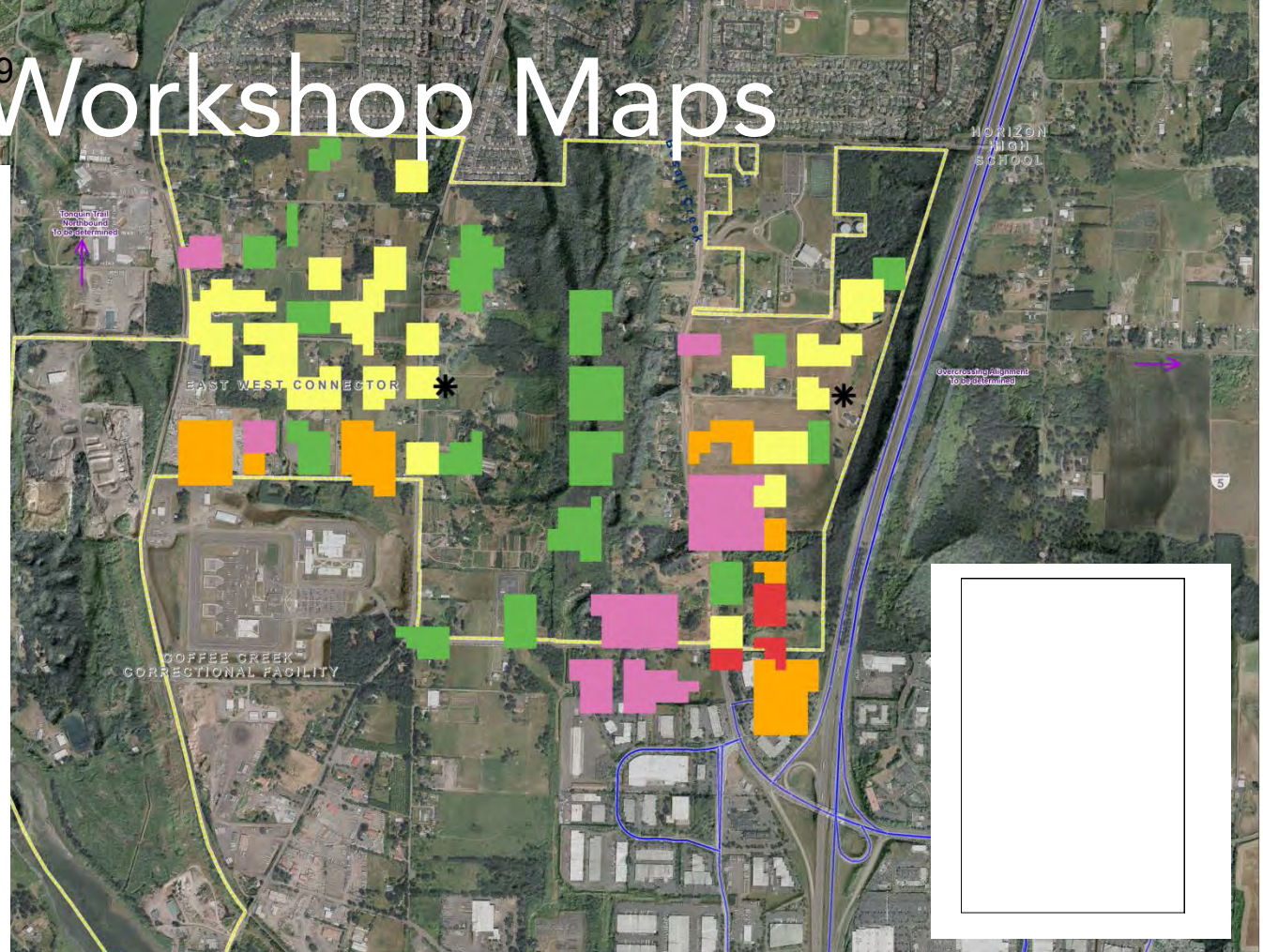
# Workshop Maps

**Goals**

- Residential development
- Diverse housing mix (more than just single family)
- Celebrate natural features
- Interconnected trans network
- Integrate other regional plans
- Well laid out mix of land uses
- Integrated trail and greenways (multimodal connections)

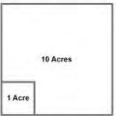
**Comments**

- Bike/ped access from Tualatin to Wilsonville- in nature
- Employment center near I-5 (east of I-5)
- Buffering between residential and industrial (transitional)
- Trails on power line easements
- Small lot SF and apartments – what is the market?
- Mixed use housing
- Where to put hi-density housing
- Prevent noise pollution from industry
- Center?
- Sherwood school district
- Housing where kids can walk to school
- Hi-density, assisted living near overpass
- Retail and industrial toward the south (jobs and light industrial)



## Basalt Creek

- City Limits (Source: RLIS 2014)
- Planning Area (Source: Cities of Tualatin and Wilsonville)
- Taxlots (Source: RLIS 2014)
- PGE Transmission Poles (Source: City of Wilsonville)
- PGE Transmission Lines (Source: City of Wilsonville)
- Railroads (Source: RLIS 2014)
- Proposed Ice Age Tomquin Trail
- WES Commuter Line (Source: RLIS 2014)
- Bicycle Routes (Source: RLIS 2014)
- Bus Lines (Source: RLIS 2014 and Metro)
- Future Roadway Improvements (Source: DKS Associates)
- Approx. Alignment of Future Major Roadways (Source: DKS Associates)
- East West Connector Access Point
- 5 Foot Contours (Source: RLIS 2014)
- Stream (Source: RLIS 2014)
- Wetland (Source: Fregonese Associates and RLIS)
- FEMA 100 Year Flood Areas Updated by Metro (Source: RLIS 2014)
- Slopes (Source: Fregonese Associates)
  - 10% and above (generally unsuitable for industrial development)
  - 25% and above (unsuitable for any development)
- PGE and BPA Easements and Property (Source: PGE and BPA)

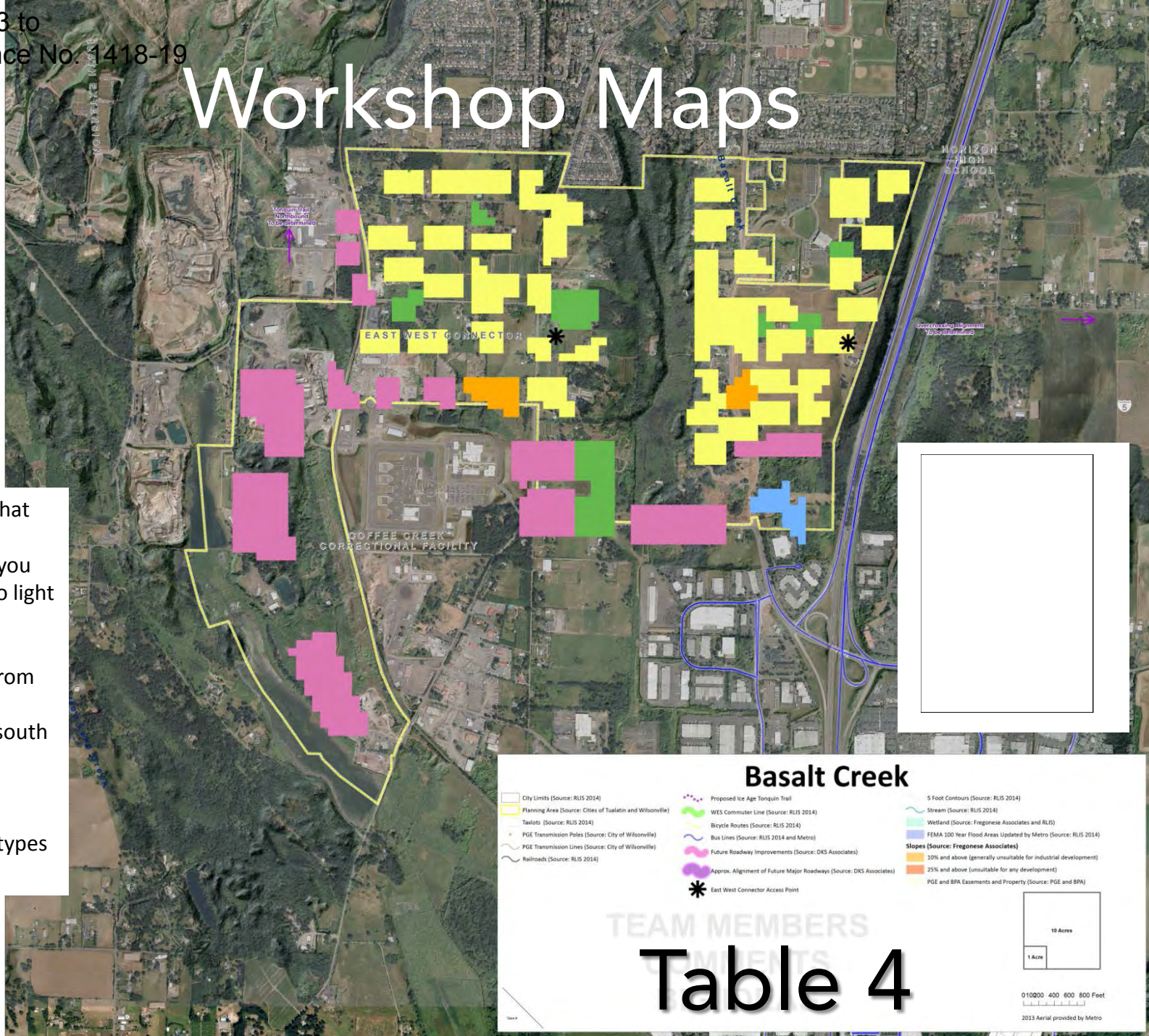


0 100 200 400 600 800 Feet  
2013 Aerial provided by Metro

# Table 3

# Workshop Maps

- Residential at north that transitions to higher density/mixed use as you go south, eventually to light manufacturing.
- Access to small commercial services from residential areas.
- Places of worship at south end
- Sports complex and parks/open spaces
- Transitions between types of uses.

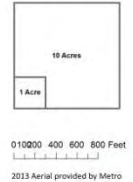


## Basalt Creek

- |  |   |   |
|--|---|---|
| City Limits (Source: RUS 2014)                             | Proposed Ice Age Tonquin Trail                                      | 5 Foot Contours (Source: RUS 2014)                            |
| Planning Area (Source: Cities of Tualatin and Wilsonville) | WES Commuter Line (Source: RUS 2014)                                | Stream (Source: RUS 2014)                                     |
| Taxlots (Source: RUS 2014)                                 | Bicycle Routes (Source: RUS 2014)                                   | Wetland (Source: Fregonesse Associates and RUS)               |
| PGE Transmission Poles (Source: City of Wilsonville)       | Bus Lines (Source: RUS 2014 and Metro)                              | FEMA 100 Year Flood Areas Updated by Metro (Source: RUS 2014) |
| PGE Transmission Lines (Source: City of Wilsonville)       | Future Roadway Improvements (Source: DKS Associates)                | Slopes (Source: Fregonesse Associates)                        |
| Railroads (Source: RUS 2014)                               | Approx. Alignment of Future Major Roadways (Source: DKS Associates) | 10% and above (generally unsuitable for any development)      |
|  | East West Connector Access Point                                    | 25% and above (unsuitable for any development)                |
|  |   | PGE and BPA Easements and Property (Source: PGE and BPA)      |

TEAM MEMBERS

# Table 4



2013 Aerial provided by Metro



# Workshop Maps

## Goals

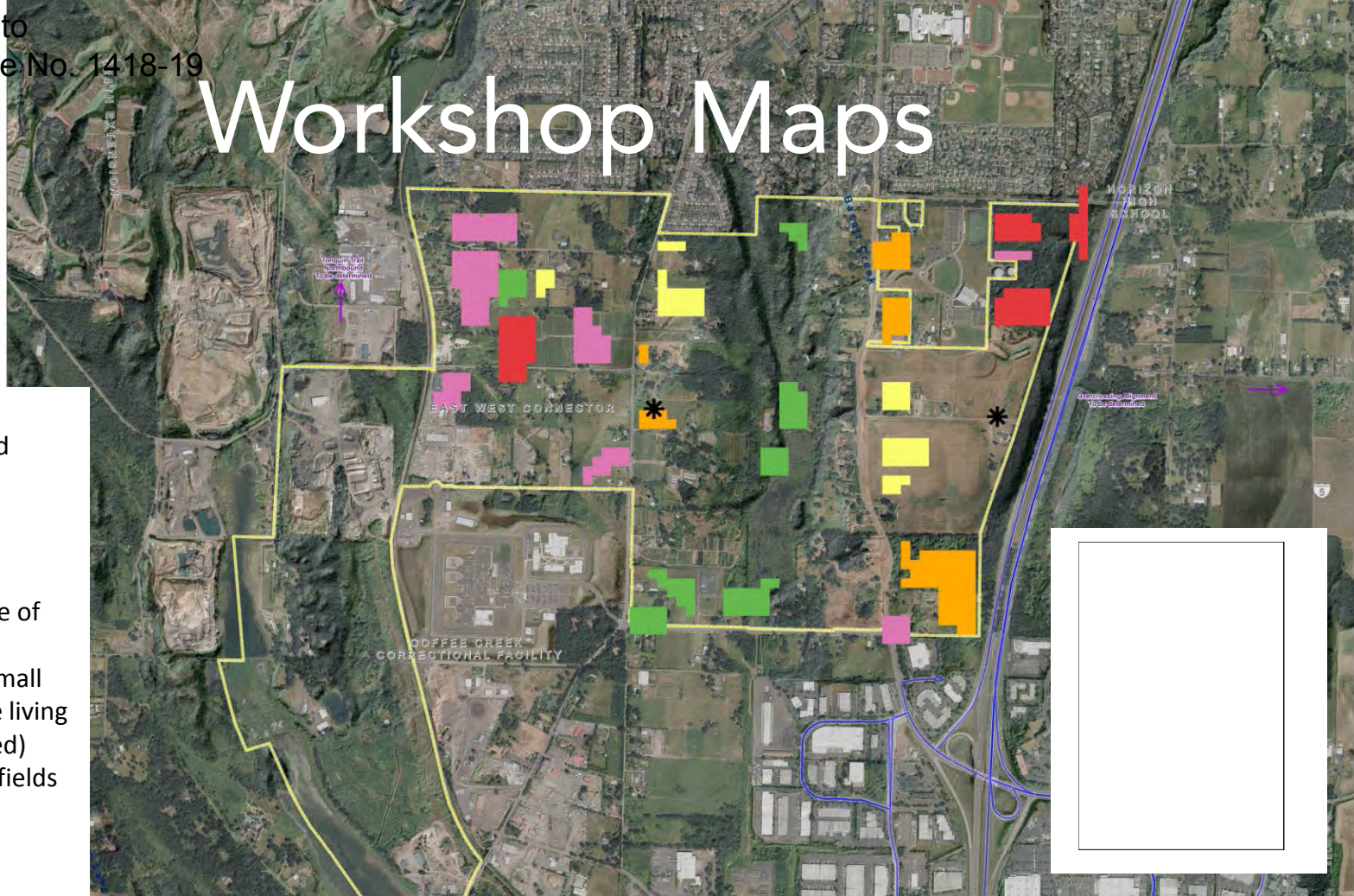
- Maintain neighborhood continuity

## Comments

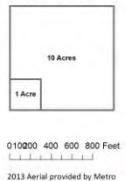
- Not great for industrial warehouse land because of transportation access
- No big box, but need small scale grocery for people living in the area (Haggen-sized)
- Big demand for sports fields

## Big Ideas

- WES Station
- Natural area on Basalt Creek (like Tryon Creek)
- Sports Complex
- Clean green industrial flex as buffer to residential



TEAM MEMBERS  
COMMENTS  
**Table 5**



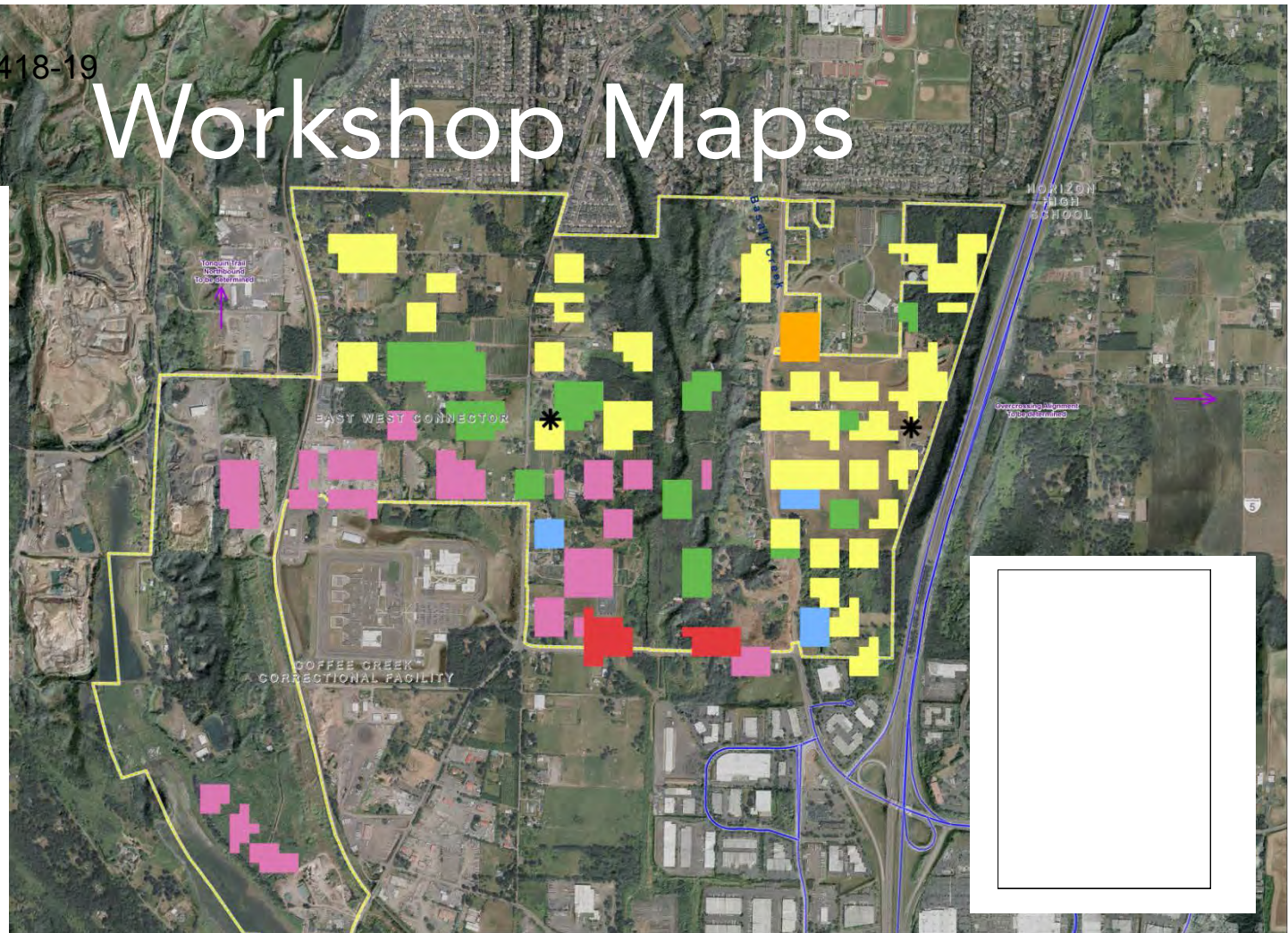
# Workshop Maps

**Goals**

- Get people to live near their work!
- Offer more opportunities/options for sports field
- Connect neighborhood amenities/green spaces (i.e. walking/bike trails)
- Small parks in residential areas
- Maintain rural setting/provide safety/comfort

**Our Ideas:**

- Clustering of apartments/retail/parks
- Definitive boundaries – buffer zone (greenbelt)
- Trails, bike paths
- Neighborhood parks with multiple uses
- WES Station
- Easy access to freeway
- Community parks and gardens
- Assisted living centers
- Retail near intersection
- Industrial area down south
- G.F/E-R to ferry all residential
- Retail opportunity in front of school



## Basalt Creek

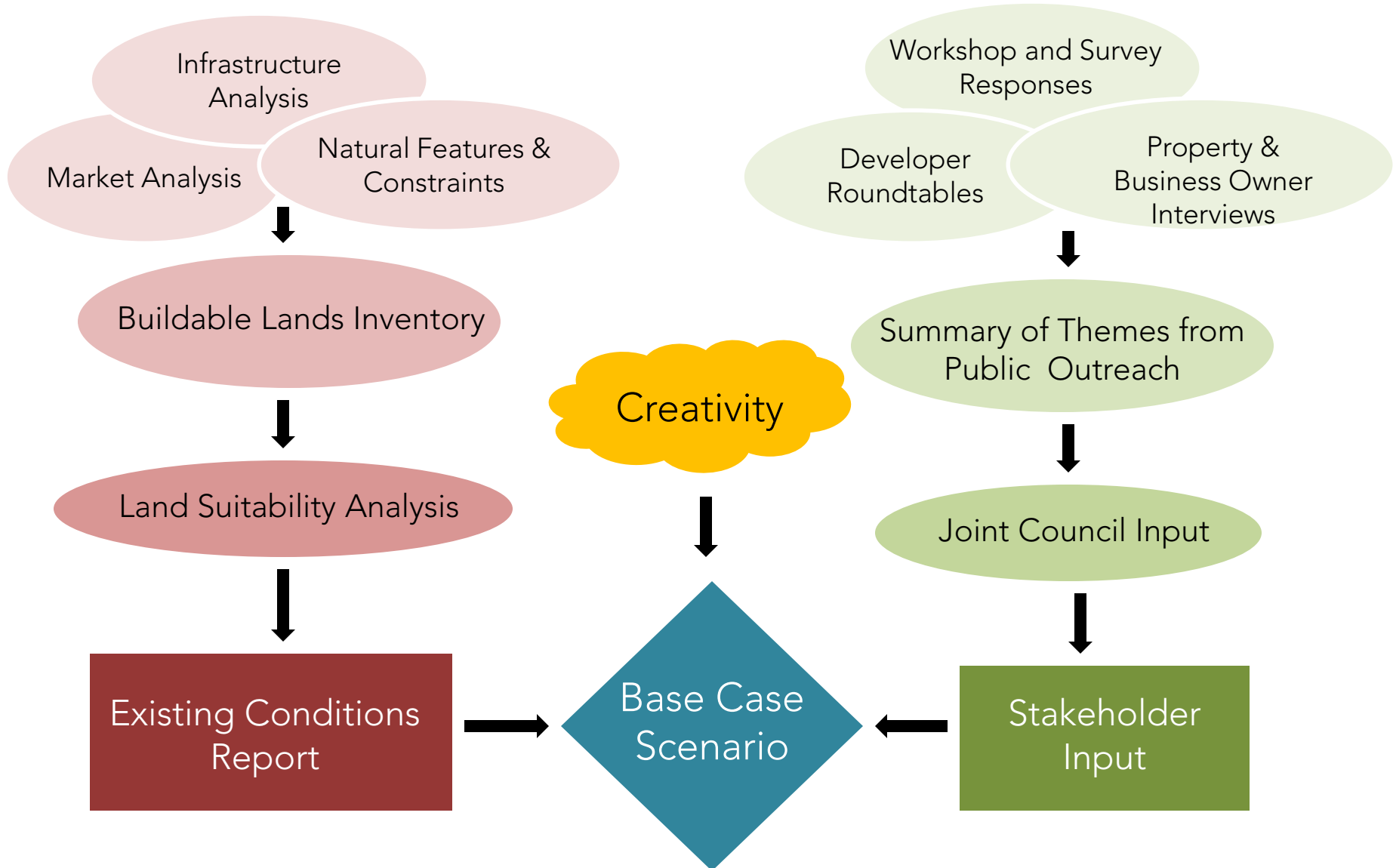
<ul style="list-style-type: none"> <li>City Limits (Source: RLIS 2014)</li> <li>Planning Area (Source: Cities of Tualatin and Wilsonville)</li> <li>Taxlots (Source: RLIS 2014)</li> <li>PGE Transmission Poles (Source: City of Wilsonville)</li> <li>PGE Transmission Lines (Source: City of Wilsonville)</li> <li>Railroads (Source: RLIS 2014)</li> </ul>	<ul style="list-style-type: none"> <li>Proposed Ice Age Tonguin Trail</li> <li>WES Commuter Line (Source: RLIS 2014)</li> <li>Bicycle Routes (Source: RLIS 2014)</li> <li>Bus Lines (Source: RLIS 2014 and Metro)</li> <li>Future Roadway Improvements (Source: DKS Associates)</li> <li>Approx. Alignment of Future Major Roadways (Source: DKS Associates)</li> <li>* East West Connector Access Point</li> </ul>	<ul style="list-style-type: none"> <li>5 Foot Contours (Source: RLIS 2014)</li> <li>Stream (Source: RLIS 2014)</li> <li>Wetland (Source: Fregonesse Associates and RLIS)</li> <li>FEMA 100 Year Flood Areas Updated by Metro (Source: RLIS 2014)</li> </ul> <p><b>Slopes (Source: Fregonesse Associates)</b></p> <ul style="list-style-type: none"> <li>10% and above (generally unsuitable for industrial development)</li> <li>25% and above (unsuitable for any development)</li> <li>PGE and BPA Easements and Property (Source: PGE and BPA)</li> </ul>
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TEAM MEMBERS

# Table 6

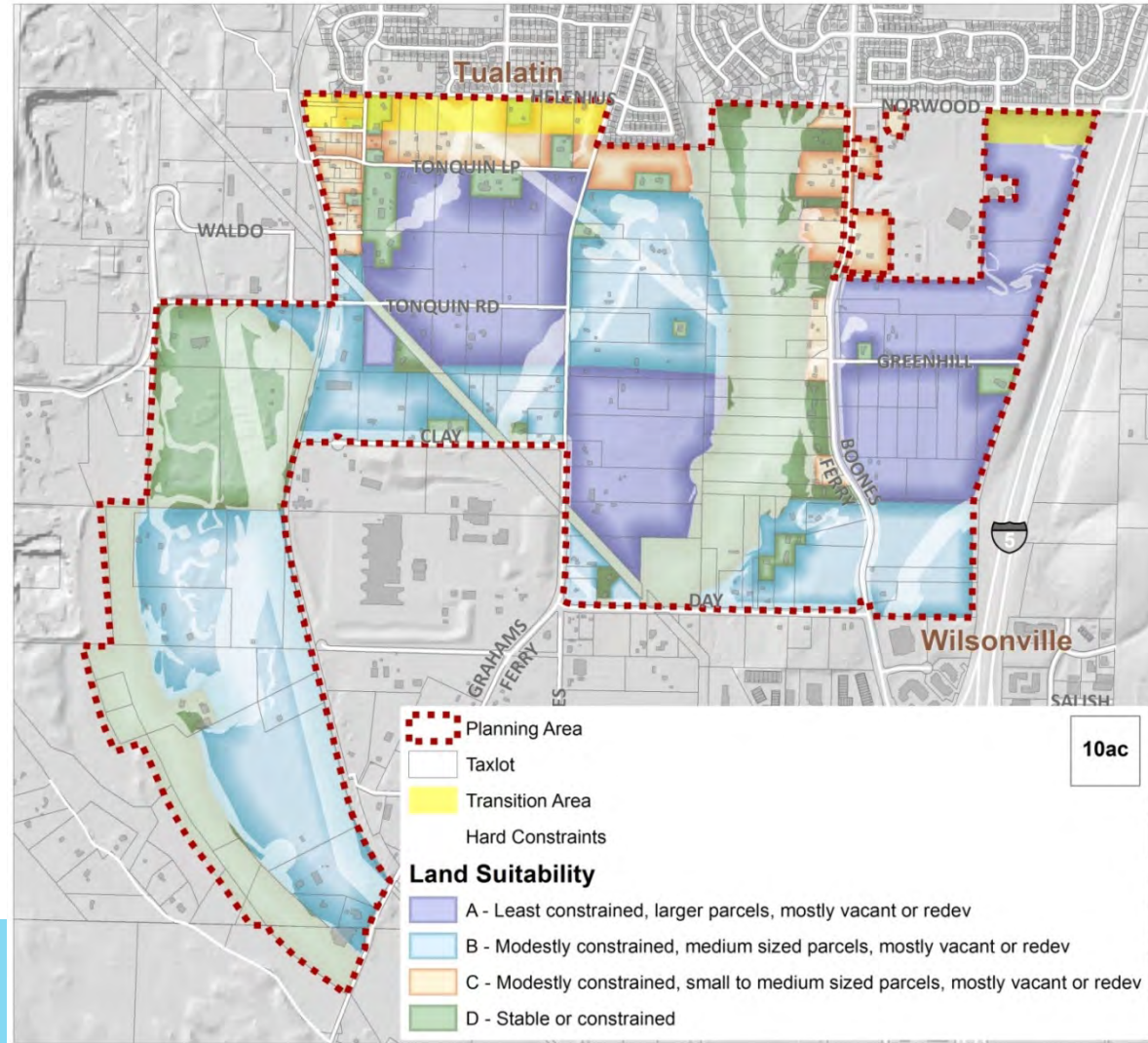
010200 400 600 800 Feet  
2013 Aerial provided by Metro

# Building the Base Case Scenario



# Building the Base Case Land Suitability Analysis

Suitability Category	Vacant Acres
A	197
B	144
C	38
D	12



# Building the Base Case Scenario Development

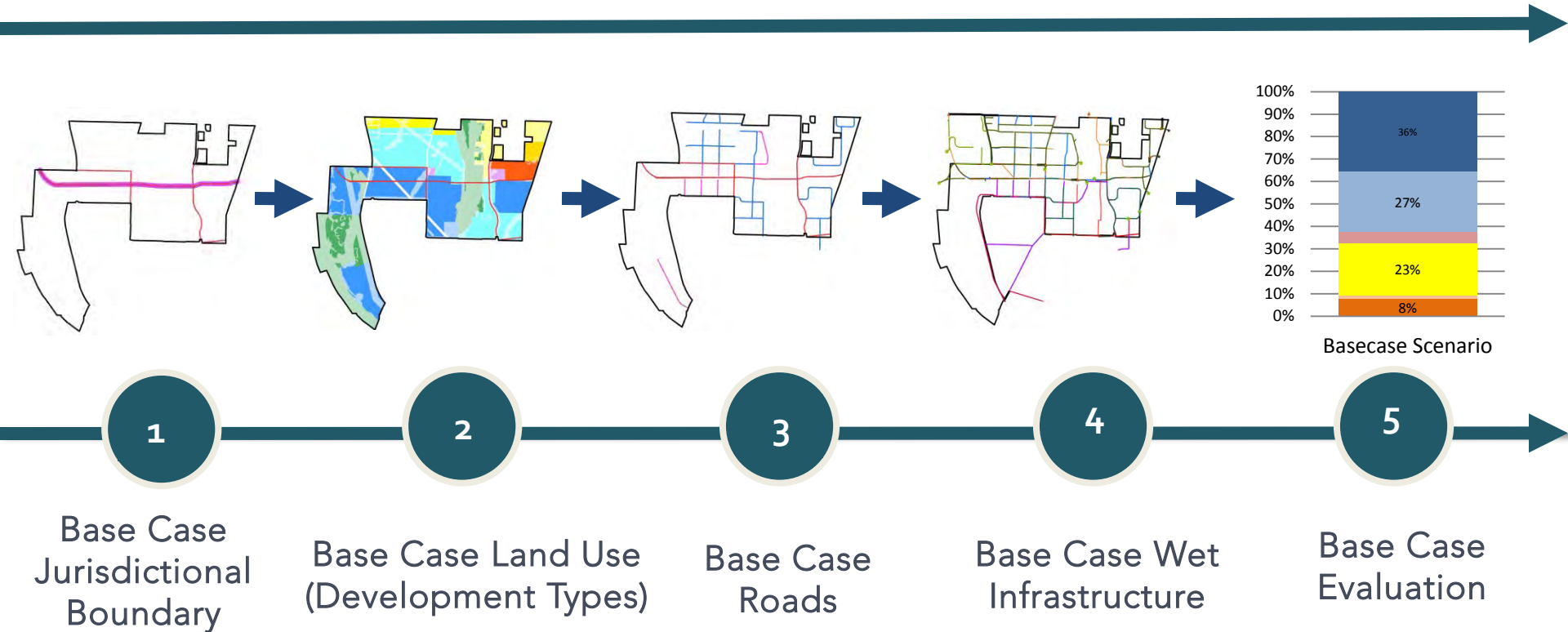
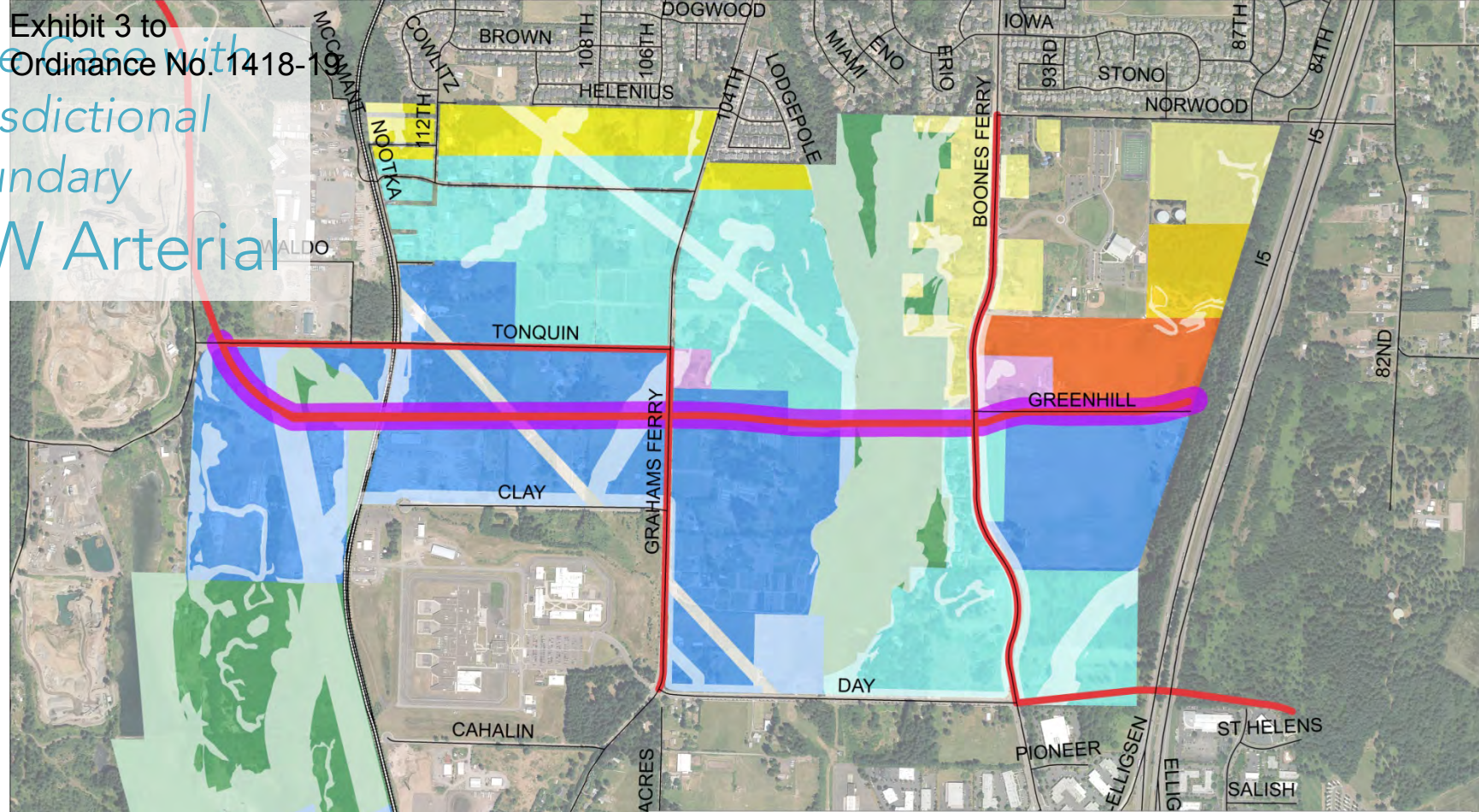
















Exhibit 3 to  
*Base Case with*  
 Ordinance No. 1418-19  
*Jurisdictional*  
*Boundary*  
 E-W Arterial



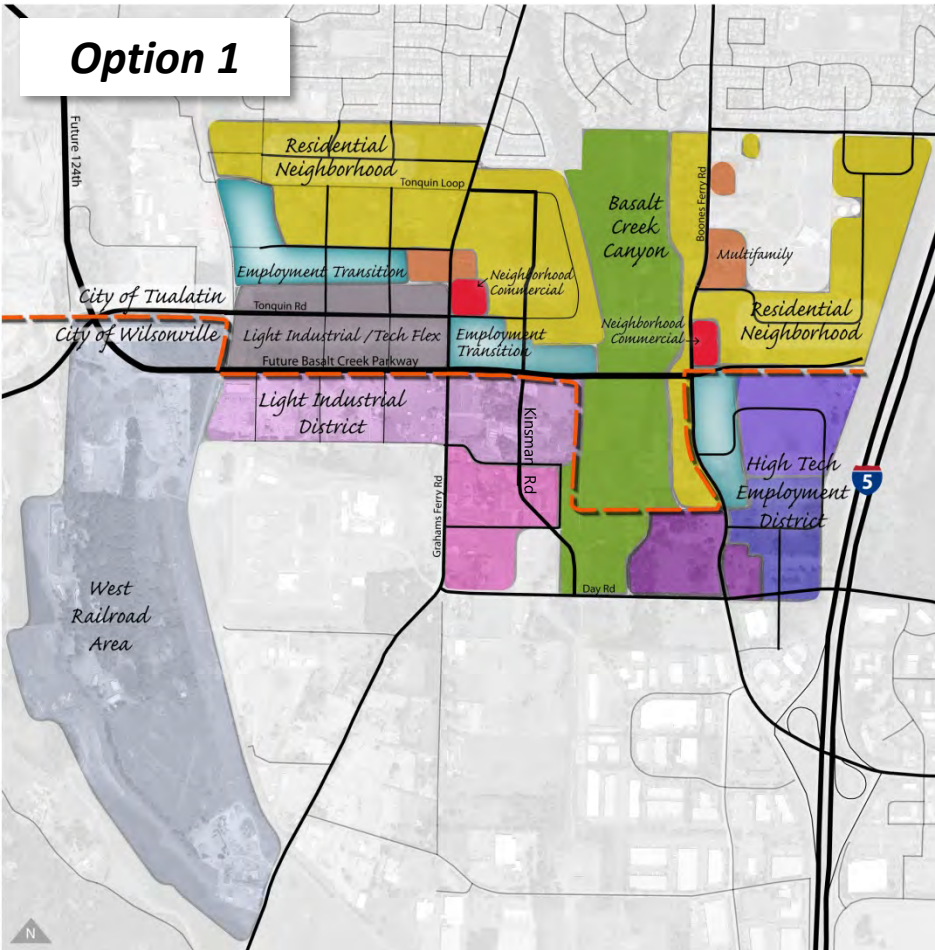
### Basalt Creek Base Case Scenario

Legend		Development Type	
	Planned Future Roads		Neighborhood Commercial
	Basecase Local Access Roads		Suburban Multifamily
	Basecase Local Connector Roads		Compact Neighborhood
	Basecase Jurisdictional Boundary		Suburban Residential
	Existing Streets		Conventional Single Family
	Railroad		Office Park/Flex
			Light Industrial and Warehousing
			Undeveloped Natural Area

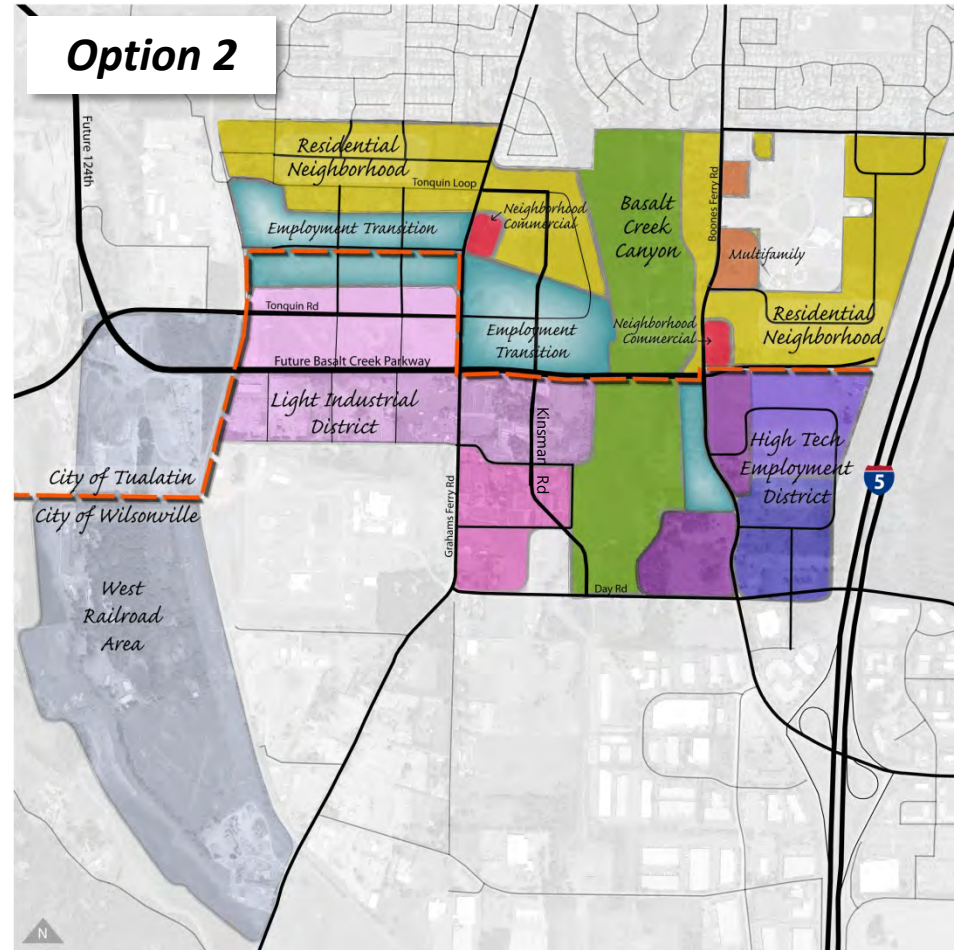
0    650    1,300    2,600 Feet

# Initial Scenarios 1 & 2

**Option 1**



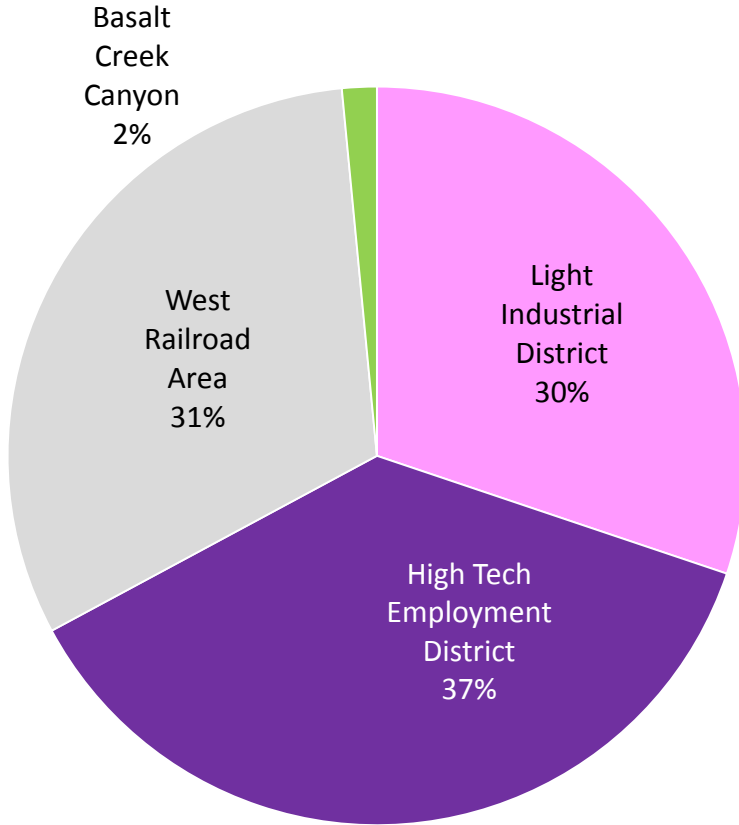
**Option 2**



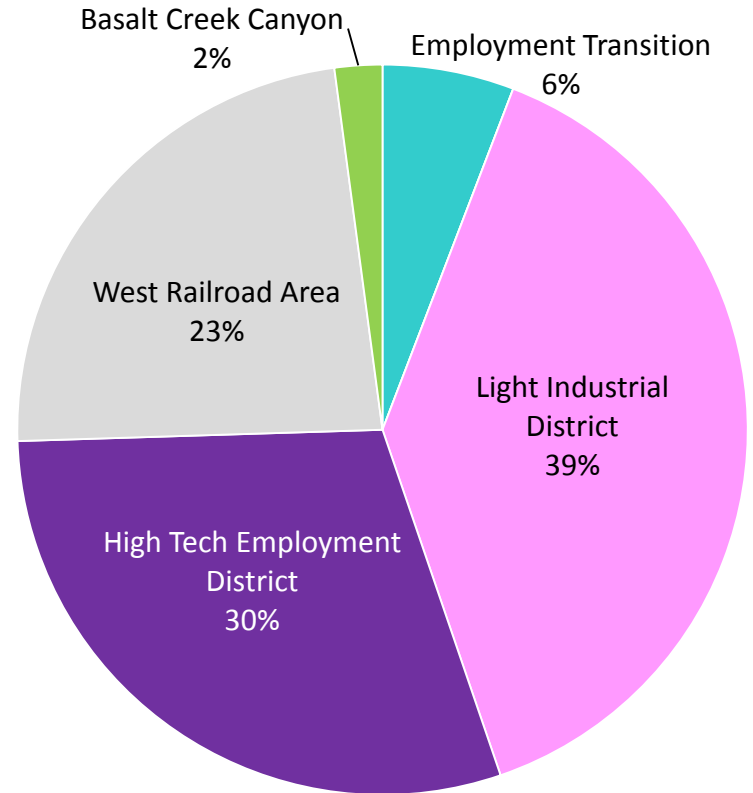
# Indicators | Wilsonville Land Use Mix

\* % of developable acres

### Boundary Option 1



### Boundary Option 2



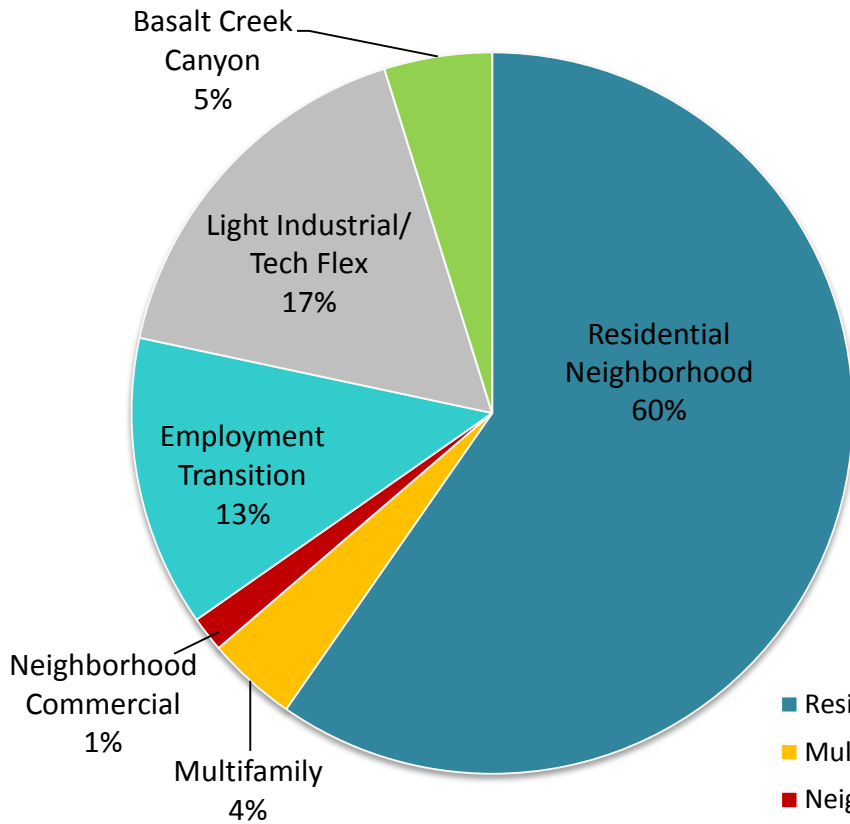
- Employment Transition
- High Tech Employment District
- Basalt Creek Canyon
- Light Industrial District
- West Railroad Area



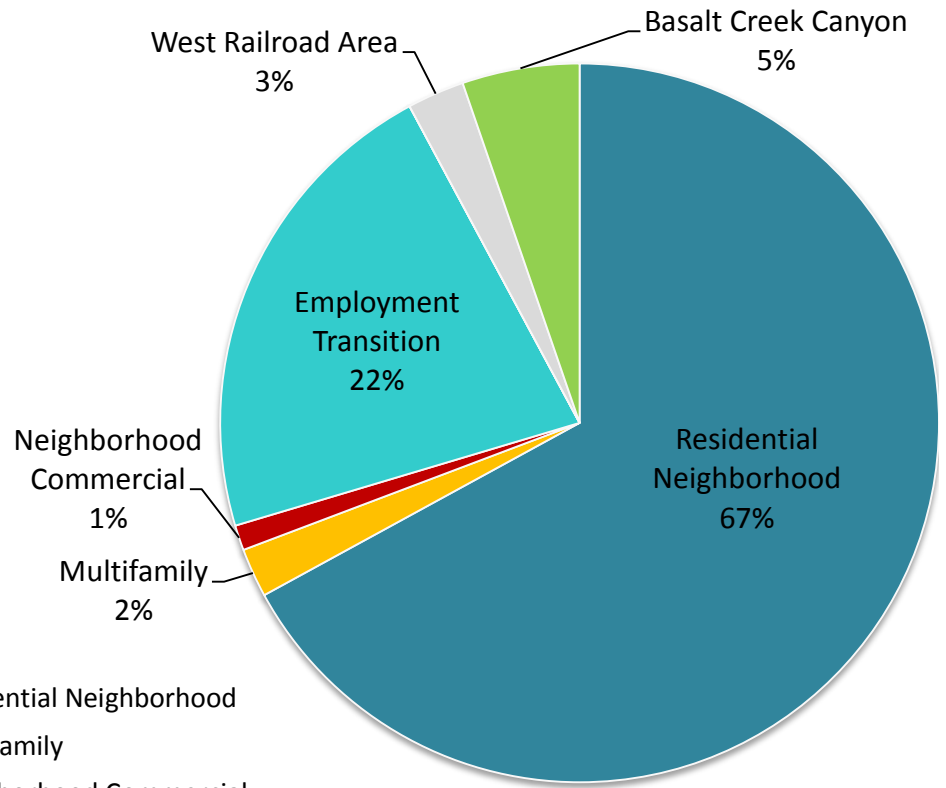
# Indicators | Tualatin Land Use Mix

\* % of developable acres

## Boundary Option 1

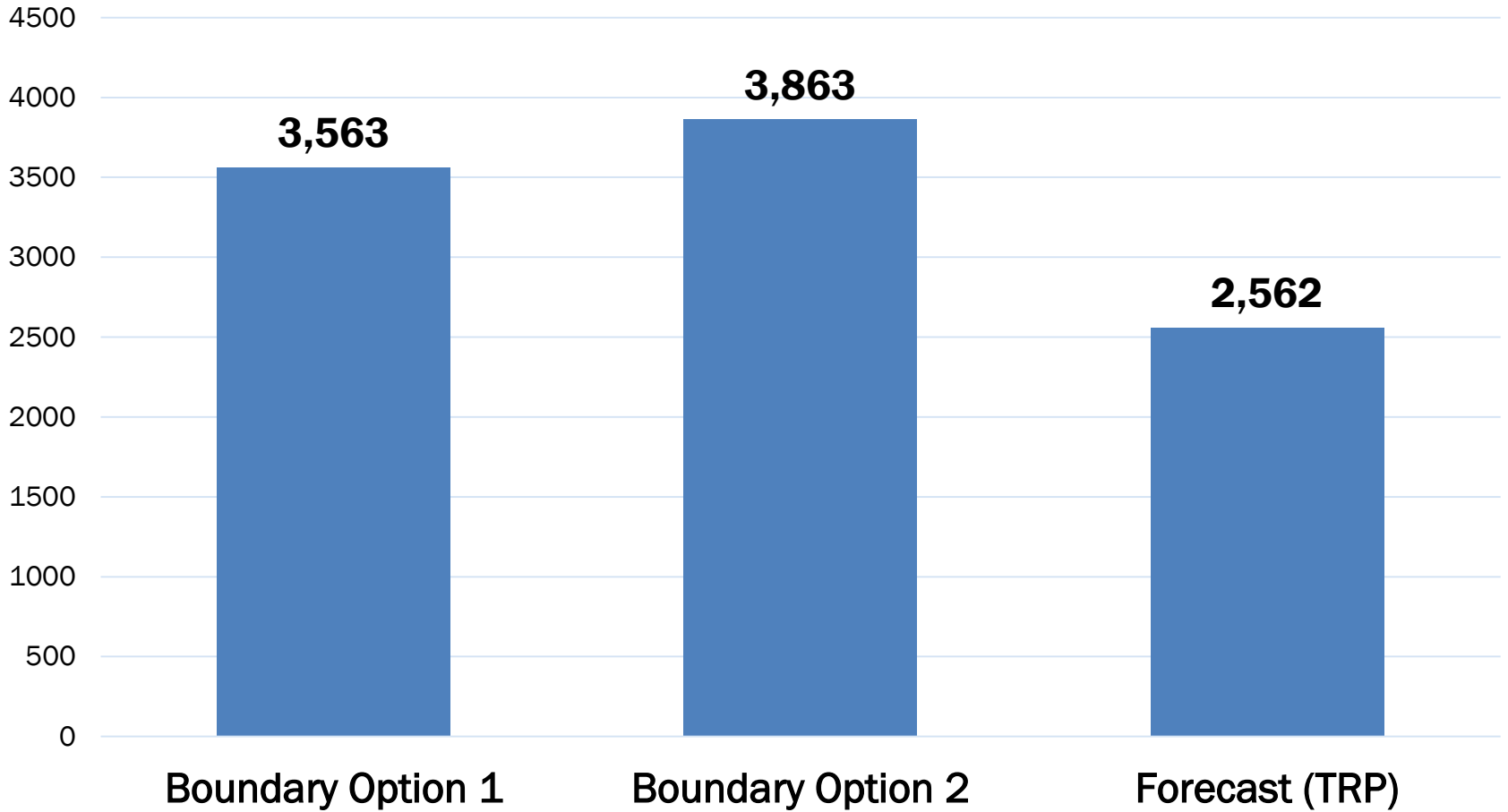


## Boundary Option 2

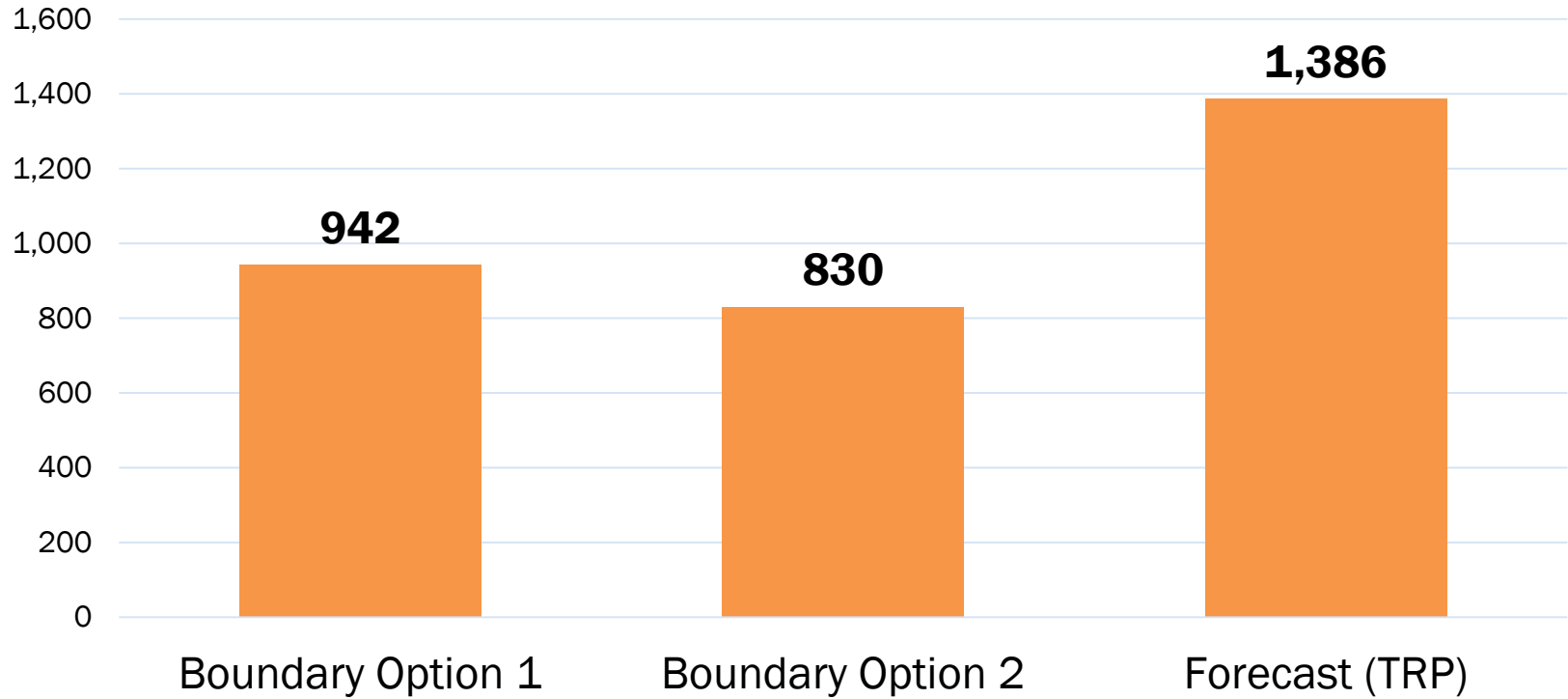


- Residential Neighborhood
- Multifamily
- Neighborhood Commercial
- Employment Transition
- Light Industrial/Tech Flex
- West Railroad Area
- Basalt Creek Canyon

# Indicators | Number of Jobs



# Indicators | Households



# Land Use Scenario Objectives

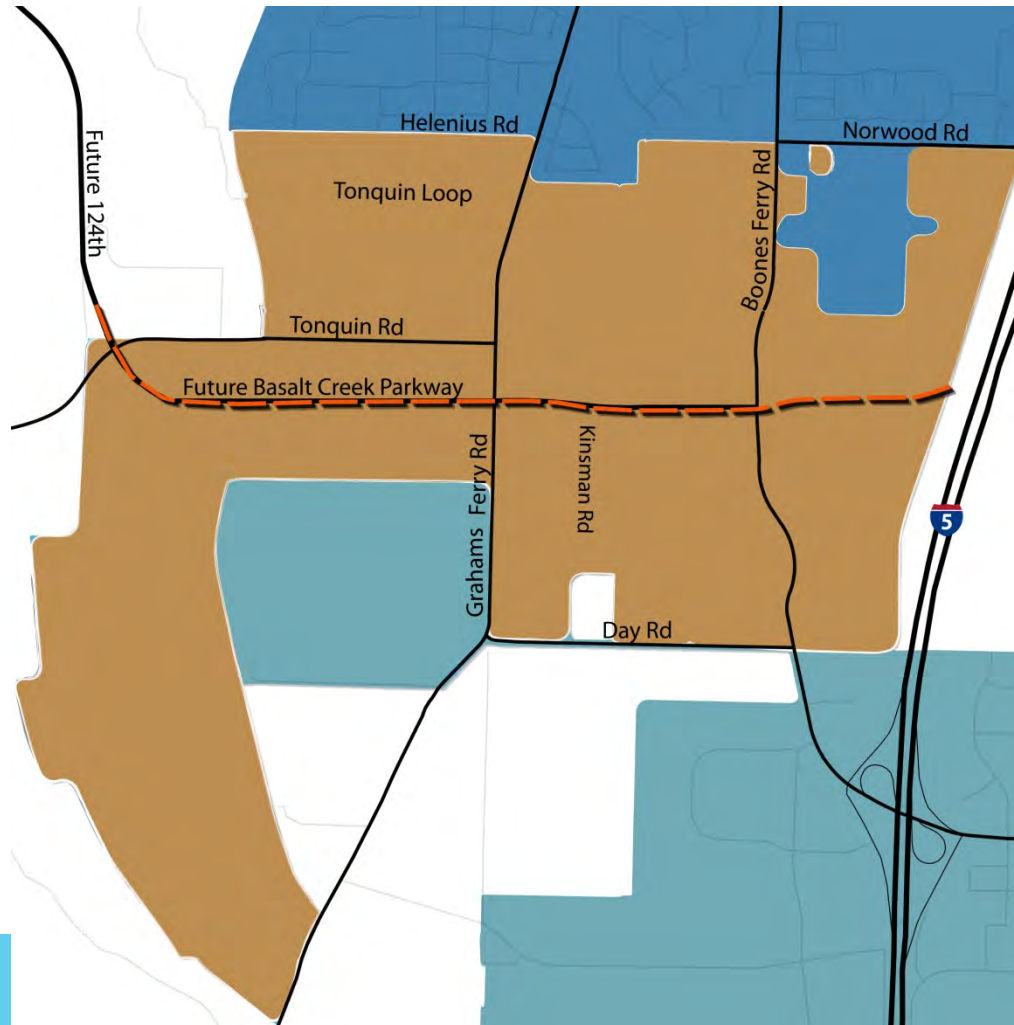
- A scenario designed around an implementable infrastructure plan
- Design principles focused on creating development forms reflective of the two cities
- Examine other boundary options that do not rely on the east west connector. Explore service agreements.
- Jurisdictional equity
- More residential for Tualatin in the north
- Consider creative solutions for transitions from employment to housing

# Initial Scenario Summary

- Scenario 1 and 2 meet all regional goals and constraints
- Both provide:
  - high-quality employment and housing opportunities,
  - innovative and appropriate transition areas between residential and employment uses,
  - responsiveness to the real estate market,
  - robust and efficient infrastructure systems, and
  - development that generally “pays its way.”

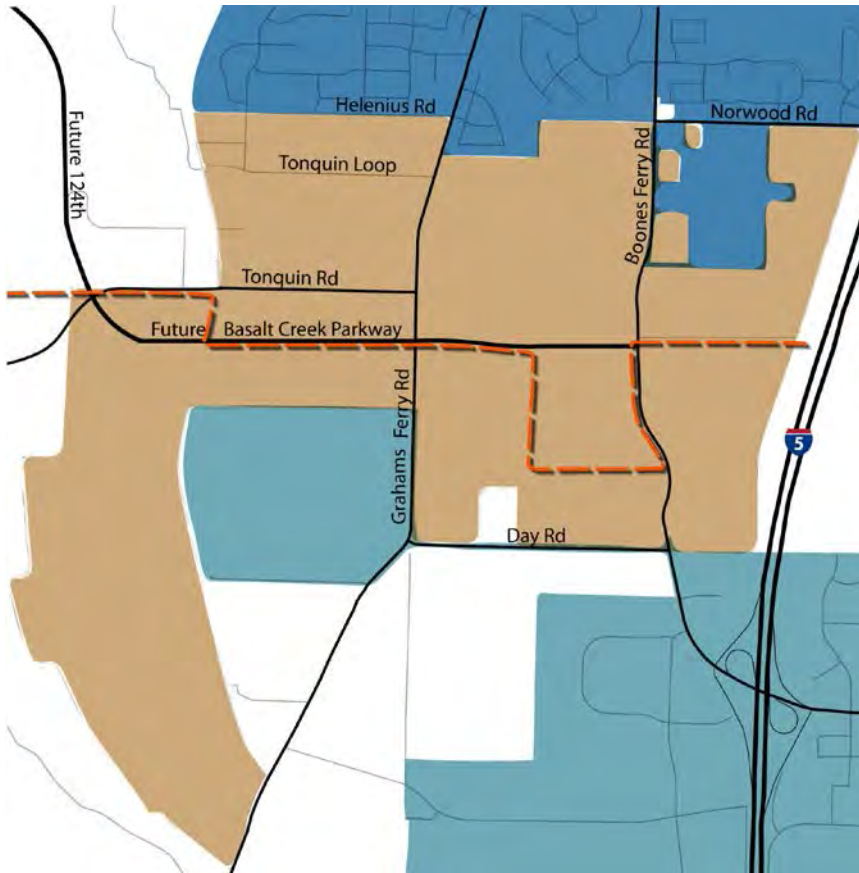
# Base Case Boundary Option

December 2, 2014 Joint Council Meeting

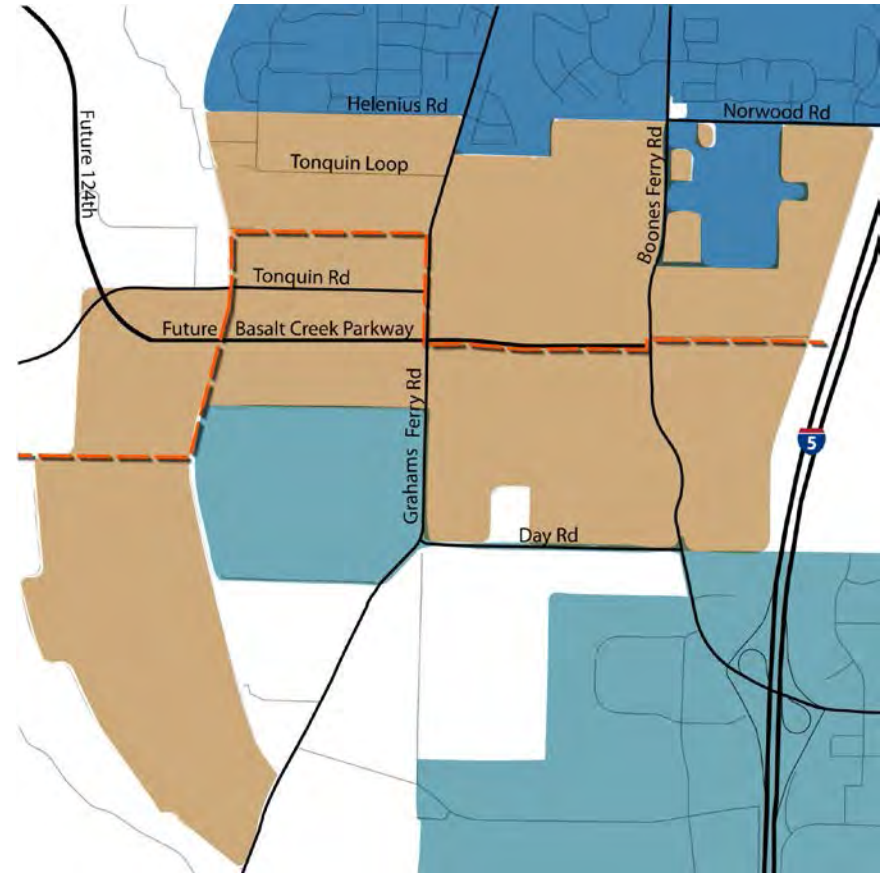


# Boundary Options 1 and 2

June 17, 2015 Joint Council Meeting



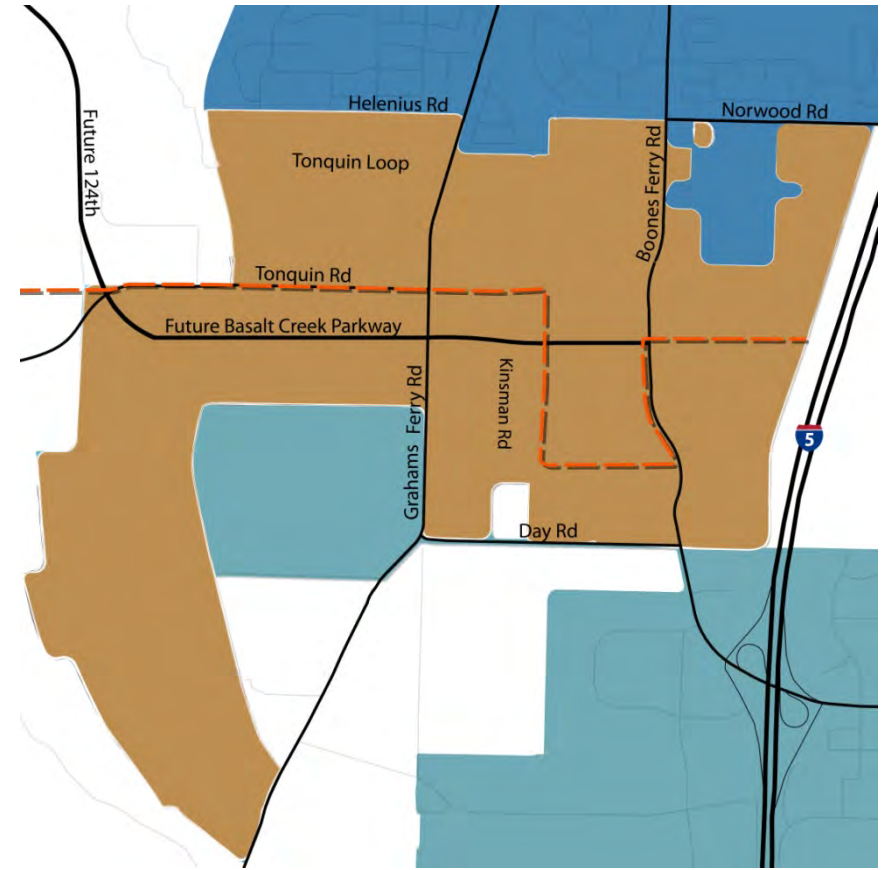
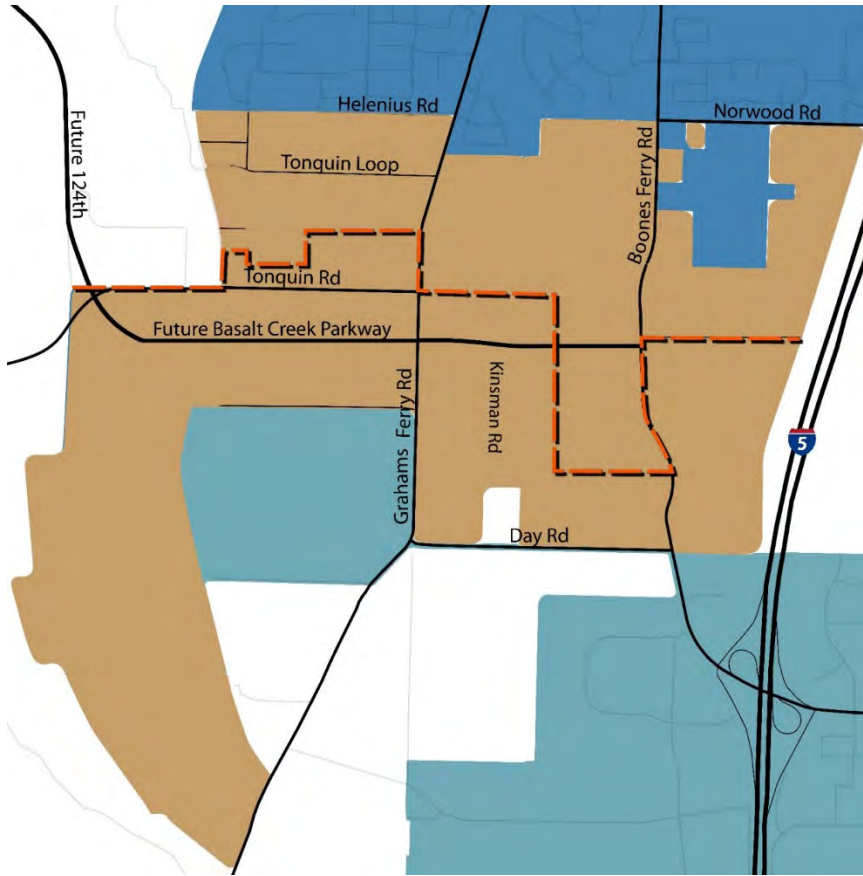
Boundary Option 1



Boundary Option 2

# Boundary Options 3 and 4

## August 2015 Individual Work Sessions

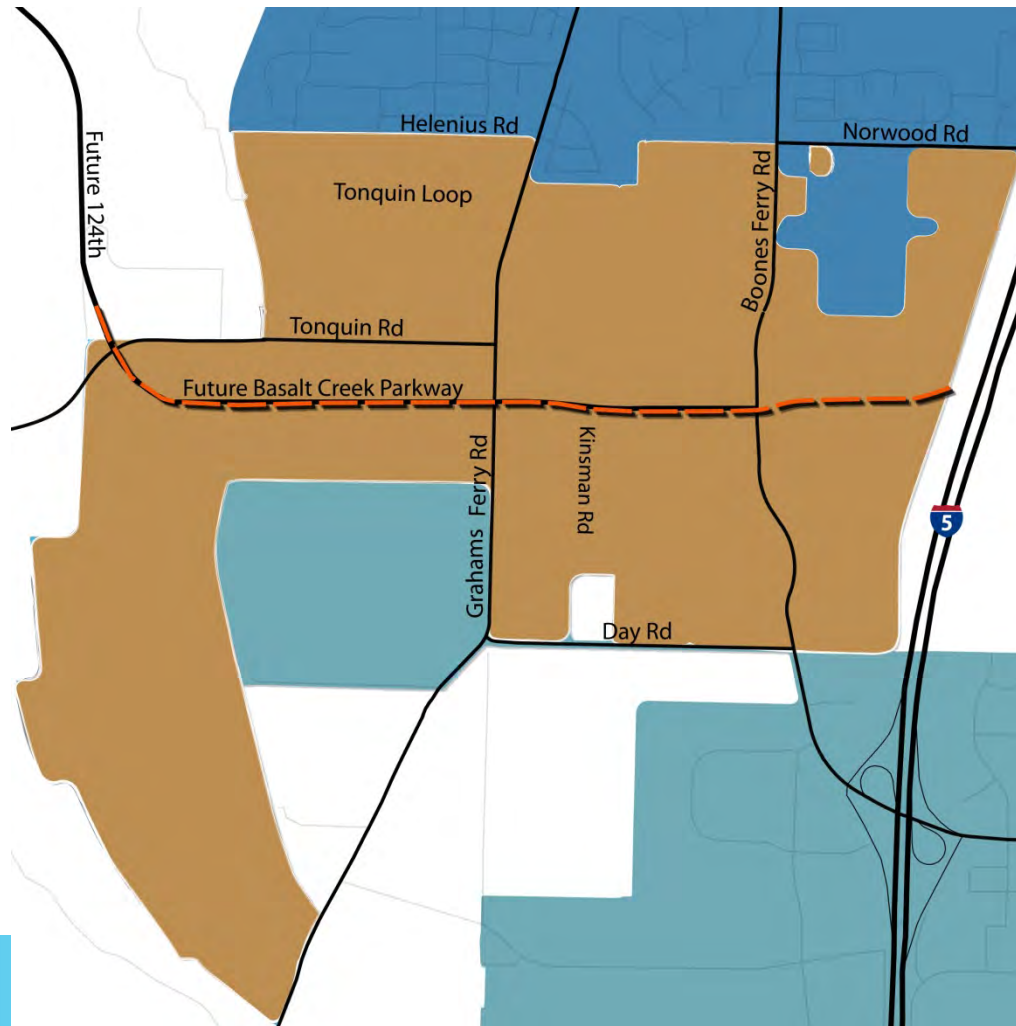


Boundary Option 3

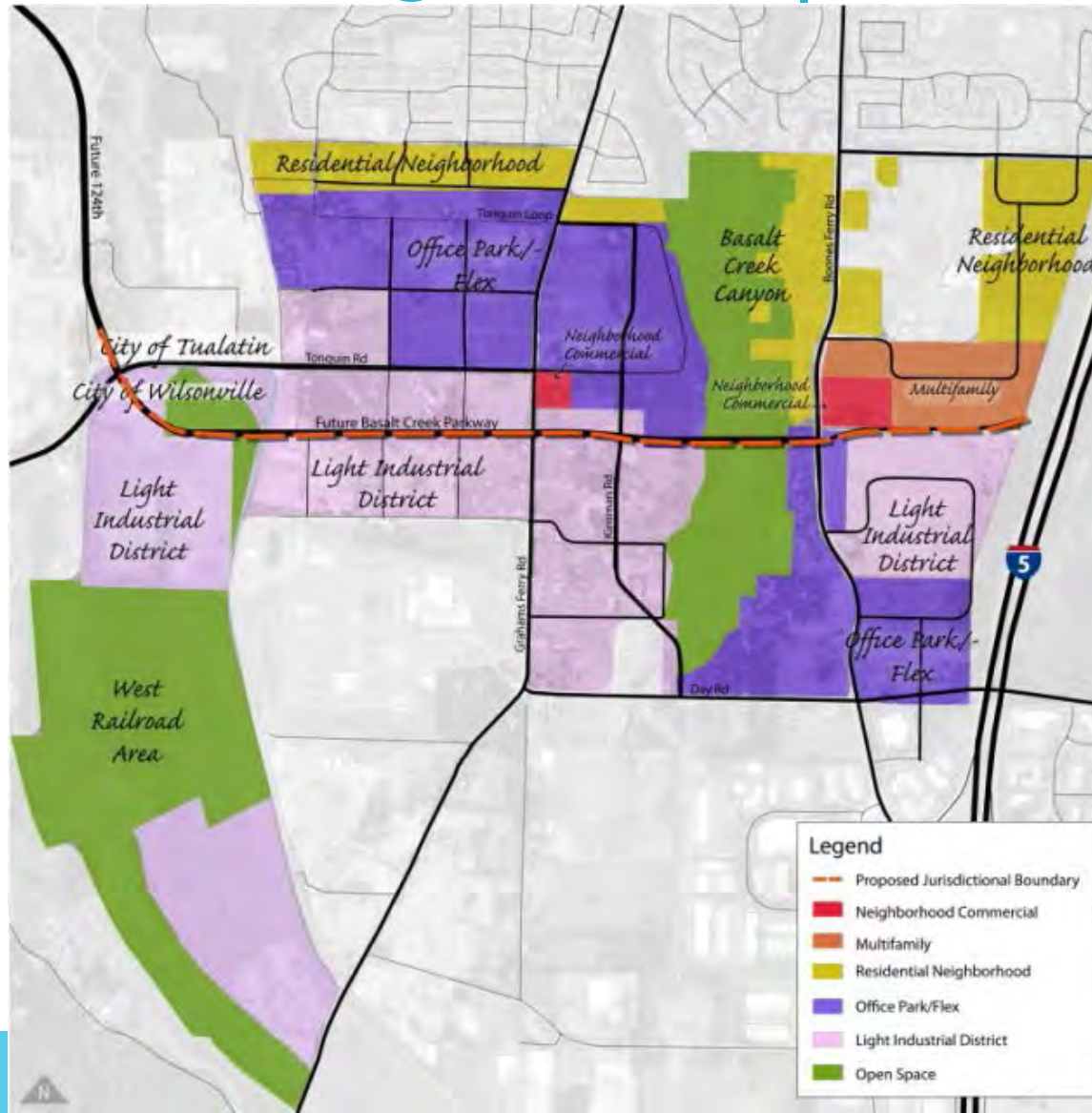
Boundary Option 4



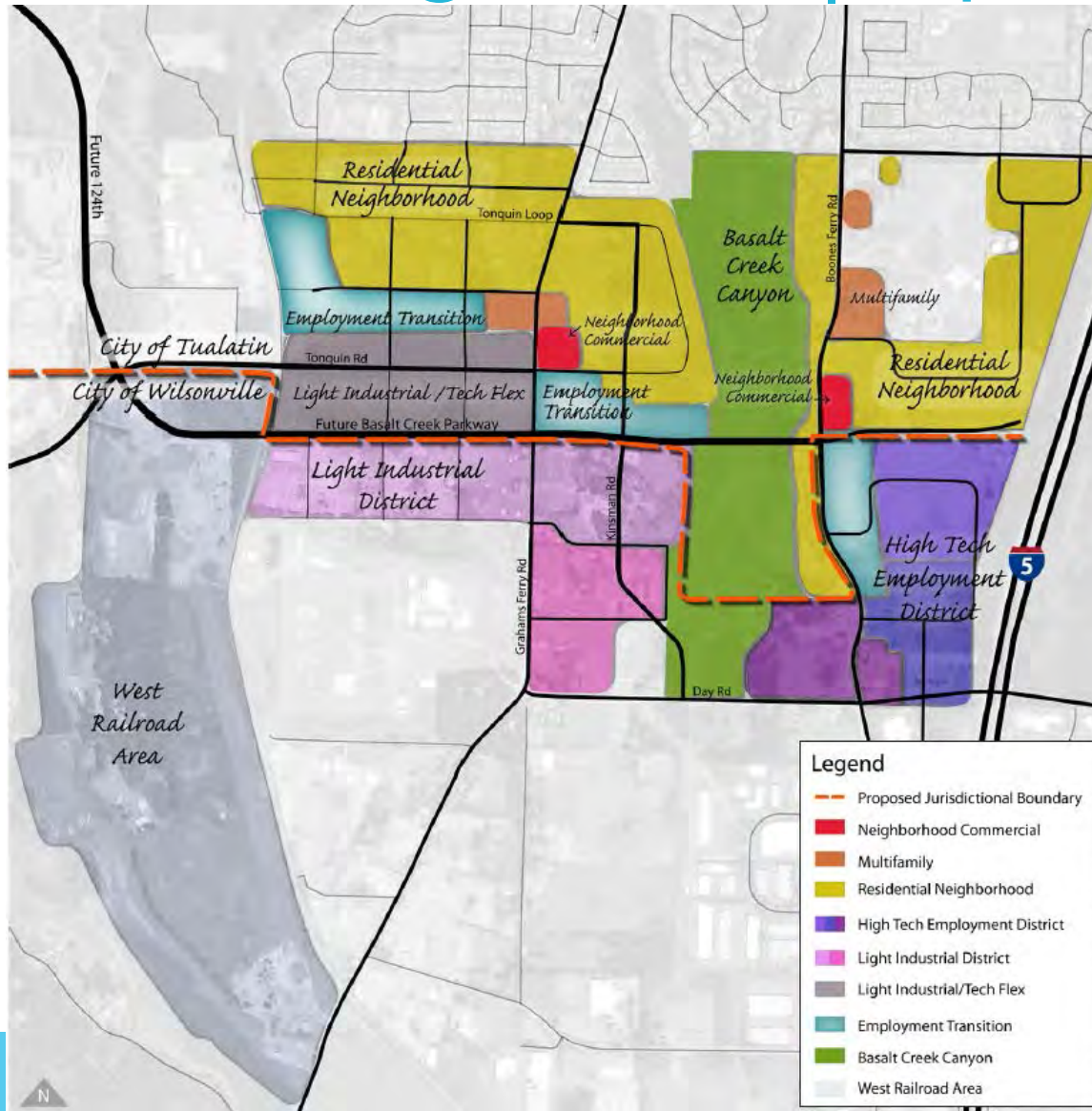
# Final Jurisdictional Boundary follows the Basalt Creek Parkway



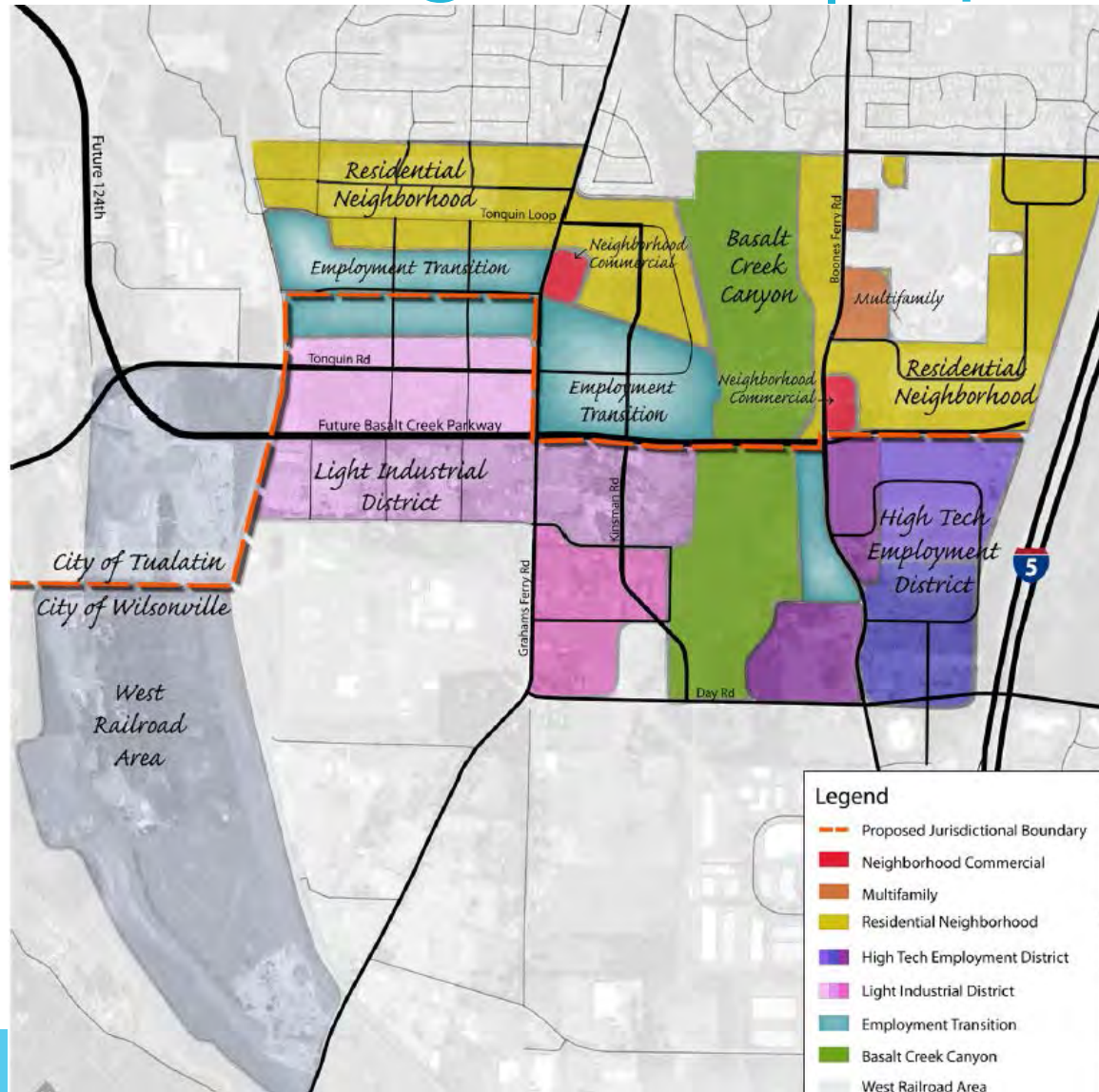
# Scenario Progression | Base Case



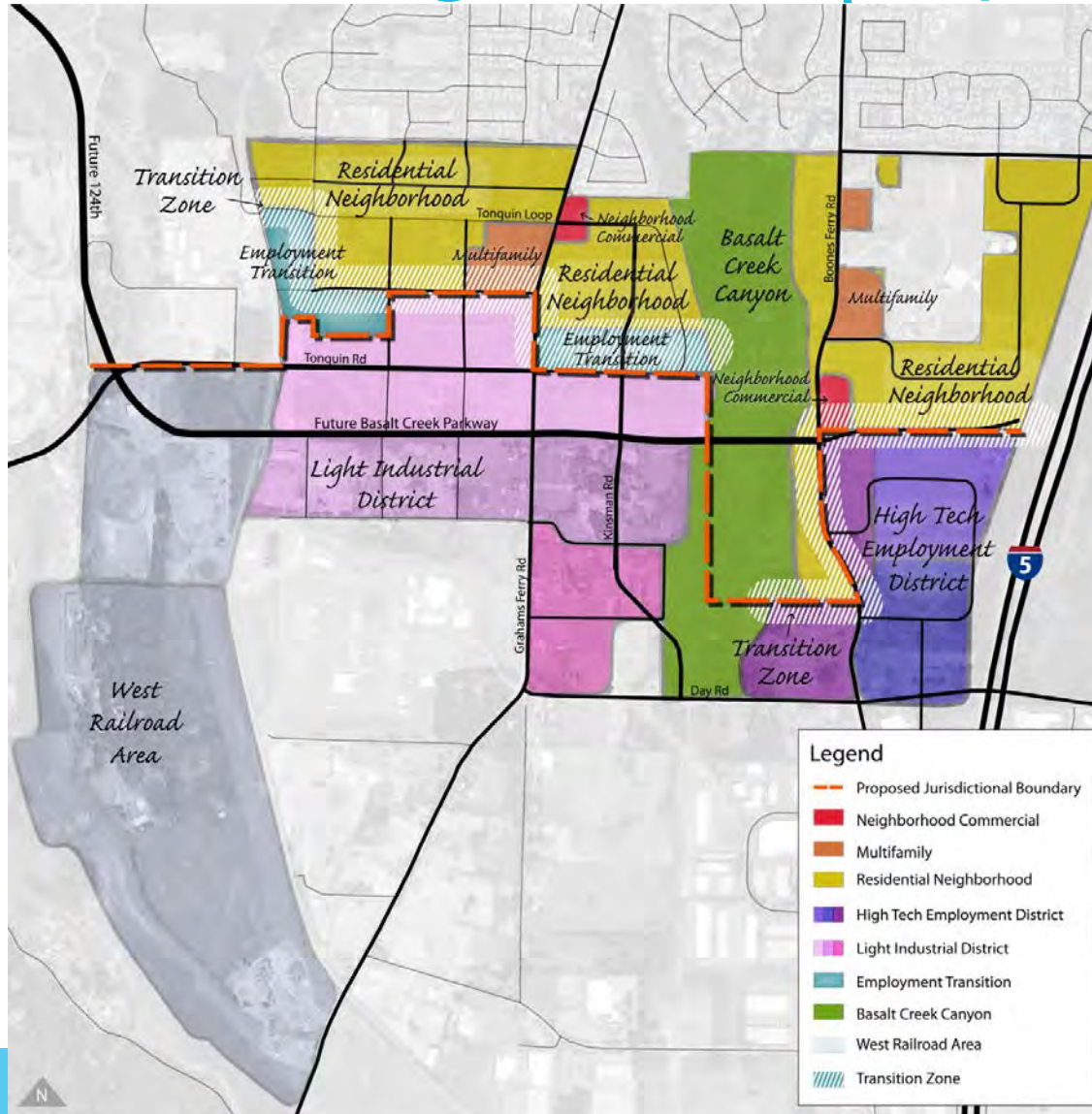
# Scenario Progression | Option 1



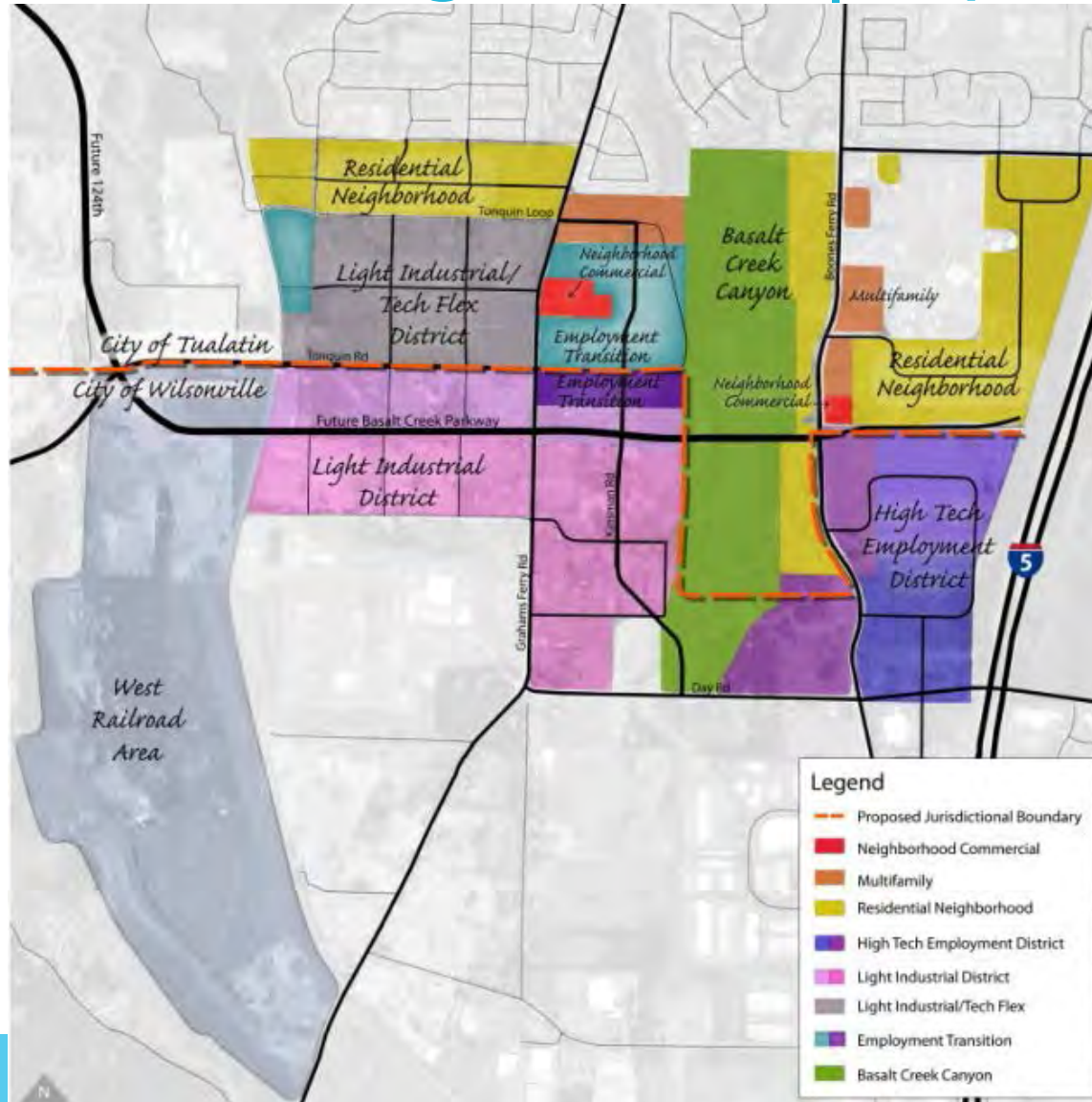
# Scenario Progression | Option 2



# Scenario Progression | Option 3



# Scenario Progression | Option 4



# Scenario Progression | Option 5

Option 5  
April 2016 Open House

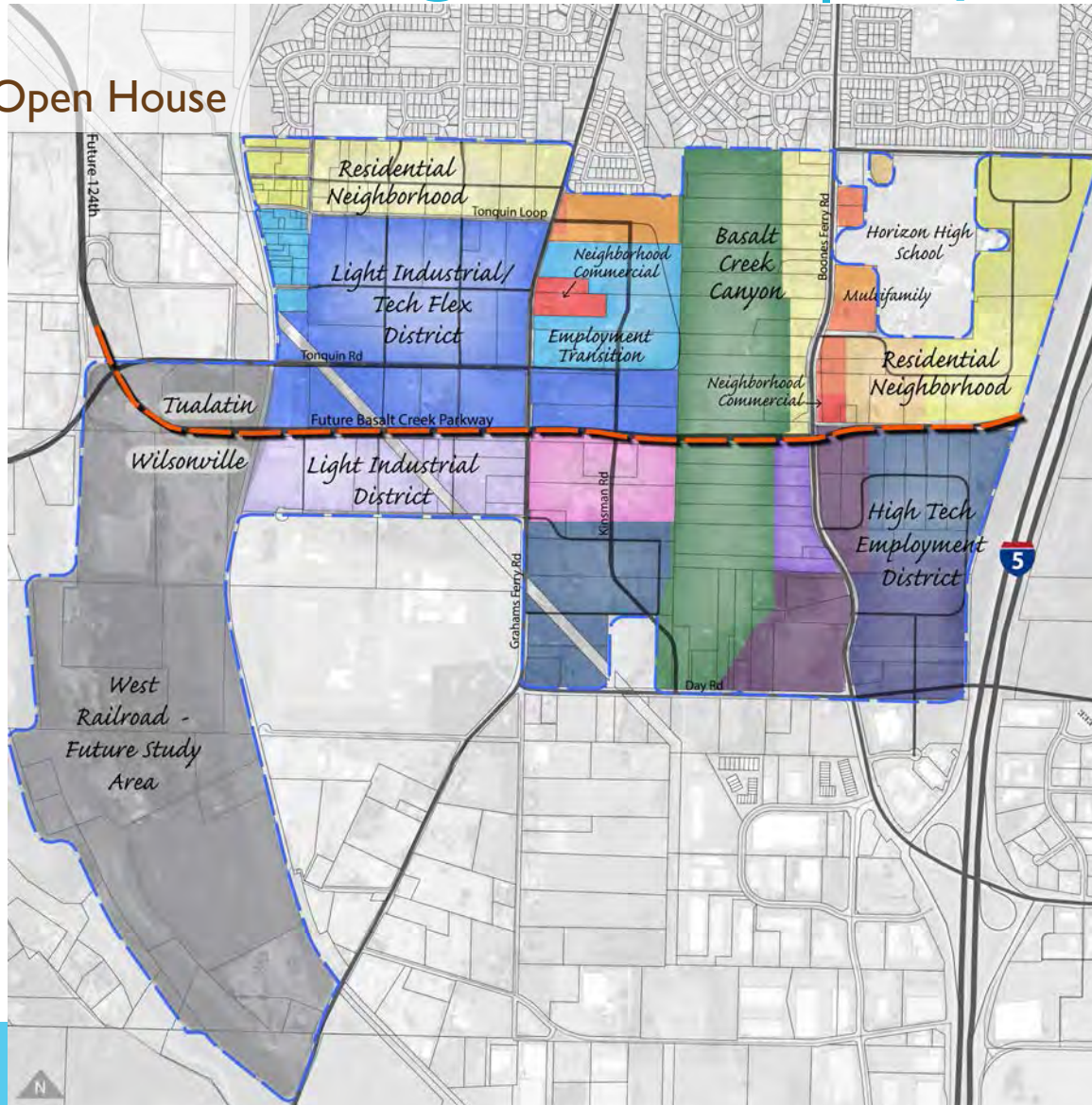
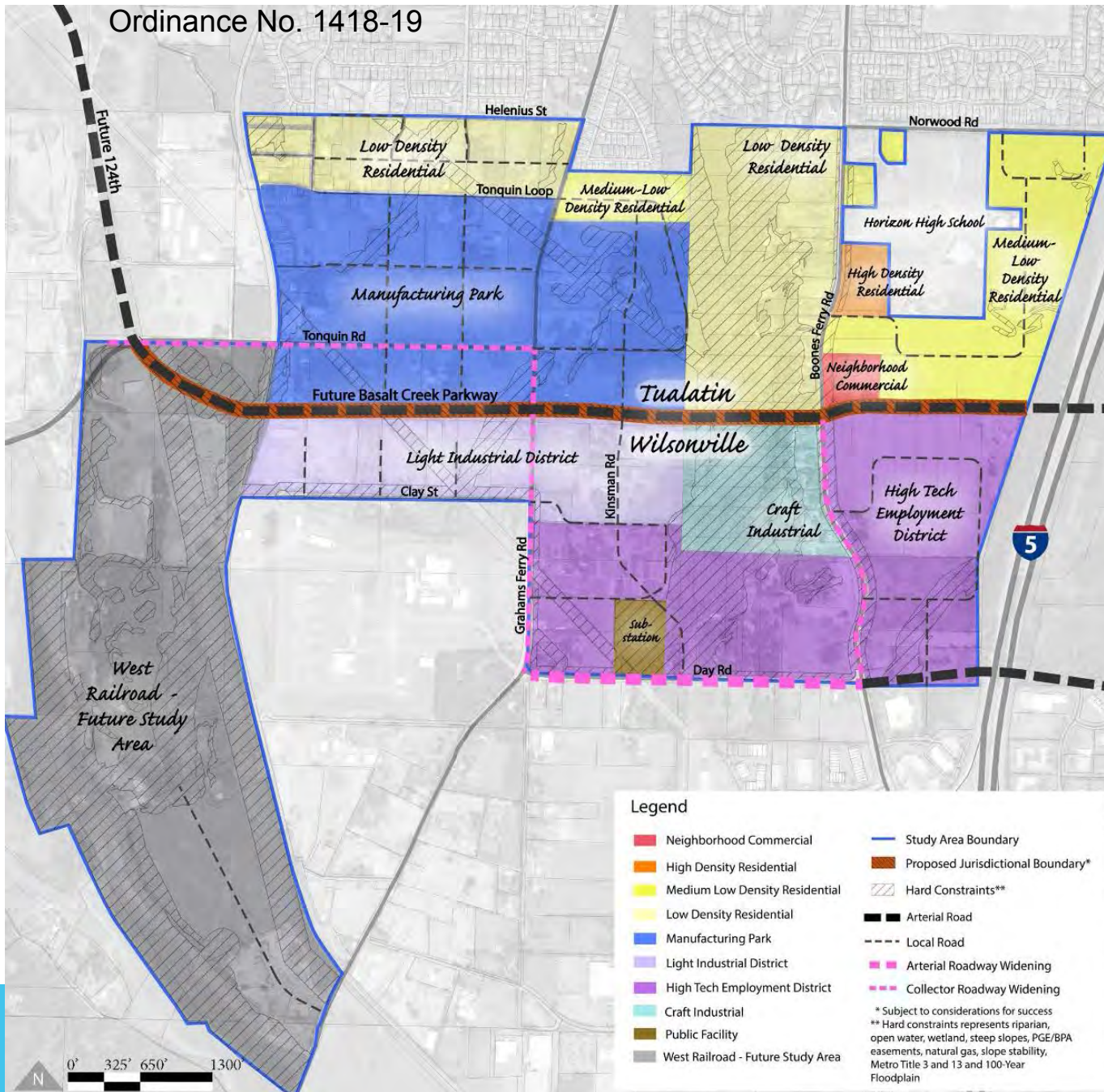


Exhibit 3 to  
Ordinance No. 1418-19

Preferred Land Use  
Concept | Sept 2016

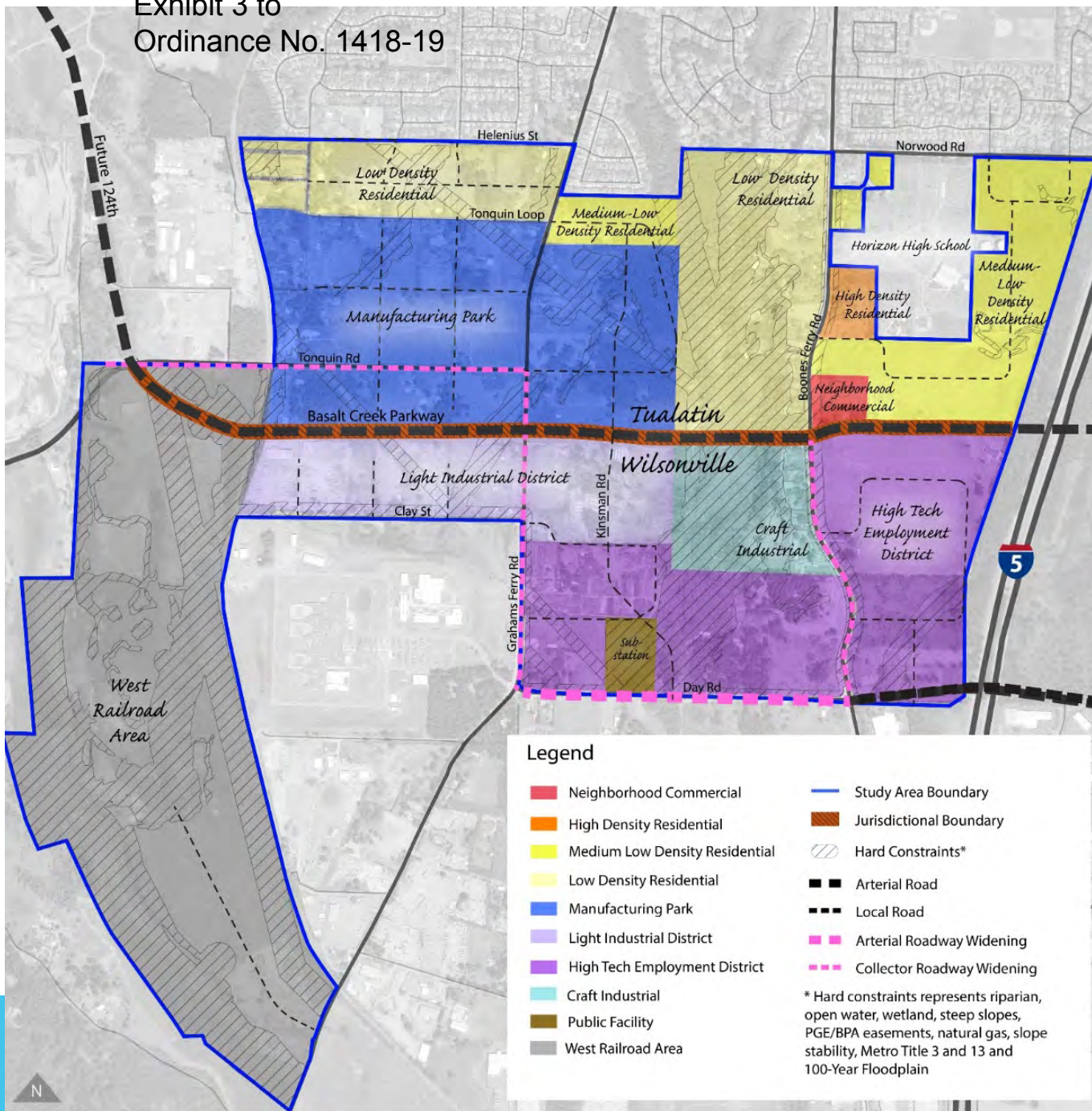


**Legend**

<span style="color: red;">■</span> Neighborhood Commercial	<span style="color: blue;">—</span> Study Area Boundary
<span style="color: orange;">■</span> High Density Residential	<span style="border: 1px solid brown;">■</span> Proposed Jurisdictional Boundary*
<span style="color: yellow;">■</span> Medium Low Density Residential	<span style="border: 1px dashed gray;">■</span> Hard Constraints**
<span style="color: lightyellow;">■</span> Low Density Residential	<span style="border: 1px solid black;">■</span> Arterial Road
<span style="color: blue;">■</span> Manufacturing Park	<span style="border: 1px dashed gray;">■</span> Local Road
<span style="color: lightpurple;">■</span> Light Industrial District	<span style="border: 1px dashed pink;">■</span> Arterial Roadway Widening
<span style="color: purple;">■</span> High Tech Employment District	<span style="border: 1px dashed magenta;">■</span> Collector Roadway Widening
<span style="color: teal;">■</span> Craft Industrial	
<span style="color: brown;">■</span> Public Facility	
<span style="background-color: gray;">■</span> West Railroad - Future Study Area	

\* Subject to considerations for success  
 \*\* Hard constraints represents riparian, open water, wetland, steep slopes, PGE/BPA easements, natural gas, slope stability, Metro Title 3 and 13 and 100-Year Floodplain





**Legend**

<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> Neighborhood Commercial	<span style="display:inline-block; width:15px; border-bottom:2px solid blue;"></span> Study Area Boundary
<span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span> High Density Residential	<span style="display:inline-block; width:15px; height:15px; background-color:orange; border:2px solid orange;"></span> Jurisdictional Boundary
<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> Medium Low Density Residential	<span style="display:inline-block; width:15px; height:15px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, grey 2px, grey 4px); border:1px solid black;"></span> Hard Constraints*
<span style="display:inline-block; width:15px; height:15px; background-color:lightyellow; border:1px solid black;"></span> Low Density Residential	<span style="display:inline-block; width:15px; height:15px; border-bottom:2px solid black;"></span> Arterial Road
<span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span> Manufacturing Park	<span style="display:inline-block; width:15px; height:15px; border-bottom:2px dashed black;"></span> Local Road
<span style="display:inline-block; width:15px; height:15px; background-color:lightpurple; border:1px solid black;"></span> Light Industrial District	<span style="display:inline-block; width:15px; height:15px; border-bottom:2px dashed pink;"></span> Arterial Roadway Widening
<span style="display:inline-block; width:15px; height:15px; background-color:purple; border:1px solid black;"></span> High Tech Employment District	<span style="display:inline-block; width:15px; height:15px; border-bottom:2px dashed purple;"></span> Collector Roadway Widening
<span style="display:inline-block; width:15px; height:15px; background-color:teal; border:1px solid black;"></span> Craft Industrial	
<span style="display:inline-block; width:15px; height:15px; background-color:brown; border:1px solid black;"></span> Public Facility	
<span style="display:inline-block; width:15px; height:15px; background-color:grey; border:1px solid black;"></span> West Railroad Area	

\* Hard constraints represents riparian, open water, wetland, steep slopes, PGE/BPA easements, natural gas, slope stability, Metro Title 3 and 13 and 100-Year Floodplain

Exhibit 3 to  
Ordinance No. 1418-19

Boundary Option 1	Acreage	Housing Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
<b>Tualatin</b>														
Garden Apartments 2-story (T)	3	68	64	-	-	-	-	-	40	40	-	-	-	-
Townhomes (T)	6	58	55	-	-	-	-	-	34	34	-	-	-	-
Small Lot Single Family (T)	10	87	80	-	-	-	-	-	50	50	-	-	-	-
Small and Medium Lot Single Family (T)	59	401	369	-	-	-	-	-	232	232	-	-	-	-
Large Lot Single Family (T)	50	292	268	-	-	-	-	-	169	169	-	-	-	-
Small Pad Retail (T)	3	-	-	36	36	-	-	-	26	-	26	-	-	-
Light Industrial / Tech Flex (T)	34	-	-	689	24	132	533	-	263	-	17	49	197	-
Employment Transition (T)	26	-	-	773	-	773	-	-	286	-	-	286	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	10	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>201</b>	<b>906</b>	<b>836</b>	<b>1,498</b>	<b>60</b>	<b>905</b>	<b>533</b>	<b>-</b>	<b>1,102</b>	<b>526</b>	<b>43</b>	<b>335</b>	<b>197</b>	<b>-</b>
<b>Wilsonville</b>														
Live-Work (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	7	36	34	154	37	48	67	2	92	21	27	18	25	1
Single User Manufacturing (W)	21	-	-	253	3	160	63	27	95	-	2	59	23	10
Single User Warehousing (W)	27	-	-	317	8	110	-	199	120	-	5	41	-	74
High Tech Single User (W)	15	-	-	532	5	234	293	-	199	-	4	87	108	-
Multi User Manufacturing Small Tenants (W)	19	-	-	316	4	59	218	36	119	-	3	22	80	13
Multi User Manufacturing Large Tenants (W)	38	-	-	282	9	13	-	260	107	-	7	5	-	96
Employment Low - Area of Special Concern (W)	59	-	-	119	4	6	-	110	46	-	3	2	-	41
Open Space	3	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>188</b>	<b>36</b>	<b>34</b>	<b>1,973</b>	<b>69</b>	<b>630</b>	<b>641</b>	<b>633</b>	<b>776</b>	<b>21</b>	<b>50</b>	<b>233</b>	<b>237</b>	<b>234</b>
<b>Total All</b>	<b>389</b>	<b>942</b>	<b>870</b>	<b>3,471</b>	<b>129</b>	<b>1,535</b>	<b>1,174</b>	<b>633</b>	<b>1,878</b>	<b>548</b>	<b>94</b>	<b>568</b>	<b>434</b>	<b>234</b>

Exhibit 3 to  
Ordinance No. 1418-19

Boundary Option 2	Housing				Commercial				Trips		Retail	Office	Industrial	Warehousing
	Acreage	Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Trips	Trips	Trips	Trips
<b>Tualatin</b>														
Garden Apartments 2-story (T)	3	68	64	-	-	-	-	-	40	40	-	-	-	-
Townhomes (T)	2	17	16	-	-	-	-	-	10	10	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	43	292	269	-	-	-	-	-	169	169	-	-	-	-
Large Lot Single Family (T)	49	289	266	-	-	-	-	-	167	167	-	-	-	-
Small Pad Retail (T)	2	-	-	20	20	-	-	-	14	-	14	-	-	-
Light Industrial / Tech Flex (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (T)	34	-	-	993	-	993	-	-	368	-	-	368	-	-
Light Industrial / Tech Flex - Low Density (T)	4	1	1	29	1	6	23	-	12	1	1	2	8	-
Open Space	8	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>155</b>	<b>756</b>	<b>697</b>	<b>1,043</b>	<b>21</b>	<b>999</b>	<b>23</b>	<b>-</b>	<b>833</b>	<b>439</b>	<b>15</b>	<b>370</b>	<b>8</b>	<b>-</b>
<b>Wilsonville</b>														
Live-Work (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	13.4	68.66	64.54	291.70	70.80	90.33	127.04	3.53	174.07	40.66	51.68	33.42	47.01	1.30
Single User Manufacturing (W)	22.3	-	-	274.19	3.03	173.42	68.69	29.05	102.54	-	2.21	64.17	25.42	10.75
Single User Warehousing (W)	50.1	-	-	585.09	13.89	203.71	-	367.50	221.48	-	10.14	75.37	-	135.97
High Tech Single User (W)	21.3	-	-	766.61	6.98	337.62	422.02	-	286.16	-	5.09	124.92	156.15	-
Multi User Manufacturing Small Tenants (W)	30.6	-	-	503.04	6.39	93.78	345.83	57.03	188.43	-	4.67	34.70	127.96	21.10
Multi User Manufacturing Large Tenants (W)	37.7	-	-	282.12	8.93	13.09	-	260.10	107.60	-	6.52	4.84	-	96.24
Employment Low - Area of Special Concern (W)	55.1	-	-	111	4	5	-	103	42	-	3	2	-	38
Open Space	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>235</b>	<b>69</b>	<b>65</b>	<b>2,814</b>	<b>114</b>	<b>917</b>	<b>964</b>	<b>820</b>	<b>1,123</b>	<b>41</b>	<b>83</b>	<b>339</b>	<b>357</b>	<b>303</b>
<b>Total All</b>	<b>390</b>	<b>825</b>	<b>762</b>	<b>3,857</b>	<b>134</b>	<b>1,916</b>	<b>986</b>	<b>820</b>	<b>1,955</b>	<b>480</b>	<b>98</b>	<b>709</b>	<b>365</b>	<b>303</b>

Exhibit 3 to  
Ordinance No. 1418-19

Boundary Option 3	Housing				Employment				Trips					
	Acreage	Units	Households	Jobs	Retail	Office	Industrial	Warehousing	Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
<b>Tualatin</b>														
Garden Apartments 2-story (T)	6	124	117	-	-	-	-	-	74	74	-	-	-	-
Townhomes (T)	5	46	43	-	-	-	-	-	27	27	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	56	382	352	-	-	-	-	-	222	222	-	-	-	-
Large Lot Single Family (T)	38	223	205	-	-	-	-	-	129	129	-	-	-	-
Small Pad Retail (T)	3	-	-	35	35	-	-	-	25	-	25	-	-	-
Light Industrial / Tech Flex (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (T)	12	-	-	365	-	365	-	-	135	-	-	135	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	13	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>144</b>	<b>865</b>	<b>799</b>	<b>400</b>	<b>35</b>	<b>365</b>	<b>-</b>	<b>-</b>	<b>664</b>	<b>503</b>	<b>25</b>	<b>135</b>	<b>-</b>	<b>-</b>
<b>Wilsonville</b>														
Live-Work (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	16	84	79	357	87	111	156	4	213	50	63	41	58	2
Single User Manufacturing (W)	22	-	-	274	3	173	69	29	103	-	2	64	25	11
Single User Warehousing (W)	50	-	-	585	14	204	-	367	221	-	10	75	-	136
High Tech Single User (W)	22	-	-	792	7	349	436	-	296	-	5	129	161	-
Multi User Manufacturing Small Tenants (W)	40	-	-	663	8	124	456	75	249	-	6	46	169	28
Multi User Manufacturing Large Tenants (W)	33	-	-	250	8	12	-	230	95	-	6	4	-	85
Employment Low - Area of Special Concern (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	3	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>187</b>	<b>84</b>	<b>79</b>	<b>2,922</b>	<b>127</b>	<b>972</b>	<b>1,117</b>	<b>706</b>	<b>1,177</b>	<b>50</b>	<b>93</b>	<b>360</b>	<b>413</b>	<b>261</b>
<b>Total All</b>	<b>331</b>	<b>949</b>	<b>878</b>	<b>3,322</b>	<b>162</b>	<b>1,337</b>	<b>1,117</b>	<b>706</b>	<b>1,841</b>	<b>553</b>	<b>118</b>	<b>495</b>	<b>413</b>	<b>261</b>

Exhibit 3 to  
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Boundary Option 4	Housing				Retail				Trips	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
	Acreage	Units	Households	Jobs	Retail	Office	Industrial	Warehousing						
<b>Tualatin</b>														
Garden Apartments 2-story (T)	4	84	79	-	-	-	-	-	50	50	-	-	-	-
Townhomes (T)	9	79	74	-	-	-	-	-	47	47	-	-	-	-
Small Lot Single Family (T)	10	89	82	-	-	-	-	-	52	52	-	-	-	-
Small and Medium Lot Single Family (T)	46	312	287	-	-	-	-	-	181	181	-	-	-	-
Large Lot Single Family (T)	23	135	124	-	-	-	-	-	78	78	-	-	-	-
Small Pad Retail (T)	1	-	-	17	17	-	-	-	12	-	12	-	-	-
Light Industrial / Tech Flex (T)	41	-	-	846	29	162	655	-	323	-	21	60	242	-
Employment Transition (T)	20	-	-	600	-	600	-	-	222	-	-	222	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	13	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>168</b>	<b>699</b>	<b>647</b>	<b>1,463</b>	<b>45</b>	<b>763</b>	<b>655</b>	<b>-</b>	<b>965</b>	<b>407</b>	<b>33</b>	<b>282</b>	<b>242</b>	<b>-</b>
<b>Wilsonville</b>														
Live-Work (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Employment Transition (W)	7.6	39.05	36.70	165.89	40.26	51.37	72.25	2.00	99.00	23.12	29.39	19.01	26.73	0.74
Single User Manufacturing (W)	22.3	-	-	274.19	3.03	173.42	68.69	29.05	102.54	-	2.21	64.17	25.42	10.75
Single User Warehousing (W)	50.0	-	-	584.80	13.88	203.61	-	367.32	221.37	-	10.13	75.33	-	135.91
High Tech Single User (W)	22.1	-	-	792.27	7.21	348.92	436.15	-	295.74	-	5.26	129.10	161.37	-
Multi User Manufacturing Small Tenants (W)	24.8	-	-	407.55	5.18	75.98	280.18	46.21	152.66	-	3.78	28.11	103.67	17.10
Multi User Manufacturing Large Tenants (W)	33.4	-	-	249.98	7.91	11.60	-	230.47	95.34	-	5.77	4.29	-	85.27
Employment Low - Area of Special Concern (W)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Open Space	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>163</b>	<b>39</b>	<b>37</b>	<b>2,475</b>	<b>77</b>	<b>865</b>	<b>857</b>	<b>675</b>	<b>967</b>	<b>23</b>	<b>57</b>	<b>320</b>	<b>317</b>	<b>250</b>
<b>Total All</b>	<b>331</b>	<b>738</b>	<b>683</b>	<b>3,937</b>	<b>123</b>	<b>1,627</b>	<b>1,512</b>	<b>675</b>	<b>1,932</b>	<b>431</b>	<b>90</b>	<b>602</b>	<b>559</b>	<b>250</b>

Exhibit 3 to  
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Boundary Option 5	Acreage	Housing Units/Gross Acre	Housing Units	Households/Gross Acre	Households	Jobs/Gross Acre	Jobs	Retail Percentage	Retail	Office Percentage	Office	Industrial Percentage	Industrial	Warehousing Percentage	Warehousing	Trips	Trips per Acre	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
<b>Tualatin</b>																						
Garden Apartments 2-story (T)	4	21.13	84	19.87	79	-	-	0%	-	0%	-	0%	-	0%	-	50	12.52	50	-	-	-	-
Townhomes (T)	9	9.16	79	8.61	74	-	-	0%	-	0%	-	0%	-	0%	-	47	5.43	47	-	-	-	-
Small Lot Single Family (T)	10	8.92	89	8.21	82	-	-	0%	-	0%	-	0%	-	0%	-	52	5.17	52	-	-	-	-
Small and Medium Lot Single Family (T)	46	6.80	312	6.25	287	-	-	0%	-	0%	-	0%	-	0%	-	181	3.94	181	-	-	-	-
Large Lot Single Family (T)	22	5.88	128	5.41	118	-	-	0%	-	0%	-	0%	-	0%	-	74	3.41	74	-	-	-	-
Small Pad Retail (T)	1	-	-	-	-	11.31	17	100%	17	0%	-	0%	-	0%	-	12	8.26	-	12	-	-	-
Light Industrial / Tech Flex (T)	72	-	-	-	-	20.41	1,468	3%	50	19%	282	77%	1,136	0%	-	561	7.80	-	37	104	420	-
Employment Transition (T)	20	-	-	-	-	29.47	600	0%	-	100%	600	0%	-	0%	-	222	10.90	-	-	222	-	-
Light Industrial / Tech Flex - Low Density (T)	-	-	-	-	-	7	-	3%	-	20%	-	77%	-	0%	-	-	-	-	-	-	-	-
Open Space	10	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>194</b>		<b>692</b>		<b>640</b>		<b>2,085</b>		<b>67</b>		<b>882</b>		<b>1,136</b>		<b>-</b>	<b>1,199</b>	<b>6.17</b>	<b>403</b>	<b>49</b>	<b>326</b>	<b>420</b>	<b>-</b>
<b>Wilsonville</b>																						
Live-Work (W)	-	15	-	14	-	15	-	100%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
Employment Transition (W)	1	5	6	5	6	22	27	24%	6.59	31%	8	44%	12	1%	0	16	12.95	4	5	3	4	0
Single User Manufacturing (W)	22	-	-	-	-	12	274	1%	3.03	63%	173	25%	69	11%	29	103	4.59	-	2	64	25	11
Single User Warehousing (W)	50	-	-	-	-	12	585	2%	13.88	35%	204	0%	-	63%	367	221	4.42	-	10	75	-	136
High Tech Single User (W)	22	-	-	-	-	36	792	1%	7.21	44%	349	55%	436	0%	-	296	13.40	-	5	129	161	-
Multi User Manufacturing Small Tenants (W)	14	-	-	-	-	16	222	1%	2.83	19%	41	69%	153	11%	25	83	6.17	-	2	15	57	9
Multi User Manufacturing Large Tenants (W)	22	-	-	-	-	7	163	3%	5.17	5%	8	0%	-	92%	151	62	2.86	-	4	3	-	56
Employment Low - Area of Special Concern (W)	-	-	-	-	-	2	-	3%	-	5%	-	0%	-	92%	-	-	-	-	-	-	-	-
Open Space	6	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>137</b>		<b>6</b>		<b>6</b>		<b>2,064</b>		<b>39</b>		<b>783</b>		<b>669</b>		<b>572</b>	<b>781</b>	<b>5.72</b>	<b>4</b>	<b>28</b>	<b>290</b>	<b>248</b>	<b>212</b>
<b>Total All</b>	<b>331</b>		<b>698</b>		<b>646</b>		<b>4,149</b>		<b>106</b>		<b>1,665</b>		<b>1,805</b>		<b>572</b>	<b>1,980</b>	<b>5.98</b>	<b>407</b>	<b>77</b>	<b>616</b>	<b>668</b>	<b>212</b>

Exhibit 3 to  
Ordinance No. 1418-19

Land Use Concept	Acreage	Housing Units/Gross Acre	Housing Units	Households/Gross Acre	Households	Jobs/Gross Acre	Jobs	Retail Percentage	Retail	Office Percentage	Office	Industrial Percentage	Industrial	Warehousing Percentage	Warehousing	Trips	Trips per Acre	HH Trips	Retail Trips	Office Trips	Industrial Trips	Warehousing Trips
<b>Tualatin</b>																						
High Density Residential	3.36	21.13	71	19.87	67	-	-	0%	-	0%	-	0%	-	0%	-	42	12.52	42	-	-	-	-
Medium-Low Density Residential	59.83	6.80	407	6.25	374	-	-	0%	-	0%	-	0%	-	0%	-	236	3.94	236	-	-	-	-
Low Density Residential	24.83	5.88	146	5.41	134	-	-	0%	-	0%	-	0%	-	0%	-	85	3.41	85	-	-	-	-
Neighborhood Commercial	2.89	-	-	-	-	11.31	33	100%	32.66	0%	-	0%	-	0%	-	24	8.26	-	24	-	-	-
Manufacturing Park	92.95	-	-	-	-	20.41	1,897	3%	65	19%	364	77%	1,468	0%	-	725	7.80	-	47	135	543	-
Open Space	10.37	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
<b>Tualatin Total</b>	<b>194.23</b>		<b>624</b>		<b>575</b>		<b>1,929</b>		<b>98</b>		<b>364</b>		<b>1,468</b>		<b>-</b>	<b>1,111</b>	<b>5.72</b>	<b>362.4</b>	<b>71.2</b>	<b>134.8</b>	<b>543.0</b>	<b>-</b>
<b>Wilsonville</b>																						
Craft Industrial	1.25	5	6	5	6	21.70	27	24%	6.59	31%	8	44%	12	1%	0	16	12.95	4	5	3	4	0
Light Industrial District	35.30	-	-	-	-	16.46	581	1%	7.39	19%	108	69%	400	11%	66	218	6.17	-	5	40	148	24
High Tech Employment District	94.47	-	-	-	-	20.28	1,916	1%	24.01	45%	870	38%	733	15%	289	717	7.59	-	18	322	271	107
Open Space	5.62	-	-	-	-	-	-	0%	-	0%	-	0%	-	0%	-	-	-	-	-	-	-	-
<b>Wilsonville Total</b>	<b>136.64</b>		<b>6</b>		<b>6</b>		<b>2,524</b>		<b>38</b>		<b>987</b>		<b>1,144</b>		<b>356</b>	<b>951</b>	<b>6.96</b>	<b>3.8</b>	<b>27.7</b>	<b>365.1</b>	<b>423.3</b>	<b>131.5</b>
<b>Total All</b>	<b>331</b>		<b>630</b>		<b>581</b>		<b>4,453</b>		<b>136</b>		<b>1,351</b>		<b>2,611</b>		<b>356</b>	<b>2,062</b>	<b>6.23</b>	<b>366.2</b>	<b>99.0</b>	<b>499.9</b>	<b>966.2</b>	<b>131.5</b>

## Metro Title 11 Compliance Memorandum

In response to a shortfall in industrial land, a 2004 study<sup>1</sup> identified good candidates for industrial development by looking at soil classification, earthquake hazard, slope steepness, and parcel size; distribution to regional transportation, necessary services, accessibility; and proximity to existing like uses.

Two areas of land identified in Metro Ordinance No. 04-1040B as good candidates for industrial development now comprise the Basalt Creek planning area. The main section of the Basalt Creek area (referred to in the 2004 ordinance as the Tualatin study area) was identified as suitable for industrial development due to relatively flat parcels and its proximity to the I-5 corridor and to an existing industrial area in Wilsonville. The ordinance states “...the Tualatin study area is most suitable for warehousing and distribution, among other industrial uses.”

### 3.07.1120 Planning for Areas Added to the UGB

- A. The county or city responsible for comprehensive planning of an area, as specified by the intergovernmental agreement adopted pursuant to section 3.07.1110(c)(7) or the ordinance that added the area to the UGB, shall adopt comprehensive plan provisions and land use regulations for the area to address the requirements of subsection (c) by the date specified by the ordinance or by section 3.07.1455(b)(4) of this chapter.
- B. If the concept plan developed for the area pursuant to section 3.07.1110 assigns planning responsibility to more than one city or county, the responsible local governments shall provide for concurrent consideration 3.07 - 60 (Updated on 01/06/16) and adoption of proposed comprehensive plan provisions unless the ordinance adding the area to the UGB provides otherwise.
- C. Comprehensive plan provisions for the area shall include:
  1. Specific plan designation boundaries derived from and generally consistent with the boundaries of design type designations assigned by the Metro Council in the ordinance adding the area to the UGB;

#### Findings:

In 2004, Metro identified the Basalt Creek area as a good candidate for industrial development because it is near I-5, adjacent to Wilsonville’s industrial area to the south, and contains large, flat sites suitable for industrial users. Metro passed Ordinance 4-1040B to annex the area into the existing Urban Growth Boundary (UGB), to ensure sufficient regional supply of land for employment growth over the next twenty years.

In 2011 four jurisdictions entered into an Intergovernmental Agreement for the purposes of jointly planning the Basalt Creek Concept Plan area. The Cities of

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<sup>1</sup> As documented in the Existing Conditions Report Appendix A to the Basalt Creek Concept Plan, the study referenced is an Industrial Land Alternative Analysis Study (a 2004 addendum to Metro’s 2002 Urban Growth Report).



Tualatin and Wilsonville, Washington County and Metro all signed the agreement and reaffirmed this commitment when the IGA was reinstated in September of 2016. The reinstatement and the original IGA are included in this document as Attachment A.

The original IGA in 2011 identified that the partner agencies would consider both Basalt Creek and the West Railroad area as single concept plan called the Basalt Creek Planning Area. The Cities and the County agreed to work together to complete integrated land use and transportation system concept planning to assure carefully planned development in the Basalt Creek Planning Area that will be a benefit to the County, Cities and their residents.

Basalt Creek planning area is located near one of the region's largest clusters of employment land, including existing developed areas in Tualatin, Wilsonville, and Sherwood and planned future employment areas of Southwest Tualatin, Tonquin Employment Area, and Coffee Creek. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region.

In the most recent Metro forecast for the area (Gamma Version provided at TAZ level), Basalt Creek planning area was expected to accommodate about 1,200 new housing units and 2,300 new jobs (mostly industrial, with some service jobs and few retail jobs). Details regarding forecast can be found in Appendix A starting on page 17. The Buildable Lands Analysis (see Appendix E) influenced the most appropriate locations for employment-based land uses within the planning area. See Section *Basalt Creek Concept Plan* beginning on page 7

Basalt Creek Concept Plan land use designations are consistent with Ordinance 4-1040B. The area is mapped and identified as an "Industrial Area" in Metro's Title 4 Code. The majority of the acreage in the Basalt Creek Planning Area is designated for employment use by the Concept Plan. The land use designations provide for a range of industrial development types including manufacturing, warehouse, and office uses. See a Figure 8 *Basalt Creek Land Use Concept Map* in the plan document. Further description of the land uses continues under *Jurisdictional Boundary, Land Use and Development* on page 29.

While the major purpose of the area is to provide land for employment opportunities, the Basalt Creek Concept Plan also includes some residential areas to the north and northeast of the proposed jurisdictional boundary, which will be in the City of Tualatin following adoption. Using the land suitability analysis, and looking at adjacent land uses, the project team identified appropriate land use designations for properties within the planning area. These land use designations were further refined,

and appropriate densities selected to provide for regional employment capacity and housing while limiting traffic congestion.

The mix of housing types proposed was designed to coordinate with existing adjacent residential neighborhoods. The mix includes low, medium-low and high-density housing, which provides the opportunity for a range of different housing types, tenure and prices. See Table 3 *Summary of Development Types Identified for Basalt Creek Planning Area by Jurisdiction* for a breakdown of buildable acreage and density by land use designation in the plan document.

It is not necessary for this designation to be removed from the residential land already identified in the northern portion of the of the Basalt Creek area upon adoption of the Concept Plan. Ordinance 4-1040B allowed for land north of the “South Alignment” of the connector right of way to be designated Outer Neighborhood.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

2. Provision for annexation to a city and to any necessary service districts prior to, or simultaneously with, application of city land use regulations intended to comply with this subsection;

Findings: Basalt Creek Concept Plan establishes a new jurisdictional boundary between Tualatin and Wilsonville in order to determine which parts of the planning area can be annexed into and served by each city in the future. Both cities comprehensive plans require annexation prior to or simultaneous with a development application. The Basalt Creek Concept Plan includes a provision that this area is added to existing urban services agreements. Ensuring service provision is also a requirement of City of Wilsonville code and a component of the Urban Planning Area Agreements each City has with Washington County. City of Tualatin’s development code (Section 31.067) currently calls out an annexation procedure ‘to be used in conjunction with Metro Code 3.08 and Oregon Revised Statutes for annexing territory to the City Limits.’ See the *Implementation and Phasing Strategy* section starting on page 52 of the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

3. Provisions that ensure zoned capacity for the number and types of housing units, if any, specified by the Metro Council pursuant to section 3.07.1455(b)(2) of this chapter;

Findings: The Basalt Creek Concept Planning Area was brought into the UGB as industrial land, and housing was allowed specifically to address concerns for necessary buffering of adjacent uses. Metro Council has not specified number and

types of housing units or average density per net developable acres. See section *Basalt Creek Concept Plan* beginning on page 7.

The Basalt Creek Concept Plan balances land use types and densities to meet obligations for providing regional employment capacity (Metro Gamma forecast) while limiting negative impacts on congestion and traffic levels (trip caps). In addition, the scenarios vetted by the Project Management Team (PMT) and each City Council sought efficient provision of services, fully analyzing the transportation, infrastructure, park, natural resource, and land use implications of various development patterns to form the basis for the Concept Plan. See *Scenario Testing and Concept Plan Development* starting on page 13 in the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

4. Provision for affordable housing consistent with Title 7 of this chapter if the comprehensive plan authorizes housing in any part of the area.

Findings: The Basalt Creek Concept Planning Area was brought into the UGB as industrial land, which allows housing specifically to address concerns for necessary buffering of adjacent uses.

The final and preferred land use scenario includes a mix of low, medium-low and high-density housing projected to produce 575 households in Tualatin and 6 live/work units in Wilsonville, which provides the opportunity for a range of different housing types, tenure and prices to meet the needs of the city, county and region. See Table 3 *Summary of Development Types identified for Basalt Creek Planning Area by Jurisdiction* for a breakdown of households by land use designation, associated densities, and acreages.

Preliminary strategies to achieve a diverse range of housing types including affordable housing include, but are not limited to: private and non-profit partnerships, waivers, subsidies, grant funding, update and streamline zoning code (i.e. additional flexibility with accessory dwelling units, allow smaller lots, density bonuses, reduce parking requirements) programs to lower the cost of development, additional funding sources to pay for infrastructure, programs that decrease operational costs, programs that provide financial assistance to homeowners and renters. These strategies will be reviewed during Tualatin's comprehensive planning update.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

5. Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;

Findings: Existing schools are expected to accommodate future student population and no new facilities are planned within the area. Capacity determinations will need to be made as development progresses. The facilities for provision of schools will be determined and funded as development occurs in the area and will be based on level of service standards for the subsequent population expansion. Basalt Creek is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow the District to accommodate an additional 2,000 students district-wide (according to information on the District's website <http://www.sherwood.k12.or.us/information/bond-visioning-process>).

The Basalt Creek Concept Plan was coordinated with local school districts. The Sherwood and Tigard-Tualatin school districts participated in the Agency Review Team to provide input to the concept plan. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 581 future households in the Basalt Creek planning area. The planning area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.

Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The planning area is located very close to Tualatin High School. The Tigard-Tualatin School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the planning area and currently serves 160 students but plans significant expansion in the future. The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the planning area. See subsection *Schools* under section *Civic Uses* beginning on page 40 in the plan document for a discussion of school facility considerations. Also, see Attachment B for written confirmation from both school districts.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

6. Provision for the amount of land and improvements needed, if any, for public park facilities sufficient to serve the area added to the UGB in coordination with affected park providers.

Findings:

One of the guiding principles of the Basalt Creek Concept Plan is to protect key natural resources and sensitive areas while making recreational opportunities accessible by integrating the new parkland, open spaces, natural areas and trails in the planning area into existing regional networks.

The planning area provides an interesting opportunity for different types of parks, given the variety of uses and the extensive Basalt Creek Canyon natural area: active and passive neighborhood parks, pocket parks, and even perhaps a large community or regional facility. It also provides opportunities for jogging, hiking, or other outdoor recreation by area employees and nearby residents.

Locating parks near schools, natural areas or other public facilities is preferable, especially when it provides an opportunity for shared use facilities. As in any park development, the acquisition is best done in advance of annexation and extension of services, with development of the parks occurring as the need arises. Cities will determine and adopt funding methods for acquisition, capital and operating costs for parklands in the Basalt Creek Area, including the use of their current SDCs for parks.

Both cities are currently going through a Park and Recreation Master Plan update. This update has considered the Basalt Creek area in the types of services and facilities that will be needed to serve residents and business in this area. See subsection *Parks and Open Space* under section *Civic Uses* beginning on page 41 of the plan document.

The Basalt Creek Concept Plan does not quantify the specific need or locations for civic uses such as libraries, parks and elementary schools within the planning area, but a minimum park space of a 15 to 20-acre Neighborhood Park in Tualatin is needed to serve residents and businesses in the planning area. The facilities for provision of parks will be determined and funded as development occurs in the area and will be based on level of service standards for the subsequent population expansion. However, during scenario planning, assumptions were built into the model for the size and capacity of residential development types to serve as a guide. The development scenarios assumed school districts, Cities, and other service providers would use their site selection and land acquisition processes to acquire the land

needed for these facilities. A discussion of Scenario Planning is located in the section *Scenario Testing and Concept Plan Development* on page 13 of the plan document.

The Basalt Creek Concept Plan also identifies opportunities for bike and pedestrian connections in conjunction with the planned development pattern. Additional bike/pedestrian facilities will be integrated into new and updated road projects in accordance with State, County and City standards, respectively, and opportunities for additional active transportation connects are identified in the Concept Plan (e.g. across the future Basalt Creek Parkway, to the Ice Age Tonquin Trail, and potentially, along the western edge of the Basalt Creek Canyon). Map is included under Bicycle and Pedestrian Framework (Figure 10). A discussion of the *Bicycle and Pedestrian Framework* begins on page 36 of the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

7. A conceptual street plan that identifies internal street connections and connections to adjacent urban areas to improve local access and improve the integrity of the regional street system. For areas that allow residential or mixed-use development, the plan shall meet the standards for street connections in the Regional Transportation Functional Plan; Findings: Major new roads and improvements will be constructed as laid out in the 2013 Basalt Creek Transportation Refinement Plan (TRP) for the area, which is also coordinated with the Metro Regional Transportation Plan and integrated into the Concept Plan's Roadway Framework map. Basalt Creek Parkway, currently under construction, will be a major east-west arterial, with limited access, creating a new connection between I-5 and 99W and the employment areas in the South County Industrial Area. Further roadway improvements—such as adding capacity to north-south collectors, widening Day Road, and two additional I-5 crossings at Day and Greenhill—will be needed to handle future traffic levels as the area is built out. Local roads connecting to this network will be planned and built by property owners as the area develops. See the *Transportation* section beginning on page 32 of the plan document for more discussion.

Each city will amend TSPs to accommodate the future transportation system outlined in the Basalt Creek Transportation Refinement Plan and described in the Basalt Creek Concept Plan, Figure 9 on page 35.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

8. Provision for the financing of local and state public facilities and services; and 3.07 - 61 (Updated on 01/06/16)

Findings: Prior to annexation into a city of any of the land in the planning area, a cooperative funding strategy needs to be agreed upon between the City of Wilsonville, the City of Tualatin, and Washington County in order to build out the transportation network as set forth in the 2013 Basalt Creek TRP. The Concept Plan acknowledges this, and it will be a component of the amended UPAs. See *Key Transportation Solutions* on page 32 of the plan document.

The Cities acknowledge that significant improvements will be needed to the existing and future transportation network in the Basalt Creek Concept Plan area. To achieve the vision established by the Cities and Washington County in the 2013 Basalt Creek (TRP), Tualatin and Wilsonville will coordinate with Washington County to prioritize projects and identify funding strategies. The Cities acknowledge that success of the Basalt Creek Concept Plan area depends on being served by an adequate transportation system as identified in the TRP.

Sewer and water infrastructure systems can be financed in several ways. Typically, the developer is expected to finance the extension of services and each City has a method of reimbursing the developer for installing infrastructure when other development hooks in if they choose to elect this option. Each City may decide to participate in financing, for example, by providing for the formation of a Local Improvement District or another type of funding mechanism. See section *Implementation and Phasing Strategy* beginning on page 52 of the plan document for a discussion of financing options.

Public stormwater systems are typically accommodated for in the public right-of-way and costs are included with a road project or other right-of-way development. Stormwater systems outside of the public right-of-way are assumed to be part of private development costs and are not estimated as a part of this plan. See section *Stormwater Drainage* on page 51 of the plan document.

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

9. A strategy for protection of the capacity and function of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.

Findings: The Basalt Creek Concept Plan includes considerations to maintain the integrity of the transportation network in this employment area. The Basalt Creek Concept Plan includes land uses designed to result in trips consistent with those modeled and used to establish the Basalt Creek TRP. Thus, local trip generation should not exceed capacity and thus, maintain the integrity of the network outlined in the TRP. The Cities will also work cooperatively to evaluate future regional

transportation projects and decisions, beyond those identified in the TRP, which could direct additional traffic to the Basalt Creek Concept Plan Area. These projects will be evaluated to ensure that system capacity and adequate regional funding is available for needed improvements to mitigate additional regional traffic.

See Basalt Creek Concept Plan Transportation Technical Analysis and Solutions Memo (Appendix G) Table 2: Network Alternative Intersection Operations (2035 PM Peak Hour).

Conclusion: Basalt Creek Concept Plan fulfills this requirement.

- D. The county or city responsible for comprehensive planning of an area shall submit to Metro a determination of the residential capacity of any area zoned to allow dwelling units, using a method consistent with a Goal 14 analysis, within 30 days after adoption of new land use regulations for the area.

Findings: The land use scenarios developed through the Concept Plan provided dwelling unit projections; residential zoning and capacity analysis will occur as part of each city's adoption of comprehensive plan amendments.

Conclusion: Basalt Creek Concept Plan meets this requirement.

*(Ordinance 98-772B, Sec. 2. Ordinance 99-818A, Sec. 3. Ordinance 01-929A, Sec. 8. Ordinance 02-964, Sec. 5. Ordinance 05-1077C, Sec. 6. Ordinance 05-1089A, Sec. 2. Ordinance 07-1137A, Sec. 3. Ordinance 10-1238A, Sec. 5. Ordinance 11-1252A, Sec. 1. Ordinance 15-1357.)*

### **3.07.1130 Interim Protection of Areas Added to the UGB**

Until land use regulations that comply with section 3.07.1120 become applicable to the area, the city or county responsible for planning the area added to the UGB shall not adopt or approve:

- A. A land use regulation or zoning map amendment that allows higher residential density in the area than allowed by regulations in effect at the time of addition of the area to the UGB;
- B. A land use regulation or zoning map amendment that allows commercial or industrial uses not allowed under regulations in effect at the time of addition of the area to UGB;
- C. A land division or partition that would result in creation of a lot or parcel less than 20 acres in size, except for public facilities and services as defined in section 3.07.1010 of this chapter, or for a new public school;

Findings: When the land was added to the UGB, Washington County designated the land as FD-20 (Future Development 20 Acres) which is their "holding" zone. See Appendix A Existing Conditions Report page 10 for a discussion on the current zoning of the area.

- D. In an area designated by the Metro Council in the ordinance adding the area to the UGB as Regionally Significant Industrial Area:
  1. A commercial use that is not accessory to industrial uses in the area; and



2. A school, a church, a park or any other institutional or community service use intended to serve people who do not work or reside in the area.

*(Ordinance No. 98—772B, Sec. 2. Amended by Ordinance No. 99—818A, Sec. 3, Ordinance No. 10—1238A, Sec. 5; and Ordinance NO. 11—1252A, Sec. 1).*

#### Attachments

Attachment A – Reinstated IGA between partner agencies

Attachment B – Correspondence from Tigard- Tualatin School and Sherwood School District (not yet received 7/18/18 from Sherwood School District)



***Memorandum***

**Date:** Oct. 4, 2016  
**To:** Metro, City of Wilsonville, & City of Tualatin  
**From:** Kris Brannan, Management Analyst  
**RE:** IGA CA 16-1110 Basalt Creek

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Enclosed you will find a fully executed copy of the Reinstated IGA for the Basalt Creek planning area.

If you have any questions please let me know. My phone number is (503) 846-3694. My email address is: [kris\\_brannan@co.washington.or.us](mailto:kris_brannan@co.washington.or.us)

Thank you.

**Kris Brannan | Management Analyst**  
Washington County Department of Land Use & Transportation  
Planning and Development Services | Long Range Planning  
155 N First Avenue, Suite 350, MS 14 | Hillsboro, OR 97124  
503-846-3694 direct | 503-846-4412 fax  
[kris\\_brannan@co.washington.or.us](mailto:kris_brannan@co.washington.or.us) | [www.co.washington.or.us/lut](http://www.co.washington.or.us/lut)

**REINSTATEMENT OF CONTRACT NO. BCC 11-0470**  
**ADDENDUM NO. 2.0**

The INTERGOVERNMENTAL AGREEMENT BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF TUALATIN AND WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY EXPANSION AREAS KNOWN AS THE "BASALT CREEK" AND "WEST RAILROAD" PLANNING AREAS, identified as Contract No. BCC 11-0470, is hereby reinstated by the parties pursuant to Washington County Purchasing Rule 10-180.

The contract is hereby amended by the parties, this amendment modifies the original contract number being BCC 11-0470.

The IGA is reinstated and amended as follows:

Original language is represented with the strikethrough and new language is underlined.

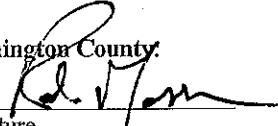
On page 6 of 10, Section D, paragraph 5 (paragraph before Attachments list) which states:

This IGA shall become effective upon full execution by all parties. The effective date of this IGA shall be the last date of signature on the attached signature pages. This IGA shall be in effect until the CITIES and COUNTY amend their respective UPAA's and incorporate the Basalt Creek Concept Plan into each CITIES respective comprehensive plans or until 5 years following the execution of this IGA, whichever occurs earlier ~~three years from the effective date of this Addendum 2.0, whichever occurs earlier.~~

Effective Date of Amendment: 9/1/2016 or upon last date of signature.

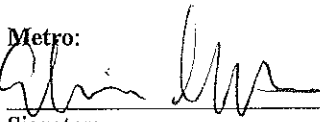
All other terms and conditions of the original IGA shall remain in full force and effect.

Washington County:

  
Signature  
9/28/16  
Date

Rob Massar  
Printed Name  
Asst. County Administrator  
Title


Metro:

  
Signature  
9/27/16  
Date

Elissa Gentler  
Printed Name  
Planning Director  
Title

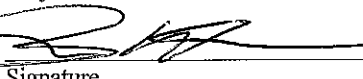
Scott Robinson  
Deputy Chief Operating Officer

City of Tualatin:

  
Signature  
9/12/16  
Date

Sheryl Lombos  
Printed Name  
City Manager  
Title

City of Wilsonville:

  
Signature  
9/21/16  
Date

Bryan Cosgrove  
Printed Name  
City manager  
Title

**INTERGOVERNMENTAL AGREEMENT  
BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF TUALATIN AND  
WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY  
EXPANSION AREAS KNOWN AS THE "BASALT CREEK" AND "WEST  
RAILROAD" PLANNING AREAS**

This Intergovernmental Agreement (IGA) is entered into by the following parties: METRO, the Portland area metropolitan service district; WASHINGTON COUNTY, a political subdivision in the State of Oregon, hereinafter referred to as "COUNTY"; and the CITY OF TUALATIN and CITY OF WILSONVILLE, incorporated municipalities of the State of Oregon, hereinafter referred to as "CITIES".

Whereas, in 2004 METRO's Council added two areas known as the Basalt Creek and West Railroad Planning Areas, located generally between the CITIES, to the Urban Growth Boundary (UGB) for industrial uses, via Metro Ordinance No. 04-1040B; and

Whereas, METRO conditioned that these UGB expansion areas undergo Title 11 concept planning as defined in Metro Code Chapter 3.07, cited as the Urban Growth Management Functional Plan ("UGMFP"), and that the concept planning be in accordance with Exhibit F of Metro Ordinance 04-1040B; and

Whereas, on June 10, 2010 the METRO Council adopted its 2035 Regional Transportation Plan ("2035 RTP") via Metro Ordinance 10-1241B, with a Project List including an extension of SW 124<sup>th</sup> Avenue (Project #10736) south of SW Tualatin-Sherwood Road and several projects related to the proposed I-5 to Hwy 99W Connector Project Alternative 7 "Southern Arterial", which is planned as a continuous east-west roadway between I-5 and Hwy 99W passing through the subject UGB expansion areas; and

Whereas, in recognition of the immediate needs of the region, the parties of this IGA support the extension of SW 124<sup>th</sup> Avenue from Tualatin-Sherwood Road to the vicinity of Tonquin Road, and ultimately to Boones Ferry Road via an east-west alignment yet to be determined through the planning efforts initiated pursuant to this IGA; and

Whereas, METRO has allocated \$365,000 of Construction Excise Tax funding to CITIES to pay for Concept Planning in the subject area; and

Whereas, COUNTY and CITIES have agreed to consider both areas in a single concept planning effort, and to refer to the two subject UGB expansion areas generally as the "Basalt Creek Planning Area;" and

Whereas, COUNTY currently has primary planning responsibility in the subject area; and

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May 17, 2011  
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Whereas, COUNTY and CITIES wish to work together to complete integrated land use and transportation system concept planning to assure carefully planned development in the Basalt Creek Planning Area that will be of benefit to COUNTY, CITIES, and their residents; and

Whereas, Oregon Statewide Planning Goal 1 requires public involvement and Goal 2 requires intergovernmental coordination, this IGA is intended to indicate to private property owners in the area, METRO, the State of Oregon, and all other interested parties the cooperative nature of the planning effort being undertaken by the CITIES and COUNTY for the Basalt Creek Planning Area; and

Whereas, COUNTY and the CITIES anticipate amending existing Urban Planning Area Agreements (UPAAs) between the CITIES and the COUNTY to reflect the future limits of each city and to establish requirements for transfer of planning authority to the respective city.

Now, therefore, COUNTY, the CITIES, and METRO agree as follows:

**A. Subject Land Area**

1. The Basalt Creek Planning Area subject to this IGA is depicted on Exhibit 1.

**B. Agency Roles and Responsibilities**

1. COUNTY will:
  - a. Allow CITIES to jointly take the lead in managing concept planning of the Basalt Creek Planning Area, in coordination with COUNTY, METRO, and the Oregon Department of Transportation ("ODOT"), recognizing that the CITIES will complete the concept planning in compliance with Title 11 of the UGMFP and the CITIES will ultimately be responsible for providing urban level services and governance to the area. The foregoing statement does not create or imply any obligation on the part of the CITIES under this agreement to fund right-of-way acquisition or to construct the I-5/99W "Southern Arterial."
  - b. Retain planning authority for the Basalt Creek Planning Area until such authority is transferred to the CITIES, pursuant to the terms of UPAAs with each city, as amended pursuant to Section D of this IGA.
  - c. In coordination with the parties to this IGA and ODOT, provide funding, establish a scope of work, retain a consultant, and provide project management services for planning of the major roadway system in the Basalt Creek Planning Area, including preliminary project development for the SW 124<sup>th</sup> Avenue extension project from Tualatin-Sherwood Road to SW Boones Ferry Road, whether following existing right-of-way alignments

or new right-of-way alignments, which may include portions of an east-west arterial that is consistent with the future "Southern Arterial" elements outlined in the 2035 RTP.

It is acknowledged that the RTP requires compliance with specific conditions before the construction of the "Southern Arterial." Consistency with the "Southern Arterial" elements of the RTP can be assured only when the conditions related to the "Southern Arterial" have been fully addressed. However, due to the immediate needs of the region in the interim period, the RTP allows the extension of SW 124<sup>th</sup> Avenue, as described in the paragraph above, to be completed with minimal extra conditions.

In an effort to provide timely answers to the property owners in the Basalt Creek Planning Area, a sufficient amount of this study must be complete within six (6) months following the effective date of this IGA in order to allow the Cities to begin concept planning. Accordingly, this task is budgeted to last for up to six (6) months. As part of the transportation planning effort, COUNTY will address the following in coordination with the CITIES, METRO and ODOT:

- i. The conditions related to the 'Southern Arterial' in the METRO 2035 RTP (as described in Exhibits 2, 3, and 4), as applicable;
  - ii. Strategies for maintaining freight access to and freight mobility within the planning area;
  - iii. Potential I-5/Elligsen Road interchange improvements, including a split-diamond interchange option;
  - iv. Potential I-5 overcrossing north of Elligsen Road interchange; without a direct connection to I-5, which does not preclude arterial options on the east side of I-5; and
  - v. Potential roadway connections directly to I-5, subject to satisfaction of applicable 2035 RTP conditions.
- d. Consider acquisition of right-of-way and/or construction of portions of the SW 124<sup>th</sup> Avenue extension project improvements as described in Paragraph B.1.c. above, subject to availability of funding.
- e. In order to preserve the ability for a future potential roadway connection, consider acquisition of right-of-way for a potential future east-west arterial roadway connection between SW Boones Ferry Road and I-5, subject to availability of funding. It is acknowledged that no new east-west roadway may be constructed between SW Boones Ferry Road and I-5 until applicable RTP "Southern Arterial" conditions have been satisfied.
- f. In coordination with CITIES, consider potential funding and/or construction of permanent or interim improvements to the existing roadway network in

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and adjacent to the planning area prior to funding and/or construction of the  
“Southern Arterial.”

2. CITIES will:

- a. Assume primary project management responsibly for concept planning of the Basalt Creek Planning Area, in coordination with COUNTY and METRO, effective as of the date of execution of this IGA. Concept planning shall conform to Metro UGMFP Title 11 requirements in effect when the subject planning areas were added to the Urban Growth Boundary.
- b. Mutually agree upon a future city limit boundary through the concept planning process.
- c. Incorporate into the final Basalt Creek Concept Plan and any city comprehensive plans, transportation plans and/or implementing regulation amendments those major transportation facilities identified by COUNTY, in collaboration with METRO, CITIES, and ODOT, pursuant to B.1. above. CITIES shall incorporate into their amended plans and regulations reasonable measures to identify and assist in the protection of the approved major transportation facility corridors from development encroachment in order to implement the final Basalt Creek Concept Plan as agreed upon by the parties to this IGA. The parties to this IGA acknowledge that such reasonable protection measures are subject to constitutional limitations on property takings, and are not intended to require the CITIES to in any way violate constitutional property protections or to incur a financial obligation to purchase right-of-way to preserve the identified transportation corridors. It is acknowledged by the parties to this IGA that construction of some new roadway facilities may be subject to the conditions set forth in the RTP relative to the proposed I-5 to 99W Connector Project Alternative 7 Southern Arterial (refer to Exhibits 2, 3, and 4).

3. METRO will:

- a. Provide CET funding to CITIES for concept planning activities in the subject planning area.
- b. Participate in ongoing concept and transportation planning efforts with COUNTY and CITIES as warranted.

**C. Coordination of Concept Planning Activities**

1. COUNTY and CITIES shall:

- a. Engage in a facilitated concept plan partnering and scoping session following the execution of this IGA.

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- b. Provide all parties to this IGA and ODOT with appropriate opportunities for participation, review and comment on the proposed concept planning efforts. The following procedures shall be followed by the CITIES and the COUNTY to notify and involve the other parties in the process to prepare the concept plan:
  - i. COUNTY and the CITIES shall transmit notice of meetings related to the concept plan to all parties to this IGA at least one week prior to the scheduled meeting. This includes any technical advisory committee meetings, open houses, Planning Commission or Planning Advisory Committee meetings, City Council or Board of Commissioner meetings and similar meetings, etc.
  - ii. The CITIES or COUNTY shall notify the other parties no less than forty-five (45) days prior to the initial public hearing for proposed comprehensive plan, transportation plan or implementing regulation amendments.
  - iii. The CITIES shall transmit draft documents to COUNTY for its review and comment before finalizing. COUNTY shall have ten (10) business days after receipt to submit comments in writing. Lack of response shall be considered "no objection" to the drafts.
  - iv. The CITIES shall respond to the comments made by COUNTY either by a) revising the draft document, or b) by letter to COUNTY explaining why the comments are not addressed in the documents.
  - v. Comments from the COUNTY shall be given consideration as part of the public record on the concept plan.
2. COUNTY shall provide the CITIES with notice of development actions requiring notice within the Concept Plan area, according to the following procedures:
  - a. The COUNTY shall send by first class mail or as an attachment to electronic mail a copy of the public hearing notice which identifies the proposed development action to the other agency, at the earliest opportunity, but no less than ten (10) business days prior to the date of the scheduled public hearing. The failure of the CITIES to receive a notice shall not invalidate an action if a good faith attempt was made by the COUNTY to notify the CITIES.
  - b. The CITIES receiving the notice may respond at their discretion.
3. In addition to the above, COUNTY shall make reasonable efforts to provide the CITIES with copies of pre-application conference notes regarding potential



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development applications within the subject planning area, as well as encouraging all potential development applicants to contact the CITIES for additional information on the concept planning efforts.

**D. Urban Planning Area Agreements (UPAAs)**

1. Both the CITIES have UPAAs with COUNTY that will have to be amended upon adoption of the final Basalt Creek Concept Plan, as agreed upon by the parties to this IGA.
2. The CITIES and COUNTY agree that the amended UPAAs will reflect which areas within the Basalt Creek Planning Area will be governed by which city, as determined through the concept planning process, and that the respective areas will be under the CITIES respective jurisdictions, and not the COUNTY, as the areas urbanize.
3. The amended UPAAs will specify conditions to be met prior to COUNTY transfer of planning authority to each of the CITIES, such as adoption of comprehensive plans, transportation plans and/or implementing regulation amendments by each of the CITIES necessary to implement the final Basalt Creek Concept Plan, as agreed upon by the parties to this IGA.
4. It is recognized that COUNTY adopts annual land use and transportation work programs, and this concept planning effort will require coordination to fit within the work program of COUNTY.

This IGA shall become effective upon full execution by all parties. The effective date of this IGA shall be the last date of signature on the attached signature pages. This IGA shall be in effect until the CITIES and COUNTY amend their respective UPAAs and incorporate the Basalt Creek Concept Plan into each CITIES respective comprehensive plans or until 5 years following the execution of this IGA, whichever occurs earlier.

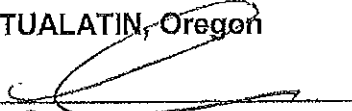
**Attachments:**

- Exhibit 1 – Plan Areas Map
- Exhibit 2 – Excerpt from Regional Transportation Plan
- Exhibit 3 – Regional Transportation Plan Appendix 3.3 (I-5/99W Conditions)
- Exhibit 4 – Excerpt from Regional Transportation Plan Project List


*(Four separate signature pages follow)*

IGA for Basalt Creek Concept Planning – METRO/CITIES/COUNTY  
May 17, 2011  
Page 7 of 10

CITY OF TUALATIN, Oregon

By:   
Lou Ogden  
Mayor

Date: 6-13-2011

ATTEST:  
By: 

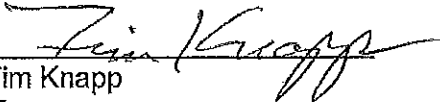
APPROVED AS TO LEGAL FORM

  
Brenda K. Braden  
CITY ATTORNEY

Exhibit 3 to  
Ordinance No. 1418-19

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May 17, 2011  
Page 8 of 10

CITY OF WILSONVILLE, Oregon

By:   
Tim Knapp  
Mayor

Date: June 8, 2011

ATTEST:

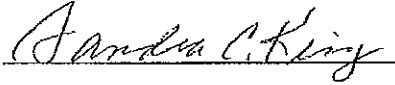
By: 

Exhibit 3 to  
Ordinance No. 1418-19

IGA for Basalt Creek Concept Planning -- METRO/CITIES/COUNTY  
May 17, 2011  
Page 9 of 10

WASHINGTON COUNTY

By: *Roy R. Rogers*  
Andy Duyck  
Chair, Board of County Commissioners

Date: 6-21-11

ATTEST:

By: \_\_\_\_\_

APPROVED WASHINGTON COUNTY  
BOARD OF COMMISSIONERS

MINUTE ORDER # 11-131

DATE 6/17/11

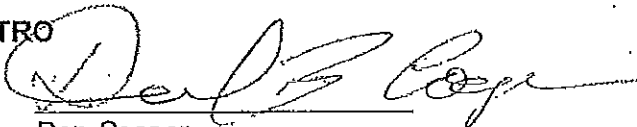
BY *Barbara Hejmanek*  
CLERK OF THE BOARD

Exhibit 3 to  
Ordinance No. 1418-19

Exhibit A to Resolution No. 11-4268  
IGA for Basalt Creek Concept Planning  
Page 11 of 11

METRO

By:

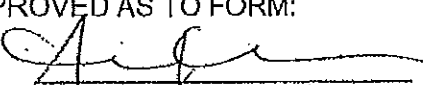
  
\_\_\_\_\_  
Dan Cooper  
Acting Chief Operating Officer

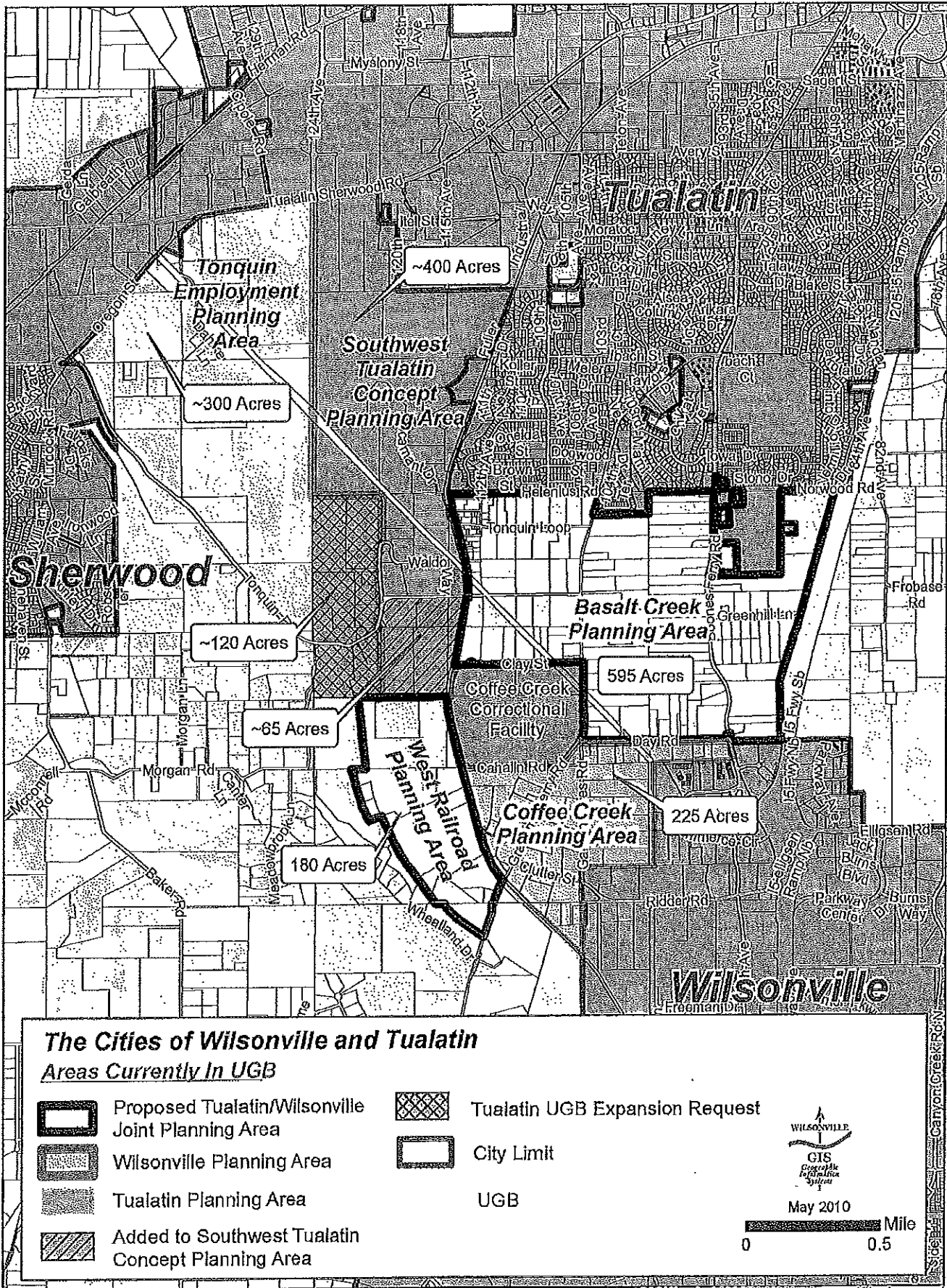
Date:

7/7/11








APPROVED AS TO FORM:

By:

  
\_\_\_\_\_  
Alison Keane Campbell  
Acting Metro Attorney

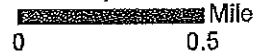


**The Cities of Wilsonville and Tualatin**  
**Areas Currently In UGB**

- |   |   |   |                                |
|---|---|---|--------------------------------|
|  | Proposed Tualatin/Wilsonville Joint Planning Area |  | Tualatin UGB Expansion Request |
|  | Wilsonville Planning Area                         |  | City Limit                     |
|  | Tualatin Planning Area                            |  | UGB                            |
|  | Added to Southwest Tualatin Concept Planning Area |   |                                |

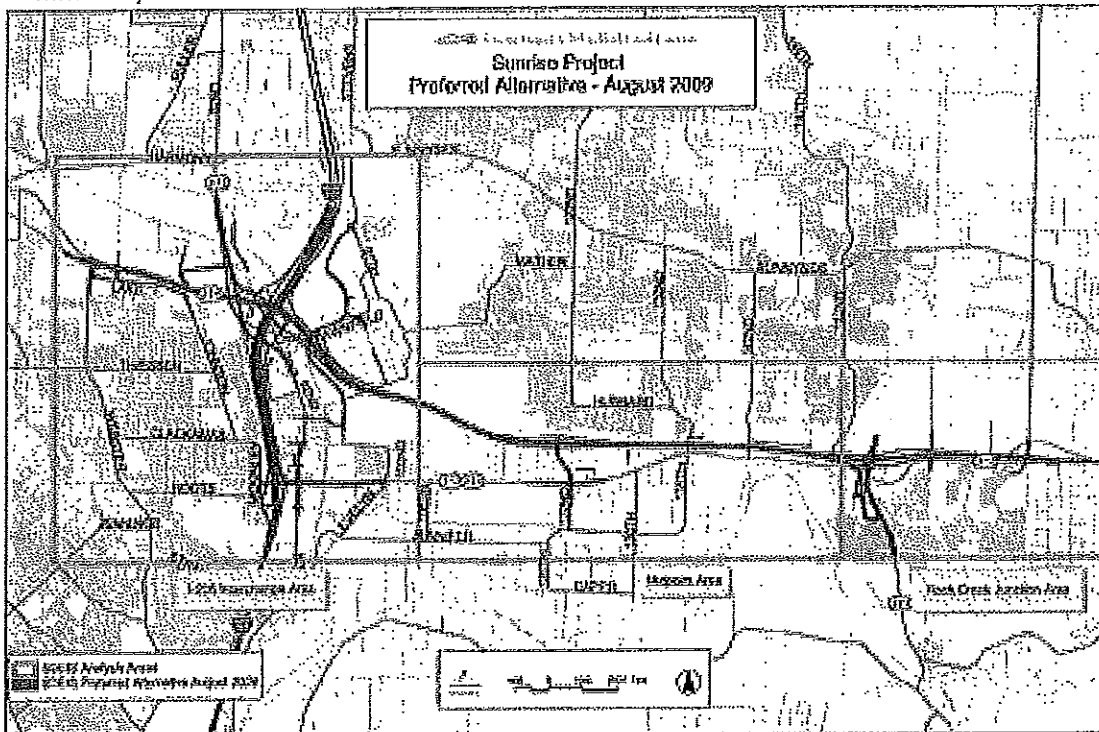


May 2010



and OR 212 corridor study will provide further direction for solutions in this corridor. Further map refinements and project recommendations may be identified through this work.

**Figure 6.2**  
**Sunrise Project Preferred Alternative (as Recommended by the project's Policy Review Committee)**



### 6.3.2.3 I-5/99W Connector Study Recommendations and Implementation (Tigard to Sherwood - Mobility Corridor #20)

Between 2006 and 2009, the I-5/99W Corridor Study identified a number of improvements in this corridor to support access to 2040 land uses, address existing deficiencies and serve increased travel demand. One primary function of this route is to connect the Washington Regional Center to the cities of Tigard, Tualatin and Sherwood, and provide access to the Tualatin/Sherwood Industrial Area and Tualatin National Wildlife Refuge. This corridor provides shortline heavy rail access to the region from the Willamette Valley and connects agricultural areas to the interstate highway system in this region. This mobility corridor also serves as a secondary gateway to the region, connecting communities in Yamhill County and the Central Oregon Coast to the Portland metropolitan region.

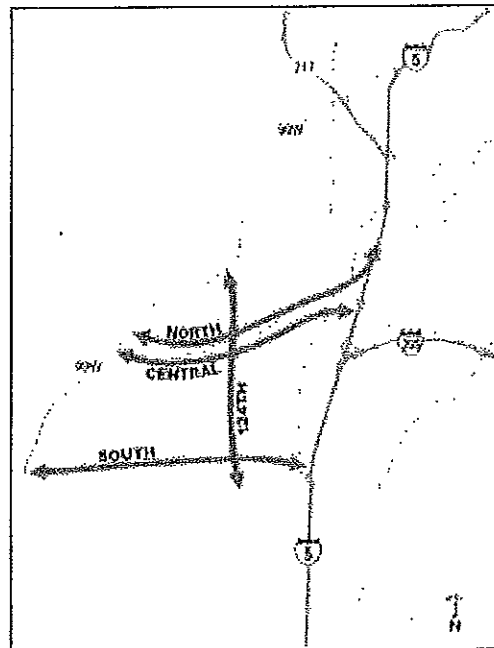
In February 2009, the I-5/99W Connector Project Steering Committee (PSC) was unable at the end of its process to reach a unanimous recommendation for the I-5/99W Corridor Study as required by the PSC Partnership Agreement in order to forward a Recommended Corridor Alternative to the

RTP. However, there was unanimous agreement on some aspects of the Connector that could be reflected in the RTP:

- Identify projects for inclusion in the RTP with minimal extra conditions, particularly the extension of SW 124th from SW Tualatin Sherwood Road to the I-5/North Wilsonville Interchange,
- Identify conditions to be met before a new Southern Arterial is implemented to ensure integration with surrounding land use and transportation plans, particularly an I-5 South Corridor Study,
- Determine an incremental phasing plan to ensure the projects with the most benefit that can reasonably be built within the 20-year horizon be included in the RTP Financially Constrained list.

The recommendations for the I-5/99W Corridor Study proposed for inclusion in the RTP are based upon the conclusions reached by the Project Steering Committee (PSC) as follows:

- The 3 options consisting of a new limited access expressway from I-5 to OR 99W (2 alignments north of Sherwood and 1 alignment south of Sherwood) were unacceptable due to high impact on the natural and built environment, the need for extensive improvements to I-5, high cost and concern about the potential for induced growth to Yamhill County, and
- The option focused on expanding Tualatin-Sherwood Road was unacceptable due to the very large size it would need to be and the resulting impacts on the Tualatin and Sherwood Town Centers.
- The alternative recommended is based upon the principle that it is preferable to spread the traffic across three smaller arterials rather than one large expressway. The analysis concluded this approach could effectively serve the traffic demand, would provide better service to urban land uses in the Tualatin/Sherwood area, especially industrial lands, and could be built incrementally based upon need to serve growth and revenue



*The I-5/99W Corridor Study recommended a variety of transportation investments to improve the area's road, transit, bicycle, pedestrian and trail networks and to distribute traffic across a network of three arterials so that no single route would function as a de facto through "connector." The RTP places additional conditions on the "Three Arterial" recommendation and implementation.*



availability. The overall concept is structured around a Northern, Central and Southern arterial providing east-west access between OR 99W and I-5 with an extension of SW 124th providing north-south connectivity (see diagram).

The City of Wilsonville was and continues to raise objections to the Southern Arterial component throughout this process. The City is very concerned about growing I-5 congestion and the City's dependence on effective access to the two I-5 interchanges. The City is concerned that the Southern Arterial connecting into the I-5/North Wilsonville interchange will significantly increase traffic and impair that access.

When the PSC considered the recommendation, the Clackamas County Commission representative introduced a series of amendments to the conditions to ensure that the Southern Arterial would be examined in greater detail to:

- evaluate alignment options and their environmental impact;
- integrate the proposal with the concept plan and transportation system plan for the newly expanded UGB area and any new Urban Reserves that are designated in the area;
- address any requirements that may result from adoption of an exception to Goal 14 (if needed) for an urban facility outside the UGB;
- integrate the proposal with a Tigard to Wilsonville Corridor Study (Corridor #3) to ensure these east-west arterials and I-5 itself could effectively function together; and
- determine the most appropriate approach to connecting the Southern Arterial to I-5, including options for an interchange at the I-5/North Wilsonville interchange or consideration of extending the Southern Arterial across I-5 to Stafford Road east of I-5, thereby providing better access to I-205.

The Project Steering Committee acknowledged many significant issues to be addressed before the Southern Arterial can proceed to construction, and approved the proposed conditions unanimously. The detailed conditions can be found in Appendix 3.3.

Typically, there is a need to transition from a "planning" level of detail to a "project" level of detail which involves better definition of alignments and designs and consideration of impacts on the natural and built environment and how to mitigate those impacts. These conditions proposed by the Project Steering Committee add in the need to integrate the recommendation with land use planning for recent UGB expansion areas and potential Urban Reserves (still to be defined) and the importance of integrating the overall system for the area with an I-5 corridor strategy.

The RTP places additional conditions on the "Three Arterial" recommendation and implementation, as reflected below:

**Short-term phasing strategy (2008-2017)**

- Identify replacement solutions for the Tualatin Road project recommended by the I-5/Connector study as part of the next Tualatin TSP update. This project was removed from the RTP based on community concerns and lack of support by the Tualatin City Council. The two-lane connection from the Tualatin Road/Herman road intersection to I-5 at Lower Boones Ferry Road was not intended to serve through traffic, but rather to provide access to the surrounding industrial area and neighborhoods. The planning work will consider alternative alignments and designs across the Tualatin River and I-5 near the I-5/Lower Boones Ferry Road interchange to mitigate impacts. If Tualatin (through their TSP update) does not identify project(s) to adequately address the capacity/connectivity issues identified in this area, then the RTP will be amended to direct the Corridor Refinement Plan effort for corridors #2, 3 and 20 to address this need in that planning effort. The need would go unaddressed until completion of that corridor refinement plan, or the next RTP update.
- Begin construction of the Tonquin Trail (RTP Projects #10092 and #10854).
- Upgrade existing streets to two lanes with turn lanes, traffic signal timing, bike lanes and sidewalks, including Herman Road, Tualatin-Sherwood Road, 95th Avenue (RTP Projects #10715, #10718, #10852).
- Add southbound auxiliary lane from I-205 to I-5/Elligsen Road and northbound auxiliary lane from I-5/Elligsen Road to I-205 interchange. (RTP Projects #10872 and #11177)
- Conduct more detailed project planning and begin construction of a two-lane extension of SW 124th Avenue (RTP Project #10736: 124th Avenue) from Tualatin-Sherwood Road to I-5/North Wilsonville interchange to support its operation as an industrial access route. The planning work will further consider potential impacts on the existing development and the natural environment. It will also include more detailed definition of the design and alignment to mitigate impacts and to integrate with land use and transportation plans for the area.
- Conduct more detailed planning to meet all of the conditions placed on new Southern Arterial project, including:
  1. Conduct the I-5 South Corridor Refinement Plan (includes I-5 from Portland to Tigard, I-5 from Tigard to Wilsonville, and OR 99W from I-5 through Tigard and Sherwood) and land use planning for areas recently added to the urban growth boundary and any land designated as urban reserves. These planning efforts will include opportunities for further public participation and input.
  2. Conduct more detailed project planning on potential Southern Arterial impacts on existing development and the natural environment to develop more detailed definition of the design and alignment to mitigate impacts and coordinate with land use and transportation plans for the area, including integration with land use plans for UGB expansion areas and Urban Reserves, conducting the I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3 and 20, and resolution of access between I-5 and southern arterial with no negative

impacts to I-5 and I-205 beyond the forecast No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for the southern arterial. This planning effort will include opportunities for further public participation and input.

Tualatin-Sherwood Road is sized in the recommended alternative based upon the expectation there will be a Southern Arterial and will fail due to insufficient capacity without a Southern Arterial and further expansion is incompatible with the plans for the Tualatin and Sherwood Town Centers. If the Southern Arterial is dropped through future studies, there is a major unresolved issue addressing east-west travel through this area. The RTP will need to be amended to direct the Corridor Refinement Plan effort for corridors #2, 3 and 20 to address this need. The need would go unaddressed until completion of that corridor refinement plan, or the next RTP update.

#### **Medhum-term phasing strategy (2018-2025)**

- Widen existing streets to four lanes with turn lanes, traffic signal timing, bike lanes and sidewalks, including Tualatin-Sherwood Road, Roy Rogers Road, Boones Ferry Road and Herman Road (RTP Projects #10568, #10700, #10708, #10732 and #10735)
- Program right-of-way acquisition for the Southern Arterial project in the 2018 - 2025 time period to allow time to conduct the I-5 South refinement plan and land use plans for designated urban reserves in the area.

#### **Longer-term phasing strategy (2026-2035)**

- Construct the Southern Arterial connection to I-5 or other surface arterials in the vicinity of the I-5/North Wilsonville Interchange when all the project conditions are met.

### **6.4 CONGESTION MANAGEMENT PROCESS**

A key change from SAFETEA-LU was an updated requirement for a CMP for metropolitan planning organizations (MPOs) in Transportation Management Areas (TMAs - urban areas with over 200,000 in population). This change is intended to build on the previous requirement of a congestion management system (CMS), placing a greater emphasis on management and operations and enhancing the linkage between the CMP and the long-range regional transportation plan (RTP) through an objectives driven, performance-based approach.

A CMP is a systematic approach for managing congestion that provides information on transportation system performance. It recommends a range of strategies to minimize congestion and enhance the mobility of people and goods. These multimodal strategies include, but are not limited to, operational improvements, travel demand management, policy approaches, and additions to capacity. The region's CMP will advance the goals of the 2035 RTP and strengthen the connection between the RTP and the Metropolitan Transportation Improvement Program (MTIP). A "Roadmap" of the region's CMP can be found in Appendix 4.4.

At their meeting on February 25, 2009, the PSC agreed on the following conditions as amended from those presented to them in the Alternative 7 Recommendation Memorandum dated February 17, 2009 to accompany the RTP recommendation of Alternative 7:

1. **Future phasing plans for implementing Alternative 7 projects must take into consideration the transportation, environmental, and economic impacts of advancing some improvements sooner than others.** The sequencing of affordable improvements should be done in a manner that does not create new transportation problems or liabilities for the vitality of affected jurisdictions.
2. **The timing and priority of an I-5 corridor study must be considered in the RTP adoption process for Alternative 7.** The connector project development process emphasized the need for a corridor study along I-5 from Portland to the Willamette River. The results of this study may affect the timing and designs of some improvements within Alternative 7.
3. **Access between I-5 and the southern arterial must be resolved.** Additional study is required to fully understand the impacts and trade offs between transportation solutions and land use, economic and environmental consequences of a new southern arterial. The impacts on rural lands are of particular importance and must be further evaluated before pursuing an exceptions process. The study area may need to be expanded to include connections to Stafford Road and additional areas along the OR 99W corridor that were not included in the alternatives analysis. The alternatives analysis process determined the general corridor location for the new southern arterial. However, additional preliminary engineering and planning work is needed to determine the optimal access option and configuration for connecting the southern arterial to I-5, OR 99W, and other arterials in the expanded study area. Construction of the southern arterial should be conditioned on defining the I-5 improvements needed to accommodate it and ensuring no negative impacts to I-5 and I-205 occur beyond the forecast No-Build condition as a result of Alternative 7. Options to be explored include modifying the I-5/North Wilsonville Interchange into a tight split-diamond interchange, or extending a new arterial connection crossing over I-5 and connecting to Stafford Road and/or Elligsen Road on the east side of I-5 for regional traffic benefits.
4. **Completion and construction of major project elements is subject to compliance with the National Environmental Policy Act (NEPA) and design refinement.** The Alternative 7 concept provides only the general locations and functional characteristics of new transportation facilities. A fully collaborative public/agency involvement and environmental analysis process must be conducted in developing the design details of any major construction element of Alternative 7. Subsequent project development work will need to define the actual alignments and designs of each of these facilities within the framework of these general parameters. On-going coordination with the Tualatin River National Wildlife Refuge must also occur to ensure optimum compatibility of Alternative 7 elements with refuge objectives.
5. **Land Use Concept Planning for UGB expansion areas should be coordinated with the refinement of these transportation recommendations.**
6. **The design of the southern arterial; must incorporate any conditions that may come out of land use goal exceptions processes (if required) by Metro, Washington County, and Clackamas County.** Portions of Alternative 7 may require exceptions under state land use goals that have not yet been studied or approved in order to be adopted in the RTP and to achieve needed federal and jurisdictional approvals. The extent of this issue may be affected by Metro's coming decisions on rural/urban land use reserves. Portions of proposed new transportation facilities are outside Metro's jurisdictional boundaries and will require coordination of actions between Metro and other affected jurisdictions. Possible design requirements may include forms of access management and land use control measures.
7. **State highway system routing and ODOT mobility standards must be key considerations in the design and future ownership of improvements within Alternative 7.** Current RTP assumptions are that a new limited-access connector would be built between I-5 and 99W, and that this roadway would become the new state route, possibly replacing OR 99W through Tigard. Alternative 7 does not result in

Page 2

a limited-access connector, which may result in OR 99W remaining the designated state highway route through Sherwood, King City and Tigard.

8. **Strategic protection of right-of-way should be considered by agencies for the Alternative 7 elements within the UGB and along potential alignments where land development could conflict with the future implementation of corridor improvements.** Protective measures could include property setbacks, dedication of right-of-way, specific acquisition(s), and/or right-of-way purchases within the UGB consistent with NEPA process.

Following agreement on the above conditions, PSC representatives of Washington County, ODOT, Metro, and the cities of Tualatin and Sherwood voted in favor of recommending Alternative 7 with the conditions as amended above. PSC representatives of the City of Wilsonville and Clackamas County voted against this recommendation.

Exhibit 3 to  
Ordinance No. 1418-19

2035 RTP Project List  
Basalt Creek Planning Area  
City-County-Metro IGA  
Exhibit 4  
Page 1 of 1

Micro Project ID	Nominating Agency	Facility Owner/Operator	Project/Program Name	Project Start Location (Identify starting points of project)	Project End Location (Identify terminus of project)	Local Functional Classification	Project Purpose	Description	Estimated Cost (\$2007)	Estimated Cost (Y035)	Time Period	Federal FC Project	2040 Land Use	Mobility Center or Community Building?	HCT Priority as Assigned by Metro Council	Priority Mode	Specialty Mode(s)	Project located in City Council District #?	Project located in Goal 5 Program?
1058	Washington Co.		I-559W Southern Arterial ROW	Hwy. 59W	I-5	Arterial	Provide congestion relief.	Increases right-of-way width, all project conditions are being integrated with land use plans for UGB expansion to I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and 20 and arterial with no negative impacts to I-5 and I-205 beyond the proposed No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	\$ 90,000,000	\$ 133,221,986	2008-2017		Industrial area	CB		Roundabout	Freight	Yes	
1075	Tuolumne	Tuolumne	124th Ave	Tuolumne	Tuolumne	Minor Arterial	Economic development and freight movement.	Construct new street from Tuolumne-Shorewood to Tuolumne Rd. - 5 lanes.	\$ 82,500,000	\$ 122,120,154	2008-2017	x	Industrial Area	CB		Roundabout	Freight		Yes
1133	Washington Co.		I-559W Southern Arterial Improvements	Hwy. 59W	124th Ave. Extension	Arterial	Provide congestion relief.	Construct the I-5 to 2-3 lane arterial phases of the Southern Arterial from OR59W to the SW 124th Ave. Extension when all project conditions are met including integration with land use plans for UGB expansion areas and Urban Reserves, Conducting the I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and I-205, prepare the proposed No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	\$ 130,000,000	\$ 263,356,147	2018-2025		Industrial area	MC		Roundabout	Freight		
1134	Washington Co.		I-559W Southern Arterial Improvements	Hwy. 59W	I-5	Arterial	Provide congestion relief.	Expand to 4-5 lanes to serve growth in the area after improvements to Tuolumne-Shorewood Rd. and an improved connection from SW Tuolumne Rd. to the I-5/Lower Boones Ferry Rd. interchange and when all project conditions are met including integration with land use plans for UGB expansion areas and Urban Reserves, Conducting the I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and I-205, prepare the proposed No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	\$ 80,000,000	\$ 239,895,266	2026-2035		Industrial area	MC		Roundabout	Freight		
1134Z	Washington Co.		I-559W Southern Arterial I-5 Interchange	Hwy. 59W @ I-5	I-5	Arterial	Improve access to and from the I-5 urban arterial and I-5	Connect the Southern Arterial to I-5 or other surface arterials in the vicinity of the N. Willcoxville Interchange when all project conditions are met including integration with land use plans for UGB expansion areas and Urban Reserves, Conducting the I-5 South Corridor Refinement Plan, including Mobility Corridors 2, 3, and 20 and resolution of access between I-5 and I-205, prepare the proposed No-Build condition, addressing NEPA to determine the preferred alignment and addressing any conditions associated with land use goal exception for southern arterial.	\$ 90,000,000	\$ 149,895,166	2028-2035		2040 Corridor	MC		Roundabout	Throughway	Yes	

APPROVED BY TUALATIN CITY COUNCIL  
Date 6-13-11  
Recording Secretary [Signature]



## STAFF REPORT CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Ben Bryant, Management Intern  
Alice Rouyer, Community Development Director

**DATE:** 06/13/2011

**SUBJECT:** Resolution Authorizing an Intergovernmental Agreement for Concept Planning the Basalt Creek Area

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### ISSUE BEFORE THE COUNCIL:

At the City Council Meeting on April 25, 2011, staff presented a draft Intergovernmental Agreement (IGA) between Metro, Washington County, the City of Tualatin, and the City of Wilsonville regarding the Basalt Creek Concept Plan. Since that meeting, City staff has collaborated with the other parties to fine-tune the IGA attached to this report. The resolution, also attached, would authorize the Mayor to sign this agreement.

### RECOMMENDATION:

Staff recommends that the City Council approve the attached resolution, authorizing the Mayor to sign the proposed Intergovernmental Agreement with Metro, Washington County, and the City of Wilsonville.

### EXECUTIVE SUMMARY:

#### Purpose of Agreement

- Gain Washington County's support for having the two cities complete a concept plan for the Basalt Creek area, which is outside of the land covered by Tualatin's current Urban Planning Area Agreement;
- Outline Washington County's commitment to complete a plan for the major roadway system through the Basalt Creek area;
- Outline a commitment from Washington County to inform and coordinate with Tualatin and Wilsonville on any development applications in the Basalt Creek planning area prior to annexation; and
- Delineate responsibilities of the respective parties of this agreement.

#### Importance of the Agreement

In an effort to refine the projects listed in the Regional Transportation Plan (RTP), Washington County has agreed to conduct a transportation analysis in the Basalt Creek planning area. Work will not commence on this study until all parties have signed the attached agreement.

#### Collaboration

The IGA that is before the Council for consideration is the product of in-depth discussion and collaboration between staff members at the cities of Tualatin and Wilsonville, Washington County, and Metro. This collaboration was necessary to ensure that the planning process meets regional desires and





RESOLUTION NO. 5041-11

A RESOLUTION AUTHORIZING AN INTERGOVERNMENTAL AGREEMENT WITH METRO, WASHINGTON COUNTY AND THE CITIES OF TUALATIN AND WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY EXPANSION AREA (BASALT CREEK / WEST RAILROAD PLANNING AREA)

WHEREAS in 2004 the Metro Council added an area located generally between the CITIES to the Urban Growth Boundary (UGB) for residential and industrial uses in Metro Ordinance No. 04-1040B; and

WHEREAS the CITIES have agreed to refer to the area generally as the "Basalt Creek Planning Area"; and

WHEREAS concept planning has never been completed for these properties; and

WHEREAS the CITIES and the COUNTY wish to work together to complete transportation and concept planning for this area to assure carefully planned development in the Basalt Creek/West Railroad Planning Area Planning Area that will be of benefit to both CITIES, The COUNTY and their residents.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

Section 1. The City Council authorizes the Mayor to sign an Intergovernmental Agreement substantially similar to the attached agreement entitled "INTERGOVERNMENTAL AGREEMENT BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF TUALATIN AND WILSONVILLE FOR CONCEPT PLANNING THE URBAN GROWTH BOUNDARY EXPANSION AREAS KNOWN AS THE 'BASALT CREEK' AND 'WEST RAILROAD' PLANNING AREAS"

Section 2. This Resolution is effective upon adoption.

INTRODUCED AND ADOPTED this 13<sup>th</sup> day of June, 2011.

CITY OF TUALATIN, Oregon

By \_\_\_\_\_

Mayor

ATTEST:

By \_\_\_\_\_

City Recorder

# Exhibit 3 to Ordinance No. 1418-19

**From:** [David Moore](#)  
**To:** [Aquilla Hurd-Ravich](#)  
**Subject:** Re: Basalt Creek Concept Plan  
**Date:** Tuesday, July 03, 2018 3:32:56 PM

---

Hi Aquilla,

As discussed, TTSD has no plans for new facilities in or near the Basalt Creek area.

David

David Moore, CFO  
Tigard-Tualatin School District  
503-431-4016

On Mon, Jul 2, 2018 at 1:33 PM, Aquilla Hurd-Ravich <[AHURD-RAVICH@tualatin.gov](mailto:AHURD-RAVICH@tualatin.gov)> wrote:

Hello David,

It has been quite some time since we last connected on the Basalt Creek Concept Plan, a joint effort between City of Wilsonville and City of Tualatin. We are very near the end of the planning process and getting ready for adoption by both City Councils. Based on the land uses assigned in the concept plan the area will produce approximately 581 households. We have drafted the findings below to address Metro's code requirements for concept plans. One of which requires us to address school facilities. The last time we talked about school facilities for these new households was at a 2016 meeting with multiple agencies, and at that time we understood that the Sherwood School District did not have any plans to locate a new facility in the Basalt Creek area.

While we understand the Basalt Creek Concept Planning Area is in the Sherwood School District we included Tigard-Tualatin School District due to the proximity of the area to Tualatin High School. In order to address Metro's code requirements we need a written response confirming the Tigard-Tualatin School District has no plans to locate a new facility in the planning area or if there are plans to locate a school there we should discuss.

### 3.07.1120 Planning for Areas Added to the UGB

(C) (5). Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;

**Findings:** Existing schools are expected to accommodate future student population and no new facilities are planned within the area. Capacity determinations will need to be made as development progresses. Basalt Creek is located in the Sherwood School District and in 2016 the voters in the District approved ballot measure 34-254 approving a bond. This bond project will allow

the District to accommodate an additional 2,000 students district-wide (according to information on the District's website <http://www.sherwood.k12.or.us/information/bond-visioning-process>).

The Basalt Creek Concept Plan was coordinated with local school districts. The Sherwood and Tigard-Tualatin school districts participated in the Agency Review Team to provide support and concurrence with the concept plan. The school district will calculate the need for new schools based upon demographic and density estimates for future development in the Basalt Creek Area according to operational standards related to the number of students allowed per school. The final development scenario estimates 581 future households in the Basalt Creek planning area. The planning area currently falls within the Sherwood School District. This district has an estimated enrollment of 5,158 and includes four elementary schools, two middle schools, Sherwood High School, and Sherwood Charter School.

Provision of any new schools will be coordinated with representatives of all nearby school districts for capital planning. The planning area is located very close to Tualatin High School. The Tigard-Tualatin School District has an estimated enrollment of 12,363, and includes ten elementary schools, three middle schools, and two high schools. A private high school, Horizon Christian, is located within the planning area and currently serves 160 students but plans significant expansion in the future. **The addition of hundreds of new households can be expected to impact existing school districts, but at this time no district has indicated that they plan to locate any new facilities within the planning area.**

This is such a long email that I will give you a call to follow up with any questions you may have.

Thank you,

**Aquilla Hurd-Ravich**

Community Development Director

City of Tualatin | Community Development Department

503.691.3018 | [www.tualatinoregon.gov](http://www.tualatinoregon.gov)

*Please note my new office phone number*

Exhibit 3 to  
Ordinance No. 1418-19

|

# Exhibit 3 to Ordinance No. 1418-19

**From:** [Phil Johanson](#)  
**To:** [Aquila Hurd-Ravich](#)  
**Cc:** [rfaigliano@sherwood.k12.or.us](mailto:rfaigliano@sherwood.k12.or.us); [Karen Perl Fox](#); [Jim Rose](#)  
**Subject:** Re: Basalt Creek Concept Plan  
**Date:** Friday, July 20, 2018 9:37:32 AM

---

Dear Acquilla,

The Sherwood School District has followed the development of the Basalt Creek Concept plan. We understand that the draft plan provides for approximately 581 households.

We have been asked whether the Sherwood School District has plans to site new facilities in the planning area to address expected student growth. We are monitoring projected student growth. However, the Sherwood School District presently does not have plans to locate school facilities within the planning area.

Sincerely,

Phil Johanson



On Mon, Jul 2, 2018 at 1:29 PM, Aquilla Hurd-Ravich <[AHURD-RAVICH@tualatin.gov](mailto:AHURD-RAVICH@tualatin.gov)> wrote:

Hello Phil and Rob,

It has been quite some time since we last connected on the Basalt Creek Concept Plan, a joint effort between City of Wilsonville and City of Tualatin. We are very near the end of the planning process and getting ready for adoption by both City Councils. Based on the land uses assigned in the concept plan the area will produce approximately 581 households. We have drafted the findings below to address Metro's code requirements for concept plans. One of which requires us to address school facilities. The last time we talked about school facilities for these new households was at a 2016 meeting with multiple agencies, and at that time we understood that the Sherwood School District did not have any plans to locate a new facility in the Basalt Creek area.

We need a written response confirming the Sherwood School District has no plans to locate a new facility in the planning area or if there are plans to locate a school there we should discuss. Also, if you are able to comment about how new students may be served that would be helpful. We included language from your website which describes the purpose of the bond measure passed in 2016. Given that Basalt Creek Concept Plan is in the Sherwood School District it seems that the bond measure could be one measure to accommodate new students.

### 3.07.1120 Planning for Areas Added to the UGB

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This is such a long email that I will give both of you a call to follow up with any questions you may have.

Thank you,

**Aquilla Hurd-Ravich**

Community Development Director

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Exhibit 3 to  
Ordinance No. 1418-19

*Please note my new office phone number*

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MEMORANDUM

## **Basalt Creek: Guiding Principles and Evaluation Criteria**

TO: Basalt Creek Project Management Team (Cities of Tualatin and Wilsonville)

FROM: Leila Aman, Project Lead, Fregonese Associates

DATE: December 29, 2014

RE: Guiding Principles and Evaluation Criteria for the Basalt Creek Concept Plan

### **Purpose of Guiding Principles**

Guiding Principles are intended to represent the collective interests and goals for the Basalt Creek planning area. The guiding principles provide a framework for gathering input and developing transparent and meaningful measures that can help inform the decision making process.

### **Purpose of Scenario Indicators**

Indicators are the outputs of evaluation criteria which are created near the beginning of the scenario planning process. They generally reflect the guiding principles as well as previously adopted community goals. Indicators may also be related to new or emerging community goals or issues: such as transit access, housing costs, or air quality.

The indicators will be used during the development and evaluation of the scenarios within Envision Tomorrow to communicate the benefits, impacts and tradeoffs of different policy choices and investments. Using Envision Tomorrow, alternative scenarios are tested and refined, and then compared and evaluated based on their indicator performance. Indicators enable Envision Tomorrow users to tie the scenario results to the community values and guiding principles.

In practice, this approach not only allows the public to visualize their region's future, final plans created using our scenario planning process will come with a dashboard of indicators so policymakers can monitor their progress and make adjustments along the way, in concert with established guiding principles and long-term vision.

### **Guiding Principles**

#### **Qualitative Guiding Principles**

##### **1. Maintain and complement the Cities' unique identities**

The cities of Wilsonville and Tualatin each have unique qualities that draw people to live and work there. Those qualities should be maintained and enhanced by development in the Basalt Creek planning area.



**2. Capitalize on the area’s unique assets and natural location**

Development in the planning area should preserve and leverage the natural beauty of Basalt Creek by protecting key natural resources and sensitive areas while minimizing the negative impacts of new development. Recreation opportunities should be made accessible in the area through the creation of new open spaces and trails and integrating them with existing regional networks.

**3. Explore creative approaches to integrate jobs and housing**

Long distances between centers of employment and residential neighborhoods can cause long travel times, congestion and pollution. Planning for the Basalt Creek area should consider a range of methods (and the feasibility of those methods) for integrating residential and employment land uses to create more high quality living and working environments.

**4. Create a uniquely attractive business community unmatched in the metropolitan region**

Planning for the Basalt Creek area should capitalize on its unique assets - the location of the planning area near the center of one of the region’s largest clusters of employment land, projections for rapid employment growth in the local market, and superior access to major transportation routes (I-5, I-205 and Highway 217) – to facilitate development of high quality employment facilities and opportunities that will benefit both the local and regional economies.

**5. Ensure appropriate transitions between land uses**

While integration of housing and employment can enrich a community, there remains a need for physical separation between uses that might negatively impact one another. Land uses should be arranged within the study area to minimize these impacts, such as excessive noise, traffic, nighttime light, or air pollution. Use of buffers to mitigate auditory, aesthetic, and safety impacts may include swaths of vegetated land, sound walls, or commercial development (among others).

**Quantitative Guiding Principles**

*Associated measures from Envision Tomorrow and other quantitative analysis that will be conducted as part of the concept planning process are described.*

**6. Meet regional responsibility for jobs and housing**

***Population and employment forecast performance***

## Exhibit 3 to Ordinance No. 1418-19

*Using output from the Envision Tomorrow scenario modeling tool added jobs and housing units will be compared back to the regional forecast estimate (from Metro's Gamma model) for jobs and households within the planning area.*

### **7. Design cohesive and efficient transportation and utility systems**

#### ***Evaluation of Wet Infrastructure***

*Aggregate water and sewer requirements will be developed for each of the three (3) alternatives. A comparison will be provided indicating required capacity and potential infrastructure elements based on each alternative land use plan and the existing systems inventory.*

#### ***Performance of transportation systems***

*Motor vehicle transportation system for each of three alternatives will be evaluated including the development of future year 2035 PM peak hour volumes using a focus-area travel demand model. Intersection operation analysis (level of service and v/c ratios) based on the forecasted 2035 PM volumes will be conducted using Synchro.*

#### ***Internal water consumption and Landscaping water consumption***

*Water consumption has a major impact both financially and environmentally. Water bills can make up a large proportion of household or business utility costs, and excessive water consumption can put a strain on water supplies and infrastructure, especially in regions with water scarcity. Anticipated domestic and irrigation water consumption by residential households and commercial or industrial businesses will be estimated based on existing usage patterns within Tualatin and Wilsonville.*

### **8. Maximize assessed property value**

#### ***Building value and local revenue***

*Adding new housing and employment space to a community brings additional tax revenue that can be used for new infrastructure and services to support new and existing residents and businesses. Different scenarios can produce different amounts of tax revenue (property tax, sales tax and transportation impact fee (TIF)) due to the differing values of particular building types and locations. .*

**9. Incorporate natural resource areas and provide recreational opportunities as community amenities and assets**

***Percent of Natural Area Protected within the planning area***

*Types of natural areas to be considered for protection from development include:*

- *Wetlands and Floodplains*
- *Metro Title 3 Lands*
- *Metro Title 13 Lands*

*Some development may occur in these areas. However, the proportion of total development planned for non-environmentally sensitive areas should be maximized in order to preserve habitat, ecosystem services, open space, and recreation opportunities in the planning area.*

*Environmentally sensitive lands are identified and described in the Basalt Creek Existing Conditions Report.*

***Total jobs allocated to prime flat industrial lands within the planning area***

*The largest proportion possible of new jobs forecasted for the planning area should be allocated to lands identified as suitable for industrial and/or office development, one factor of which is the absence of sensitive environmental features and constraints.*

*Land suitable for industrial and/or office development is identified and described in the Basalt Creek Existing Conditions Report.*

***Acres of impervious surface***

*Impervious surface can have a negative impact on the health of a region's waterways. Instead of soaking in and filtering through the soil, rainwater runs off impervious surfaces, washing many polluting substances such as pesticides and oils into streams and other aqueous habitats. Increasing impervious surface runoff also increases the volume of runoff, and the speed which the water is delivered to streams, resulting in higher peak flows.*

## 10 Considerations for Success

In addition to the Guiding Principles, the Joint Council also identified ten key elements for successful implementation of the Basalt Creek Concept Plan:

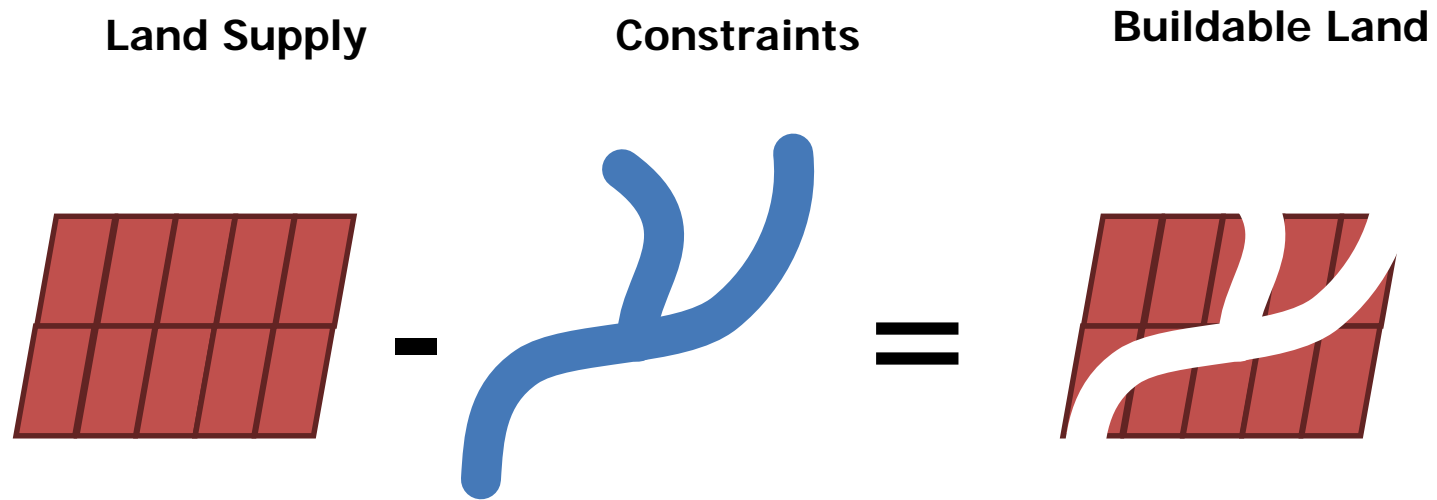
1. **Sewer.** Each City will serve its own jurisdiction area independently, to the extent reasonably possible, with the understanding that future agreements may be needed to address potential cooperative areas.
2. **Stormwater.** Each City will serve its own jurisdiction area independently, to the extent reasonably possible, consistent with the respective National Pollutant Discharge Elimination System (NPDES) stormwater permits, with the understanding that future agreements may be needed to address potential cooperative areas.
3. **Metro Title 4 Land.** The Basalt Creek Concept Planning Area is currently mapped and identified as an “Industrial Area” in Metro’s Title 4 Code, which allows both housing and employment designations. The Cities agree to implement the land uses identified in the Basalt Creek Concept Plan.
4. **Transportation Funding.** The Cities acknowledge significant improvements will be needed to the existing and future transportation network as identified in the 2013 Basalt Creek Transportation Refinement Plan (TRP). In order to implement the TRP, Tualatin and Wilsonville will coordinate with Washington County to prioritize projects and funding strategies.
5. **Future Regional Transportation Projects in the Basalt Creek Area.** The Cities will coordinate with Washington County and Metro to evaluate future regional transportation projects and decisions, beyond those identified in the TRP that affect its planned system capacity.
6. **Trips.** Proposed development will be reviewed by each City for impacts to the transportation system and consistency with the Concept Plan trip targets to achieve transportation system goals for the area.
7. **Basalt Creek Parkway and I-5 Crossings.** The Cities acknowledge the Basalt Creek Parkway and I-5 crossings identified in the TRP are critical to successful implementation of the Basalt Creek Planning Area. The Cities will seek to coordinate timely regional investments in these crossings to implement the Basalt Creek Concept Plan.
8. **North-South Local Street (Kinsman Road).** Kinsman Road is planned as a local route both north and south of the jurisdictional boundary that will not connect to the Basalt Creek Parkway.
9. **Basalt Creek Canyon.** The Cities recognize the natural resource value of the Basalt Creek Canyon. Each city will comply with Metro Titles 3 and 13. The Cities also recognize the benefits of locating north/south trails near the Basalt Creek Canyon and bicycle connections that would connect the cities and other trail systems and be an asset for both residents and employees in the area.
10. **Public Transportation.** Robust transit services are critical to supporting the land uses envisioned in the Basalt Creek Planning Area. The Cities agree to coordinate efforts on how SMART and TriMet can best provide service throughout the area.

# Buildable Lands Summary

Presented August 2014

# Buildable Land

Buildable Lands =  
Land Supply – Constraints (Environmental & Policy)



# Analysis/Methodology

- Separate hard and soft constraints
  - Hard constraints will be excluded from the buildable land analysis
  - Soft constraints limit and guide development and were partially excluded from the buildable land analysis
- Parcels categorized into:
  - Vacant
  - Stable (residential use with higher building value)
  - Redev (site has redevelopment potential and/or is non-residential)

# Basalt Creek

## Environmental Hard Constraints:

- Mix of Clean Water Services, Title 3 and basic constraints
  
- Basic environmental constraints are:
  - Open Water
  - Streams
  - Wetlands
  - Steep Slopes (25% and greater)
  - Slope Stability
  - Title 3
  - Floodplains (50% land reduction)
  - Title 13 (20% land reduction)



# Basalt Creek

## Manmade Hard Constraints:

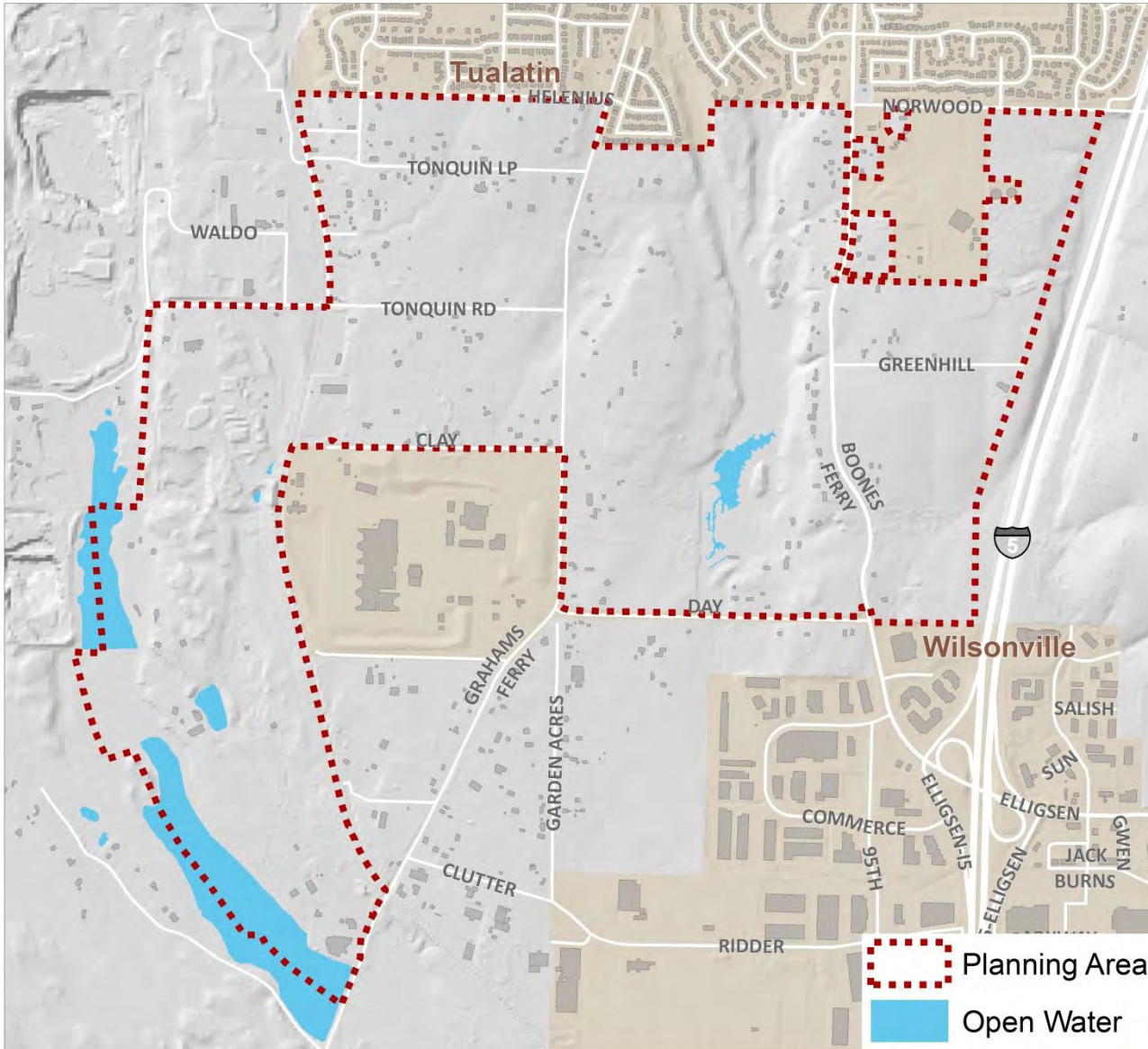
- Easements
  - BPA easements
  - PGE easements and substation
  - Natural Gas Pipeline

# Basalt Creek

## Soft constraints:

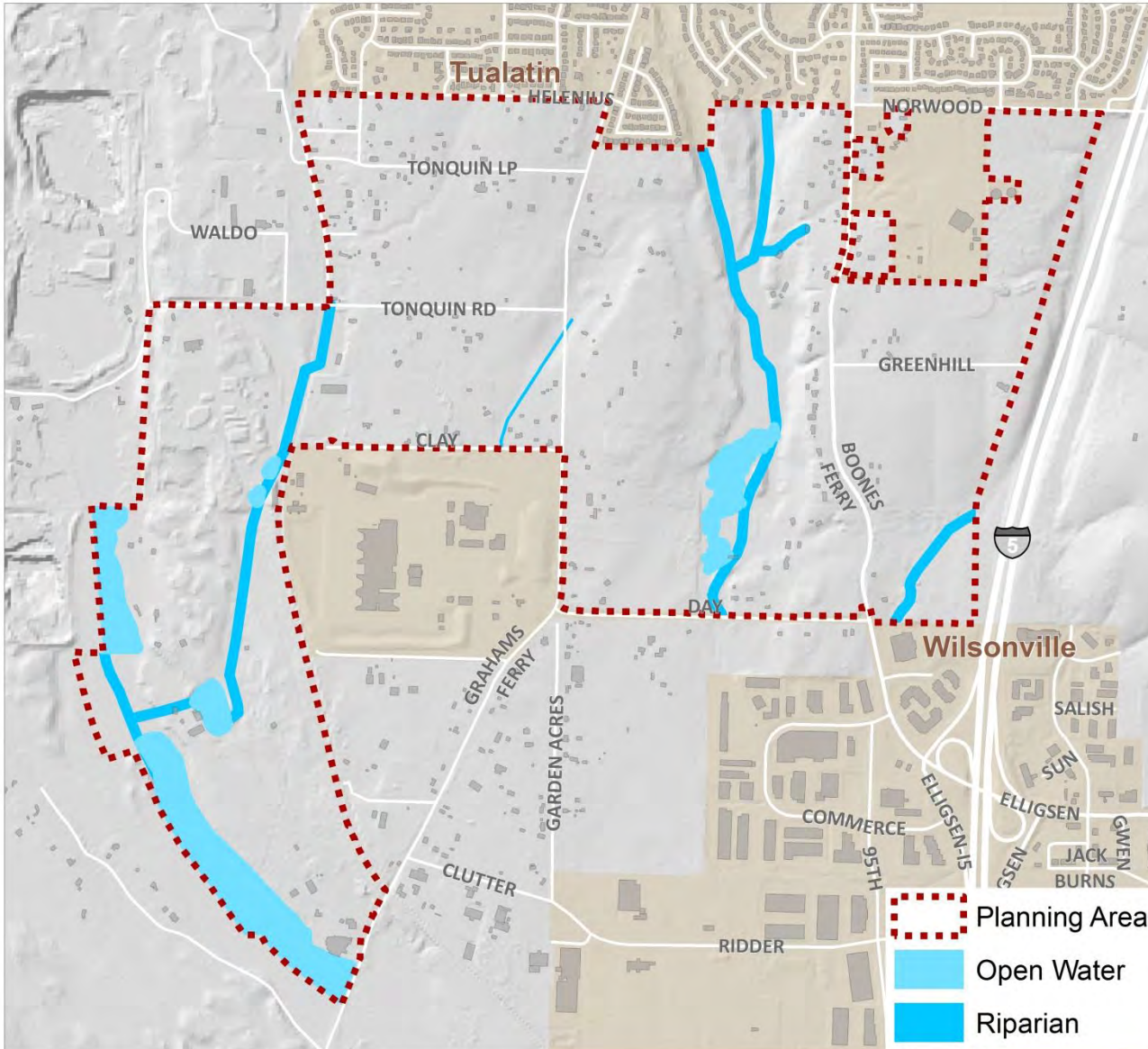
- **Title 13**
  - In addition to hard constraints, development in Title 13 land should be avoided where possible
- **Road projects**
  - East West Connection
  - Boones Ferry Road Widening
  - 2035 Overcrossing
- **Others**
  - 10%+ slopes regarding industrial development

# Open Water



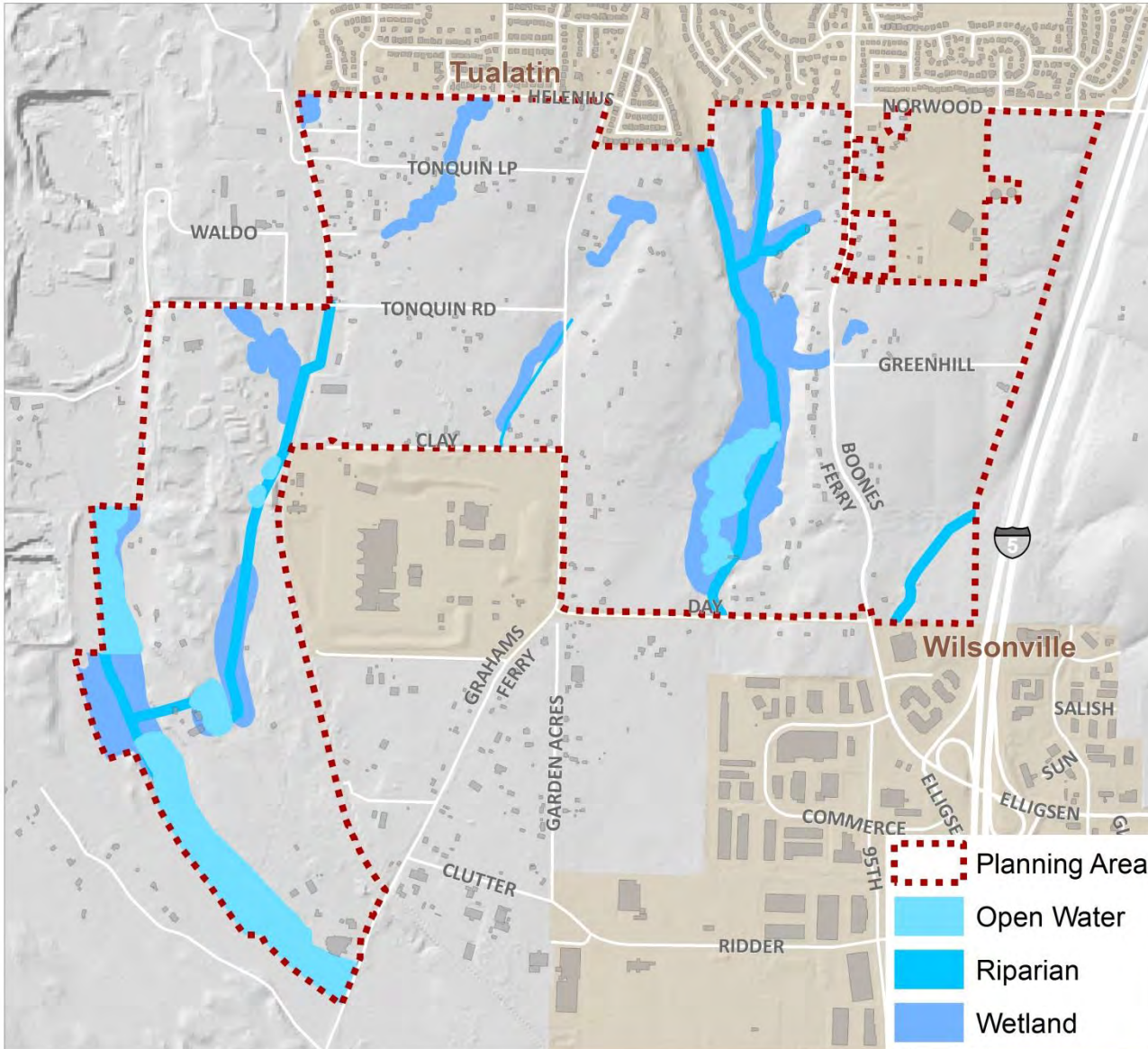
- **49** acres constrained
- Two sources:
  - Digitized by Fregonese Associates based on 2013 and 2012 (leaf free) aerials.
  - David Evans and Associates – 75% engineering files 124<sup>th</sup> Extension
- For constraints analysis:
  - Open water - **50ft** buffer

# Streams - Riparian



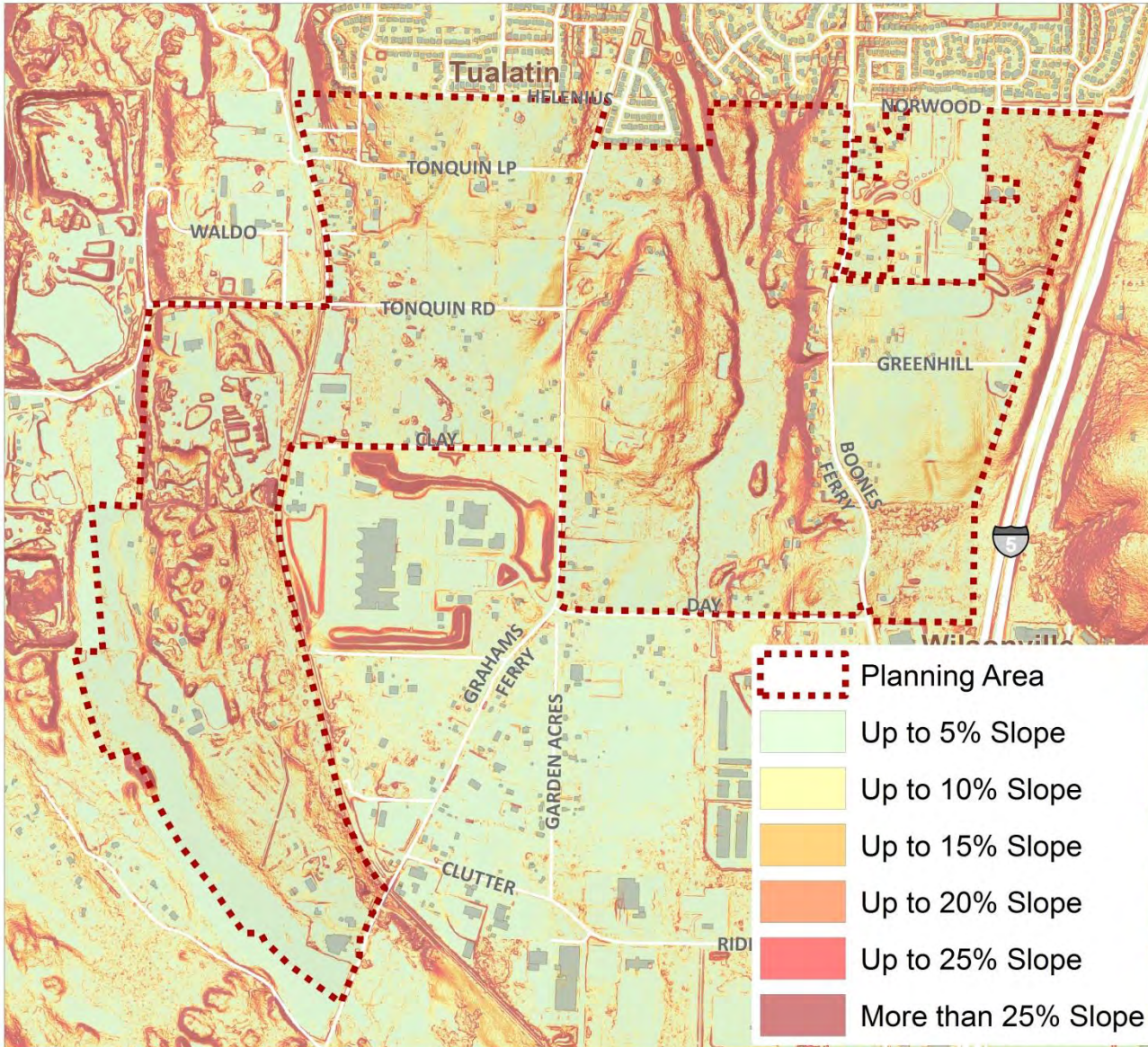
- **31** acres constrained
- Three categories of streams:
  - Natural stream – 18,845 feet
  - Underground stream – 789 feet
  - Intermittent stream – 1,402 feet
- Stream categories determined:
  - by visual survey of 2013 and 2012 (leaf free) aerials and intermittent stream through comment by Kerry Rappold, City of Wilsonville
  - Fieldstudy performed by City of Wilsonville
- For constraints analysis:
  - Natural stream - 50ft buffer
  - Intermittent stream - 15ft buffer

# Wetlands



- **70 acres**
- Sources are:
  - RLIS
  - Wetland Delineation Report for Proposed Boones Ferry Widening
  - David Evans and Associates – 75% engineering files 124<sup>th</sup> Extension
  - additional wetlands digitized by Fregonese Associates based on 2013 and 2012 (leaf free) aerials.
- For constraints analysis:
  - Wetlands - **50ft** buffer
  - Isolated wetland and smaller than a half acre – **25ft** buffer

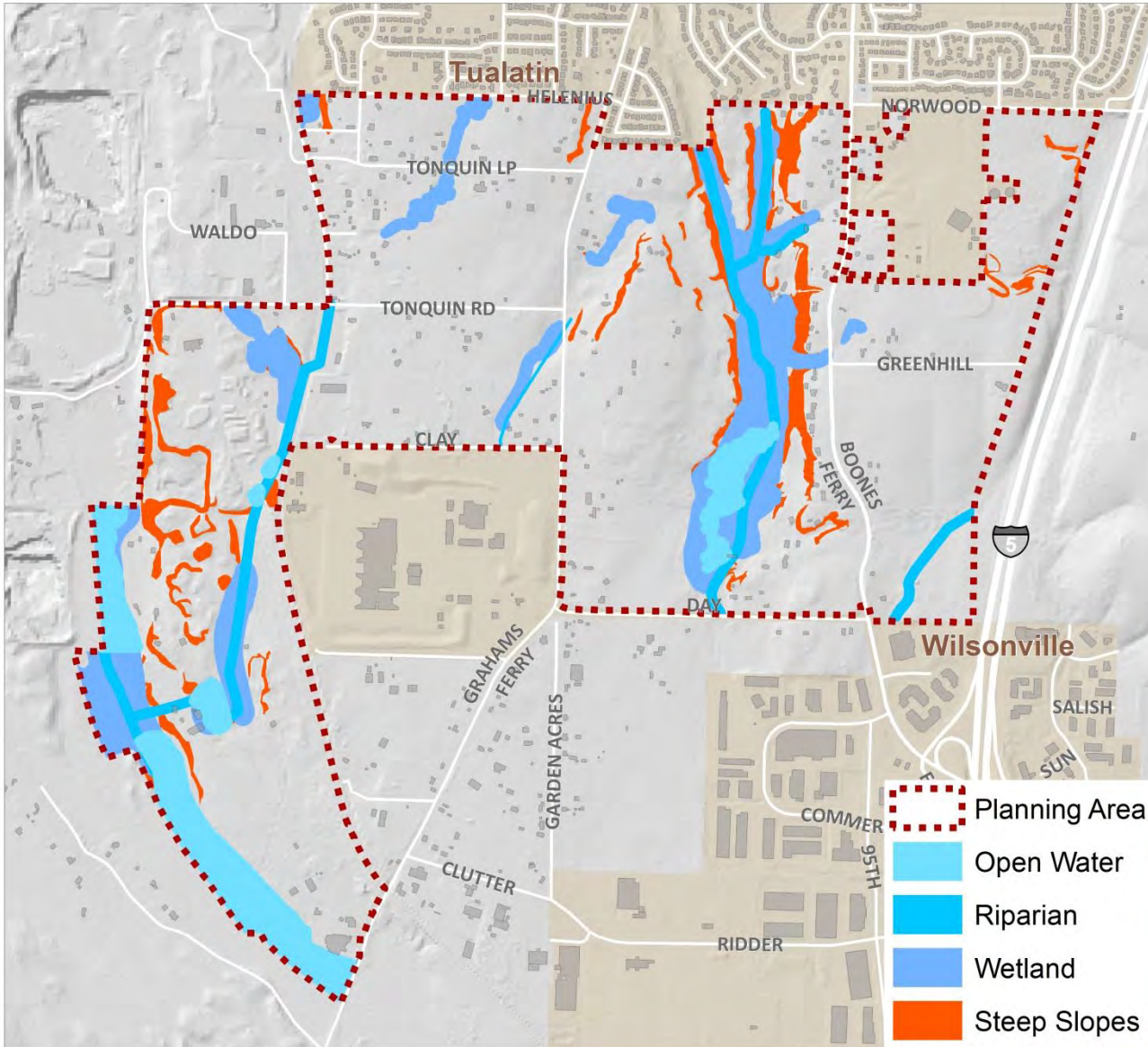
# Steep Slopes



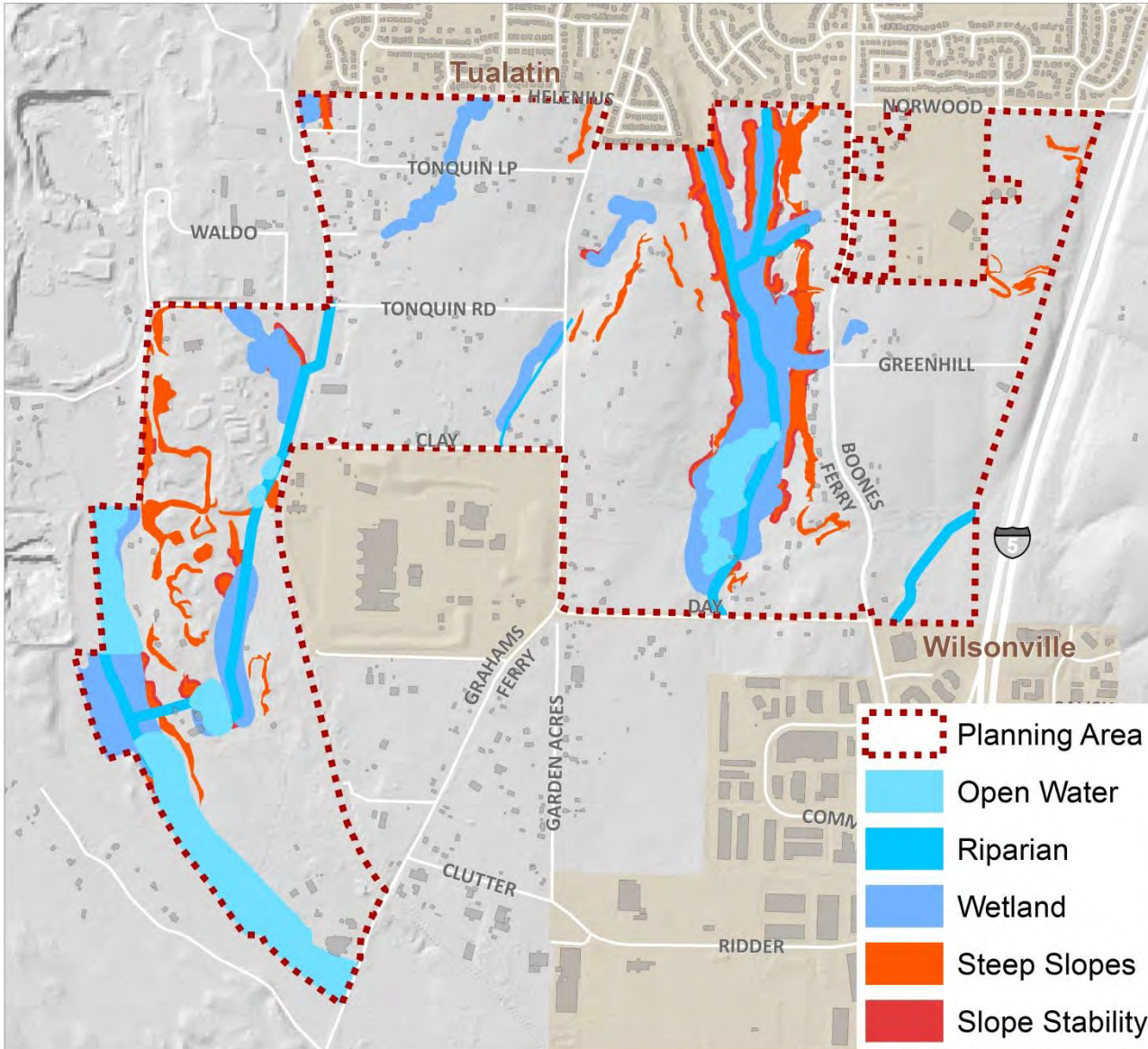
- For constraints analysis:
  - Using slopes from 3ft DEM
  - Non-isolated slopes, greater than half an acre, natural and or along a riparian area

# Steep Slopes

- **40** additional acres constrained for steep slopes (25% and above)



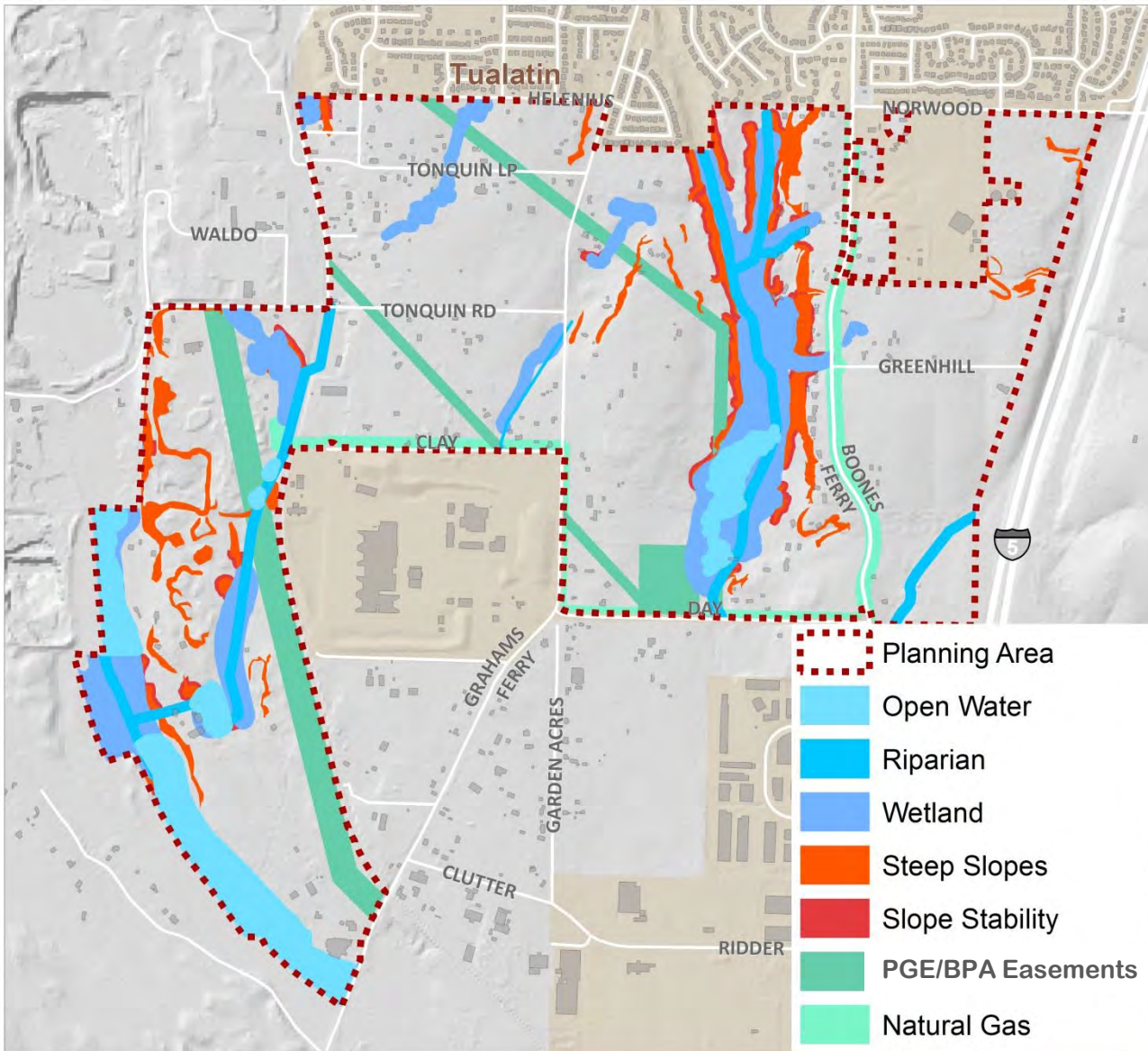
# Slope Stability



- **11** additional acres constrained as buffer to steep slopes
- Buffer needed for up to 200 feet from vegetated corridor
- CWS request an additional 35ft for steep slopes within vegetated corridor
- Measured from top of bank/break in 25% slope

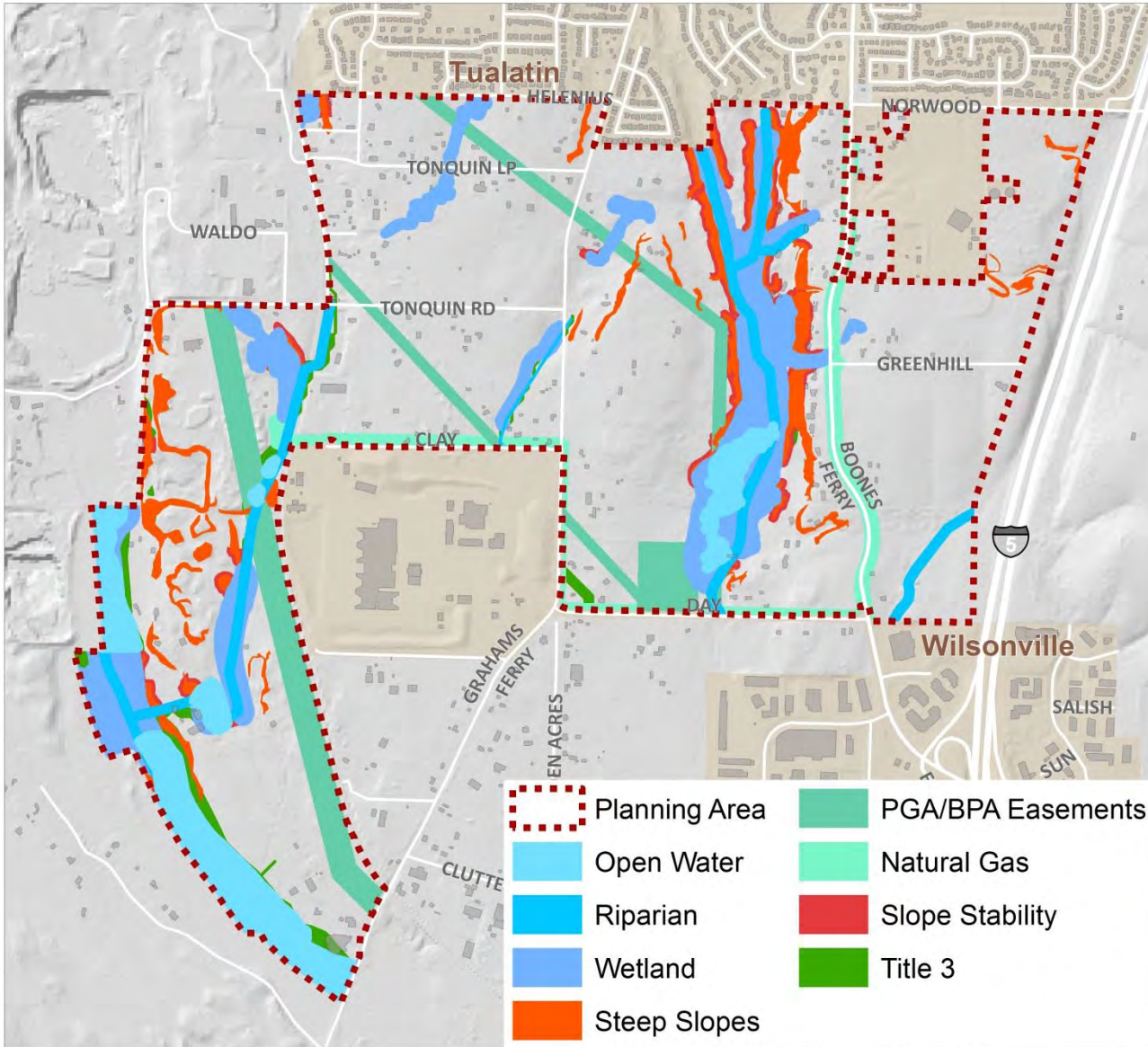


# Utilities



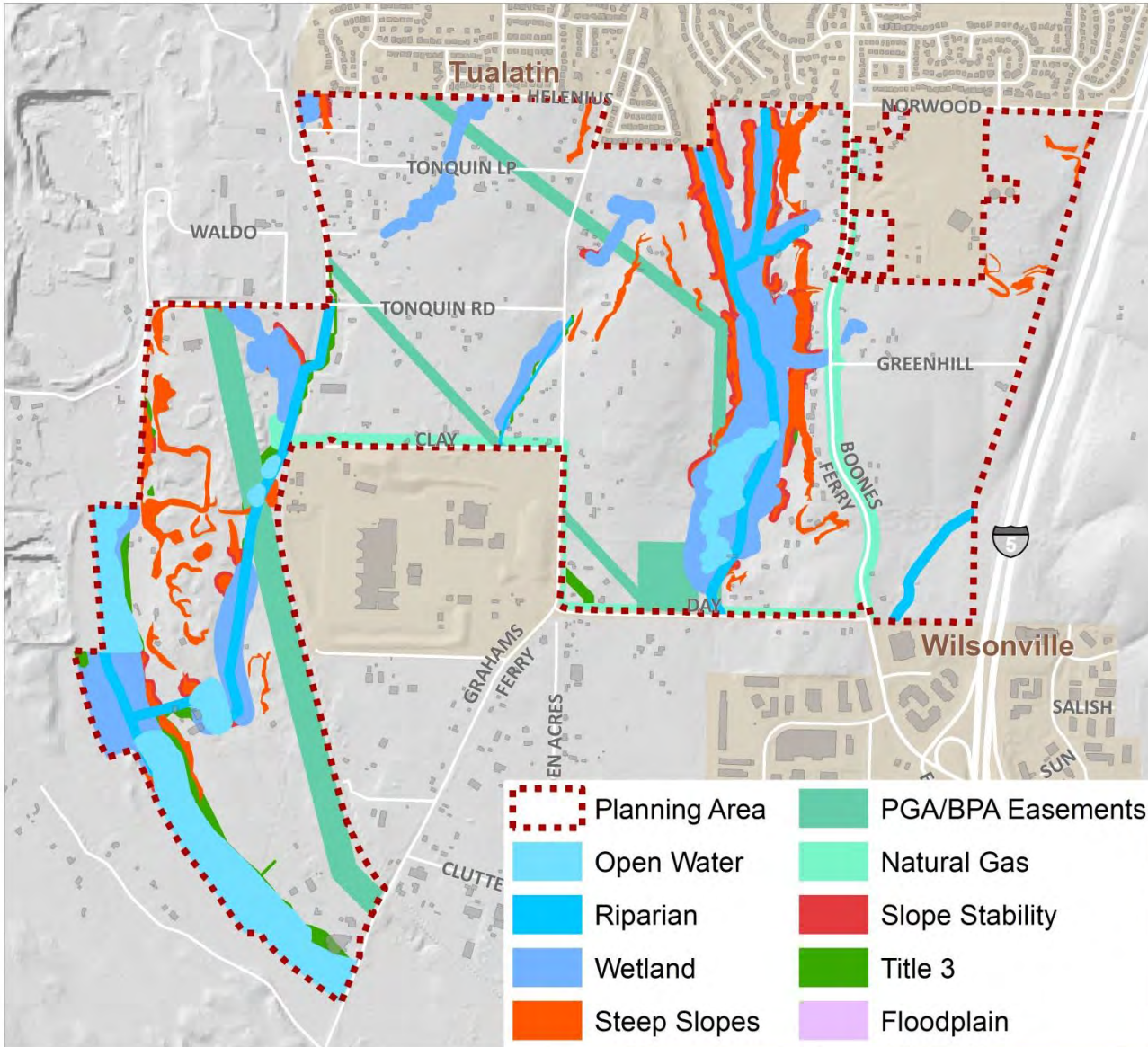
- **84** additional acres constrained
- Almost 16,000 feet of transmission lines crossing the area
- 2 easements:
  - BPA 42.3 acres
  - PGE 18.0 acres plus 4.1 acres substation
- 2 natural gas lines:
  - 25.7 acres
- For constraints analysis:
  - Remove from buildable land

# Title 3 (Metro)



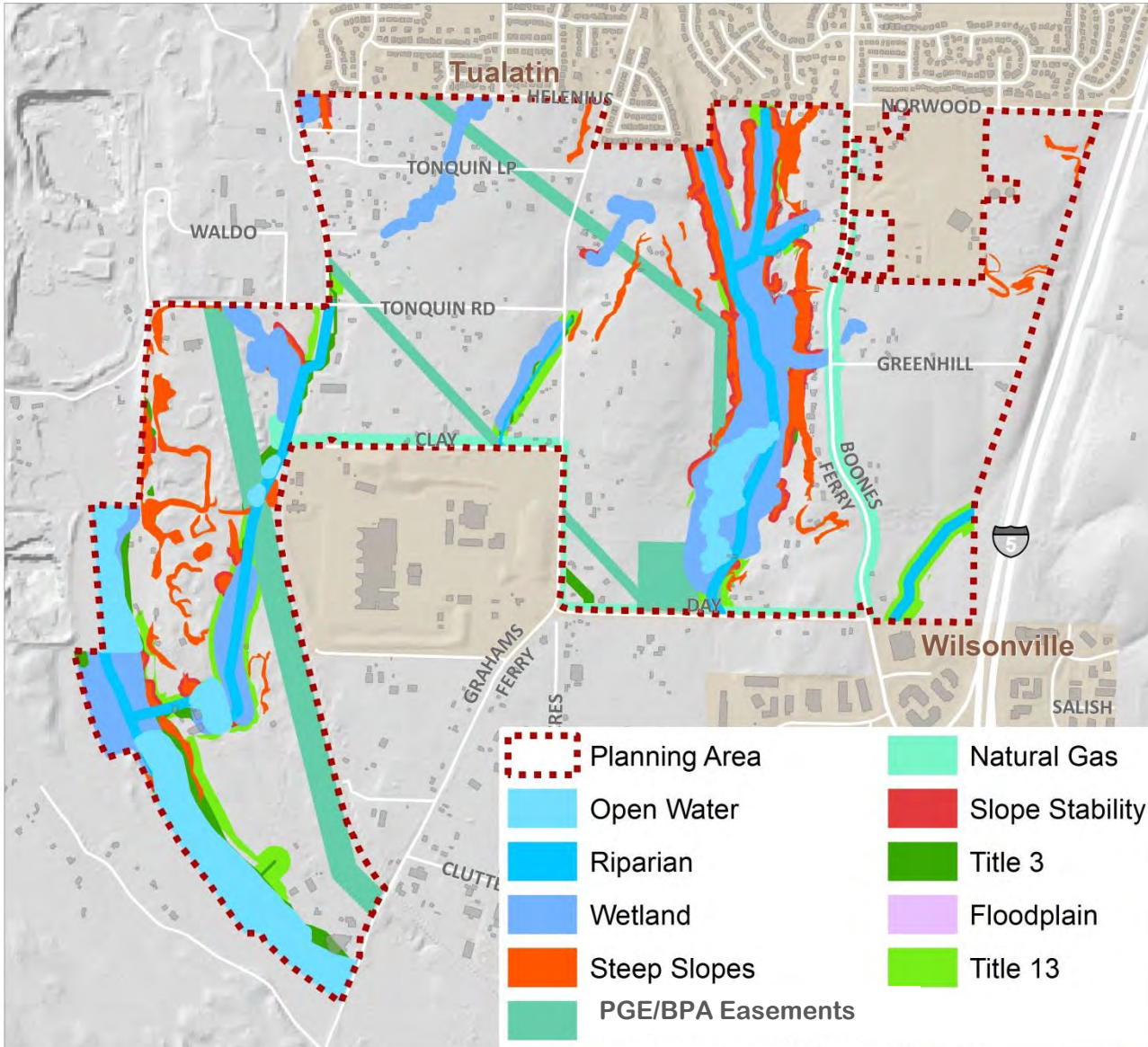
- In addition to the above analysis, Title 3 adds **8** acres of land that was not previously constrained

# Floodplains



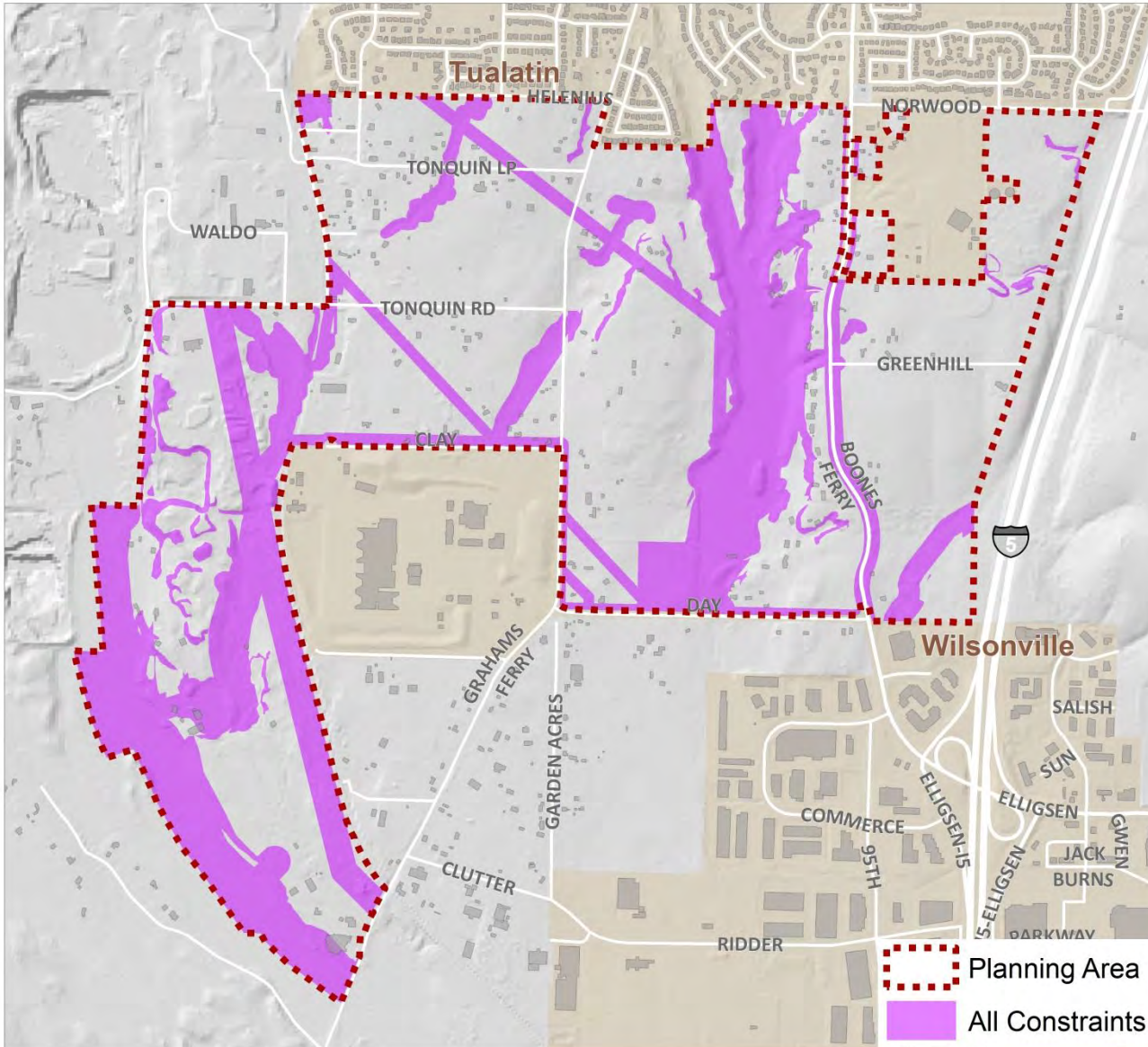
- For constraints analysis:
  - 50% of land in floodplains is removed
- Results in only **0.01** additional acres of previously unconstrained land

# Title 13



- Based on METRO requirement to set aside 20% of land for protection in Riparian Class I and II, 4 additional acres are constrained

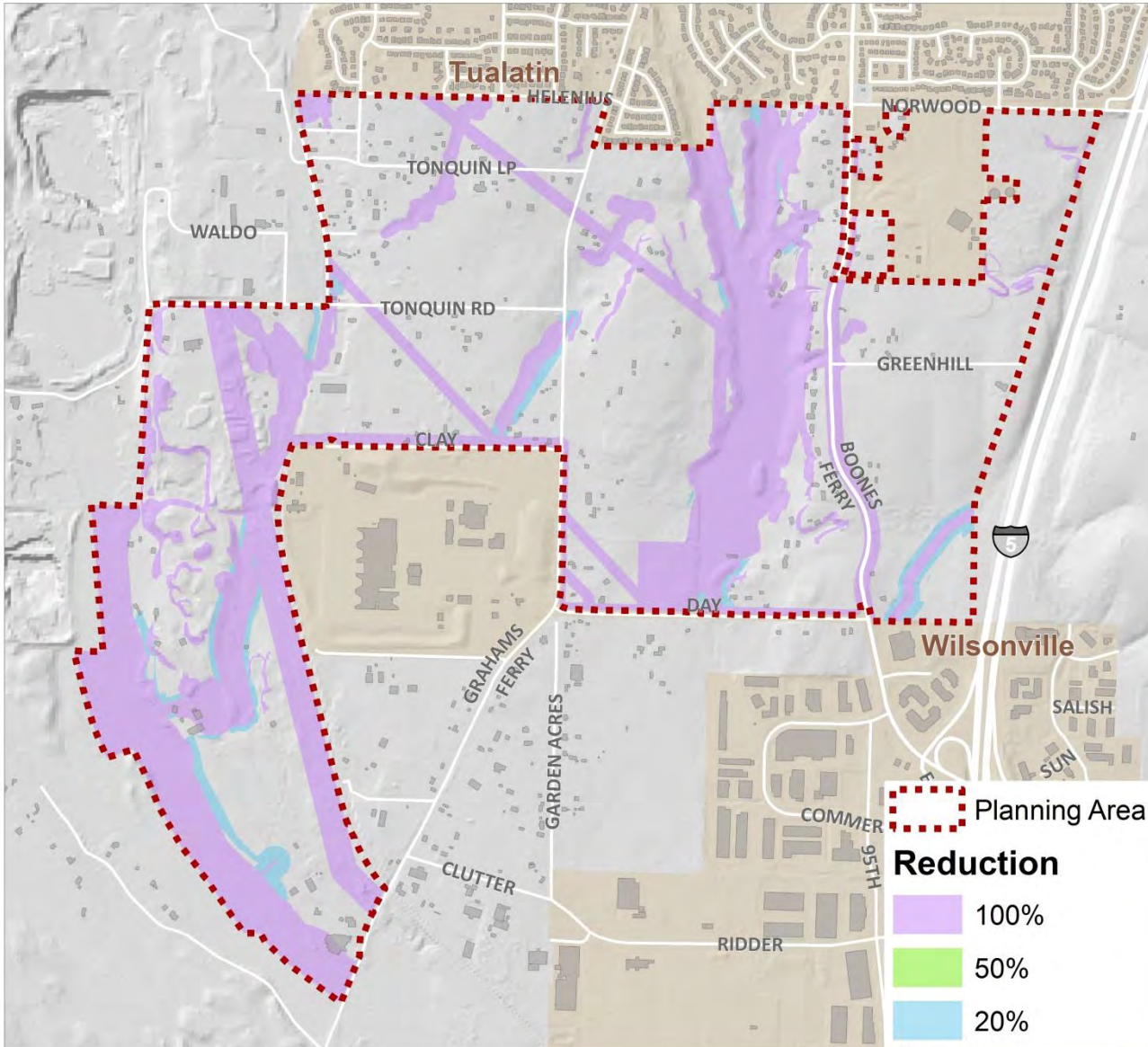
# All Constraints



- A total of **296** acres are constrained
- Study area total is **847** acres
- **35%** of the Basalt Creek area is constrained

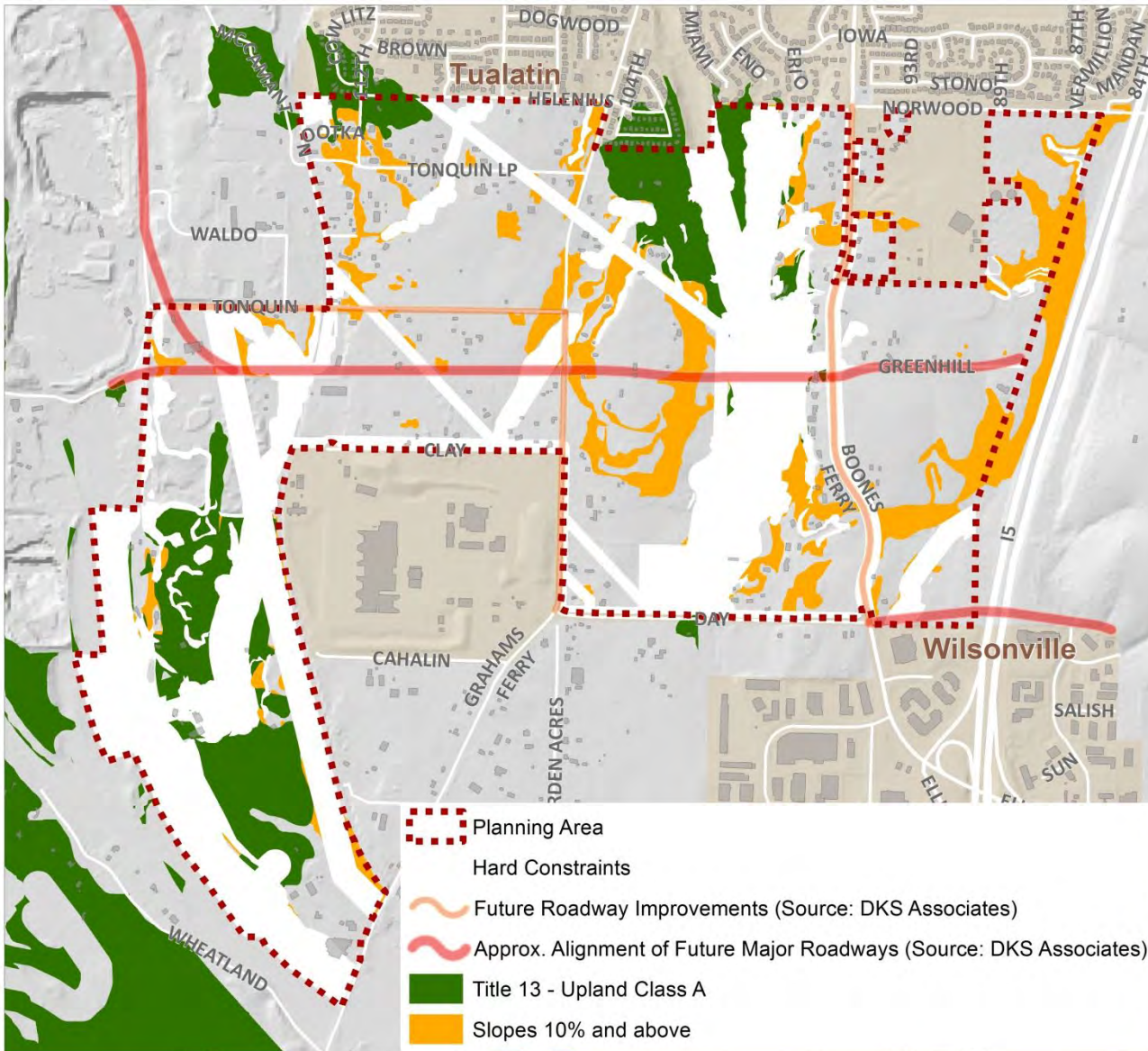
# All Constraints

- **35%** of the Basalt Creek area is constrained



# Soft Constraints

- 10% slopes and greater
- Title 13 Upland Class A
- Various road projects
- These soft constraints are a consideration when planning development but no land was removed from buildable lands based on these categories



# Land Supply

- Three elements:
  - Vacant Land – Land ready to build, no major structure on site
  - Redev Land – Land with some redevelopment potential
  - Stable Land – Land and structures on it will not change in the future

**Vacant Land**



**Redev Land**

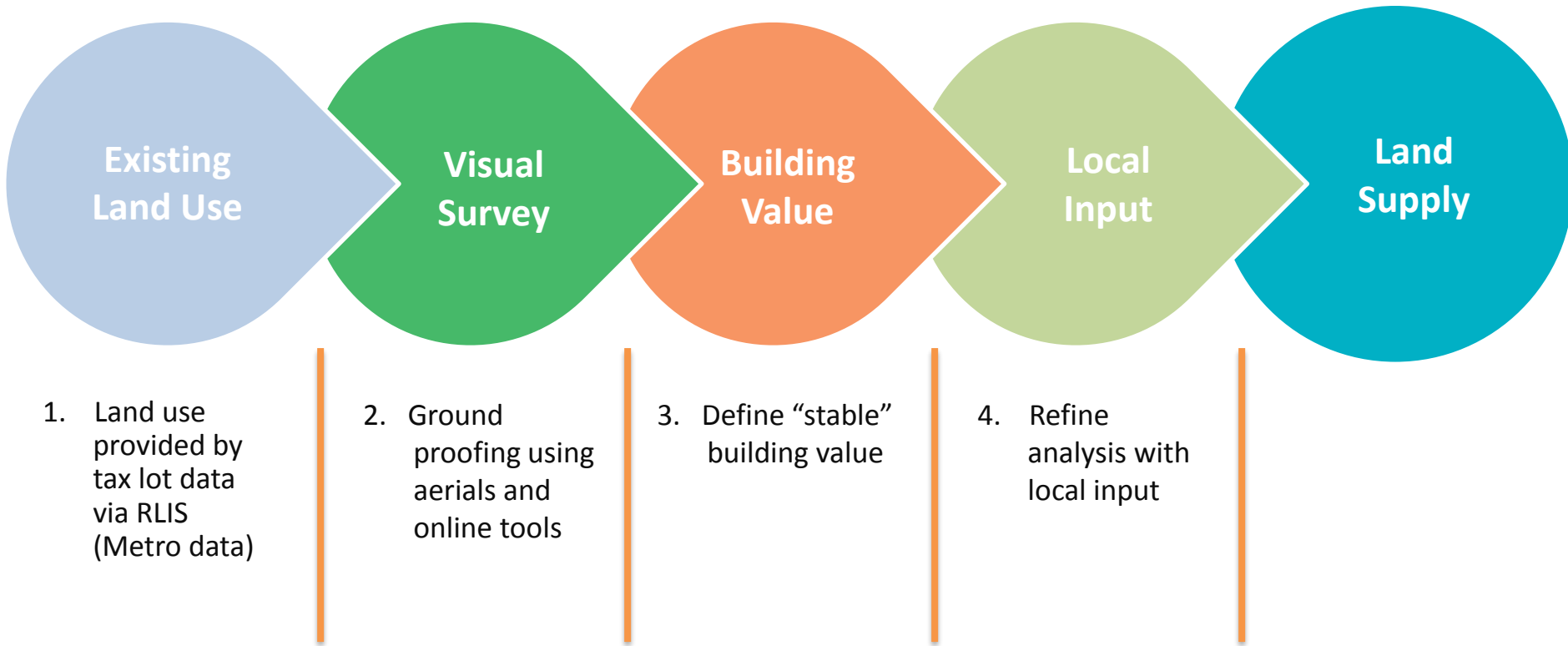


**Stable Land**





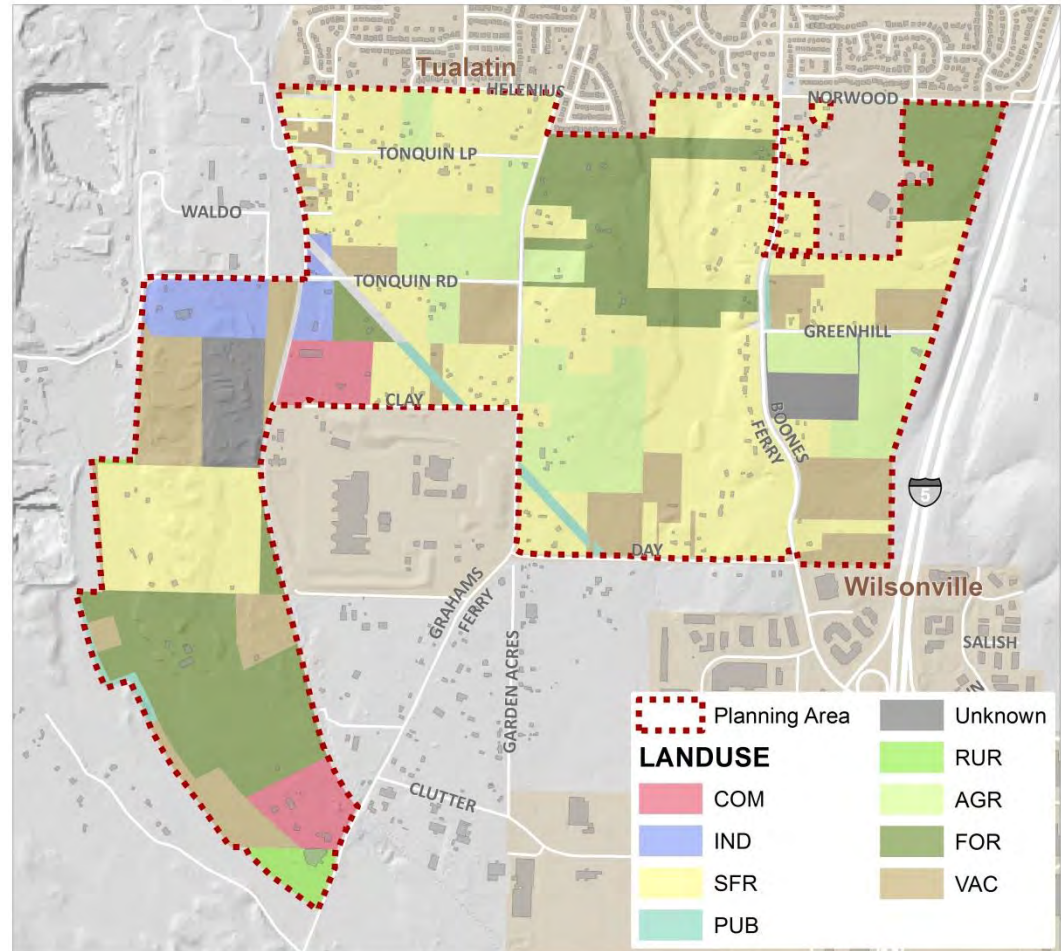
# Four-Step Methodology



# Land Use

## 1. Step

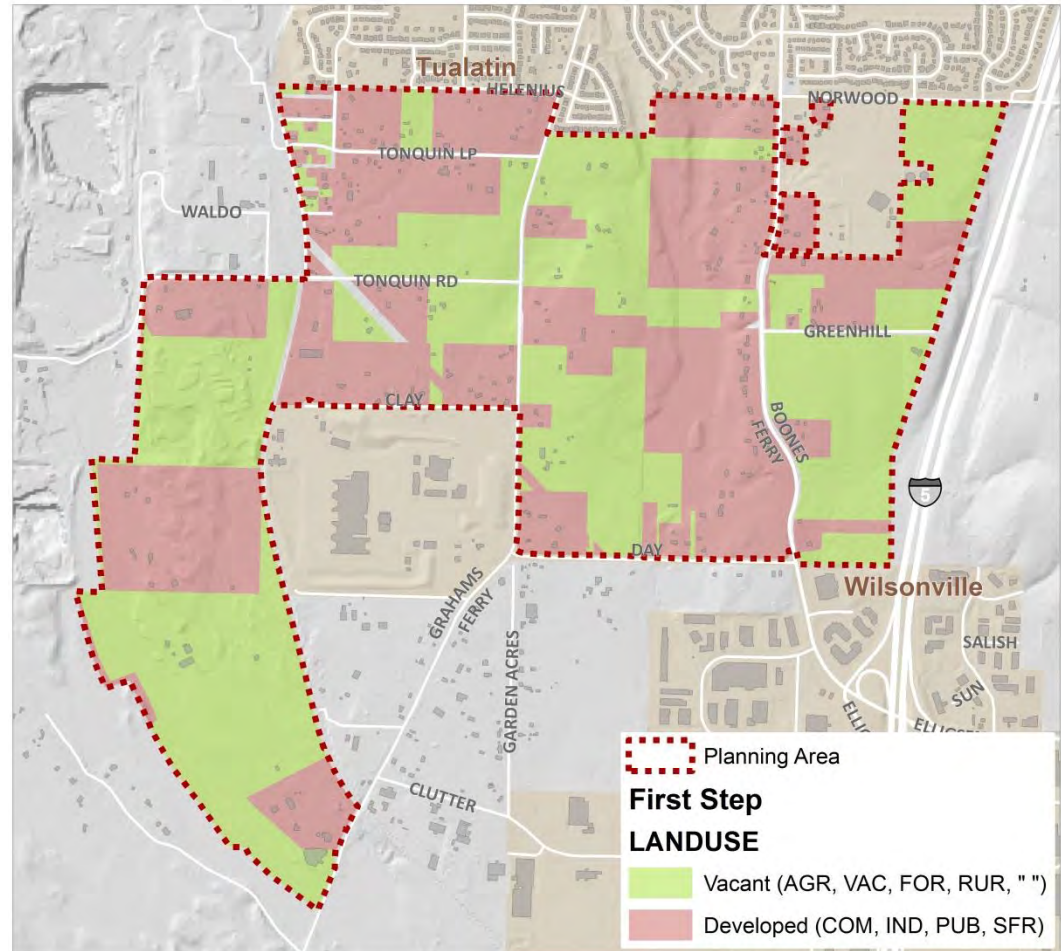
- Assumptions on development via existing land use in taxlot file (RLIS March 2014)
  - Developed is:
    - Commercial
    - Industrial
    - Public
    - Residential
  - Vacant is:
    - Rural
    - Forest
    - Agriculture
    - Unknown
    - Vacant



# Land Use

## 1. Step

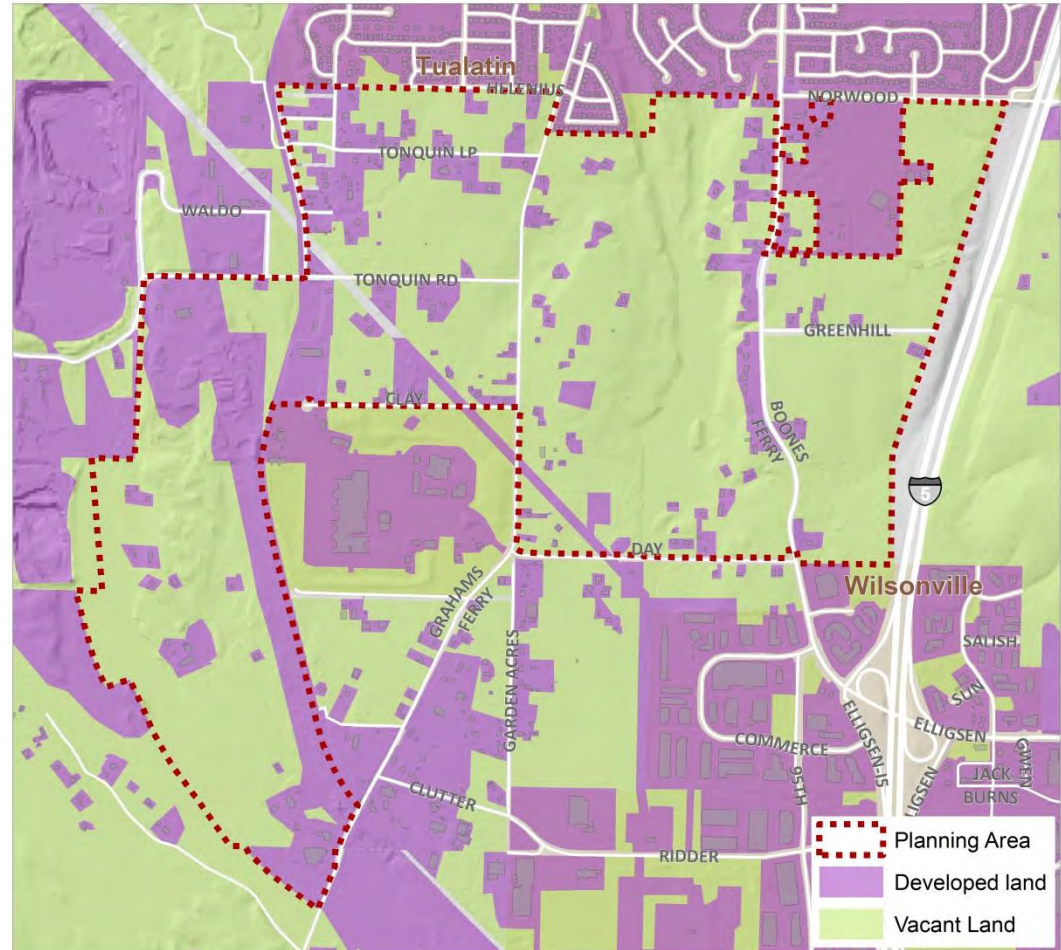
- Assumptions on development via existing land use in taxlot file (RLIS March 2014)
  - Developed is:
    - Commercial
    - Industrial
    - Public
    - Residential
  - Vacant is:
    - Rural
    - Forest
    - Agriculture
    - Unknown
    - Vacant



# Visual Survey

## 2. Step

- Vacant and developed land (RLIS March 2014)
  - Does not limit itself to taxlots
  - Uses “Cookie Cutter” around buildings



# Visual Survey

## 2. Step

- Adjust for large amount of partially vacant or “unused” land
  - Uses “Cookie Cutter” around buildings
    - Split to allow for backyard
    - Split, where lot becomes “natural”
  - Via visual survey of aerial, Google Map Street View, and Bing Map Bird’s Eye
  - Use RLIS coverage as guide



Split lot



Split lot

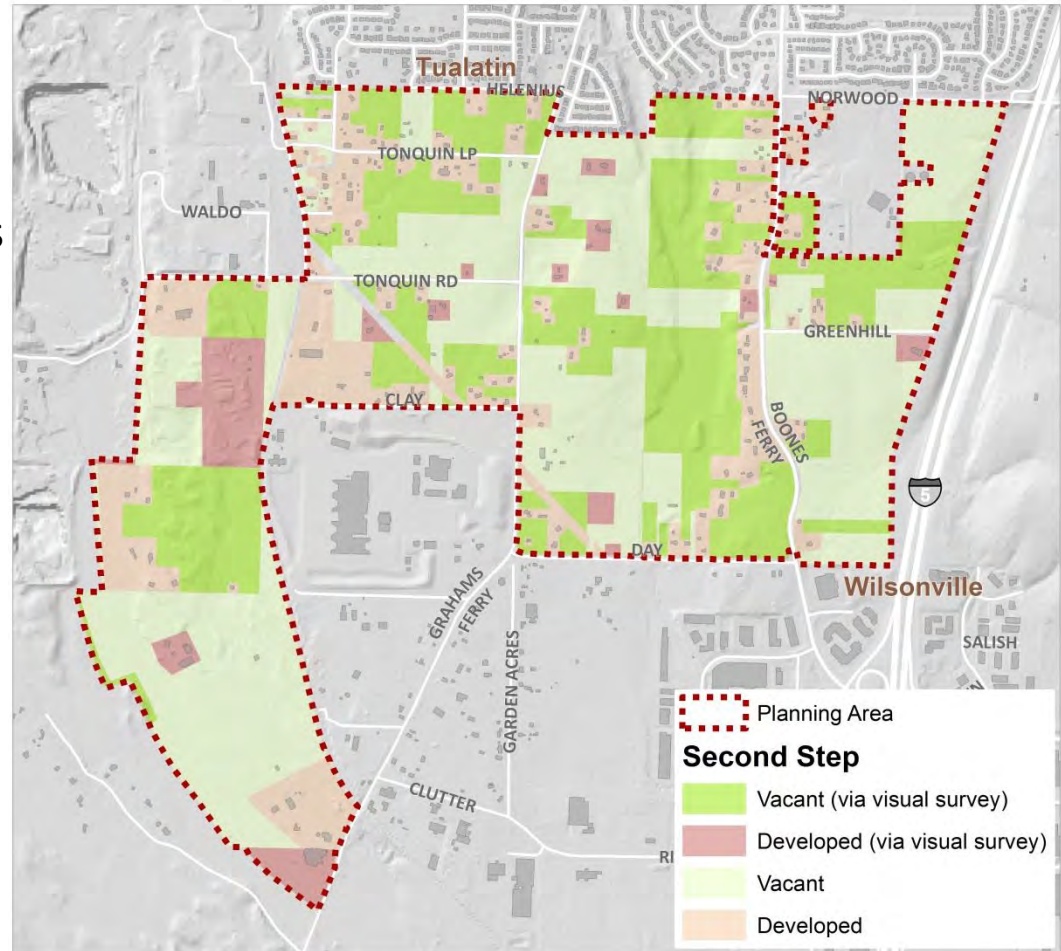


From vacant to developed

# Visual Survey

## 2. Step

- This map shows additional developed land based on visual survey that was first identified as vacant based on the land use



# Building Value

## 3. Step

- What is “Stable”:
  - No changes to the taxlot are expected
    - No growth
    - No additional employment
    - No additional housing unit
    - Minor improvements to property but not much more



Newer Single Family Home

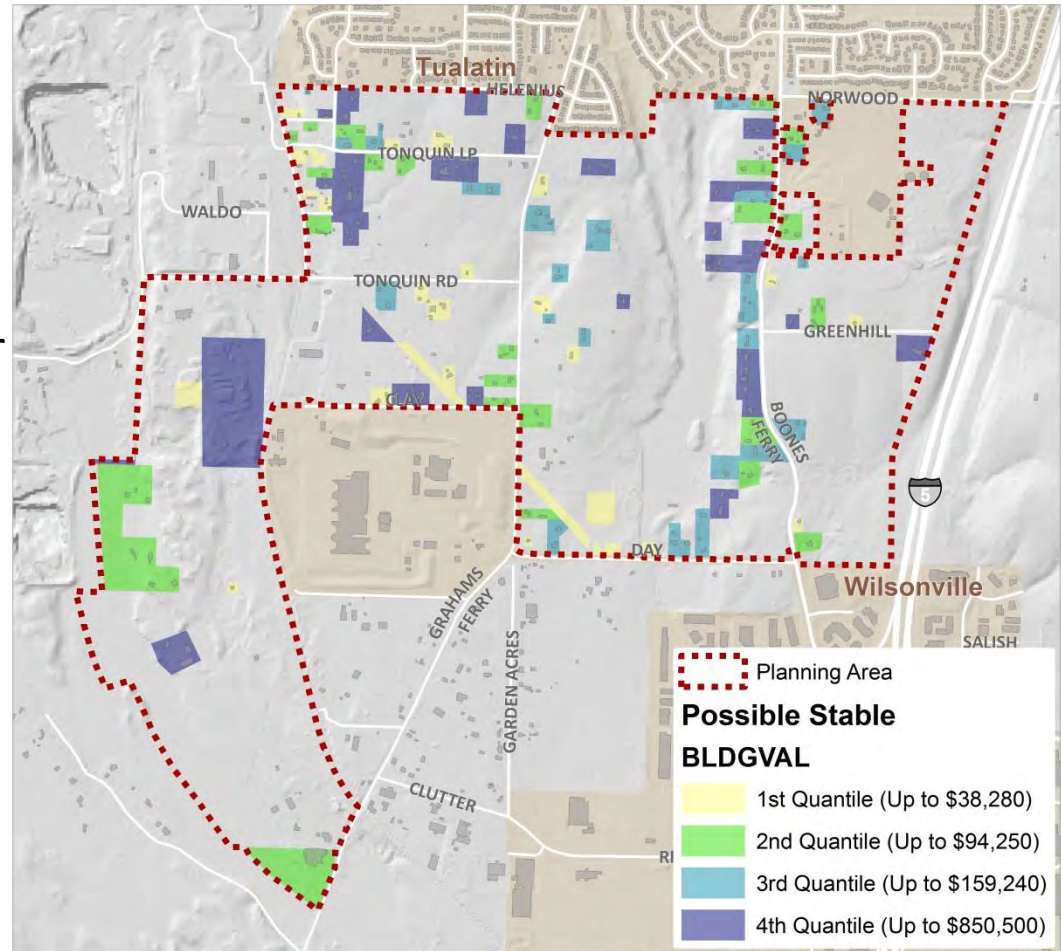


Older Single Family Home

# Building Value

## 3. Step

- Select only residential
  - Exclude COM and IND land uses which are considered more likely to redevelop no matter the building value
- Quantiles:
  - In which range falls a specific building?
  - 50% of building values are below \$95,000

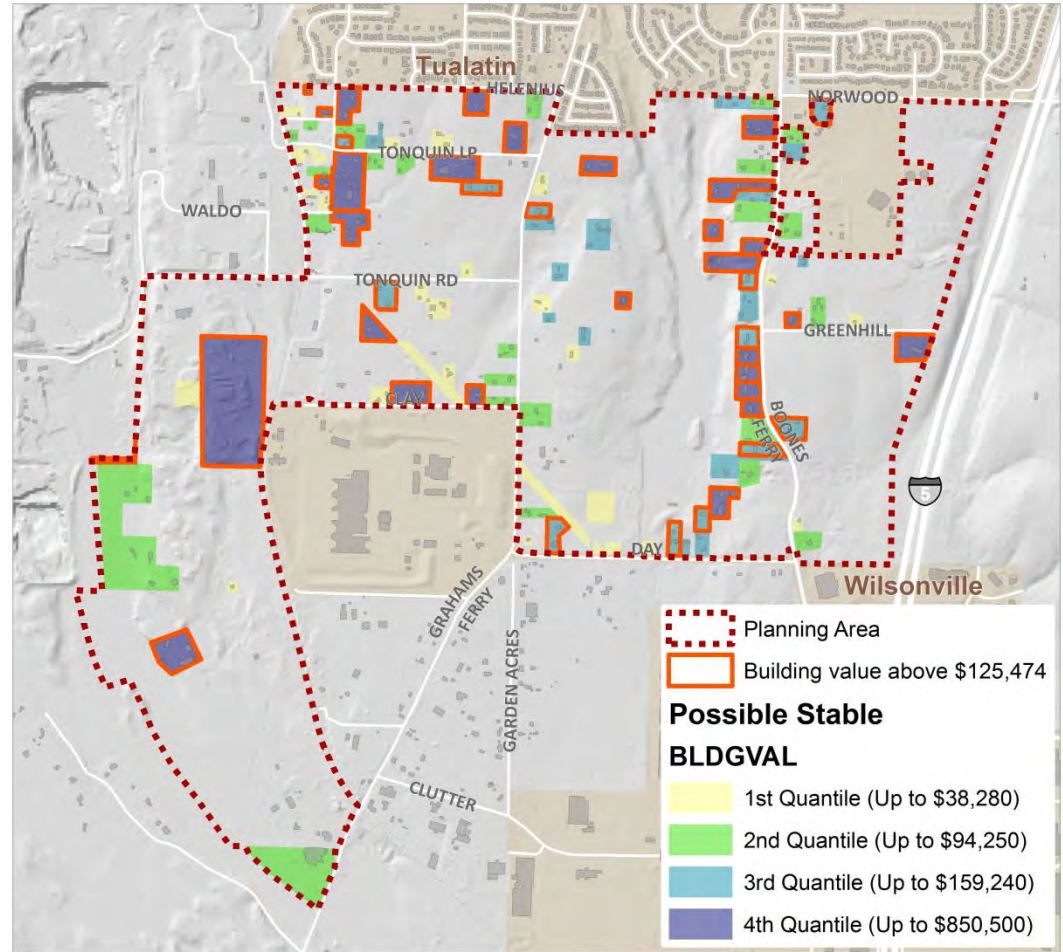




# Building Value

## 3. Step

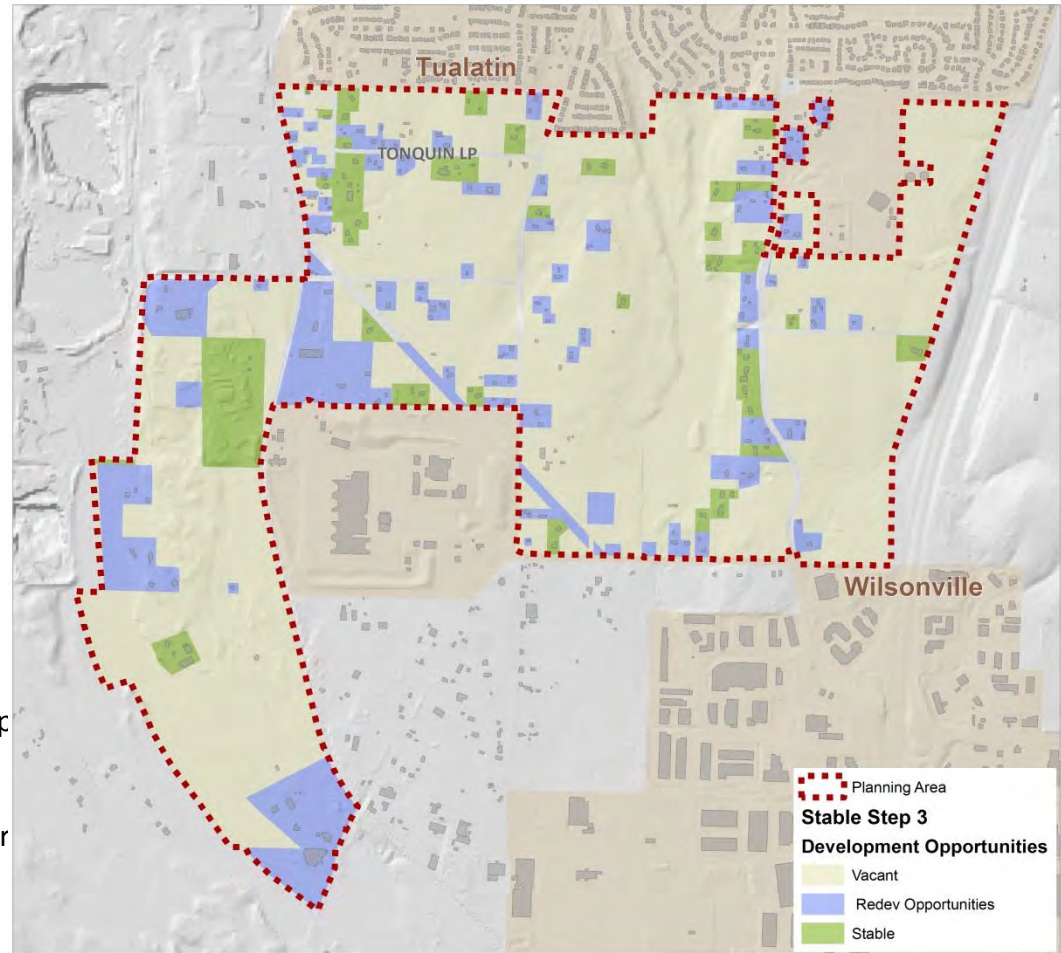
- Assuming higher building values will be stable
  - Average building value is **\$125,474**



# Building Value

## 3. Step

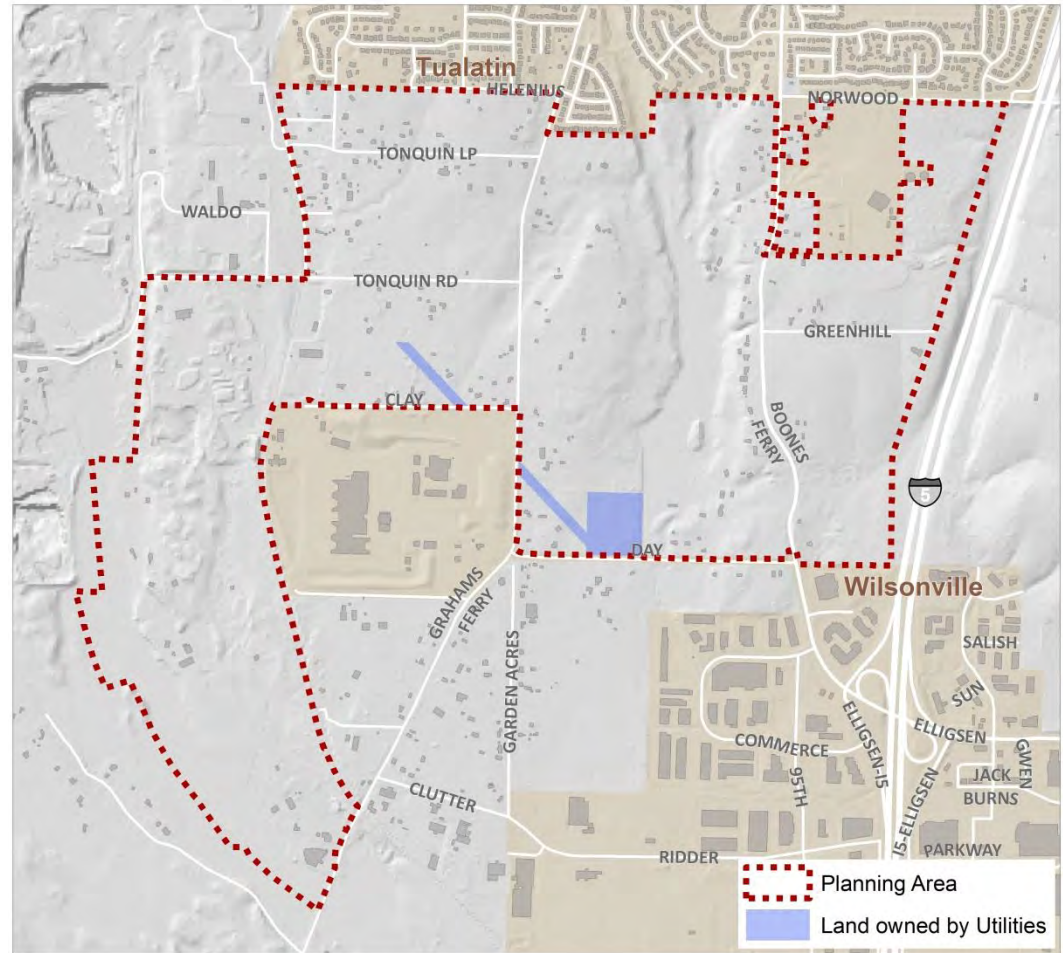
- Introduced “stable”
  - Non commercial buildings only
  - On developed land
- Assuming higher building values will be stable
  - Average building value is \$125,474
  - Set limit to **\$150,000**, based on owner input
    - Existing rural development are more likely to redevelop under/with an urban footprint
    - Know of site that the owner would like to redevelop (current building value is about \$145,000)
- **34** sites identified as stable



# Local Input

## 4. Step

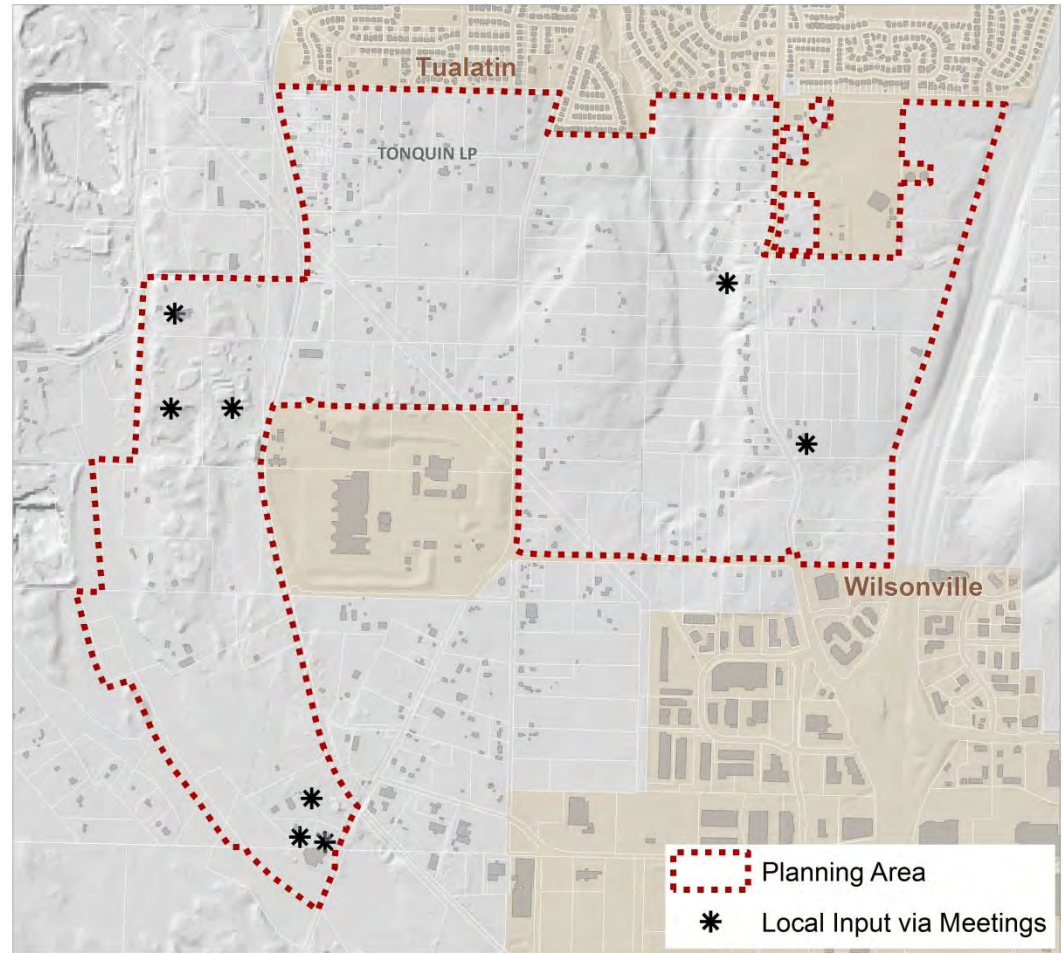
- Utilities
  - PGE sub station
  - BPA Properties



# Local Input

## 4. Step

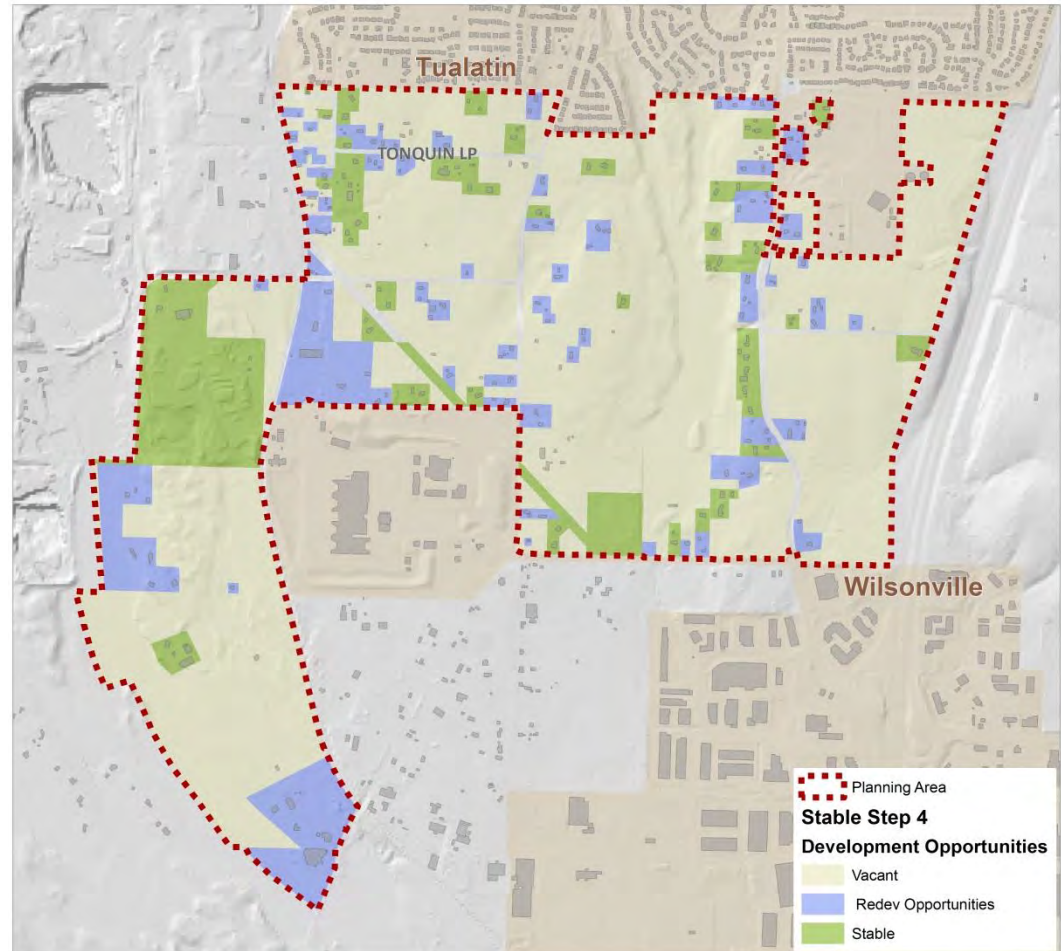
- Local Input
  - Stakeholder meetings
  - Focus group meetings



# Local Input

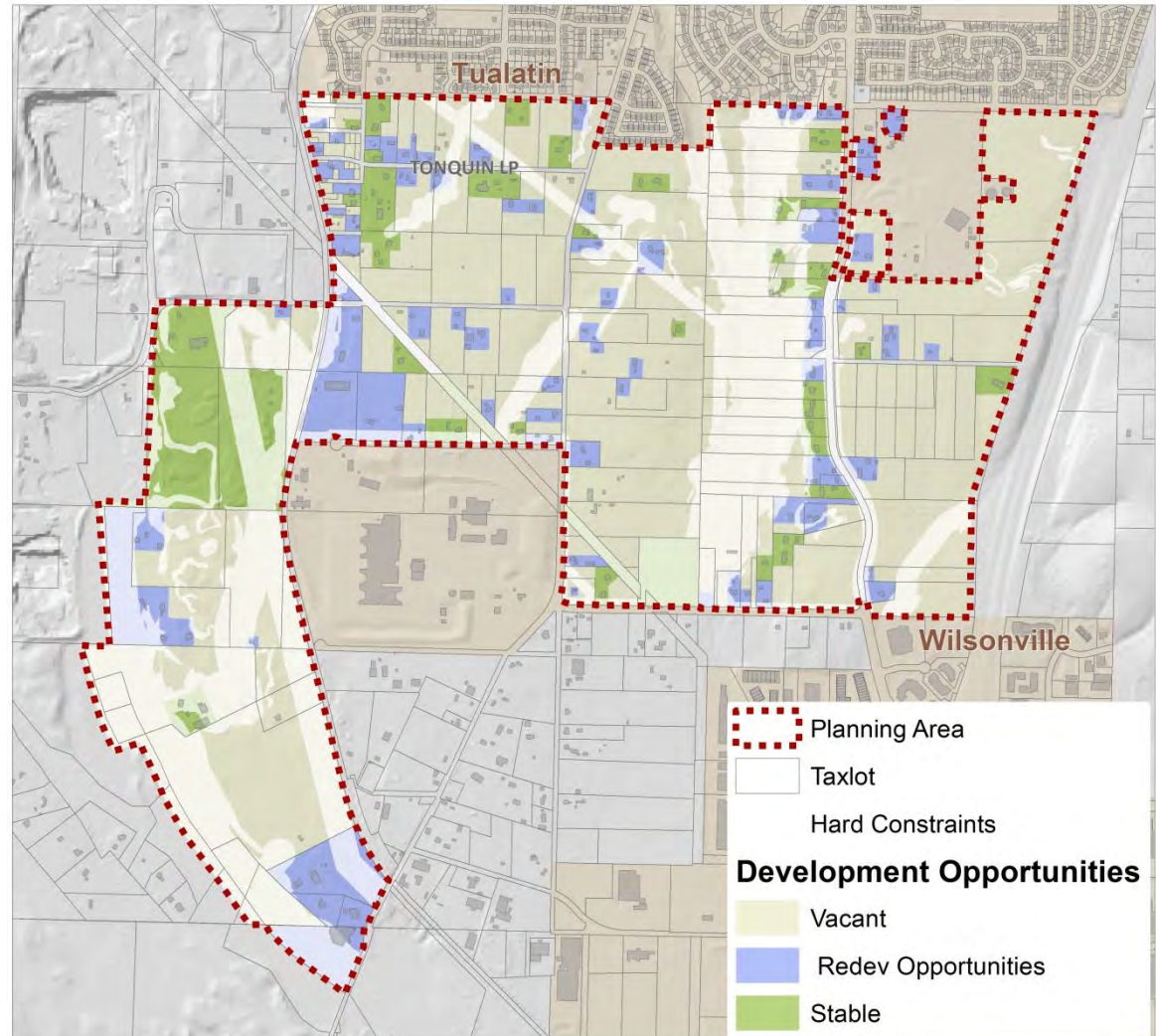
## 4. Step

- **43** sites identified as stable, based on:
  - Building value
  - Local Input
- **596** acres are vacant
- **117** acres are available for redevelopment



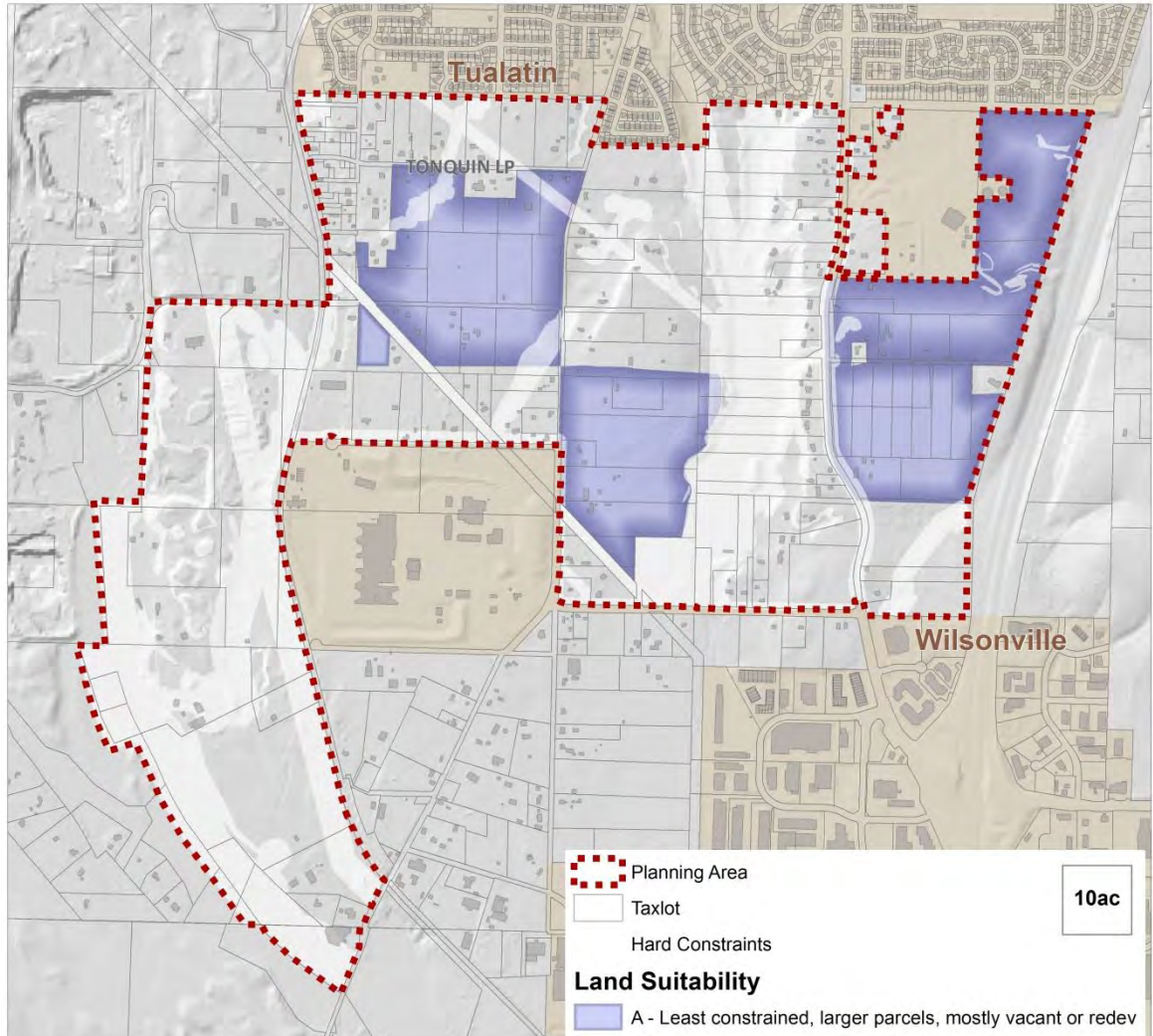
# Suitable Sites

- Multiple Sites vary by:
  - Taxlot size
  - Amount of constraints
  - Vacancy and redevelopment opportunities



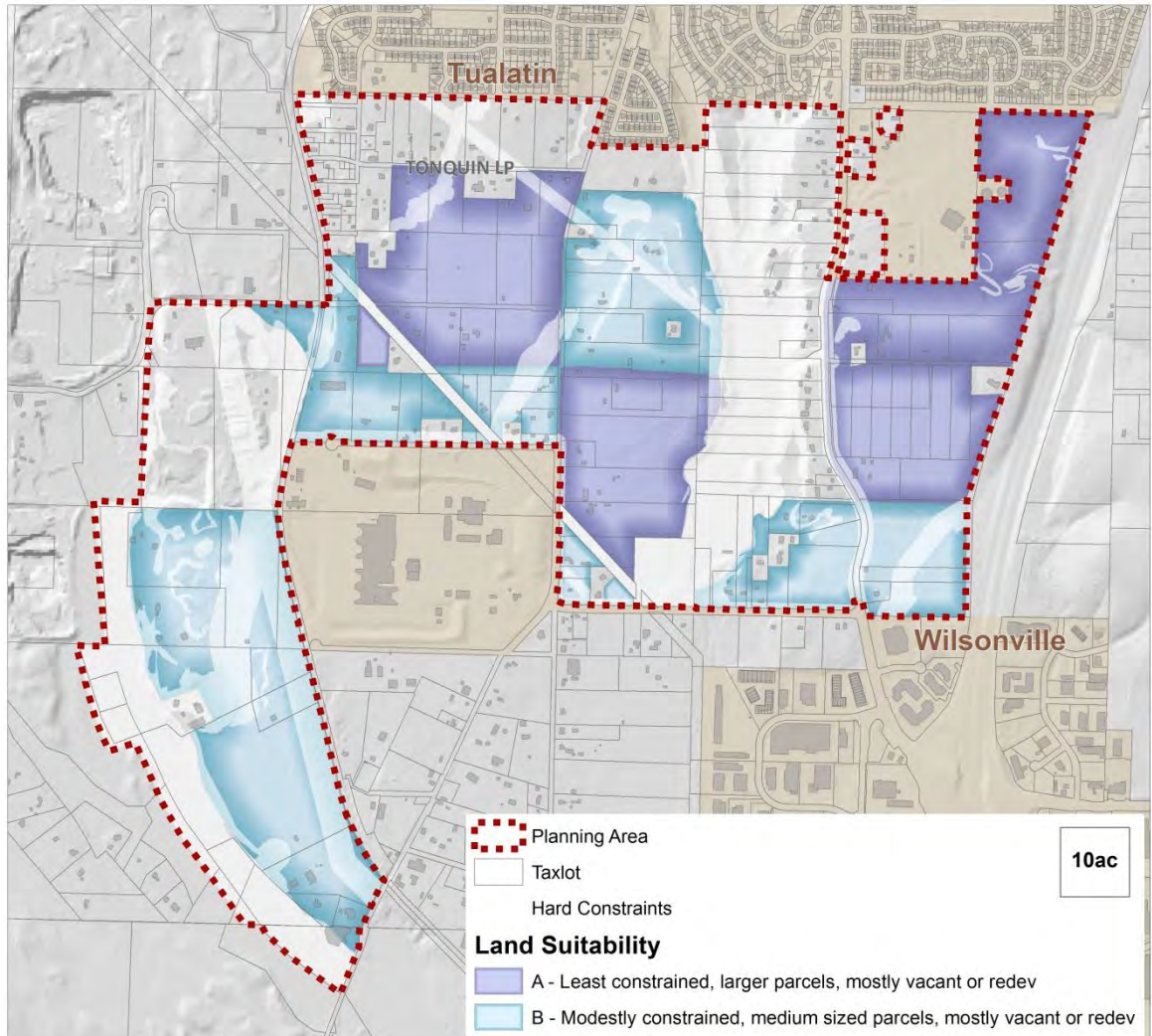
# Suitable Sites

- Suitability A:
  - Larger parcels
  - Least constrained
  - Mostly vacant, might have redevelopment opportunities
  - 214 buildable acres (does not exclude built road network, etc.)



# Suitable Sites

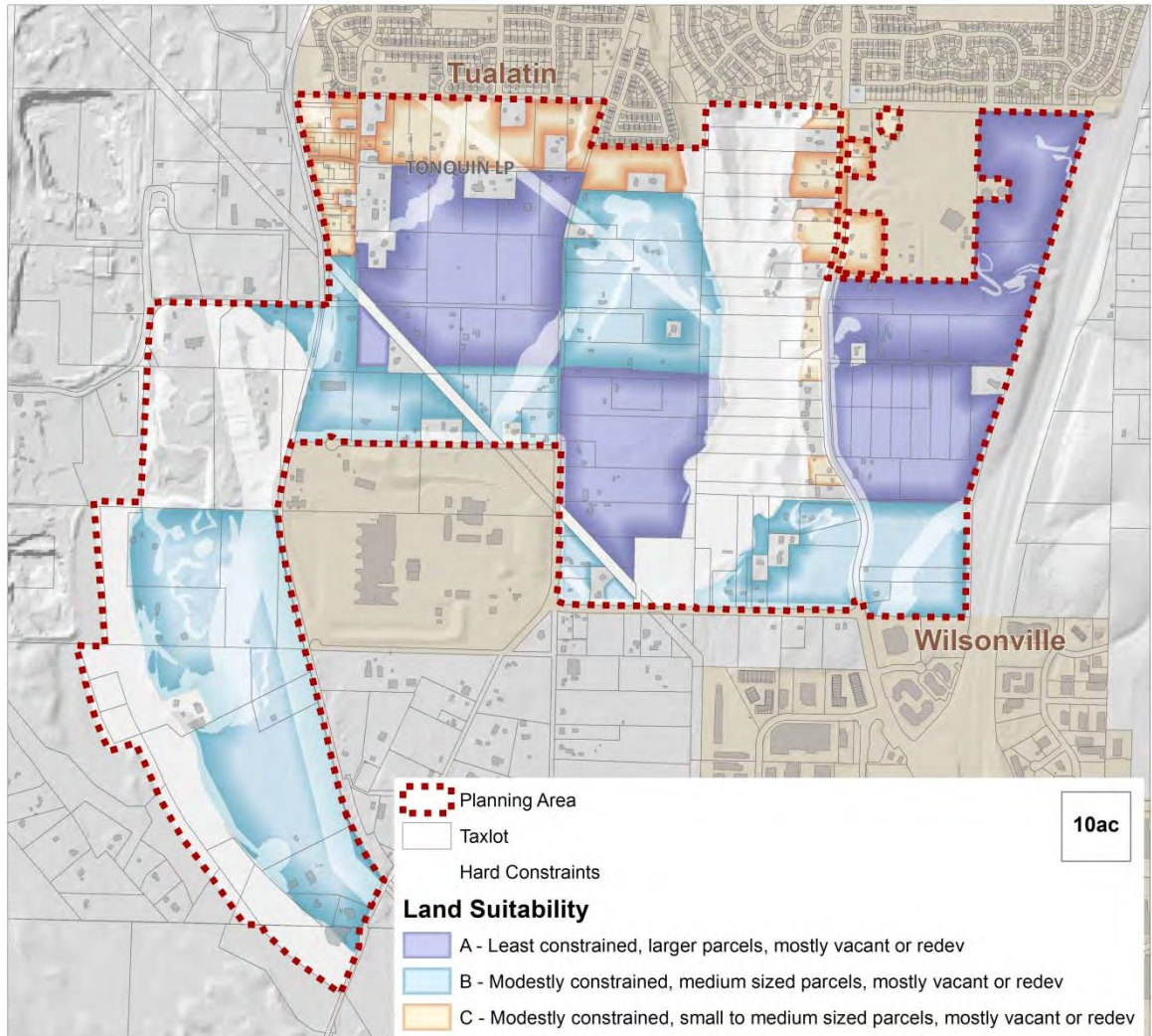
- Suitability B:
  - Medium sized parcels
  - Modestly constrained
  - Mostly vacant, might have redevelopment opportunities
  - 193 buildable acres (does not exclude built road network, etc.)





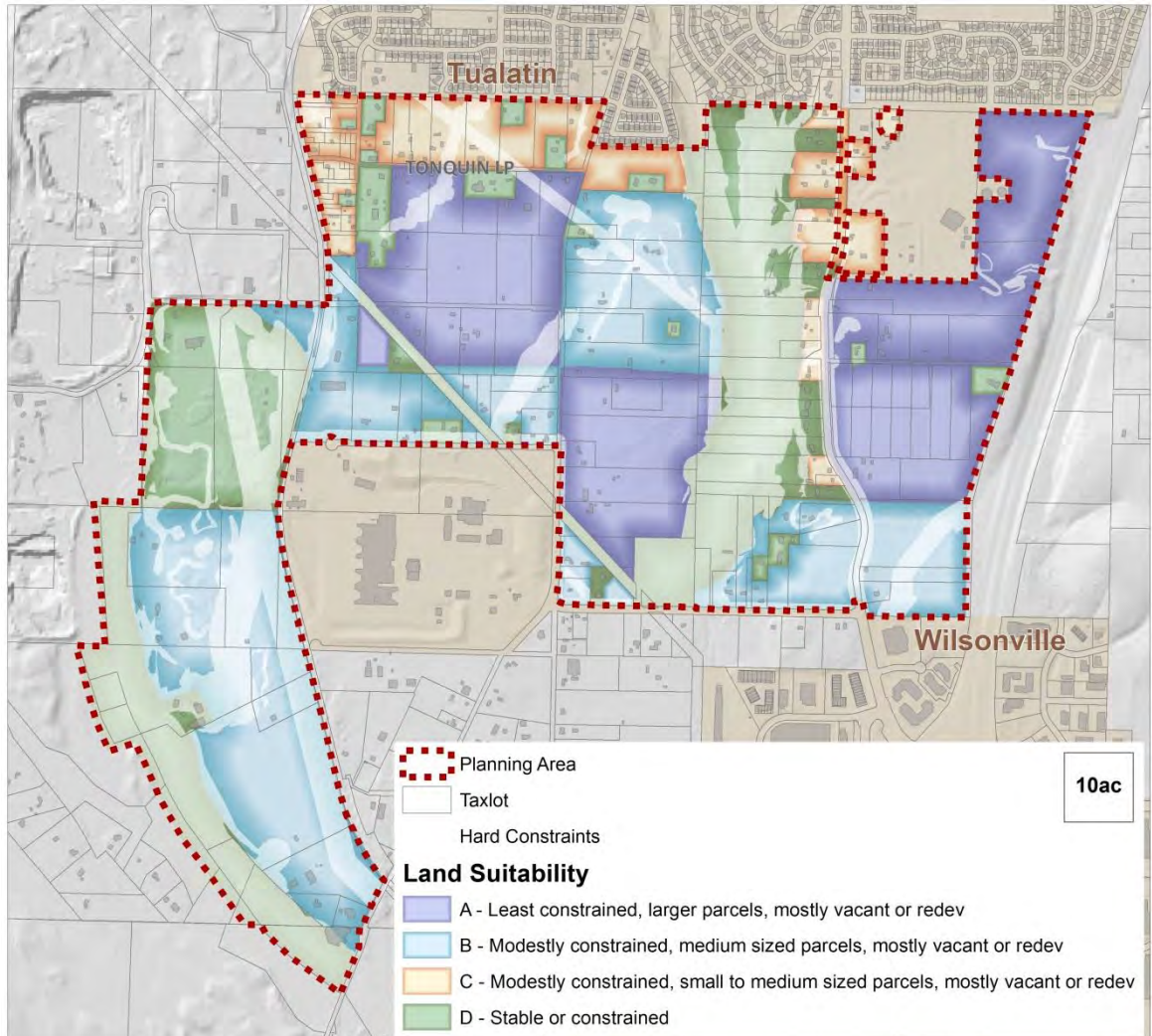
# Suitable Sites

- Suitability C:
  - Small to medium sized parcels
  - Modestly constrained
  - Mostly vacant, might have redevelopment opportunities
  - 64 buildable acres (does not exclude built road network, etc.)



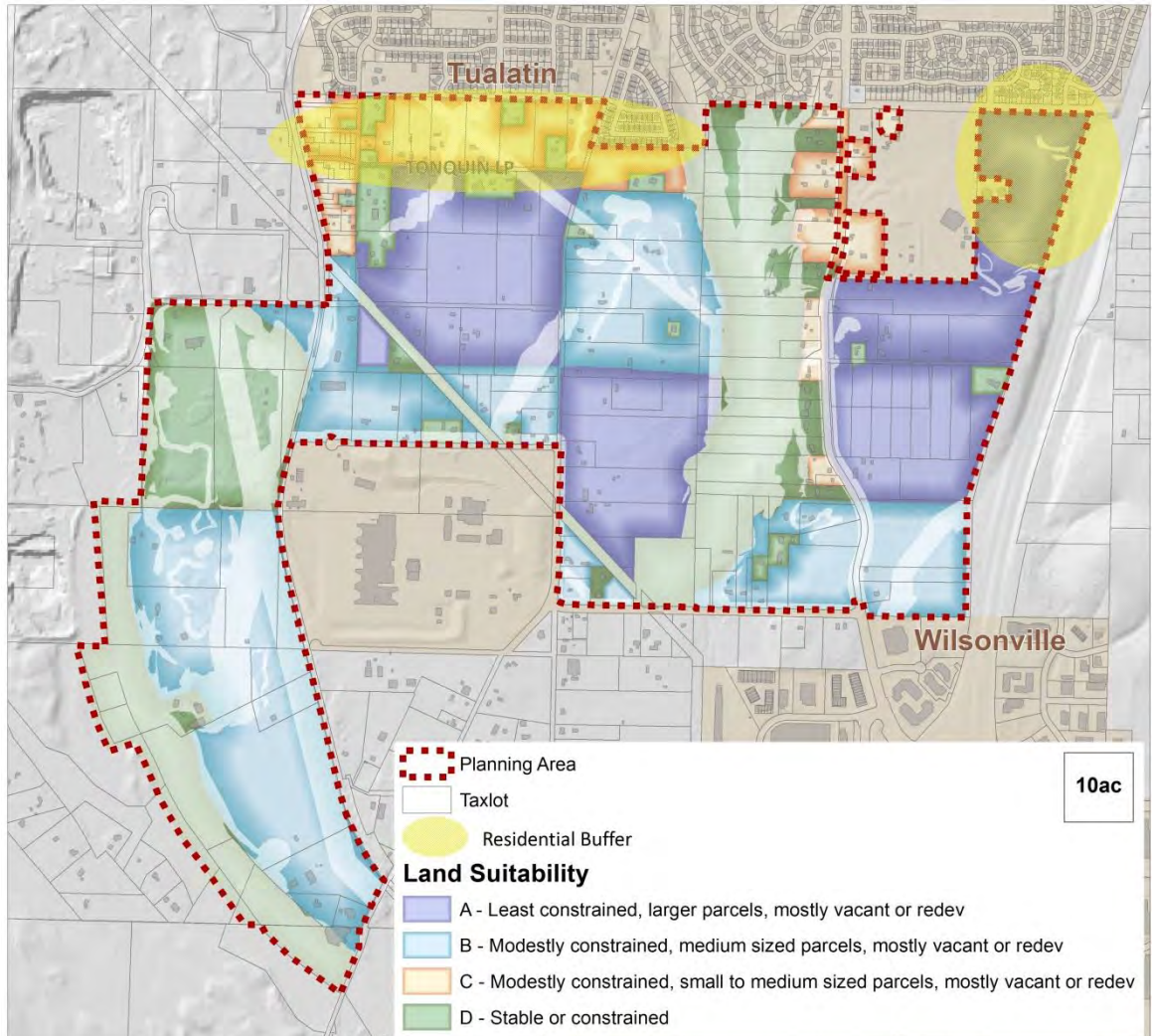
# Suitable Sites

- Suitability D:
  - Stable or mostly constrained
  - 82 “buildable” acres (does not exclude built road network, etc.)



# Suitable Sites – Residential Buffer

- Residential Buffer:
  - 63 buildable acres (does not exclude built road network, etc.)



# Buildable Land à la Envision\*

Site	Constrained Acres	Vacant Acres	Redev Acres
Suitability A	15	197	12
Suitability B	79	144	47
Suitability C	12	38	20
Suitability D	136	12	1

\*based on parcel file (excludes roadways and stable parcels)



## BASALT CREEK CONCEPT PLAN



# MARKET ANALYSIS DRAFT

PREPARED FOR



PREPARED BY



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## Executive Summary

Located between Tualatin’s residential neighborhoods to the north and Wilsonville’s employment center to the south, Basalt Creek is currently a relatively rural area that is positioned for significant change and urbanization due to its prime location within the growing Portland metropolitan region. Leland Consulting Group (LCG) has prepared this market analysis as one component of the Basalt Creek Concept Plan. Its purpose is to provide Basalt Creek stakeholders with information regarding the outlook for industrial, office, residential, and retail development in Basalt Creek and adjacent areas, and to inform the Concept Plan as this process moves forward. This executive summary condenses the key points of the analysis; details are explained in the body of the report. The key findings and recommendations of this market analysis are:

**Industrial and Office Market.** Basalt Creek is located near the center of one of the region’s largest clusters of employment land, which includes existing developed areas in the cities of Tualatin, Wilsonville, and Sherwood, as well as the planned future employment areas of Southwest Tualatin, Tonquin, and Coffee Creek. A market area—including the cities of Tualatin, Wilsonville, and Sherwood and some surrounding areas—was defined for this market analysis in order to provide a baseline to estimate future subregional employment and population growth.

The Metro regional government projects rapid employment growth of 2.3 percent annually for the market area through 2035, about 40 percent faster than the employment growth in the region (1.7 percent), indicating that ongoing business expansion and job creation is expected for these three cities in the southwestern metropolitan area.

Tualatin and Wilsonville have independently identified a series of industry clusters in which the two cities are already highly competitive, and in which they expect future significant business and job growth. These include advanced manufacturing, corporate and professional services, health care and related fields, and other specific industrial clusters such as food processing and light manufacturing. Leading organizations within these clusters include Lam Research, Legacy Meridian Park Medical Center, the Oregon Institute of Technology, Mentor Graphics, and Xerox Corporation. Businesses in these categories are well suited to locate at Basalt Creek.

Both Tualatin and Wilsonville have seen significant industrial and office development during the past three decades. Development peaked during the 1990s and has slowed following the recession; however, industrial development in particular is expected to resume and accelerate in coming years due to a desire to “onshore,” shorten supply chains, and take advantage of lower domestic costs in some industries. Between 1980 and 2014, the cities of Tualatin and Wilsonville saw on average over 400,000 square feet of industrial and office building development annually, and 56.6 acres of industrial and office land development annually. The amount of industrial development in both cities is significantly larger (more than seven times) than the amount of office development, and this general dynamic is expected to persist for the foreseeable future.



Building types vary significantly within the market area: some industrial facilities contain more than 200,000 square feet of building area, while many other small office and industrial flex spaces are less than 20,000 square feet in size. The floor area ratio (FAR) of most buildings, however, generally falls within the range of 0.2 to 0.4, which generally indicates one to three-story buildings with large areas for parking and/or freight movement. A small number of office buildings have higher FARs to about 1.0, which indicates more dense buildings and some structured parking.

Going forward, employment development in Basalt Creek will benefit from a number of competitive advantages. These include its direct access to I-5, superior to other employment areas in the region; access to I-205, Highway 217, arterial roads, and transit; a growing and educated workforce; and established and expanding industry clusters.

Based on past industrial and office development, and future growth projections, LCG absorption projects employment land at Basalt Creek to develop at a rate of eight to 10 net acres per year. However, the pace of build out will depend on economic conditions, the availability of employment land in other nearby areas, infrastructure such as roads and sewer, and other factors. Building and site sizes should vary widely, and FARs will remain consistent with those seen in the past.

**Housing Market.** Significant population growth is anticipated for Tualatin, Wilsonville, and the Portland metropolitan region over the next two decades. Metro's gamma population model shows that Tualatin and Wilsonville will add 1,170 and 3,649 households respectively between 2010 and 2035. Metro projects that the market area will add about 10,900 households during this time period, an increase of 39 percent. These population increases will result in demand for housing at Basalt Creek through 2035, assuming that the area can compete effectively with other potential residential locations.

Basalt Creek's location is also a positive: the study area is immediately south of several South Tualatin residential neighborhoods, which contain attractive parks, street trees, and schools. It should be noted, however, that Basalt Creek is located in the Sherwood School District rather than the Tigard-Tualatin School District, and therefore school-age children will head west rather than north for school. The market area's current demographics are encouraging for new housing development. When compared to the Portland metropolitan area, the market area has a higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs.

However, housing demand is expected to shift somewhat in the future because of decreasing housing sizes, an aging population, the popularity of walkable communities, and other factors. By combining current and future housing demand indicators, this market analysis provides three different housing development scenarios, all of which assume a mix of single-family detached, single-family attached, and multifamily housing. Housing diversity and flexibility (the opportunity to adjust the housing mix) is important to developers in any large area, since they need to be able to build for many different household types, and respond to changing market conditions. This report does not propose a specific number of households in the study area, since residents and decision makers have yet to define precisely which areas will be set aside for residential development.



**Retail/Commercial Market.** The likely amount and location of retail in Basalt Creek will need to be revisited later in the concept planning process, after more specific programs for employment and residential development are established. It is often said that “retail follows rooftops” and jobs, and without more confidence about the number of homes and jobs that will be in the area, it is difficult to project retail demand.

With that said, some generalizations can be made. Because there are several major regional and subregional retail nodes located to the north and south of the study area—at Bridgeport Village, central Tualatin, and in Wilsonville—any commercial space built in Basalt Creek is most likely to primarily serve local residents and employees. These larger centers are located at I-5 interchanges, whereas retail at Basalt Creek would be further from interchanges. Whereas regional retail is anchored by fashion, consumer electronics, entertainment, and furniture/household goods, neighborhood retail is typically anchored by grocery stores, pharmacies, and restaurants, supplemented by other local goods and services.

Retail is likely to be located at key intersections on either Boones Ferry or Grahams Ferry Roads, the major north-south arterials in Basalt Creek, and potentially along the planned East-West connector, which will also carry considerable traffic and afford high visibility to retailers.

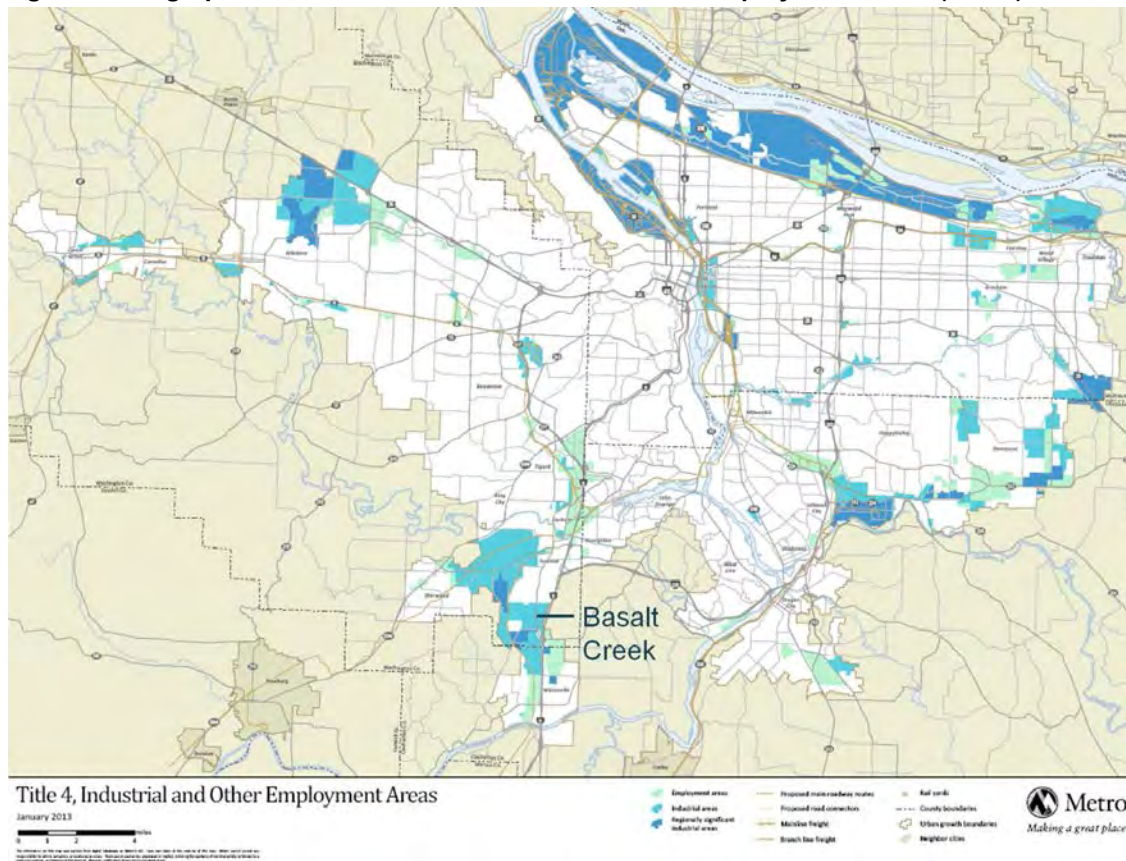
## Industrial and Office Market Analysis

### Regional Employment Context

As shown in Figure 1, Basalt Creek is contiguous with a number of other employment and industrial areas in the southwestern part of the Portland metropolitan region, including areas in the cities of Tualatin, Wilsonville, and Sherwood. Viewed together, these areas comprise one of the largest industrial and employment clusters in the region, comparable in size to the agglomeration in northern Hillsboro, though smaller than the employment lands near PDX Airport.

A major feature and competitive advantage of this “Southwestern Metro” employment cluster in general, and Basalt Creek in particular, is its immediate access to I-5, the West Coast’s most important transportation route. Via I-5, Basalt Creek is closely connected to downtown Portland, numerous Willamette Valley communities, and major metropolitan areas in Washington and California. I-205 and Highway 217 are also close by and easily accessible. These freeway connections are a major benefit for industrial—for whom distribution is an important site selection factor—and office-based businesses—which require access for their clients, suppliers, workforce, and collaborators.

**Figure 1. Geographic Context: Title 4 Industrial and Other Employment Areas (Metro)**



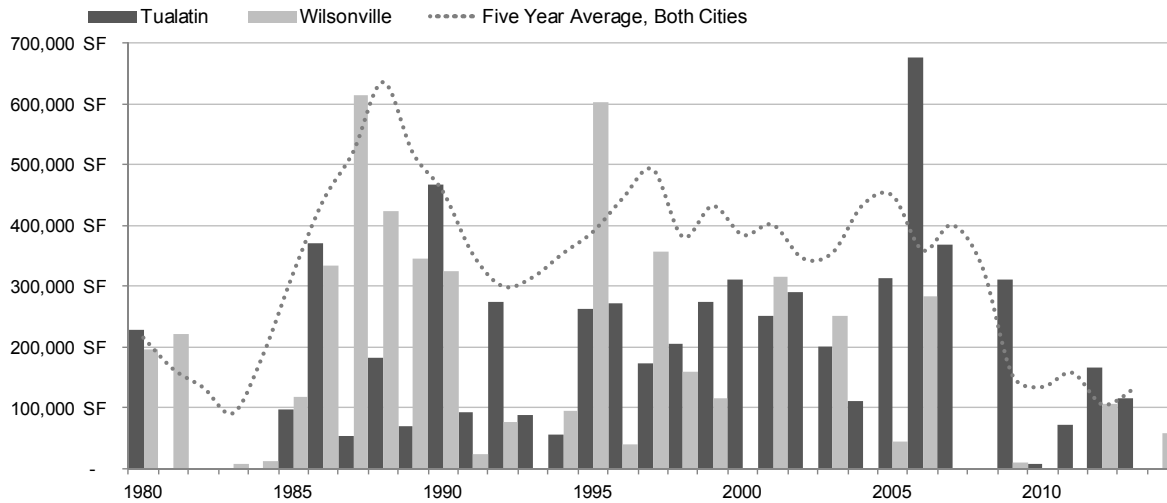
Source: Metro.

## Industrial and Office Development, 1980 to 2014

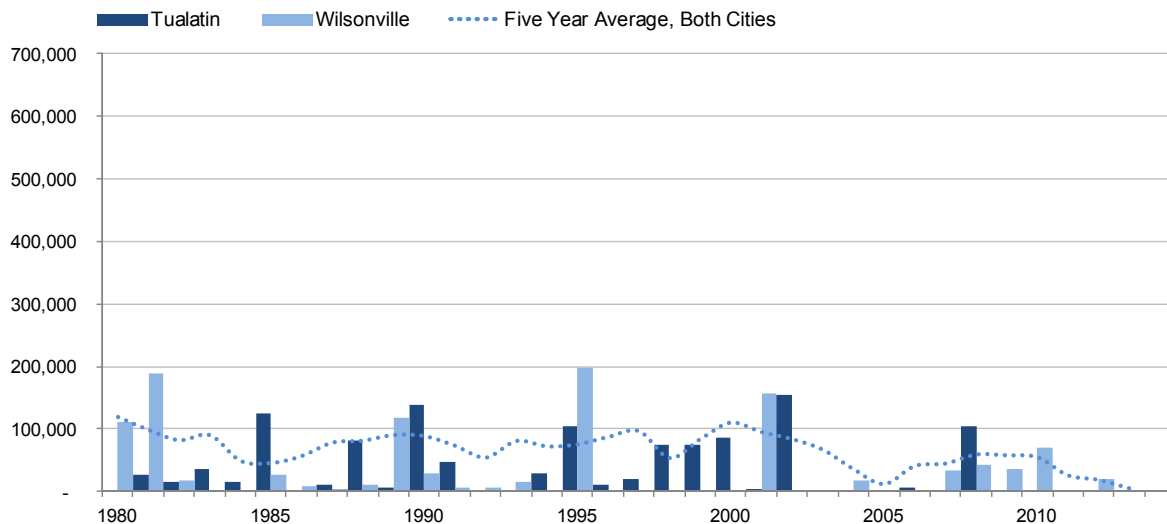
The figures below show the pace of industrial and office development in the cities of Tualatin and Wilsonville, beginning in 1980. The bars represent the building area (square feet) of development within each of the two cities in a given year, while the dashed line is a longer-term trend line, showing a five-year rolling average of built area for both cities combined. These historical development trends are one data set that shapes expectations for future employment development in both cities and Basalt Creek.

Since 1980, both cities have seen considerably more industrial development than office development. Over this 34-year period, an average of 340,000 square feet of industrial space and 67,000 square feet of office space has been built in the two cities combined. Thus, the amount of industrial development has been about five times as great as office development.

**Figure 2. Industrial Development, Tualatin and Wilsonville, 1980 to 2014**



**Figure 3. Office Development, Tualatin and Wilsonville, 1980 to 2014**



Source, both figures: CoStar, Leland Consulting Group.

The past decade has been a slow period for both industrial and office development. The recession slowed industrial development beginning in 2008, particularly in Wilsonville. The pace of recent industrial development has been about half of development during the 1990s and early 2000s—considered to be a time of robust activity for industrial developers. Office development has also slowed, although this trend began in 2003, before the recession. Office development in the past decade has also taken place at about half the pace of office development in the 1990s.

Clearly, both industrial and office development go through significant peaks and troughs. By focusing on the five-year rolling-average trend line, however, a somewhat more consistent pattern of development can be seen.

### Employment Building and Site Attributes

Table 1 below shows some key attributes of industrial and office development in Tualatin and Wilsonville.

- On average, 43.1 acres of industrial land and 13.6 acres of office land per year have been developed in both cities combined. Wilsonville has seen about 25 acres of employment land development per year, 16.3 acres of industrial land, and 8.3 acres of office land, which provides a good benchmark for total demand in Wilsonville, including Basalt Creek, going forward.
- Average industrial building sites (9.1 and 6.5 acres in Tualatin and Wilsonville respectively) tend to be larger than office building sites. Industrial buildings also tend to be larger than office buildings.
- Floor area ratios (FAR) are helpful to understanding the physical form of buildings on their sites. Most industrial buildings have a FAR of 0.2 to 0.4. Most office buildings have FARs between 0.3 and 0.5; however, there are some newer office buildings in Tualatin that feature structured parking and FARs up to 1.0. These FARs are consistent with Metro’s analysis and future projections.

**Table 1. Attributes of Industrial and Office Development in Tualatin and Wilsonville**

	Industrial			Office		
	Tualatin	Wilsonville	Total	Tualatin	Wilsonville	Total
Total Area (SF)	10,470,000	8,390,000	18,860,000	1,260,000	1,250,000	2,510,000
Av. Annual Development, 1980 - 2014						
Annual Building Development (SF)	186,960	150,980	337,940	34,632	32,985	67,617
Annual Land Development (Acres)	26.8	16.3	43.1	5.3	8.3	13.6
Building Averages, 2000 - 2014						
Average Building Size (SF)	60,224	80,000	-	31,807	35,000	-
Average Site Size (Acres)	9.1	6.5	-	4.2	2.0	-
Typical Floor Area Ratios (FAR)	0.2 to 0.4	0.2 to 0.4	-	0.4 to 1.0	0.3 to 0.5	-

Source: CoStar, Leland Consulting Group. SF: Square feet; FAR: Floor area ratio, the ratio of a building’s size in square feet (or gross building area) to the size of the piece of land upon which it is built.

Note that, while the averages shown here are useful for high-level planning purposes, both industrial and office buildings vary considerably in size, scale, and purpose. For example, the industrial building category includes flex buildings, which can often be divided into 5,000 square foot tenant spaces and feature significant amounts of office and showroom space. The industrial category also includes

distribution and warehouse buildings, which can be hundreds of thousands of square feet in size. Sample industrial and office buildings are pictured below in Figure 4 and Figure 5.

**Figure 4. Typical Industrial Buildings: Office/Distribution and Flex**

The first building pictured below is located in the Wilsonville Business Center west of I-5 and contains a mix of office space (left foreground) and warehouse/distribution space, where freight trucks are parked. The second building pictured below is a typical flex industrial building located in the Tualatin Industrial Center, which features high ceiling heights, freight loading, and small, flexible spaces that can serve as a combination of office, showroom, and/or industrial.



**Figure 5. Headquarters Office Building (Mentor Graphics)**

The Mentor Graphics building is located east of I-5 between the Elligsen Road and Wilsonville Road interchanges. Despite its size and height, the FAR of the building is similar to other buildings in the area because of its extensive campus, landscaped areas, and surface parking.



## Employment Outlook

Table 2 below shows Metro’s gamma employment forecast for the 2010 to 2035 time period. Key aspects of this forecast that are relevant to Basalt Creek are:

- Employment in the Basalt Creek market area is expected to grow at 2.3 percent annually between 2010 and 2035, about 40 percent faster than the three-county metro area rate (1.7 percent). Employment in all three cities within the market area is expected to grow relatively rapidly—at a higher annual rate than their populations, and a higher rate than regional population growth (see Table 6 for population growth projections).
- Tualatin and Wilsonville are expected add 12,267 and 10,346 jobs respectively over the 25-year Metro forecast period. In total, the market area is expected to add 36,786 jobs, an increase of 78 percent over the 47,005 jobs currently in the market area.
- This significant growth can be expected to drive consistent demand for employment land and buildings, including industrial, office, and commercial space, both in Basalt Creek and in other employment areas in the market area over the 2010 to 2035 time period.

**Table 2. Metro Employment Forecast, 2010 to 2035**

Jurisdiction	Employment			
	2010	2035	Change	CAGR
City of Tualatin	22,972	35,239	12,267	1.7%
City of Wilsonville	17,073	27,419	10,346	1.9%
City of Sherwood	4,216	9,252	5,036	3.2%
<b>Basalt Creek Market Area</b>	<b>47,005</b>	<b>83,791</b>	<b>36,786</b>	<b>2.3%</b>
Clackamas County	137,946	210,444	72,498	1.7%
Multnomah County	419,164	597,331	178,167	1.4%
Washington County	232,019	382,812	150,793	2.0%
<b>Three County Total</b>	<b>789,129</b>	<b>1,190,587</b>	<b>401,458</b>	<b>1.7%</b>

Source: MetroScope Gamma Forecasts, Published Feb 07, 2013, <http://www.oregonmetro.gov/regional-2035-forecast-distribution>.

**Figure 6. Projected Employment Growth (2010-2035)**

Source: Metro Gamma Forecast; Leland Consulting Group.

Table 3 shows Metro’s analysis of past and future employment growth in the Metropolitan Statistical Area (MSA), completed for the Draft 2014 Urban Growth Report. This data shows employment changes for a larger area—the seven-county MSA—than the three-county data above.

**Table 3. Employment: Past Growth and Future Projections, Seven-County MSA**

Time Period	Annual Growth Rate
1960 - 1980	3.74%
1980 - 2000	2.60%
2000 - 2020	1.17%
2020 - 2040	1.24%

*Source: Metro, Mid Range projection, Draft 2014 Urban Growth Report, Appendix 1a.*

A key take away from this data is that while employment in the region will continue to grow, it will grow more slowly during the build out period for Basalt Creek (likely largely during the 2020 to 2040 time period) than during the most rapid periods of employment growth (1960 to 2000). Based on this projection and conversations with area brokers, LCG projects that employment land absorption during Basalt Creek’s build out period should be faster than 2000 to 2014 (which includes the recession and its aftermath), but slower than during the rapid growth period of 1980 to 2000, and the 1990s in particular.

### Industrial Development Outlook

Private sector analysis of the demand for industrial space is consistent with Metro’s projections in that most observers expect a resurgence of demand as the economy recovers from the recession. Nationwide, industrial development is anticipated to accelerate due to increased long-term demand for industrial properties from firms whose businesses involve research and development, advanced manufacturing, general manufacturing, and warehousing. While private sector development forecasts are often focused on a short to medium-term (e.g., one to five years) time frame, rather than the long-term (20-year) time frame for this plan, the dynamics described below are significant and are supportive of industrial development at Basalt Creek. According to the Urban Land Institute’s 2014 *Emerging Trends in Real Estate*:

**Industrial.** Industrial real estate will get a boost in 2014 as the U.S. economy continues to improve and as retailers and manufacturers have made the shortening of the supply chain their top priority for the foreseeable future. Warehousing stands out as the strongest prospect in both investment and development in 2014—not only among industrial subsectors and niche markets, but across all types of subsectors and niche markets... Warehousing is a clear favorite when survey respondents recommended action...The strength of warehousing reflects the expanding influence of e-commerce distribution networks...

**The Return of Manufacturing.** “Manufacturing is coming back to the U.S., and it’s coming back faster than we thought. Back in 2011, no one thought we would see anything until 2015. Now, we are seeing dozens of companies moving back to the U.S. because the economics are shifting,” says a labor economist. “A key driver of this trend is that labor costs in China are rising, with wages increasing by about 15 to 20 percent a year and the steady appreciation of the Chinese yuan against the dollar. Manufacturers are seeing very long supply chains, and there are increasing concerns about intellectual property.”



Portland's industrial market is heating up in response to these trends. In late 2013 and early 2014, a number of new industrial projects have been announced totaling about 1.5 million square feet; one is the 800,000-square-foot PDX Logistics Center (18.3-acre building) to be built near PDX Airport. A speculative investment of this magnitude shows significant confidence in the Portland market. Eight additional major projects are reportedly in the planning pipeline. Industrial brokers at Kidder Matthews report an "industrial land shortage" and that the "greatest demand is seen in the I-5 corridor," a submarket that includes Wilsonville and Tualatin.

## Office Development Outlook

Office development nationally and regionally is not expected to bounce back with the same resiliency as industrial space. Office development in the short and long term faces several challenges. In the short term, the Portland region's employment levels have only just recovered this year to their 2008 pre-recession levels. While office vacancies are far lower than they were several years ago, there is not yet pressure for new development. As Table 4 shows, the region is expected to add just 288,000 square feet of office in 2014, or 0.6 percent of the total regional inventory of nearly 47 million square feet. Tualatin's current vacancy rate of 20.5 percent suggests a soft market, though that space will be occupied in the long term.

**Table 4. Current Office Market Summary, Portland Metro Region**

Market	Existing Inventory		Vacancy	YTD Net	Under Const. &	Class A
	# Blds	Total RBA	%	Absorption	Complete YTD	Rates
Portland CBD	374	26,309,983	10.0%	(36,157)	288,000	\$25.58
Lake Oswego/West Linn	142	1,144,080	8.5%	13,170	0	\$25.50
North Beaverton	151	3,246,113	6.7%	37,420	0	\$26.33
Sunset Corridor/Hillsboro	359	10,374,721	6.2%	111,442	0	\$21.53
Tigard	226	3,313,116	10.4%	35,859	0	\$24.27
Tualatin	68	1,263,266	20.5%	10,099	0	\$22.28
Wilsonville	59	1,252,446	7.1%	9,476	0	\$20.50
<b>Totals</b>	<b>1,379</b>	<b>46,903,725</b>		<b>181,309</b>	<b>288,000</b>	

Source: CoStar, Leland Consulting Group.

Of more concern for new office development at Basalt Creek are several long-term trends. Companies are becoming much more efficient than ever before with their office space, and thus, requiring less of it. Greater efficiencies are being achieved through smaller dedicated desk spaces; employees who work out of the office on the road, from home, or other locations; and less storage for fewer paper files. In addition, companies have gotten more reluctant to take on long-term obligations such as expanded leases. These trends are expected to continue, and in some cases accelerate in the future, and therefore, demand for office space as a function of total employment is likely to be less in the future.

In conclusion, in the near and potentially long term, office development is likely to be slower than industrial development throughout the Portland region. As shown in Figure 2 and 4, much more industrial development than office development has taken place in Tualatin and Wilsonville in recent decades, and LCG expects this trend to continue at Basalt Creek.

## Tualatin and Wilsonville’s Economic Positioning and Goals

The Cities of Tualatin and Wilsonville are proactively pursuing economic development in order to provide high paying jobs for their residents, strengthen their tax bases, offer quality public services, and enable general prosperity in the communities. The two Cities’ main economic development plans relevant to Basalt Creek are shown below.

**Table 5. Relevant Economic Development Plans**

Tualatin	Wilsonville
<ul style="list-style-type: none"> <li>Economic Development Strategic Plan (2014)</li> <li>Industry Cluster Analysis (2014)</li> <li>Southwest Tualatin Concept Plan (2010)</li> </ul>	<ul style="list-style-type: none"> <li>Economic Opportunities Analysis (EOA) Update (Final Draft, 2012)</li> <li>Coffee Creek Master Plan (2007)</li> </ul>

### Target Industry Clusters

Tualatin and Wilsonville have both identified a series of targeted industry clusters. According to Tualatin’s Industry Cluster Analysis, a cluster is an agglomeration of similar and related businesses and industries that are mutually supportive, regionally competitive, attract capital investment, encourage entrepreneurship, and create jobs. For example, 57 percent of Tualatin’s jobs fall within its five key industry clusters, which also provide wages that are on average 70 percent (\$35,000) higher than those in all other industries.

Clusters reflect the community’s strengths and competitive advantages, suggest which sectors of the economy are most likely to generate jobs in the future, and provide policy makers with guidance about the types of land, buildings, infrastructure improvements, and other actions needed to grow jobs in the future. (Wilsonville’s EOA uses the term industry “sectors.” The terms cluster and sector are used interchangeably here.)

Both Tualatin and Wilsonville have determined that they excel in the following three industry clusters. The economic figures included below are drawn from the Cities’ economic development plans.

- Advanced Manufacturing and Related.** This cluster is a significant driver of both cities’ economies. It is Tualatin’s largest cluster, accounting for 22 percent of jobs in the city. It accounts for a significant portion of Wilsonville’s economy; computer and electronic product manufacturing was Wilsonville’s largest industry sector as of 2012, and includes several of the city’s largest employers such as Xerox, TE Connectivity, and Rockwell Collins.

The Oregon Institute of Technology (OIT), now educating students in the engineering, technology, management, and health sciences fields from its Wilsonville campus, is an important anchor institution for the southwest metro economy. The Cities are looking for ways to capitalize on OIT’s presence and to strengthen partnerships between the school and private business.

Growth in this cluster will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to this cluster’s ongoing success.

- **Corporate and Professional Services.** This cluster accounts for 12 percent of Tualatin's jobs, and was the second largest industry sector in Wilsonville as of 2012. Major employers include Portland General Electric and Express Employment Professionals in Tualatin, and Mentor Graphics in Wilsonville. Growth in this cluster will result in ongoing demand for office land and buildings in Basalt Creek and other areas. A variety of locational factors tend to be important to corporate and professional service firms, including skilled workforce, available land or office space, transportation connections, and nearby restaurants and commercial services.
- **Health Care and Medical Related.** This cluster is important in both cities: it is the third largest in Tualatin and fourth largest in Wilsonville. Tualatin's health care cluster is anchored by Legacy Meridian Park Medical Center, among Tualatin's largest employers, and also includes associated industries such as clinics, laboratories, physician offices, and assisted living centers. Wilsonville's largest health care employers as of completion of the EOA were Infinity Rehab and Avamere, both ambulatory (outpatient) service providers. Wages in this cluster are well above average.

Because of the diversity of health care businesses, firms in this cluster can operate in health care-specific zones (such as Tualatin's Medical Commercial zone), or general employment zones (such as Wilsonville's Planned Development Industrial zone). In some cases, health care firms that serve smaller, more localized populations can locate in retail/commercial zones.

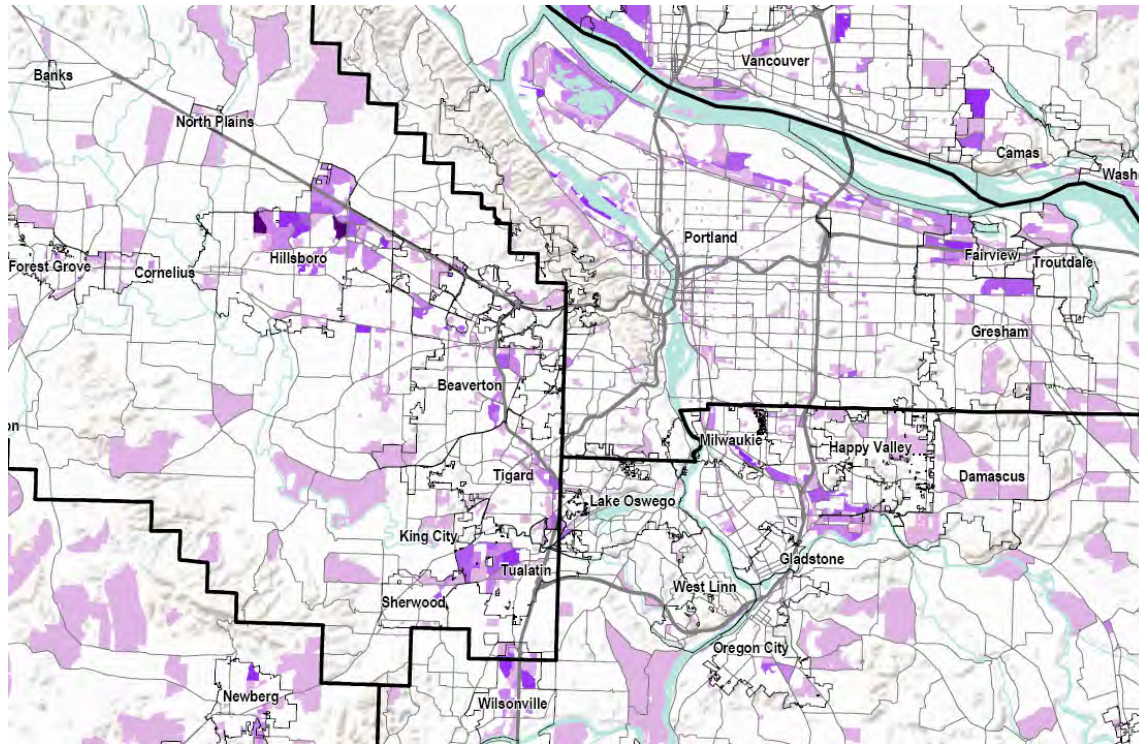
In addition to the three clusters described above that have been identified as targets for both cities, Tualatin and Wilsonville have also identified these industry clusters:

- **Other Industrial Clusters.** Both Cities have identified additional industrial target clusters that could locate in Basalt Creek. Tualatin has identified two other industry clusters likely to generate demand for industrial land and buildings: Food Processing and Distribution, and Wood, Paper, Printing, and Related. Wilsonville identified a number of other industrial business types: Light Manufacturing and Warehouse/Showroom Operations; Specialty Contractors and Construction Firms; Sustainable Product Manufacturing and Distribution; Miscellaneous Manufacturing, and Wholesale Trade.

Growth in these clusters will result in ongoing demand for industrial land and buildings in Basalt Creek and other areas. Freeway access, freight mobility, and access to a skilled workforce will be important to these clusters' ongoing success.

- **Other Professional and Commercial Services.** Wilsonville's EOA also identifies Creative Services (such as transportation logistics, legal services, management consulting, and accounting) as a target cluster. Similar to Corporate and Professional Services, growth in this cluster should result in demand for office land and buildings in Basalt Creek and other areas.
- **Other Clusters.** Some clusters may or may not be a good fit for inclusion at Basalt Creek, depending on the Concept Plan. An example is Tourism and Recreation, which was identified by Wilsonville.

**Figure 7. Number of Manufacturing Employees**



Source: Institute for Metropolitan Studies, Portland State University.

**Figure 8. Lam Research Facility, Tualatin**

The semiconductor equipment manufacturer is the city's largest private employer, and a leader in the city's advanced manufacturing cluster.



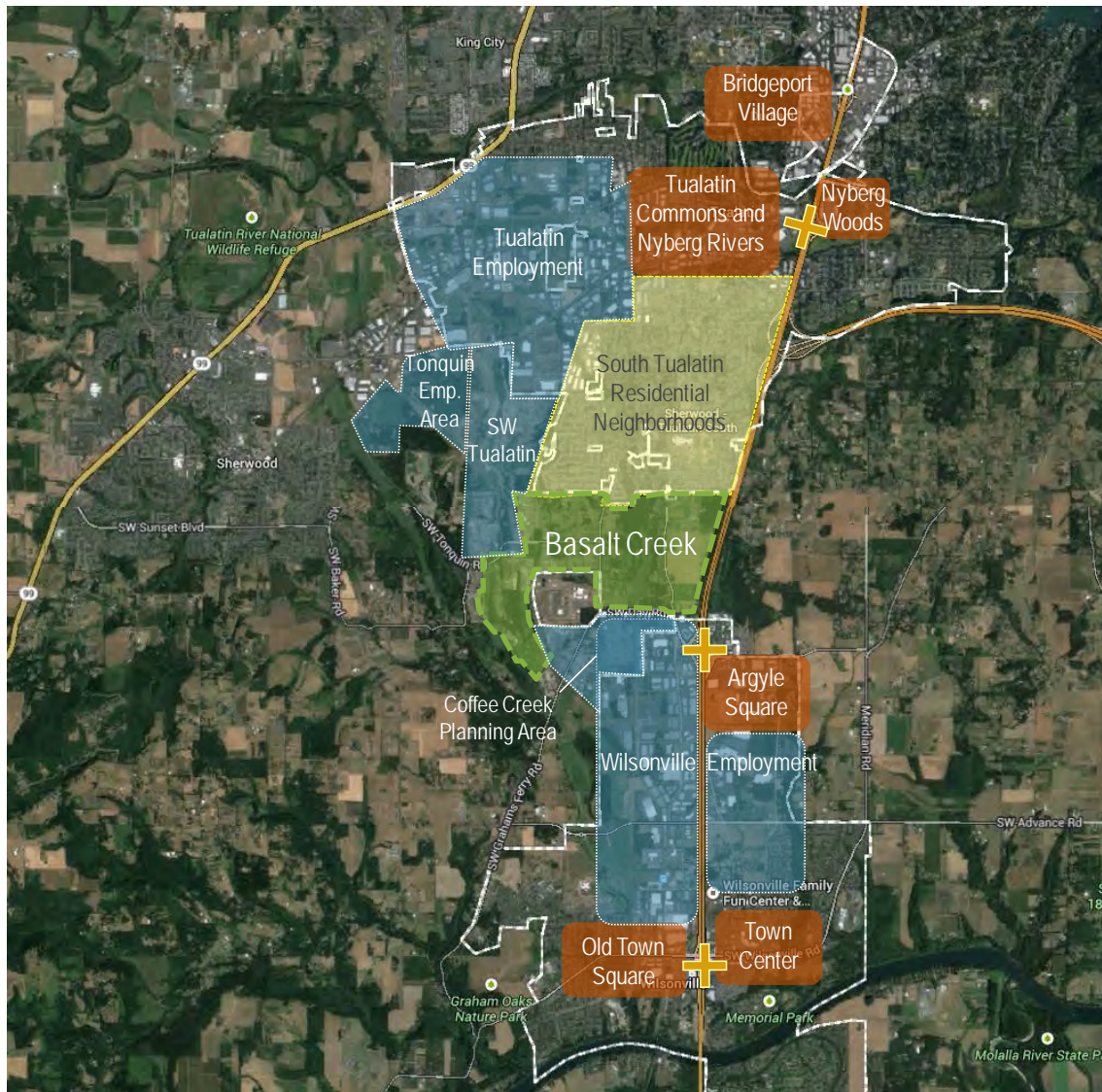
Photo credit: Tualatin Chamber.

## Subregional Context

Figure 9 below shows the Basalt Creek study area and the key employment, commercial, and residential areas nearby, along with three I-5 freeway interchanges. This map shows that Basalt Creek is located at the heart of a large, contiguous series of employment areas, which will provide Tualatin and Wilsonville with the land area to build on and expand their advanced manufacturing, corporate services, and other key industry clusters.

Transportation is fundamentally important to these employment areas, and transportation connectivity has the potential to make a whole that is greater than the sum of its parts by enabling firms to trade goods and services easily. I-5 is the most important single transportation corridor. The 124<sup>th</sup> Avenue Extension and East-West Connector will also be very important in knitting the employment areas together. This large agglomeration of employment areas creates momentum, and will also be a source of competition for Basalt Creek.

**Figure 9. Basalt Creek Geographic Context**



Source: Leland Consulting Group. **Note: Employment, commercial, and residential area boundaries are approximate.**

**Established Employment Areas.** The Tualatin and Wilsonville employment areas are developed areas that have capacity to continue to add businesses and jobs. To the west of I-5, Wilsonville's employment area tends to contain more industrial, manufacturing, distribution, and flex businesses and buildings; to the east of I-5, a larger share of businesses are office-based professional service firms, such as Mentor Graphics and Xerox Corporation. However, the zoning is the same (Planned Development Industrial) throughout the entire Wilsonville employment area.

The City of Wilsonville is currently at work developing a Light Industrial Form Based Code (FBC) intended to streamline approval of light industrial and office employment, while at the same time ensuring high-quality urban design. The FBC will apply to the Coffee Creek industrial area, but could also apply to Basalt Creek Creek and other areas.

**Planned Employment Areas.** Southwest Tualatin, Tonquin, and Coffee Creek are planned employment areas located within the UGB that have yet to be served by infrastructure or see new private development. Annexation and development in the areas are property owner initiated.

- The Southwest Tualatin Concept Plan Area is approximately 614 gross acres and is planned for a mix of light industrial, high tech, and campus employment users. Most of the area remains an active quarry; the City expects this use to continue for an indeterminate period.
- The Coffee Creek industrial area is a 225-gross-acre area that was master planned by the City of Wilsonville in 2007. It is adjacent to Basalt Creek on the south side of Day Road. In addition to industrial development throughout the area, the City's vision includes the development of an office corridor on Day Road (the dividing line between the Coffee Creek and Basalt Creek areas). No development or annexation has taken place in Coffee Creek since the adoption of the master plan; land assemblage challenges, and lack of City services and financing plan to build those services are the primary obstacles to development here.
- The Tonquin employment area is a 300-gross-acre area located in the City of Sherwood. It is planned for light industrial development with a small amount of ancillary retail/commercial services.

## Employment Strengths and Challenges

Basalt Creek's primary strengths/competitive advantages and challenges vis-à-vis the industrial and office development are as follows:

### Strengths and Competitive Advantages

- Tualatin and Wilsonville's established and successful industry clusters in advanced manufacturing, professional services, and a variety of other industrial and office-based employment categories. Large contiguous cluster of existing and planned employment areas.
- Long-term growth projections for employment and population in the southwest Portland metro area.
- Excellent access to I-5, as well as I-205 and Highway 217. Additional transportation strengths include existing and planned arterial roads, and local and regional transit service provided by TriMet, WES Commuter Rail, and SMART.
- Educated workforce.

- Market success of recent industrial, office, and retail developments.

### Challenges

- Vision and regulation: This Concept Plan, and subsequent Comprehensive Plan and zoning amendments, need to be in place prior to development.
- Planning, financing, and construction of new infrastructure.
- Lot sizes and property aggregation. There is a mix of large and small lots throughout Basalt Creek. The time and cost required to secure properties from multiple parties in order to aggregate developable industrial or office properties of adequate size can be a significant deterrent to developers.
- Natural features including wetlands and slopes. Basalt Creek and its surrounding slopes and wetland areas run north-south through the study area and divide the area into east and west sections.
- The market for new office development continues to be slow. However, the study area will not be ready for private development for several years, which may allow enough time for this market to recover.

## Absorption and Build Out

Employment development—including industrial and office land development—is expected to take place in Basalt Creek at a pace of about eight to 10 buildable acres annually, assuming zoning is in place and urban infrastructure (roads, sanitary sewer, and water) are available. The pace of development will depend on economic conditions at the time of development, the location of transportation and other improvements, and the number of other nearby employment areas also available for development, among other factors. This represents a 30 to 40 percent capture rate of Wilsonville’s annual average of 25 acres of employment land development (see Table 1) and is reasonable given that employment development can also be expected to take place at Coffee Creek and “infill” within existing urbanized parts of the city. The projection is also consistent with the estimates provided by developers interviewed for this project. If development at Coffee Creek and on infill sites is highly constrained, then development at Basalt Creek could accelerate.

Buildings in Basalt Creek are expected to range widely in terms of site and building sizes. However, the FARs for most buildings should fall between 0.2 and 0.4 FARs and be surface parked. Higher density buildings with some structured parking may be feasible at special locations, or in later years after the market has matured.



## Housing Market Analysis

### Demographic Context

Table 6 summarizes Metro’s 2010 to 2035 gamma projections of household growth for the cities of Tualatin and Wilsonville, and other geographies relevant to Basalt Creek. Some key take aways are:

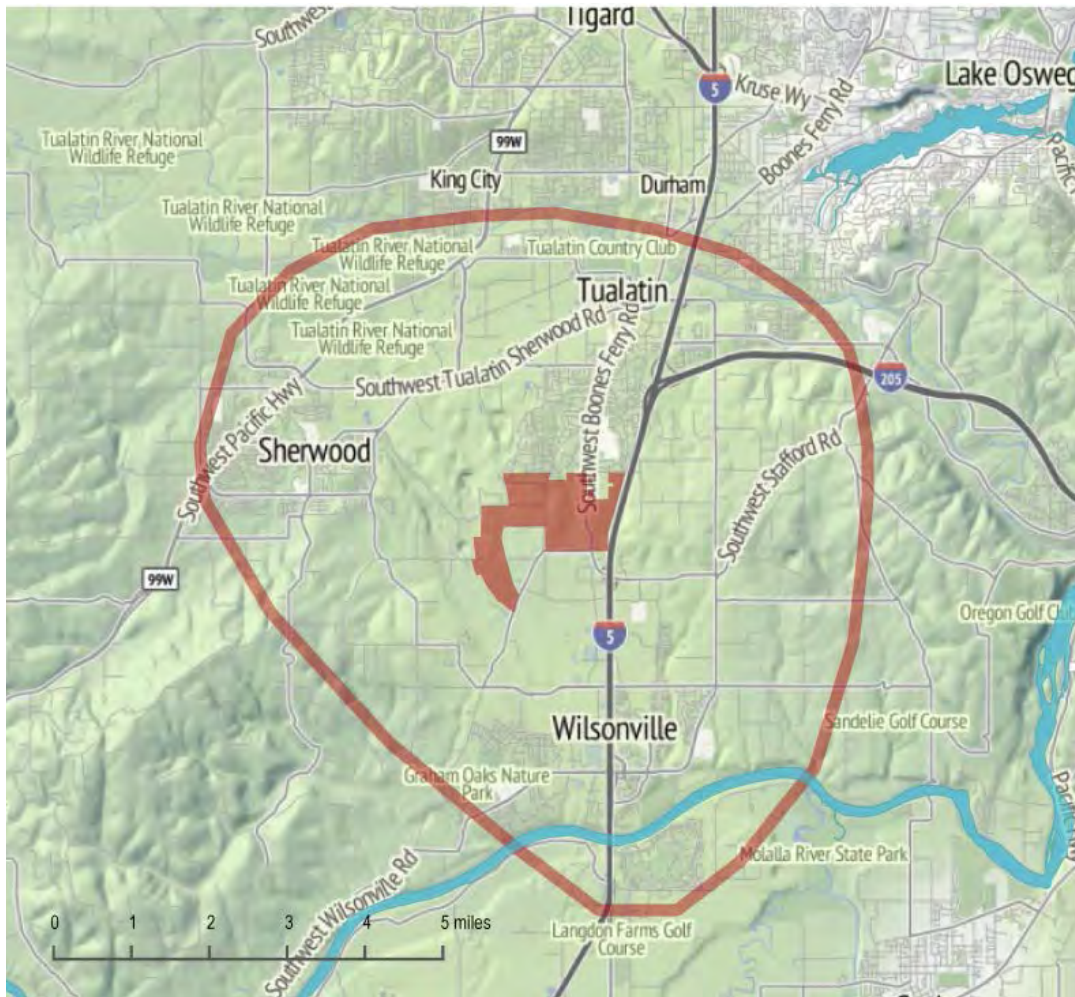
- The number of households in the three-county Metro area is expected to grow relatively quickly, at a 1.5 percent Compound Annual Growth Rate (CAGR), between 2010 and 2035, and thus add more than 11,000 households per year.
- Metro forecasts that Tualatin and Wilsonville will grow throughout the forecast period, with the number of households in Wilsonville projected to grow at a faster rate (1.5 percent) than Tualatin (0.4 percent). According to Metro, in 2010, Tualatin’s average household size (2.61 persons) was slightly larger than Wilsonville’s average (2.48 persons). Metro projects this difference will essentially remain through 2035, though Tualatin’s household size will decrease somewhat (to 2.55 persons).
- The Basalt Creek market area (see Figure 10) was also defined in order to evaluate demographic trends that cross city and county boundaries. The market area includes the cities of Tualatin, Wilsonville, and Sherwood, as well as some surrounding areas. This market area is the area from which new residents of Basalt Creek are most likely to come, based on Leland Consulting Group’s market research.
- The consistent projected household growth in the region, market area, and subject cities suggest that there will be demand for new homes within the market area generally and Basalt Creek specifically through 2035, assuming that Basalt Creek is effectively planned and made available for development.

**Table 6. Demographic Forecasts for Market Area and and Metro Region**

Jurisdiction	Households			
	2010	2035	Change	CAGR
City of Tualatin	10,000	11,170	1,170	0.4%
City of Wilsonville	7,859	11,508	3,649	1.5%
City of Sherwood	6,316	7,269	953	0.6%
<b>Basalt Creek Market Area</b>	<b>27,825</b>	<b>38,704</b>	<b>10,879</b>	<b>1.3%</b>
Clackamas County	146,324	208,437	62,113	1.4%
Multnomah County	304,649	442,546	137,897	1.5%
Washington County	202,647	289,592	86,945	1.4%
<b>Three County Total</b>	<b>653,620</b>	<b>940,575</b>	<b>286,955</b>	<b>1.5%</b>

Source: MetroScope Gamma Forecasts, Published Feb 07, 2013, <http://www.oregonmetro.gov/regional-2035-forecast-distribution>.

Figure 10. Basalt Creek Market Area



Source: Fregonese Associates, Leland Consulting Group.

Table 7 below and Table 8 on the following page provide additional perspective on the demographics of the subject cities when compared to the Portland MSA.

The City of Tualatin, when compared to the Portland MSA, has a higher percentage of family households (two or more related people), larger average households, higher household incomes, and higher capita incomes. A larger share of residents have college degrees (43 percent) and are employed in white collar jobs (67.4 percent) compared to the region.

Wilsonville, when compared to the Portland MSA, has a higher percentage of family households and smaller households. This is likely because the city has a higher share of young households (in the 25 to 34 age category) and seniors, Baby Boomers, and retirees (65+ category). Each of these age groups has different housing preferences. Like Tualatin, Wilsonville has a larger share of residents with college degrees (43 percent) and white collar jobs (67.4 percent) than the region. (The data below shows information about *jobs held by residents of the given geographical areas*, not the jobs within those areas.)

**Table 7. Demographic Summary**

Key: Low High 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	Basalt Creek Market Area	Portland MSA
Comparison to Portland MSA:	More families Larger HHs Higher HH Incomes Higher PC Incomes More college degrees More white collar emp.	Fewer families Smaller HHs More Gen Y More Boomers More low-income HHs More college degrees More white collar emp.	More families Larger HHs Higher HH incomes Higher PC incomes More college degrees More white collar emp.	
Population	26,520	21,235	73,786	2,296,285
Number of Households	10,170	8,638	28,121	896,982
Family Households (2010 Census)	68%	59%	68%	64%
Household Size (Average)	2.60	2.32	2.57	2.52
Household by Size (2010 Census)				
1 and 2 person households	57%	68%	58%	61%
3 and 4 person households	33%	25%	32%	29%
5 + person households	10%	7%	10%	10%
Median Household Income	\$64,324	\$59,812	\$70,256	\$57,441
Per Capita Income	\$32,672	\$31,995	\$33,336	\$30,135
Population By Age				
0 to 24	35%	31%	34%	32%
25 - 34	14%	16%	13%	15%
35 - 44	15%	14%	15%	14%
45 to 54	14%	13%	14%	14%
55 to 64	13%	11%	12%	13%
65 +	9%	15%	11%	13%
Median Age	35.7	37.0	36.6	37.5

Source: ESRI Business Analyst, Leland Consulting Group.

The Basalt Creek market area is similar to Tualatin in many ways. When compared to the Portland MSA, the market area has a higher percentage of family households, larger households, higher household and per capita incomes, more residents with college degrees, and more residents who work in white collar jobs.

**Table 8. Demographic Summary (Continued)**

Key: Low High 2014 data except where noted.

Demographic Attribute	City of Tualatin	City of Wilsonville	SW Metro Market Area	Portland MSA
<b>Education and Employment</b>				
Less than High School	9.7%	8.0%	8.0%	9.4%
High School or Equivalent	16.5%	20.4%	18.2%	22.1%
Associate's or some college	31.5%	32.3%	32.5%	34.2%
Bachelor's or Advanced Degree	42.3%	39.3%	41.3%	34.3%
<b>Occupation</b>				
"White Collar"	67.5%	70.1%	69.3%	63.1%
"Blue Collar"	11.3%	14.1%	13.5%	19.5%
<b>Housing</b>				
Median Home Value	\$331,190	\$349,927	\$337,289	\$275,516
<b>Housing Tenure</b>				
Owner Occupied Housing Units	51.9%	43.4%	55.0%	56.2%
Renter Occupied Housing Units	42.6%	50.5%	39.8%	37.7%

Source: ESRI, Leland Consulting Group. 2013 data except where noted.

In general, these demographics are favorable to housing development in Basalt Creek; they also reflect the types of residents most likely to locate in Basalt Creek.

Finally, the South Tualatin residential neighborhoods immediately to the north of Basalt Creek reflect many of the demographic attributes typical of Tualatin's population. The neighborhoods—including roads, street trees, parks, and schools—create a positive environment for residential development within Basalt Creek, particularly along the northern edge. It should be noted, however, that Basalt Creek is located in the Sherwood School District, not the Tigard-Tualatin School District, and therefore, school age children in Basalt Creek would need to travel west to Sherwood, rather than north, for classes.

## Regional and National Demographic Trends Affecting Housing

It is important to note that over the coming decades the metropolitan region’s demographics are expected to become more like Wilsonville’s demographics today, and somewhat less like Tualatin. Table 9 compares the age group split in the cities of Tualatin and Wilsonville today with Washington County’s demographics in 2010 and projected demographics in 2035. The biggest change is that older households are expected to comprise a larger share of the total population, with a smaller share in the 35 to 64 age category. Household sizes are also expected to decrease. Washington County is used here as a proxy for the age groups and household types most likely to live in the Basalt Creek market area in coming years, and because Metro and the State of Oregon both produce long-range estimates for the County.

**Table 9. Demographic Comparison of Subject Cities in 2013 and Washington County 2035 Projection**

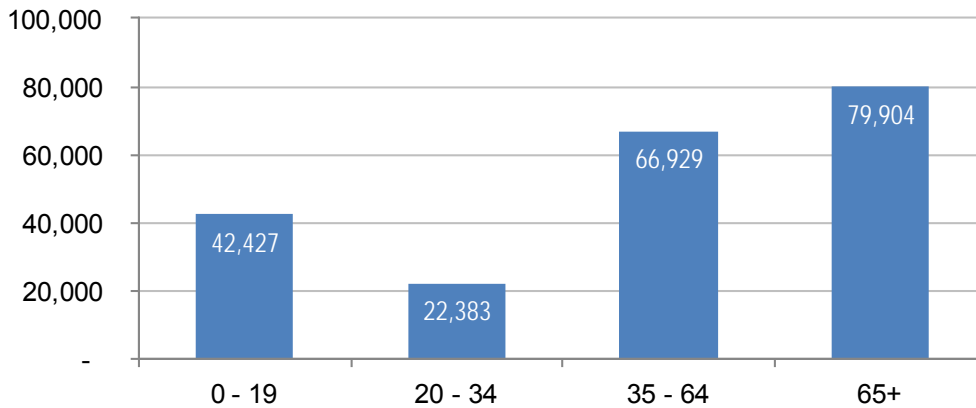
Age Group	City of Tualatin 2013	Washington County 2010	City of Wilsonville 2013	Washington County 2035
0 - 19	35%	34%	31%	30%
20 - 34	15%	15%	17%	14%
35 - 64	42%	40%	38%	38%
65+	8%	10%	15%	19%
Total	100%	100%	100%	100%

Source: Office of Economic Analysis, State of Oregon; ESRI Business Analyst, Leland Consulting Group.

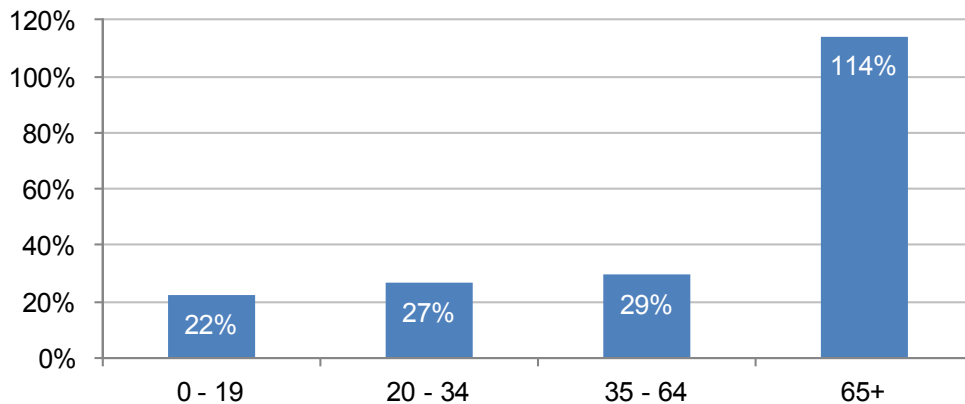
The figures below further emphasize the demographic trend that is referred to as the aging of the Baby Boomers or the “silver tsunami,” which is expected to have a significant impact on housing demand. As Baby Boomers, those born between 1946 and 1964, retire and begin to consider selling their homes and relocating, they are expected to have a major impact on housing markets. Many will be selling medium and large size single-family homes and looking for smaller homes with lower maintenance and upkeep, and the freedom to “lock and leave” home to visit family and friends, and vacation elsewhere. Many will also keep their homes.

Figure 11 highlights several points. The population of all age categories is growing between 2015 and 2035—the period during which Basalt Creek is expected to build out—and there should be demand for housing that meets the needs of all of these groups. The 65+ population will grow the most. The effect of this growth will be even more pronounced since these are relatively small households and thus more housing units are needed to serve the same population. The population of the 35 to 64 age category, and their children, under 19, will also grow significantly. This group is likely to re-occupy many of the single-family homes now in the market area, and new homes in Basalt Creek. The size of the 20 to 34 age group is not expected to increase much. This is because Generation Y / Millennials, now in their 20s and early 30s, is a large age cohort, and the age cohort behind them is expected to be smaller. Generation Y is driving the apartment boom now taking place in urban and mixed-use areas throughout the metro region.

**Figure 11. Net Population Change by Age Group, 2015 to 2035, Washington County**



**Figure 12. Percent Population Increase by Age Group, 2015 to 2035, Washington County, Oregon**



Source: Office of Economic Analysis, State of Oregon; Leland Consulting Group.

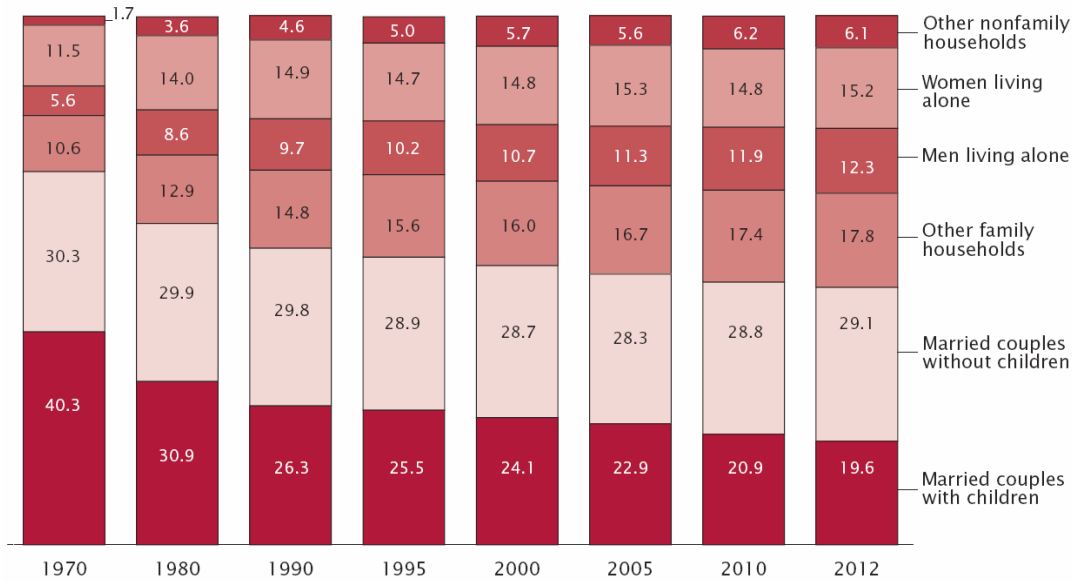
Figure 12 shows that, as a percentage of the current population, the growth in the 65+ age group will be far greater than growth in the other age groups. While the numerical increase (shown in Figure 11) is only slightly greater than the increase in other population groups, the percent increase is far greater. Therefore, our perception of this change, and its impact—on housing, health care, and other parts of society—is likely to be greater.

Some urban planners have identified four demographic groups that have seen the highest rate of growth in recent decades and are expected to continue growing in the coming decades. These are the “four S groups:”

- Seniors
- Singles
- Single-parent households
- Starter households

The growth in these groups nationwide is shown in Figure 13 below, along with the significant decrease in married couples with children as a share of all households. This strongly suggests that future housing demand, and the housing mix in residential neighborhoods, will continue to shift from single-family homes to a broader mix of housing types.

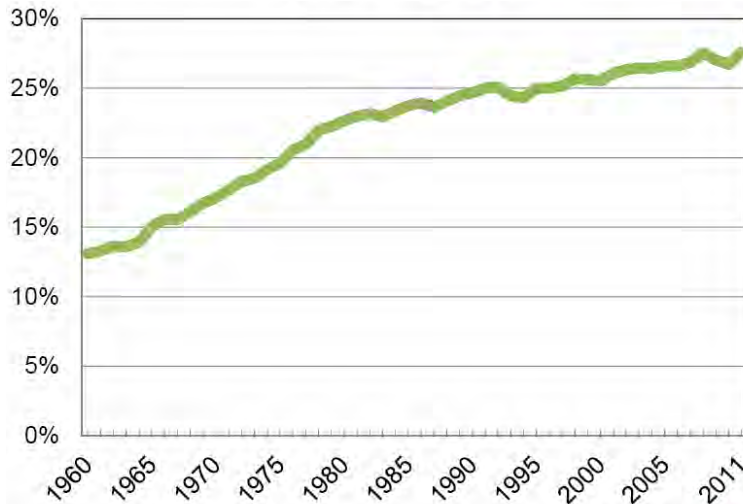
**Figure 13. Households by Type, United States**



Source: US Census Bureau.

Figure 14 shows the growth in the percent of households nationwide with one person. The share of one-person households doubled between 1960 and 2011. Two-person households are also making up a larger share of the national and regional population. Sixty percent of households in the market area, and 68 percent of Wilsonville’s households, are one or two-person households. These households are the core drivers of demand for housing types such as small lot single-family homes, attached single-family homes (townhouses and duplexes), and multifamily housing (apartments, condominiums, and senior housing).

**Figure 14. Percent of Households with One Person, United States**



Source: US Census Bureau.

## Community Preferences

Of course, real estate and home buying is all about “location, location, location”—in other words, the community, city, or neighborhood in which a given home is located. Since 2004, the National Association of Realtors (NAR) has conducted a nationwide poll to better understand what Americans are looking for in their future homes and communities. This is the most robust, widely-applicable survey instrument available to suggest how housing demand is evolving. One important focus of this poll is testing Americans’ interest in the features of what are variously called “walkable communities,” “complete communities,” or “traditional neighborhood development.” Such communities tend to be pedestrian friendly—parks, schools, shops and businesses are located within walking distance of homes—and contain a range of different housing types where households of different ages and sizes can live (single-family homes, townhouses, and multifamily housing).

Figure 15 shows how people responded when asked, “Do you think there is too much, too little, or the right amount of each of the following in the area close to where you live?” Respondents most often felt that there are too few features such as safe routes for walking and biking, public transit, a diversity of housing, and shops and restaurants within an easy walk.

**Figure 15. Which Neighborhood Amenities are in Demand?**

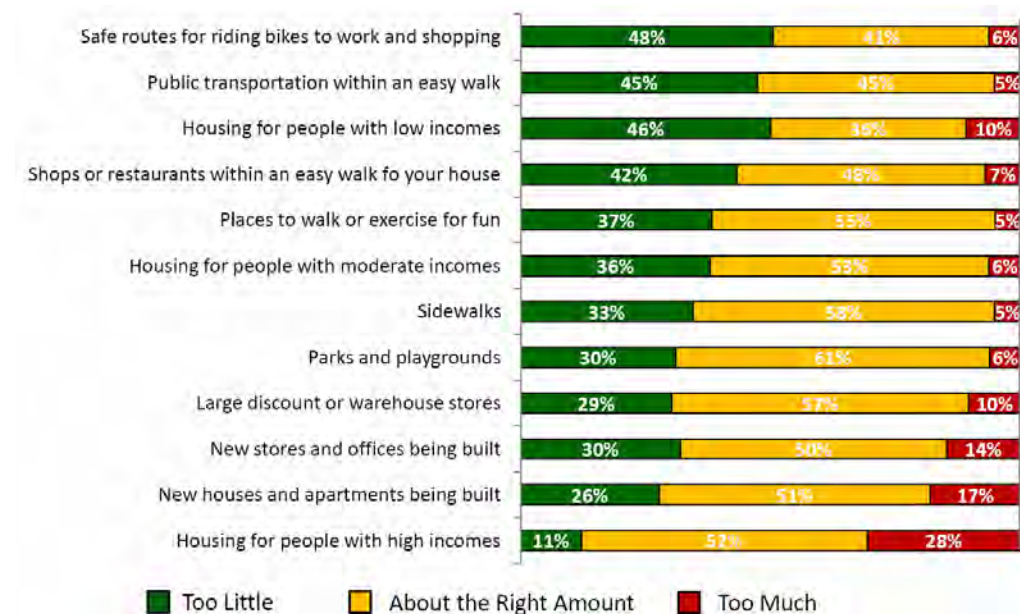


Figure 16 shows how people responded when asked to select the house where they would prefer to live when provided with two community options. By nearly a two-to-one margin, Americans prefer a neighborhood where they can walk to stores and businesses. The preference is significantly more pronounced among those who recently purchased a home or are currently in the market.

**Figure 16. Community Preferences**



Source, both figures: National Community Preference Survey, National Association of Realtors, October 2013.



## Housing Types

Table 10 and the images that follow show categories of housing that are used to estimate demand in the Basalt Creek area. While there are many different categories and subcategories of housing, these five housing types are representative of the vast majority of housing being built now and in the recent past in the Portland metropolitan region, and in the market area in particular. The net density (number of housing units that can be accommodated on buildable land) of various housing types will vary depending on conditions such as slope, wetlands and environmental constraints, property ownership, streetscape features such as sidewalks and parking strips, and other factors; the net densities shown below are based on the average density of numerous built and planned projects.

**Table 10. Housing Types**

Housing Type	Lot Size			Net Density
	Low	Average	High	
Large Lot Single Family	6,000	<b>7,500</b>	8,500	6.0
Medium Lot Single Family	4,000	<b>5,000</b>	6,000	7.5
Small Lot Single Family	2,500	<b>3,500</b>	4,000	11.0
Attached Single Family: Townhomes and Duplexes	1,000	<b>2,250</b>	2,500	16.0
Multifamily: Apts, Condos, and Senior Housing	NA	<b>NA</b>	NA	25.0

Large Lot Single-Family



Medium Lot Single-Family



Small Lot Single-Family



Single-Family Attached



Multifamily



## Recent Housing Development

Table 11 shows the recent residential permitting trends in the cities of Tualatin and Wilsonville, and in Villebois, a master planned community in Wilsonville. Villebois is shown here because: it is the largest master planned community (482 acres) that has been developed recently in the Southwest Metro area; it is a defined area that has been planned to include a range of housing, parks, and commercial services; and due to its success in the marketplace in recent years, housing absorption has been relatively rapid (adjusting for the recession), and many houses sell for a premium when compared to the competition in other areas. Naturally, recent housing built in these areas provides one benchmark from which to estimate future demand.

As Table 11 shows, the housing types that have been permitted and built in these areas correlate closely to the types of people and households who live there; the housing types also likely reflect zoning and other regulatory and market forces. Recent housing permitted in Tualatin is composed largely of large and medium lot single-family housing. No small lot single-family housing (lots smaller than 4,000 square feet) or attached single-family housing has been permitted since 2004. About 20 percent of the recently permitted housing in Tualatin is multifamily—market rate and affordable apartments, condominiums, and senior housing. Very little existing multifamily housing is located in the neighborhoods immediately north of Basalt Creek; most of Tualatin’s multifamily housing is clustered further north near the Tualatin Town Center, Tualatin-Sherwood Road, and Bridgeport Village. The majority were built prior to 2000, although the 367-unit Eddyline at Bridgeport, completed in 2013, is a notable exception. Historically, this multifamily share is relatively typical; multifamily has comprised about 20 percent of total housing in many communities during the past five decades.

Wilsonville’s housing is more diverse and features a significantly higher percentage of small lot single-family and multifamily housing, and much less large and medium lot single-family housing. Again, this is likely to be due to market, demographic, and regulatory reasons. The broad housing mix reflects the presence and growth of the four S groups in Wilsonville: seniors, singles, single-parent households, and starter households. The large multifamily share (66 percent) is partially due to the large number of new 20 and 30-something households recently formed, which will slow in coming years. Villebois’ housing mix is similar to that in Wilsonville overall; however, during the time period surveyed (2000 to 2012) a larger percentage of small lot single-family homes, townhouses and duplexes were built in Villebois, along with a smaller percentage of multifamily housing. Villebois’ developers and NAR surveys show that most American households, Baby Boomers included, prefer single-family homes over multifamily homes, but that they are quite open to smaller lot and homes sizes, especially when the surrounding neighborhood is attractive and walkable.

**Table 11. Residential Development in Tualatin and Wilsonville by Housing Type**

Housing Type	Tualatin	Wilsonville	Villebois
	Recent Permits	Recent Permits	Recent Permits
Large Lot Single Family	44%	9%	8%
Medium Lot Single Family	36%	10%	8%
Small Lot Single Family	0%	12%	35%
Attached Single Family	0%	2%	6%
Multifamily	20%	66%	43%
<b>Total</b>	100%	100%	100%

Sources: HUD; City of Wilsonville, *New Home Trends*, Leland Consulting Group. Due to data availability, Table 11 shows housing built in Tualatin between 2004 and 2014; and permits issued in Wilsonville between 2000 and 2012.

## Basalt Creek Housing Scenarios

Table 12 shows the residential development scenarios developed by Leland Consulting Group for Basalt Creek. Rather than a single recommendation, these scenarios represent a continuum of options for the area. Typically, there is no single residential land use program that is “correct” in the marketplace, especially because of the significant growth in all households projected to occur in the market area. Rather, public policy, community aspirations, the vision of developers and land owners, and the type of multidisciplinary planning now taking place in this Concept Plan can help to shape the type of community expected, and the proper housing markets to pursue. An average net density (across all housing products) for each scenario is shown below. The density of each product type is shown in Table 10 on page 29.

Scenario 1 can be thought of as reflecting the “status quo”—a housing mix similar to what has been built in Tualatin between 2004 and 2014. This is used as a status quo benchmark since Tualatin’s residential neighborhoods are in closest proximity to Basalt Creek. Eighty percent of the homes in this scenario are either large lot or medium lot single-family homes. While these homes are likely to appeal to families with children and many smaller households, this scenario may have an undersupply of small lot and attached single-family homes which will appeal to the growth in 65+ households and one and two-person households. There is less housing diversity in this scenario than other scenarios, and the predominance of large lot homes is likely to make it more challenging to create the type of walkable neighborhoods that 60 percent of those polled by the National Association of Realtors prefer.

Scenario 2 largely relies on the housing preferences expressed in the 2013 Realtors Survey. The one exception is that the 20 percent multifamily share was maintained from Scenario 1 to reflect historical multifamily construction patterns in Tualatin and Wilsonville. This scenario reflects the demand for small lot single-family, attached single-family, and multifamily expressed in the survey, and also greater share of these products in Wilsonville. Nonetheless, 75 percent of the housing remains single-family detached housing. The average density is just under 10 dwelling units per net buildable acre. This scenario contains a broader diversity of housing products and will be more suitable for a walkable community than Scenario 1.

**Table 12. Residential Development Scenarios**

	Scenario 1	Scenario 2	Scenario 3
<b>Percent of Units by Type</b>			
Large Lot Single Family	44%	10%	5%
Medium Lot Single Family	36%	41%	23%
Small Lot Single Family	0%	24%	43%
Attached Single Family	0%	5%	9%
Multifamily	20%	20%	20%
Total	100%	100%	100%
<b>Net Density</b>	7.7	9.6	10.9

Source: Leland Consulting Group.

Scenario 3 is similar to Scenario 2 but attempts to make several adjustments for changing housing demand. First, more demand is shifted to towards small lot single-family homes in response to stated preferences for such homes when they are located in a neighborhood where businesses and other amenities are located in close walking distance. Second, slightly higher demand for attached housing (duplexes, clustered cottage homes, and townhouses) is assumed because of the significant increase in 65+ aged households, and because of preferences for smaller homes in walkable communities. The multifamily share remains the same. Seventy percent of all housing remains single-family detached housing.

## Retail Market Analysis

Retail, commercial services, and commercial office space (e.g., medical and dental offices) may be feasible in Basalt Creek. However, the market for these goods and services cannot be determined without first establishing one or more land use alternatives for employment, housing, and other uses in Basalt Creek. Nearby residents and employees generate the main demand for retail and since the amount and location of these are unknown at this time, the amount and location of retail cannot be determined.

Despite these significant unknowns, the following observations can be made about retail in Basalt Creek.

### Market

In addition to new residents and employees that may locate in Basalt Creek, the residents of the Tualatin neighborhoods located immediately to the north are an important source of support for retail. Residents spend more of their retail dollars locally than employees or passersby, and therefore are generally a more important source of demand for retail goods and services. Approximately 4,000 households live in the area between Norwood Road and Tualatin-Sherwood Road. These households already have other places to shop, particularly on and near Tualatin-Sherwood Road. However, based on existing traffic counts and interviews with residents and developers, it is clear that some of these residents are already accustomed to driving south through Basalt Creek to access I-5 or other destinations.

Retailers also look at traffic counts as an important demand indicator, since retail relies on passby traffic for support. Boones Ferry Road carries average daily traffic (ADT) of about 15,000 today according to ESRI Business Analyst, which is high enough to suggest that it will be a good retail location in the future. Traffic counts on Grahams Ferry Road are below 6,000 ADT, and therefore it is likely to be a less desirable retail location. Traffic counts such as these likely reflect trips being made by residents and employees of the Southwest metro area and beyond. The 124<sup>th</sup> Avenue Extension, now being built to the western edge of the study area, and the planned East-West Connector Road that will run across the study area are also important transportation arterials along which retail will seek to locate. A prime location for retail may be at the intersection of Boones Ferry Road and the East-West Connector Road.

These demand factors should be taken into account along with housing and employment projections for the study area in order to estimate the total amount of supportable retail.

## Types of Retail Centers

Retail in Basalt Creek is likely to be built in the formats shown in Table 13: corner store, convenience centers, and/or neighborhood centers. These types of retail generally serve residents and employees within a one-half mile to three-mile radius, and are usually located on arterial roads such as Boones Ferry and Grahams Ferry Roads.

Neighborhood centers are typically anchored by a grocery store and usually include five to 15 smaller in-line tenants which may include pharmacy, food/restaurant, bakery, beauty, technology, financial services, and other tenants. Convenience centers and corner stores are smaller retail nodes that serve their immediate surroundings; they may be anchored by a convenience store (e.g., 7 Eleven) or simply include four to 10 tenants similar to those listed above.

Larger retail formats, such as community centers, regional shopping malls, and lifestyle centers, typically require immediate access to and visibility from a major freeway interchange or other major transportation infrastructure (e.g., high-capacity transit in downtown Portland); a large existing population base; and minimal immediate competition. There is already a series of established major retail clusters located around the freeway interchanges to the north and south. These clusters serve subregional and/or regional shoppers who sometimes travel a half hour or more to shop there. Each has very good access to and visibility from I-5. It is highly unlikely that retail at Basalt Creek could effectively compete against these centers for a share of the regional retail market, because the competition is well established and its freeway access is generally superior.

**Table 13. Types of Retail Centers**

Retail Center Type	Gross Retail Area	Dwellings Necessary To Support	Average Trade Area	Anchor Tenants
Corner Store	1,500 - 3,000	1,000	Neighborhood	Corner store
Convenience Center	10,000 - 30,000	2,000	1 mile radius	Specialty food or pharmacy
Neighborhood Center	60,000 - 90,000	6 - 8,000	2 mile radius	Supermarket and pharmacy
Community Center	100,000 - 400,000	20,000+	5 mile radius	Junior department store

Sources: *Urban Land Institute, Leland Consulting Group.*

## Timing

“Retail follows rooftops.” In other words, in most cases, residential (and employment) development come first, and then retail follows, simply because retail needs local shoppers in order to survive. Any retail space in Basalt Creek is likely to be built following significant residential and employment development. Details will depend on the concept plan prepared for the study area.



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## MEMORANDUM

**DATE:** June 17, 2016

**TO:** Basalt Creek Concept Plan Project Team

**FROM:** Ray Delahanty, AICP

**SUBJECT:** Basalt Creek Concept Plan Transportation Analysis and Solutions P#14044-000-005

---

This memorandum presents the forecast approach, future transportation analysis, and recommended solutions for the Basalt Creek Concept Plan.

### FORECASTING

This section documents the assumptions and methodology used for developing traffic forecasts for the Basalt Creek Concept Plan. The process outlined below was used to forecast traffic volumes for the operational analysis of the land use and transportation network alternatives. Key assumptions of the methodology, including regional land use, hour of analysis, and baseline infrastructure, are outlined in the sections that follow. The key assumptions are:

- Use current Gamma model regional land use (household and employment) assumptions
- Use PM peak hour without the “peak-spreading” for the analysis hour
- Assume all Basalt Creek area projects from the Basalt Creek Transportation Refinement Plan (BCTRP) except for the East-West I-5 Overcrossing

#### ***Regional Land Use***

The Concept Plan analyzed alternatives regarding future development – and therefore trip generation -- in the Basalt Creek/West Railroad area. The land uses assumed for the Concept Plan are key inputs in traffic forecasting and future traffic operations.

Assumptions about regional land use (and intensity of trip generation) beyond the Concept Plan area in 2035 also have a strong impact on forecasting and future operations. While the Basalt Creek Transportation Refinement Plan (BCTRP) used Metro’s 2008 RTP (Regional Transportation Plan) model for forecasting, the Concept Plan analysis uses the Gamma model land use, which was also used for the recently adopted 2014 Regional Transportation Plan (RTP).

#### ***Analysis Hour***

Metro’s PM peak hour model relies on an underlying demand matrix (trip table) that determines the origins and destinations for all trips within the model. The Gamma model allows for two different potential PM peak hour demand matrices:

- A standard (non-peak-spread) matrix, which reflects the full PM peak hour demand.



- A “Peak-Spread” matrix, which assumes that some potential peak hour trips will move to other hours (e.g., traveling in the 4-5 PM hour rather than the 5-6 PM hour), meaning there is less demand on the system overall.

For this project, the standard (non-peak-spread) matrix was used for forecasting. This approach is also consistent with the Washington County 2035 TSP.

### **Transportation Projects**

Forecasting results depend partly on the projects that are assumed for the Basalt Creek area, as well those assumed for adjacent areas. Since this is a 2035 forecast, Washington County’s latest 2035 Gamma model was used. This model’s transportation network includes projects considered likely to be in place by 2035.

For the Basalt Creek area, we reviewed both the BCTRP and the newly released project list for the Metro 2014 RTP, which lists projects reasonably likely to be funded by 2040. Table 1, below, shows potential capacity-related projects from the RTP list and indicates which projects we are assuming to be in place by 2035.

**Table 1: 2014 RTP Projects Assumed for 2035 Forecasting**

Project Number	Project and Description	RTP Time Period	In Place by 2035?
10736	124 <sup>th</sup> Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – new two-lane roadway extension	2014-2017	Yes
11243	Day Rd. (Grahams Ferry Rd. to Boones Ferry Rd.) – widen to five lanes	2018-2024	Yes
10853	Kinsman Rd. Extension (Ridder Rd. to Day St.) – new three-lane roadway extension	2018-2024	Yes
10588	Grahams Ferry Rd. (Helenius St. to county line) – widen to three lanes	2025-2032	Yes
10590	Tonquin Rd. (Grahams Ferry Rd. to Oregon St.) – widen to three lanes	2025-2032	Yes
11438	Tonquin Rd./Grahams Ferry Rd. – add traffic signal	2025-2032	Yes
11469	124 <sup>th</sup> Ave. Extension (Tualatin-Sherwood Rd. to Grahams Ferry Rd.) – widen to five lanes	2025-2032	Yes
11470	East-West Arterial (Grahams Ferry Rd. to Boones Ferry Rd.) – new five-lane roadway extension	2025-2032	Yes
11487	Boones Ferry Rd. (East-West Arterial to Day Rd.) – widen to five lanes	2025-2032	Yes
11488	Boones Ferry Rd./Commerce Circle/95 <sup>th</sup> Ave. – Intersection improvement and access control	2025-2032	Yes
11489	Boones Ferry Rd./I-5 Southbound – add second southbound right turn lane on ramp	2025-2032	Yes
11490	Day Rd. Overcrossing (Boones Ferry Rd. to Ellgsen Rd.) – new four-lane roadway extension/overcrossing of I-5	2033-2040	Yes
11436	East-West Arterial Overcrossing (Boones Ferry Rd. to east side of I-5) – new four-lane roadway extension/overcrossing of I-5	2033-2040	No

Source: <http://www.oregonmetro.gov/regional-transportation-plan>

Two projects, the Day Road Overcrossing and the East-West Overcrossing, are anticipated to be in place in the 2033-2040 time frame. For our 2035 forecasting effort, all projects in Table 1 are assumed to be in place by 2035 **except for the East-West Arterial Overcrossing**. This project was assumed to be the last one needed for the BCTRP (after the Day Road Overcrossing), and a portion of the project is outside the Urban Growth Boundary.





Therefore we assume the project is not considered likely to be part of the network by 2035, and is not included in the 2035 network assumptions.

### ***Additional Note on Kinsman Road Extension***

Subsequent to much of the Concept Plan's baseline forecasting, the City of Wilsonville removed project 10853, the Kinsman Road Extension between Ridder Road and Day Road, from its Transportation System Plan (TSP)'s list of likely funded projects. The City will instead develop Garden Acres Road between Ridder Road and Day Road as a north-south collector roadway in the area. These changes are reflected in the forecasting for the recommended network.

## **FINDINGS**

This section presents results of motor vehicle operations analysis for the Concept Plan's preferred land use alternative and associated trip generation characteristics. Two roadway network options were analyzed and compared to a previous network alternative.

### **Roadway Network**

The planned roadway network includes the facilities shown in Table 1, except for the East-West Arterial Overcrossing and the Kinsman Road Extension. Previous Concept Plan network alternatives included a new collector roadway aligned to the north of the Kinsman Road Extension. This collector roadway connected from SW Day Road to SW Tonquin Loop Road, parallel to SW Grahams Ferry Road. This roadway was referred to as North Kinsman Extension, and was intended to create a full collector connection from SW Ridder Road to SW Tonquin Loop Road. Subsequently, SW Kinsman Road between SW Ridder Road and SW Day Road was dropped from the Wilsonville TSP's list of likely funded projects, making the North Kinsman Extension a less useful collector-level connection.

The roadway network also includes local streets needed to provide access and circulation to existing development and developable parcels. The planned network is shown in the figures on the following page. Two options were analyzed to address the North Kinsman extension and compare to the previous analysis, which assumed SW Kinsman Road as a collector from SW Ridder Road to SW Tonquin Loop Road (see Figure 1):

- **North Kinsman as Local Connection.** This option retains North Kinsman as a facility connecting SW Tonquin Loop Road to SW Day Road, but classifies it as a local street. This means the SW Kinsman Road/SW Day Road intersection is stop-controlled, and not signalized as it was under the BCTRP. This option is shown in Figure 2.
- **North Kinsman without Grade-Separated Crossing of Basalt Creek Parkway.** This option retains parts of the North Kinsman facility in order to provide access and circulation, but does not provide a complete north-south connection with grade separation across the Basalt Creek Parkway. This option is shown in Figure 3.

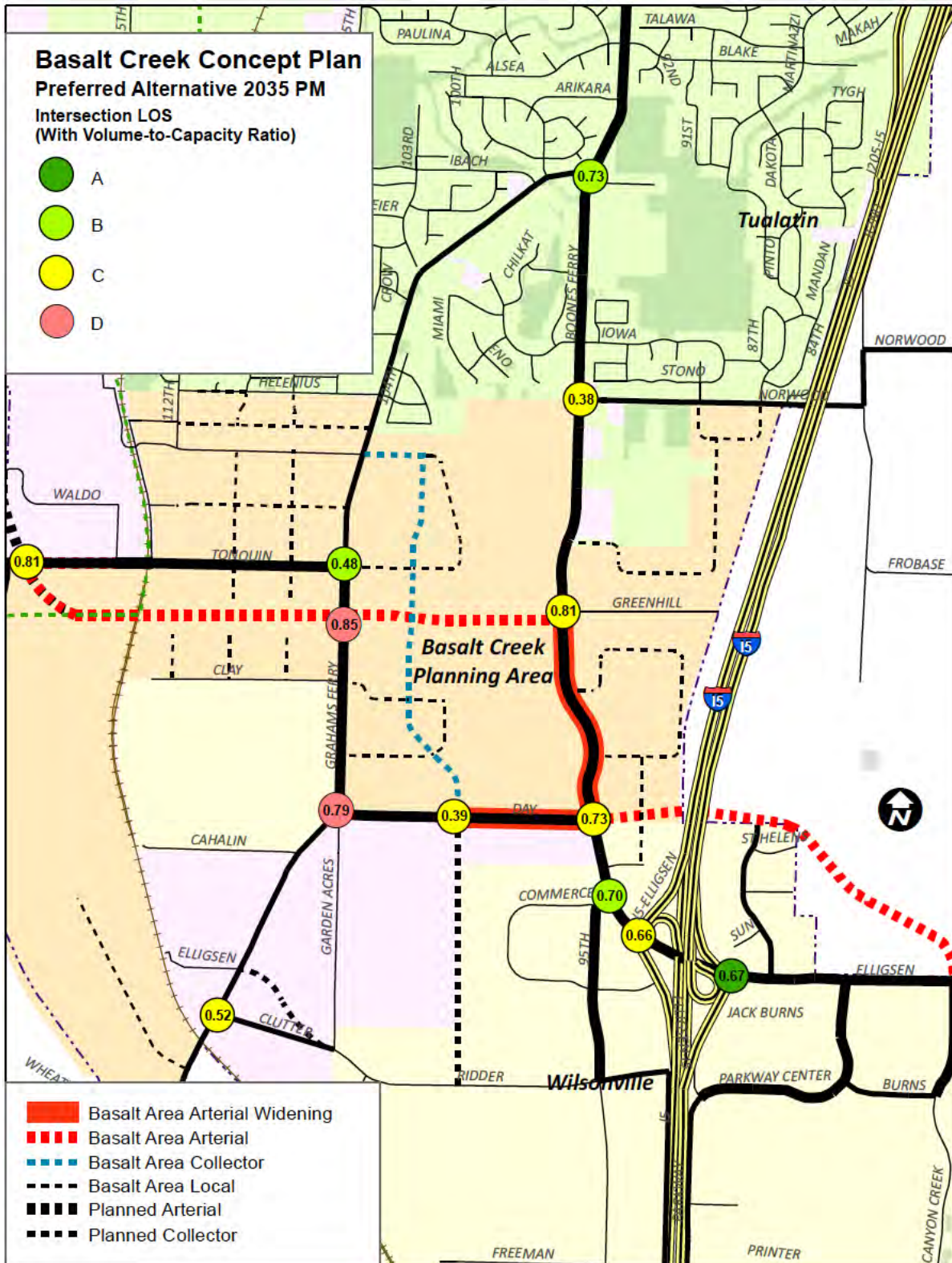


Figure 1: Concept Plan Network with Full Kinsman Road Extension

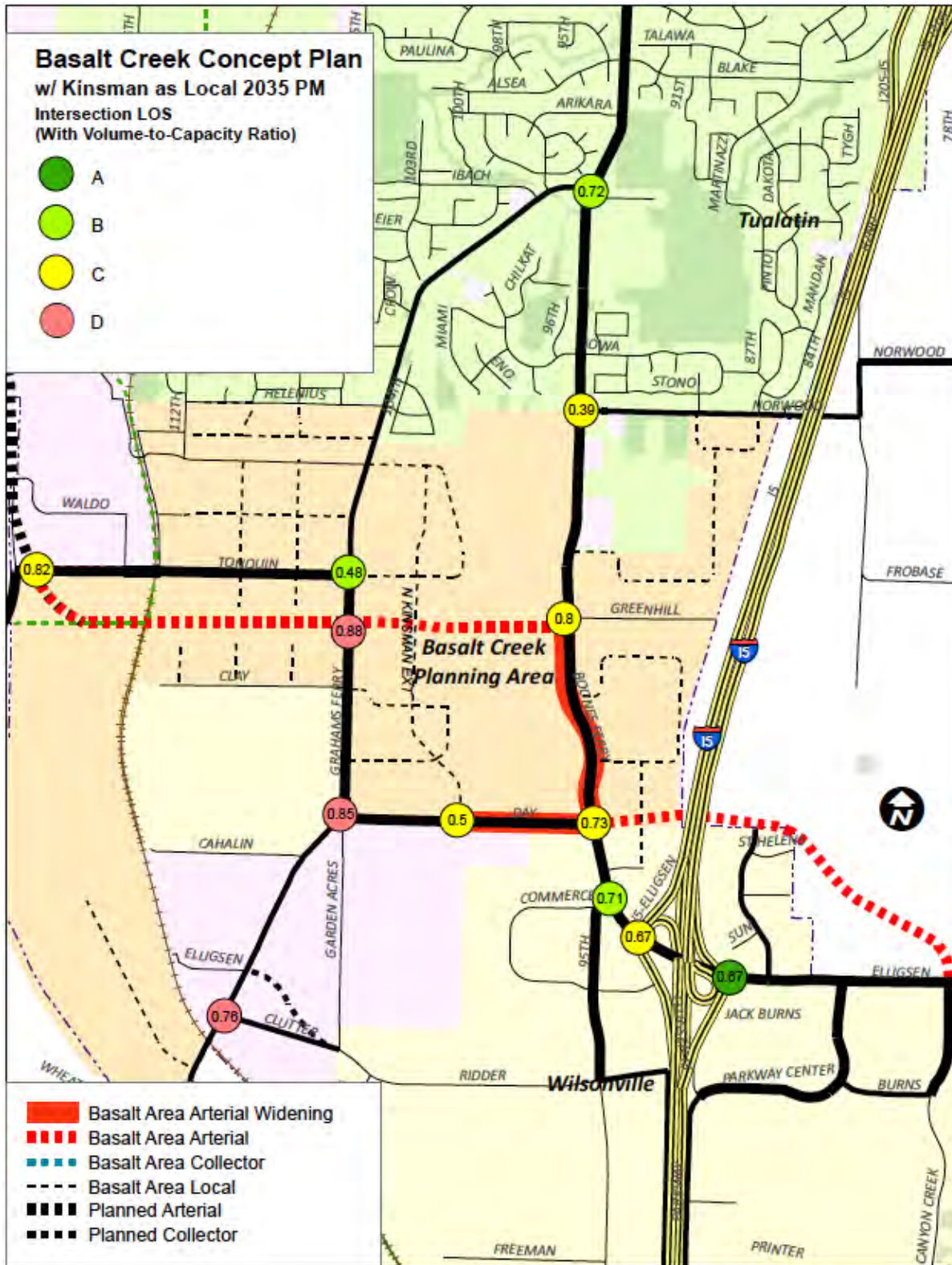


Figure 2: Concept Plan Network with Kinsman Road as Local Connection

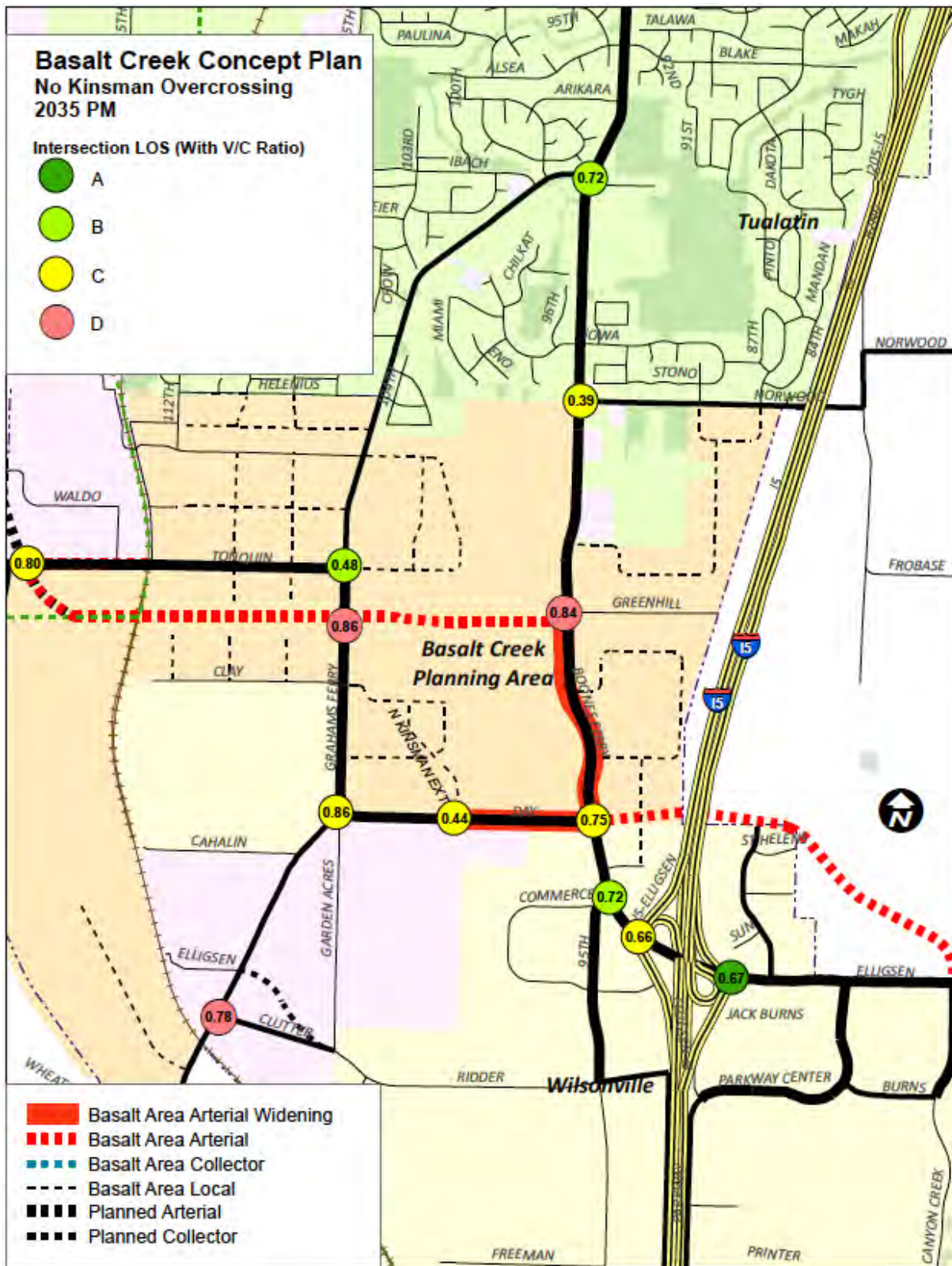


Figure 3: Concept Plan Network Without Kinsman Road Overcrossing



## Motor Vehicle Operations

Intersection turning movement volumes for the two network options were developed for the 2035 PM peak hour based on the approach described in the Forecasting section above. Results, with a comparison to the previous alternative with a full Kinsman collector are shown in Table 2 below.

**Table 2: Network Alternative Intersection Operations (2035 PM Peak Hour)**

Intersection	Jurisdiction	Mobility Target	Full Kinsman Collector (Tonquin Loop to Ridder)		Kinsman as Local		No Kinsman Crossing	
			PM LOS	PM V/C	PM LOS	PM V/C	PM LOS	PM V/C
I-5 NB/Elligsen Rd	ODOT	0.85	A	0.67	A	0.67	A	0.67
I-5 SB/Elligsen Rd	ODOT	0.85	C	0.66	C	0.67	C	0.66
Boones Ferry Rd/95th Ave	Washington County	0.99	B	0.70	B	0.71	B	0.72
Boones Ferry Rd/Day Rd	Washington County	0.99	C	0.73	C	0.73	C	0.75
Boones Ferry Rd/Basalt Creek Parkway	Washington County	0.99	C	0.81	C	0.80	D	0.84
Boones Ferry Rd/Ibach St	Washington County	0.99	B	0.73	B	0.72	B	0.72
Boones Ferry Rd/Norwood Rd	Washington County	0.99	A/C	0.38	A/C	0.39	A/C	0.39
Grahams Ferry Rd/Clutter Rd	Washington County	0.99	A/C	0.52	A/D	0.76	A/D	0.78
Grahams Ferry Rd/Day Rd	Wilsonville	D	D	0.79	D	0.85	C	0.86
Grahams Ferry Rd/Basalt Creek Parkway	Washington County	0.99	D	0.85	D	0.88	D	0.86
Grahams Ferry Rd/Tonquin Rd	Washington County	0.99	B	0.48	B	0.48	B	0.48
124th Ave/Tonquin Rd	Washington County	0.99	C	0.81	C	0.82	C	0.80
Kinsman Rd/Day Rd	Wilsonville	D	C	0.39	A/C	0.50	A/C	0.44

Worst mainline LOS/worst side street LOS reported for unsignalized intersections

As shown in the above table, all intersections meet future mobility standards under both Kinsman options as well as the full Kinsman Collector alternative. The removal of Kinsman Road between SW Ridder Road and SW Day Road has the most impact at SW Grahams Ferry Road/SW Clutter Road and SW Grahams Ferry Road/SW Day Road. These two intersections experience increased traffic volumes as drivers that might have used the Kinsman Extension use SW Grahams Ferry Road south of SW Day Road instead.



Differences between the two North Kinsman Road options are minor, as the North Kinsman extension primarily serves as access to properties between Grahams Ferry Road and the Basalt Creek, and serves very little through traffic when the overcrossing is in place. The largest difference in operations is at SW Boones Ferry Road/Basalt Creek Parkway, where the option with no North Kinsman overcrossing experiences slightly higher volumes. Without the overcrossing in place, more vehicles are expected to travel north on SW Boones Ferry Road and then west on the Basalt Creek Parkway rather than accessing the Basalt Creek Parkway via SW Day Road and SW Grahams Ferry Road.

### **Active Transportation**

While all network options analyzed above perform acceptably in terms of intersection capacity, connections for modes other than the motor vehicle are an important consideration. If a North Kinsman overcrossing of the Basalt Creek Parkway is not built, a connection for people biking and walking in the area east of SW Grahams Ferry Road should still be provided. A multi-use path along the west edge of the Basalt Creek, passing underneath the Basalt Creek Parkway, would provide this needed connection.

## Basalt Creek Utility Infrastructure Concept Plan

PREPARED FOR: Fregonese Associates  
PREPARED BY: Kelli Barton/CH2M  
DATE: May 27, 2016  
PROJECT NUMBER: 491811  
REVISION NO.: Revision 1: September 22, 2016  
Revision 2: June 25, 2018  
Revision 3: July 18, 2018  
APPROVED BY: Mark Anderson/CH2M

### Introduction

The conceptual sanitary sewer, water, and stormwater systems were updated based on the selected jurisdictional boundary that follows the proposed East-West connector. This memorandum describes the conceptual system designs, provides conceptual cost estimates for the sanitary sewer and water systems and funding strategies, and discusses development phasing. Conceptual level sizing and design were completed for cost estimating purposes. Modeling and detailed design were not completed as part of this work and detailed pipe sizes, slopes, flows, and updated cost estimates will be completed during the design phase. Conceptual level cost estimates are preliminary for comparison of alternatives and have a +100%/-50% accuracy. The Tualatin service area includes the Southwest Tualatin area west of the railroad (Tonquin Loop) and north of SW Tonquin Rd that is outside of the Basalt Creek planning boundary.

### Overview of Conceptual Utility Designs

#### Sanitary Sewer System

The sanitary sewer conceptual design for the Basalt Creek planning area is shown in Figure 1. The Clean Water Services (CWS) and Wilsonville service basins are based on the proposed jurisdictional boundary. This design requires five pump stations to serve the Clean Water Services (CWS) service area and one pump station to serve the Wilsonville service area, and the sewers generally flow to the south and west, following the slope of the existing ground. The sanitary system uses gravity as much as possible, follows existing and proposed roadways and trails, and was designed to avoid streams and natural areas.

The conceptual sewer system connects to the existing CWS/Tualatin system at SW 112<sup>th</sup> Avenue between SW Cowlitz Drive and SW Nootka Street, at SW Grahams Ferry Road and SW Helenius Street, at SW Boones Ferry Road and SW Norwood Road, and at SW Vermillion Drive and SW Norwood Road. The sewer system connects to the existing Wilsonville system at SW Day Road and the planned extension of SW Kinsman Road, and at SW Garden Acres Road and SW Cutter Road.

The area immediately west of Basalt Creek, north of the jurisdictional boundary is shown as being served with a pump station to the CWS/Tualatin system, but could also be served by gravity to Wilsonville. If the gravity option is selected, it would require an intergovernmental agreement between

# Exhibit 3 to

## Ordinance No. 1418-19

BASALT CREEK UTILITY INFRASTRUCTURE CONCEPT PLAN

the cities. In the area just west of Boones Ferry Road and east of Basalt Creek in both Tualatin and Wilsonville service boundaries, residents will be required to install grinder pumps to connect to the proposed gravity systems. The southwest railroad section (west of the railroad and south of SW Tonquin Road) has a lower potential to develop due to several constraints including slope, geology, wetlands, habitat, and existing uses. The sanitary system and pump station to serve this area have been included as a separate column in the cost estimate but would only be required if and when development occurs.

There are three areas that will require boring or very deep excavations greater than 25 feet deep, which are highlighted in yellow in Figure 1. There are a few other areas that require excavations around 20-25 feet.

### Design Assumptions and Principles

The following design assumptions were made for the conceptual sanitary system design. Local laterals and service connections have not been included in the concept layout.

- Minimum sewer depth = 10 feet
- Maximum sewer depth = 25 feet
- Minimum pipe slope = 0.004 (for an 8-inch diameter pipe)
- Minimum sanitary pipe slopes from Clean Water Services Design and Construction Standards:

<b>Minimum Sanitary Pipe Slopes</b>	
<b>Pipe Diameter (inches)</b>	<b>Minimum Slope</b>
6	0.006
8	0.004
10	0.0028
12	0.0022
15	0.0015
18	0.0012

The sanitary system design followed these guiding principles for the layout:

- Use gravity as much as possible
- Follow existing or proposed roadways
- Follow property lines or tax lot boundaries when not possible to follow roads
- Follow land use boundaries (not serving Undeveloped Natural Area land use areas)
- Avoid streams and significant natural areas

### Flow Calculations

Loading estimates were calculated using the Land Use Scenario 5. Peak flows were calculated for each connection point into the existing Tualatin and Wilsonville systems. Dry weather flows were calculated separately for residential areas and commercial/industrial areas, according to the equations below.

$$\text{Peak Dry Weather Flow (DWF)} = \text{Residential EDU} * 2.4 \frac{\text{people}}{\text{EDU}} * 80 \frac{\text{gal}}{\text{person} * \text{day}} * 1.6 \text{ peak factor}$$

$$\text{Peak Dry Weather Flow (DWF)} = \frac{\text{Comm./Ind. Area (sq. ft.)}}{1000 \frac{\text{sq. ft.}}{\text{person}}} * 40 \frac{\text{gal}}{\text{person} * \text{day}} * 1.2 \text{ peak factor}$$

Wet weather flows were calculated based on the developable areas, not including the areas designated as "Open Space" land use, based on the Land Use Scenario 5 areas provided by Fregonese Associates. The wet weather flows were calculated using the following equation. An inflow and infiltration rate of 2,500 gallons per acre per day (gpac) is a conservative estimate within the range listed in the CWS



Sanitary Sewer Master Plan (2009) and the maximum value computed in the Wilsonville Wastewater Master Plan (2014).

$$Wet\ Weather\ Flow\ (WWF) = Developed\ Area\ (ac.) * 2,500 \frac{gal}{ac.*\ day}$$

The total peak flow was calculated by adding the wet and dry weather flows together, as follows.

$$Peak\ Sewer\ Flow = Dry\ Weather\ Flow\ (DWF) + Wet\ Weather\ Flow\ (WWF)$$

The estimated sewer flows at the connection points to the existing system are summarized in Table 1.

**Table 1.**  
*Estimated Sewer Flows at Connections to the Existing Systems*

Connection Point	Estimated Sewer Flow (gal/d)
112th and Helenius (Tualatin)	375,800
Grahams Ferry and Helenius (Tualatin)	166,400
Boones Ferry near Norwood (Tualatin)	202,200
Norwood and Vermillion (Tualatin)	107,600
Kinsman Road Extension Sewer (Wilsonville)	357,700
Garden Acres and Clutter (SW RR Area, Wilsonville)	600

### Cost Estimate and Preliminary Sizing

The cost estimate for the sewer system is provided in Table 4. Project costs include pipe costs, rock excavation, pump station capital costs, pump station operations and maintenance costs for 30 years, engineering/legal/admin fees (25%), and contingency (30%). Upgrades to the existing downstream systems are not included in the cost estimates.

Pipe installation costs were gathered from the Tualatin Sewer Master Plan (2002) and escalated to 2016 dollars. The construction costs are based on pipe diameter and average depth of bury, and include the costs of manholes and service laterals. An average diameter of 8 inches was used for pipes in the Wilsonville service system and diameters of 8 inches (approximately 34,000 linear feet) and 10 inches (approximately 2,200 linear feet, located along the northwestern edge of the proposed system) were used for pipes in the Clean Water Services (CWS) service system, based on the preliminary sizing completed at the downstream connection points. All force mains were assumed to be 6 inches in diameter.

The rock excavation cost was calculated based on information from geotechnical investigations and the estimated depth of trench. Based on the boring summary map and geotechnical data available, the Basalt Creek planning area was divided into regions where we expect to require rock excavation for 50%, 20% or 10% of the pipe installations. In order to quantify the amount of pipe that will require rock excavation, a percentage of the pipe length was assumed to require rock excavation based on the region the pipe is located in. Figure 3 (attached) outlines the regions that fall into the three categories. The regions were determined based on the depth to rock (from boring information), approximate depth of bury for pipes, and amount of data in the area. Areas with shallow depths to rock, greatly varying depths to rock, and/or that have a lack of data are assumed to have 50% of the pipe length requiring rock excavation. The area circled in the northeast is where the depths varied for different sewer layout alternatives. For this region, if the average depth of the pipe is deep (>20 feet), it was assumed that 40% of the pipe length required rock excavation and if average depth of the pipe is shallow (<20 feet), it was assumed that 20% of pipe length required rock excavation.

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To estimate the linear footage of rock excavation required, the length of each pipe was multiplied by the percentage denoted by the region it is in. Unit costs for rock excavation were developed for two trench depths (15 feet and 20 feet) and the price for the depth closest to the average depth of bury for each pipe were applied to the rock excavation length for that pipe. The unit costs for rock excavation were \$30/LF for a 15-foot deep trench and \$90/LF for a 25-foot deep trench. The cost of rock excavation was added to the pipe unit costs.

A few segments of pipe require very deep sewers (shown in yellow on Figure 1) and will be installed by boring. The cost of boring was estimated at \$500 per linear foot and includes the cost of pipe.

Table 2 provides an estimate of the length of pipe requiring a shallow (<20 feet) or deep (>20 feet) trench, as used in the rock excavation cost estimate, as well as the total length of pipe. The estimated length of excavation was calculated using a percentage of the total length of each stick of pipe (10%, 20%, or 50%) based on location, as description above.

**Table 2.**  
*Summary of Estimated Excavation Lengths*

		Tualatin Service Area	Wilsonville Service Area
Shallow (<20 feet) Excavation	Estimated Length of Excavation (feet)	11,672	7,152
	Total Length of Pipe (feet)	38,190	23,430
Deep (>20 feet) Excavation	Estimated Length of Excavation (feet)	1,531	1,093
	Total Length of Pipe (feet)	4,776	2,274

## Existing System Improvements

Upgrades to the existing downstream systems may be required to accommodate the anticipated flows from the Basalt Creek planning area. These upgrades have not been included in the conceptual design and cost estimate.

**NOTE TO EDITOR:** CH2M is working on updating the Tualatin Master Plan to reflect the Basalt Creek concept plan and these results could be incorporated later.

## Water System

The conceptual drinking water systems are shown in Figure 2 and are divided by the jurisdictional boundary. Each system is a looped system, which requires water lines for each city located along the proposed east-west arterial road.

The Basalt Creek planning area has the potential to be served for drinking water supply from either Tualatin or Wilsonville. The existing service zones (levels B and C) from both communities would provide the necessary hydraulic pressure to provide service within the planning area. The Tualatin pressure zones that will be used to serve the Basalt Creek are Zones B (ground elevations 192 feet to 306 feet) and C (ground elevations 260 feet to 360 feet). A majority of the service area can be served by Pressure Zone B, but a small portion will require Pressure Zone C. The reservoirs intended to service this area are the newly constructed C-2 (1-MG) Reservoir, the Norwood Reservoirs B-1 (2.2-MG) and B-2 (2.8-MG). In addition to the B level storage reservoirs, the Portland Supply Main using a control valve would also serve pressure zone B. In order to provide service to the pressure zone C areas in the planning area, Wilsonville has identified a need to install a booster pump station. The booster pump station is one of the CIP projects listed in the 2012 Wilsonville Water Master Plan and has been included in the cost estimate for drinking water for Wilsonville.

The southwest railroad section (west of the railroad and south of SW Tonquin Road) has a lower potential for development. Service lines in this area would only need to be constructed if and when development occurs. The Coffee Creek system is shown outside of the Basalt Creek planning area (east of the railroad, west of SW Grahams Ferry Road, and south of SW Clay Road). This portion of the system would be installed and funded by the Coffee Creek development.

### Flow Calculations

Water demand estimates were calculated using Land Use Scenario 5. Peak flows were calculated for the proposed Tualatin and Wilsonville service areas. Peak flows were calculated separately for residential areas and commercial/industrial areas, according to the equations below.

Residential water demand of 80 gallons/person/day is consistent with Wilsonville’s Water Master Plan (2012) and 90 gallons/person/day is consistent with Tualatin’s Water Master Plan (2013).

Industrial/commercial water demand of 1,000 gallons/acre/day is consistent with Wilsonville’s and Tualatin’s master plans.

$$Peak\ Residential\ Flow = Residential\ EDU * 2.4 \frac{people}{EDU} * 80\ or\ 90 \frac{gal}{person * day} * 2.2\ peak\ factor$$

$$Peak\ Commercial/Industrial\ Flow = Comm./Ind.\ Land\ Area\ (ac) * 1000 \frac{gal}{ac * day} * 2.2\ peak\ factor$$

Flow estimates for the final layout are provided below.

**Table 3.**  
*Estimated Water Demand*

	<b>Tualatin</b>	<b>Wilsonville</b>	<b>Both</b>
Peak Daily Demand (gal/d)	573,019	290,734	863,753
Average Annual Demand (gal/d)	260,463	132,152	392,645

### Cost Estimate and Preliminary Sizing

The cost estimate for drinking water is based on construction costs for installing pipes. Construction costs for drinking water pipe construction were gathered from the Tualatin Water Master Plan (January 2013) and escalated to 2016 dollars. The pipe installation costs are based on pipe diameter, and do not include rock excavation or excessive dewatering. For drinking water, a pipe diameter of 12 inches was used for water lines along SW Grahams Ferry Road, SW Boones Ferry Road, and the proposed East-West connector. An average diameter of 8 inches was used for the remaining pipes. Preliminary pipe sizing was completed for cost estimating purposes, but further analysis is needed to confirm fire flow requirements in industrial areas. Drinking water pipes are shallower than sanitary sewer pipes, so rock excavation costs were estimated at 3% of the pipe installation cost. The conceptual cost estimate for the water system is provided in Table 2.

### Stormwater System

The conceptual stormwater system design includes the layout for stormwater pipes in the public right-of-way and does not include private stormwater system designs. Stormwater detention and treatment will occur at local facilities and no regional facilities are planned for the area. All flows that outlet within each city will be guided by their respective protocols, design standards, and/or discharge permits. At locations where the City of Tualatin’s pipe system connects to the City of Wilsonville’s pipe system, the upstream stormwater discharged into Wilsonville’s system shall meet or exceed Wilsonville’s stormwater management requirements.

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## Cost Estimate

Public stormwater costs are included in the road network cost estimate. Stormwater systems outside of the public right-of-way are paid for by the developer, and developer costs for the stormwater systems have not been estimated.

## Funding Strategies

The utility improvements will be funded by a combination of public and private entities. The cities of Tualatin and Wilsonville, with support from district entities, such as Clean Water Services and Metro, will fund public utility improvements and private developers/land owners will generally pay for utilities on private properties and certain enabling projects to allow for development to occur. The City of Tualatin and the City of Wilsonville will be responsible for the publicly-funded water and storm system improvements in their respective jurisdictions. For the sanitary sewer system, the City of Wilsonville will fund all public improvements in their jurisdiction, and the City of Tualatin will fund public gravity pipelines, while pump stations and forcemains are paid for by the service provider, Clean Water Services. There are opportunities for shared funding and partnering agreements for specific projects.

Cost estimates were developed for the conceptual sanitary sewer and water systems. The cost estimates summarize the anticipated costs for the cities, Clean Water Services, and private developers. For both systems, the cost for pipes that are 8 inches in diameter and smaller are paid for by the developer. Pipes that are greater than 8 inches in diameter have a cost share between the city and the developer, where the developer pays for the equivalent of installing 8-inch pipes and the city pays for the difference between the cost for the design pipe size and the cost for an 8-inch pipe. For the sanitary sewer system in the CWS/Tualatin jurisdiction, pump station and force main costs are paid for by the service provider, Clean Water Services (CWS), and pump station capital costs are SDC creditable (pump station operations and maintenance costs are not SDC creditable). For the sanitary sewer system in Wilsonville, pump station and forcemain costs are paid for by the city. City, service provider, and developer costs for the sanitary system are summarized in Table 4 and city and developer costs for the drinking water systems are summarized in Table 5. The southwest railroad (SW RR) area has a lower potential to develop and the costs for this area have been included as a separate column since they would only be required if and when development occurs.

**Table 4.**  
*Cost Estimate Summary for Conceptual Sewer System*

Item	Tualatin/CWS Service Area			Wilsonville Service Area		Wilsonville SW RR Area	
	Tualatin	CWS	Developer	Wilsonville	Developer	Wilsonville	Developer
Pipe Costs (8")			\$8,033,000		\$3,443,000		\$1,818,000
Pipe Costs (Upsize 8" to 10")	\$34,000						
Force Mains (6")		\$1,523,000				\$55,000	
Rock Excavation		\$66,000	\$422,000		\$161,000	\$6,000	\$145,000
Pump Station Capital Cost		\$2,638,000				\$678,000	
<b>Total Construction Costs</b>	<b>\$34,000</b>	<b>\$4,227,000</b>	<b>\$8,455,000</b>	<b>\$0</b>	<b>\$3,605,000</b>	<b>\$740,000</b>	<b>\$1,963,000</b>
Pump Station O&M Cost (30 years)*		\$5,599,000				\$1,120,000	
<b>Subtotal</b>	<b>\$34,000</b>	<b>\$9,826,000</b>	<b>\$8,455,000</b>	<b>\$0</b>	<b>\$3,605,000</b>	<b>\$1,860,000</b>	<b>\$1,963,000</b>

Table 4.  
Cost Estimate Summary for Conceptual Sewer System

Item	Tualatin/CWS Service Area			Wilsonville Service Area		Wilsonville SW RR Area	
	Tualatin	CWS	Developer	Wilsonville	Developer	Wilsonville	Developer
Engineering/Admin /Legal (25%)	\$9,000	\$2,457,000	\$2,114,000	\$0	\$901,000	\$465,000	\$491,000
Contingency (30%)	\$10,000	\$2,948,000	\$2,536,000	\$0	\$1,081,000	\$558,000	\$589,000
<b>TOTAL</b>	<b>\$53,000</b>	<b>\$15,231,000</b>	<b>\$13,105,000</b>	<b>\$0</b>	<b>\$5,588,000</b>	<b>\$2,883,000</b>	<b>\$3,043,000</b>

\*Pump Station O&M costs are not SDC creditable

Table 5.  
Cost Estimate Summary for Conceptual Water System

Item	Tualatin Service Area		Wilsonville Service Area		Wilsonville SW RR Area	
	Tualatin	Developer	Wilsonville	Developer	Wilsonville	Developer
Pipe Cost (8")		\$5,228,000		\$2,666,000		\$521,000
Pipe Cost (Upsize 8" to 12")	\$871,000		\$421,000			
Rock Excavation (3%)		\$157,000		\$80,000		\$16,000
<b>Total Construction Cost</b>	<b>\$871,000</b>	<b>\$5,385,000</b>	<b>\$421,000</b>	<b>\$2,746,000</b>	<b>\$0</b>	<b>\$537,000</b>
Engineering/Admin/Legal (25%)	\$218,000	\$1,346,000	\$105,000	\$687,000	\$0	\$134,000
Contingency (30%)	\$261,000	\$1,66,000	\$126,000	\$824,000	\$0	\$161,000
<b>Total Project Cost</b>	<b>\$1,351,000</b>	<b>\$8,347,000</b>	<b>\$652,000</b>	<b>\$4,257,000</b>	<b>\$0</b>	<b>\$832,000</b>
Wilsonville Booster PS			\$609,000			
<b>TOTAL</b>	<b>\$1,351,000</b>	<b>\$8,347,000</b>	<b>\$1,261,000</b>	<b>\$4,257,000</b>	<b>\$0</b>	<b>\$832,000</b>

## Development Phasing

Utility improvements will be made as properties are annexed into each city, so phasing will be driven by the pace of development. Generally, utility improvements will begin at the boundaries of the planning area that are adjacent to the existing cities and progress outward. Most of the utility infrastructure follows existing or proposed roadways and construction should be coordinated with new road construction and existing roadway improvements. Some enabling projects may be required to be constructed prior to development to connect properties to existing systems. For example, the sanitary sewer pump station in the northeast corner of the planning area may be required in order for development in that sewer basin to occur.

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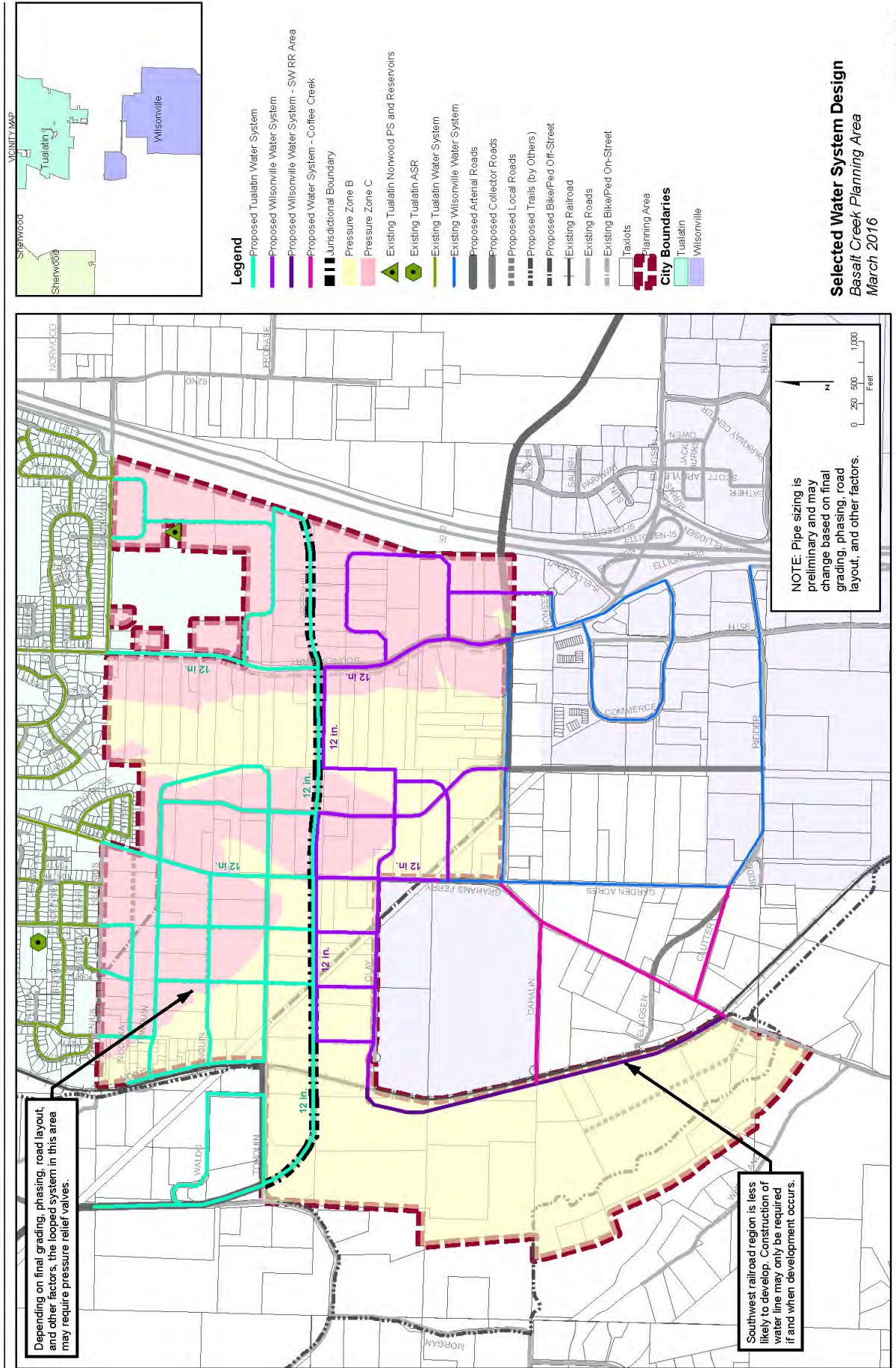
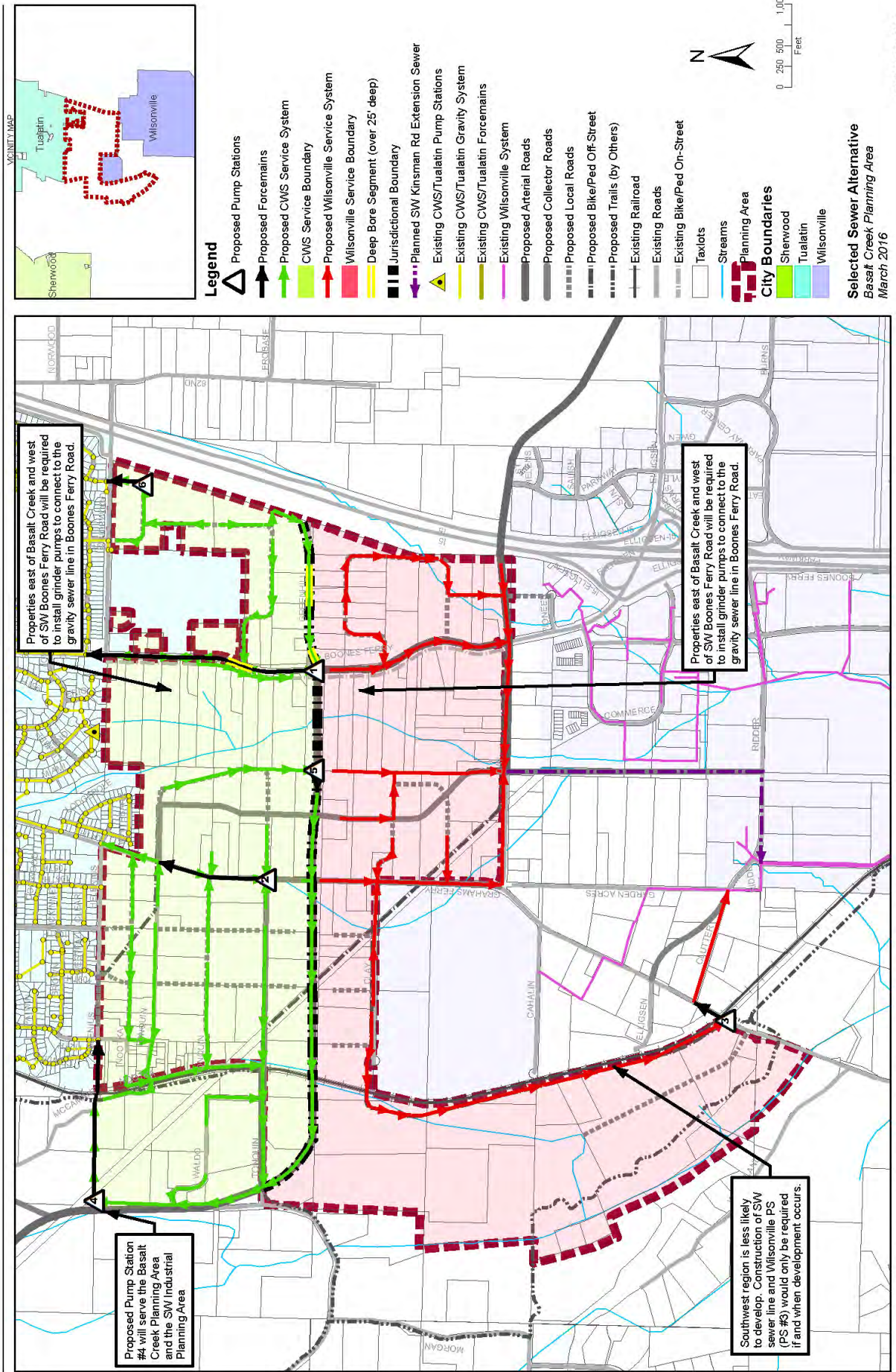


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# Basalt Creek Transportation Refinement Plan Recommendations

## Introduction

The Basalt Creek transportation planning effort analyzed future transportation conditions and evaluated alternative strategies for phased investments that support regional and local needs.<sup>1</sup> This document reflects the Policy Advisory Group’s unanimous approval of the transportation investments, next steps for policy and plan updates, and potential funding strategies described in this document.

## Purpose

The purpose of this refinement plan was to determine the major transportation system connecting Tualatin-Sherwood Road to I-5 in North Wilsonville through the Basalt Creek Planning Area, which is currently an unincorporated urban area of Washington County between the cities of Tualatin to the north, and Wilsonville to the south (see Figure 1). This plan refines recommendations from the I-5/99W Connector Study and the Regional Transportation Plan, setting the stage for land use concept planning and comprehensive plan development for the Basalt Creek area.

## Planning Context

The need to plan for the future transportation system in the Basalt Creek area is driven not only by future growth in the Basalt Creek Planning area itself, but by future growth in surrounding areas targeted for industrial development. Basalt Creek currently lacks the multi-modal transportation facilities needed to support economic and urban-level development. Several planning

The Basalt Creek Transportation Refinement Plan was a joint effort involving:

- Washington County
- City of Tualatin
- City of Wilsonville
- Metro
- The Oregon Department of Transportation
- Area Citizens

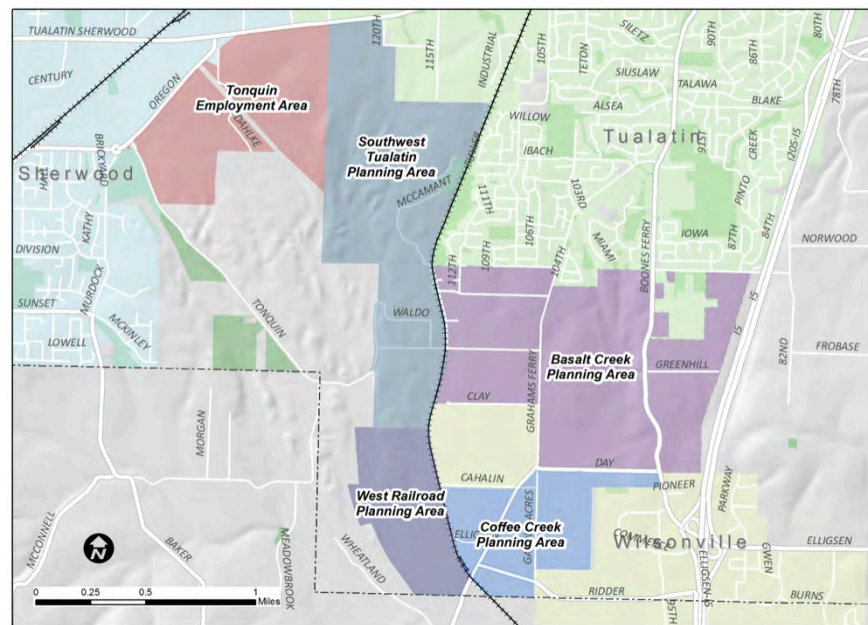


Figure 1: Basalt Creek Planning Area Location

<sup>1</sup> See *Basalt Creek Transportation Refinement Plan Technical Report* for more information.



efforts, summarized below, provide background and context for the Basalt Creek Transportation Refinement Plan.

- The **I-5/99W Connector Study** recommended an alternative that spreads east-west traffic across three smaller arterials rather than a single expressway. Although specific alignments for these arterials were not defined, the eastern end of the Southern Arterial was generally located within the Basalt Creek Planning Area, south of Tonquin Road. The present planning effort aims to further define the location of the connection between the SW 124<sup>th</sup> Avenue Extension and the I-5/Elligsen interchange in a manner that does not preclude the future Southern Arterial west of SW 124<sup>th</sup>.
- The **2035 Regional Transportation Plan (RTP)** calls for detailed project planning and near-term construction of an extension of SW 124<sup>th</sup> Avenue from Tualatin-Sherwood Road to the I-5/Elligsen Road interchange, supporting industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas. The RTP also calls for the near-term construction of the Tonquin Trail (see below).
- The **Tonquin Employment Area, Southwest Tualatin Concept Planning Area, and Coffee Creek Planning Area** together comprise about 1,000 acres surrounding the Basalt Creek area that are planned primarily for industrial use. These areas are expected to generate growing freight and work-related travel demands on the multi-modal transportation network that runs through the Basalt Creek area.
- The **SW 124<sup>th</sup> Avenue Extension** Project, currently underway, is planning and designing the corridor described in the RTP from Tualatin-Sherwood Road to Tonquin Road. The present planning effort aims to extend the corridor to I-5 as envisioned in the RTP and ensure consistency with current SW 124<sup>th</sup> Avenue project.
- Washington County's **Boones Ferry Road** improvement project, also currently underway, provides pedestrian and bicycle improvements and an intermittent center turn lane between Norwood Road and Day Road. It is an assumed improvement for the Basalt Creek area.
- Near-term construction of the **Tonquin Trail** is called for in the RTP. The master plan identifies an alignment for new bicycle and pedestrian connections between Sherwood, Tualatin, and Wilsonville, with connections to the larger regional trail system. The Tonquin Trail will travel through the Southwest Tualatin Concept Plan Area and the Tonquin Employment Concept Plan Area, and is an assumed improvement within the Basalt Creek Transportation Refinement Plan.
- **Transportation System Plan** updates for Washington County, Tualatin, and Wilsonville are currently underway. Washington County will incorporate recommendations from this refinement plan into the County TSP update. The cities of Tualatin and Wilsonville will not incorporate these recommendations into their current TSP updates, but will carry the recommendations into land use concept planning and future TSP updates.

## Facility Considerations and Characteristics

At the outset of this effort, agencies articulated a set of considerations to guide selection of the preferred transportation system as well as preferred characteristics of the primary east-west facility through the area.

- **Guiding considerations** included: ability to fund and phase improvements, level of impacts (environmental, right-of-way, etc.), support for development, consistency with regional policy, and traffic operations performance.
- **Facility characteristics** included: for the primary arterial connection, a 45 mph prevailing speed and access spacing of one-half mile to one mile to improve capacity.

## Recommendation

The Policy Advisory Group (PAG), which consists of elected officials and key staff from the project's five partner agencies, recommends the following elements as part of an overall Action Plan (illustrated in Figure 2) for the area.

### Roadways

The final recommendation is for a combination of new and improved roadways through the Basalt Creek area. The key new roadway through the area is a five-lane east-west extension of SW 124<sup>th</sup> Avenue, aligned south of Tonquin Road and extending east to Boones Ferry Road. The recommendation also includes improvements to existing roadways in the area, such as Tonquin Road, Grahams Ferry Road, Boones Ferry Road, and Day Road.

Protection of right-of-way for the new east-west roadway from the 124<sup>th</sup> Avenue extension to Boones Ferry Road is a key element of this recommendation. Right-of-way protection and purchase will be addressed separately, concurrent with the Basalt Creek land use concept planning.

During the planning process, the City of Wilsonville expressed concern about the structural condition of Day Road (i.e., failing roadway base and resulting pavement deterioration) and its ability to carry freight traffic for further development of industrial lands. While the Basalt Creek Transportation Refinement Plan focused on roadway needs related to capacity, the PAG agreed that the function of the arterial network in the Basalt Creek area includes providing roadways with adequate structural design for regional freight needs. Therefore, the PAG agreed that the project recommendations include a commitment to address the construction, operations, and maintenance of the arterial network through the concept planning process.

### Overcrossings

The ability to construct two new I-5 overcrossings, including an off-street multi-use path, should be preserved in order to provide for future circulation and connectivity across the Basalt Creek area and into areas east of I-5. These overcrossings are recommended as long-term improvements and are likely not needed until 2035 or later. Forecasts show that the second overcrossing is not needed unless surrounding urban reserve areas east of I-5 and south of I-205 are developed. This refinement plan is neutral on the timing of urban reserves development, and therefore does not specify the timing and order of overcrossing improvements.

### Active Transportation

All improved roadways in the Action Plan include bike lanes and sidewalks consistent with Washington County urban standards. This recommendation also includes integration of the regional Tonquin Trail into the transportation network. Metro, in close coordination the cities of Tualatin, Wilsonville, Sherwood, and Washington and Clackamas counties, led the master planning effort that identified a preferred alignment that travels through the Basalt Creek Planning Area. Roadway cross-sections and right-of-way purchases for the future east-west facility will consider needs for the Tonquin Trail in the design for the railroad overcrossing and improvements to Tonquin Road between Morgan Road and Tonquin Loop Road. Design for the east-west facility should also consider providing an of-street multi-use path that connects to the Tonquin Trail and extends east of I-5. Details of how this multi-use path will be integrated with the east-west facility design will be refined during later land use concept planning.

### Action Plan

The recommended Action Plan consists of 18 transportation investments, shown in Figure 2. Timing of projects was prioritized through an analysis of likely transportation needs in 2020, 2030, and 2035 based on growth assumptions from the adopted Regional Transportation Plan. Because of uncertainty regarding the years during which development in the Basalt Creek Planning Area and surrounding areas will occur, phasing for investments is classified as short-term, medium-term, and long-term. Descriptions of these investments, as well as timing and the funding needed, are shown in Table 1. Cost estimates include right-of-way.

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Table 1: Basalt Creek Action Plan

ID	Project	Short-Term	Medium-Term	Long-Term	Cost (\$2012)
1	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Construct three lane road extension with bike lanes and sidewalks	x			\$20,000,000
2	Tonquin Road (124 <sup>th</sup> Avenue to Grahams Ferry Road): Widen to three lanes with bike lanes and sidewalks, grade separate at railroad, improve geometry at Grahams Ferry Road <sup>1</sup>	x			\$10,500,000
3	Grahams Ferry Road (Tonquin Road to Day Road): Widen to three lanes with bike lanes and sidewalks	x			\$5,400,000
4	Boones Ferry Road (Norwood Road to Day Road): Widen to three lanes with bicycle and pedestrian improvements	x			\$10,800,000
5	124 <sup>th</sup> Avenue/Tonquin Road Intersection: Signal (may include Tonquin Trail crossing)	x			. <sup>2</sup>
6	Grahams Ferry Road/Tonquin Road Intersection: Signal	x			\$500,000
7	Boones Ferry Road/Day Road Intersection: Add second southbound through approach lane	x			. <sup>3</sup>
8	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Construct dual left-turn and right-turn lanes; improve signal synchronization, access management and sight distance	x			\$2,500,000
9a	Tonquin Trail (Clackamas County Line to Tonquin Loop Road): Construct multi-use trail with some segments close to but separated from road	x			\$8,900,000 <sup>4</sup>
9b	Tonquin Trail (Tonquin Loop Road to Tualatin-Sherwood Road): Construct multi-use trail with some segments close to but separated from road		x		\$7,100,000 <sup>4</sup>
10	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Widen from three to five lanes with bike lanes and sidewalks		x		\$14,000,000
11	East-West Arterial (124 <sup>th</sup> Avenue to Boones Ferry Road): Construct 5 lane roadway with railroad and creek crossings, integrate segment of Tonquin Trail <sup>5</sup>		x		\$57,900,000
12	Boones Ferry Road (East-West Arterial to Day Road): Widen to five lanes with bike lanes and sidewalks		x		\$1,100,000
13	Kinsman Road Extension (Ridder Road to Day Street): Construct three lane road extension with bike lanes and sidewalks		x		\$10,400,000
14	Day Road (Kinsman Road to Boones Ferry Road): Widen to five lanes with bike lanes and sidewalks		x		\$5,800,000
15	I-5 Southbound off-ramp at Boones Ferry Road/Elligsen Road: construct second right turn lane		x		\$500,000
16	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Access management		x		. <sup>6</sup>
17	Day Road Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Elligsen Road			x	\$33,700,000- \$44,100,000 <sup>7</sup>
18	East-West Arterial Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Stafford Road. Integrate multi-use path in corridor that connects to Tonquin Trail			x	\$38,000,000
<b>TOTAL</b>		<b>\$59M</b>	<b>\$97M</b>	<b>\$72-82M</b>	<b>\$228-238M</b>

<sup>1</sup> Grade separation for Tonquin Road is optional. An at-grade crossing would reduce cost by around \$2,000,000

<sup>2</sup> Cost included in Project 1

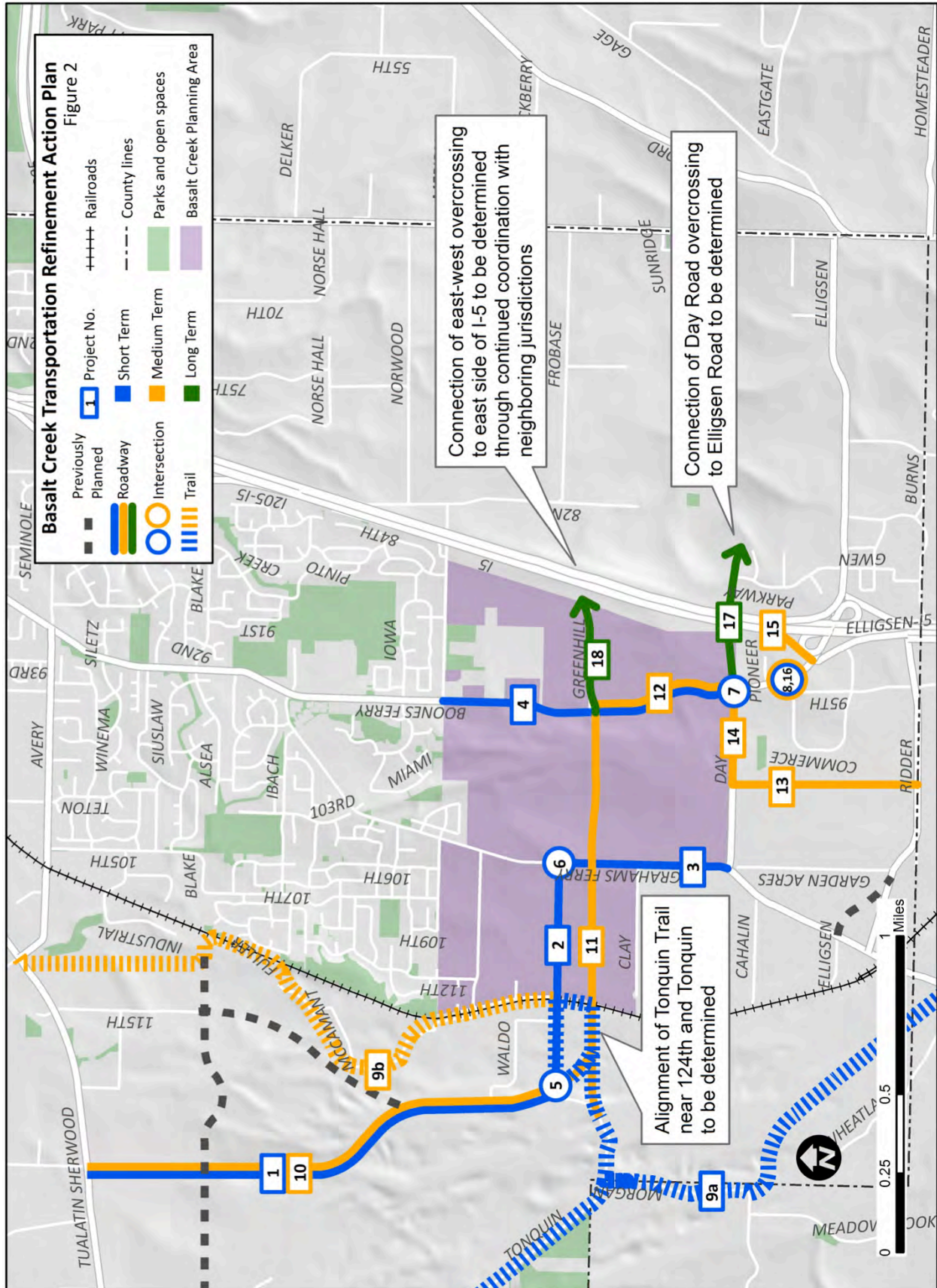
<sup>3</sup> Coordinate with Project 4. Cost of approach lane included in estimate for Project 12

<sup>4</sup> Tonquin Trail cost estimated by Metro as part of trail planning effort

<sup>5</sup> Project 11 can potentially be built in two phases funded separately, west and east of Grahams Ferry Road. However, traffic benefits needed in the medium term (around 2030) will not be realized unless entire project is completed

<sup>6</sup> Project details to be determined by further coordination between City of Wilsonville and ODOT. Cost expected to be minimal

<sup>7</sup> Specific alignment approaching Elligsen Road will determine project cost. Alignment to Parkway Center Drive is estimated at \$33,700,000, and alignment to Canyon Creek Road is estimated at \$44,100,000



Each investment adds important improvements to the major transportation system in the Basalt Creek area to support future development, adding new multimodal facilities and upgrading existing facilities to urban standards. Although not shown on the map, it is expected that future concept planning will identify locations for additional, lower-classification roads and other transportation facilities to serve future development as well.

### Are these new projects?

While cost estimates for the entire recommendation may total as high as \$238,000,000, all of the 18 projects have some relation to investments already planned in the adopted RTP. Table 2 shows projects from the RTP that have overlap or similarity to projects contained in the Action Plan. **Note that many of these projects are different in scope from those contained in the Action Plan, and will have different cost estimates. Future RTP updates may include updated cost estimates from this study.**

**Table 2: Related projects from the Regional Transportation Plan**

RTP ID	RTP Project	Related Action Plan Projects	Time Period	Cost (\$2007)
10736	124 <sup>th</sup> Avenue: Construct new street from Tualatin-Sherwood Road to Tonquin Road: 5 lanes	1,5,10,11	2008-2017	\$82,500,000
10590	Tonquin Road: Realign and widen to three lanes with bike lanes and sidewalks (Oregon Street to Grahams Ferry Road)	2,6	2018-2025	\$28,406,000
10588	Grahams Ferry Road: Widen to three lanes, add bike/pedestrian connections to regional trail system and fix undersized railroad crossing (Helenius Street to Clackamas County line)	3	2008-2017	\$28,000,000
10732	Boones Ferry Road: Widen to five lanes (Norwood Road to Day Road)	4,7,12	2018-2025	\$40,050,000
10852	95 <sup>th</sup> /Boones Ferry/Commerce Circle Intersection Improvements	8,16	2008-2017	\$2,500,000
10854	Tonquin Trail: Construct multi-use trail with some on-street segments (Tualatin-Sherwood Road to Clackamas County line)	9a,9b	2008-2017	\$3,000,000
10853	Kinsman Road extension with bike lanes and sidewalks (Ridder Road to Day Road)	13	2008-2017	\$6,500,000
11243	Day Road reconstruction to accommodate trucks (Grahams Ferry Road to Boones Ferry Road)	14	2008-2017	\$3,200,000
11342	I-5/99W Connector Southern Arterial/I-5 Interface <sup>1</sup>	15,17,18	2026-2035	\$50,000,000

<sup>1</sup> Construction of projects specifically related to the I-5/99W Connector Southern Arterial, such as the I-5 interface, are contingent on certain project conditions being met. See Regional Transportation Plan for details.

## Policy and Plan Updates

Recommendations in this plan allow new concept planning efforts to move forward and provide guidance for updates of existing transportation plans.

### Basalt Creek and West Railroad Area Concept Planning

The transportation system recommended in this plan becomes the framework for more detailed land use concept planning of the Basalt Creek Planning Area and West Railroad Planning Area by the cities of Tualatin and Wilsonville. Key recommendations to be carried forward during concept planning include:

- Protection of the major transportation facility corridors from development encroachment.
- Coordination of the local transportation system with the transportation investments included in this plan (unless amended by the parties of this study). Each roadway in the Basalt Creek area has access spacing standards that protect the safety and operations of the system, and these standards help determine appropriate local street connections. The new east-west facility is limited to accesses at 124<sup>th</sup> Avenue, Grahams Ferry Road, and Boones Ferry Road.
- Detailed concept planning in the Basalt Creek area should consider multi-use path connections to the Tonquin Trail that emphasize directness and minimize conflicts, enhancing bicycle and pedestrian access to new residential and employment areas. In the West Railroad area, concept planning will also include sections of the Tonquin Trail.

### Regional Transportation Plan

In many cases, this transportation refinement plan provides new detail and cost estimates for projects that are already in the adopted RTP. These refined project descriptions, cost estimates, and timing considerations should be considered when projects are forwarded to Metro for the next RTP update. Examples of RTP projects that overlap with projects in this refinement plan include:

- 10590 (Tonquin Road). Action Plan project #2 includes a grade-separated railroad crossing, which is not included in the RTP project description.
- 10852 (95<sup>th</sup>/Boones Ferry/Commerce). Action Plan projects 8 and 16 will require further coordination with ODOT to determine geometry and timing of intersection improvements.
- 11243 (Day Road). Action Plan project #14, which widens part of Day Road, should also upgrade the roadway structure and pavement conditions to accommodate increasing heavy truck volumes. Although project #14 applies only to the section of Day Road between Kinsman Road and Boones Ferry Road, funding of roadway reconstruction between Kinsman Road and Grahams Ferry Road should also be discussed as part of land use concept planning.
- 10854 (Tonquin Trail). Action Plan projects #2, #5, #11 all need to consider Tonquin Trail in their design, including most recent alignment information and cost estimates from the trail master plan.

### Washington County TSP Update

Most of the projects included in the Action Plan are new facilities in unincorporated Washington County or improved facilities already under County jurisdiction. An amendment to update the Washington County TSP will be done in 2013 to incorporate the descriptions, cost estimates, and timing of these projects.

## Tualatin and Wilsonville TSP Updates

The Cities of Tualatin and Wilsonville are also currently updating their transportation system plans. However, because concept planning for Basalt Creek will include agreement on the future city limit boundary between the two cities, as well as more detailed transportation network considerations, the projects included in this plan will not be incorporated as part of the current TSP updates. Future TSP updates may reflect elements from this refinement plan by amending project lists, maps, and funding strategies.

## Funding

Funding for some short-term Action Plan projects has already been programmed by Washington County through their Major Streets Transportation Improvement Program (MSTIP). This includes \$16.9 million (\$10.9 million in MSTIP funding and \$6 million from other sources) for an interim two-lane extension of SW 124<sup>th</sup> Avenue from Tualatin-Sherwood Road to Tonquin Road. It also includes an additional \$10 million for right-of-way purchase or other improvements from the list identified by this Plan. Washington County has also provided \$11 million in funding for the current Boones Ferry Road improvement project.

While this recommendation does not identify a specific overall funding strategy for the Action Plan, there are many existing revenue sources that may be used to fund the recommended investments.

**Many are subject to a state or regionally competitive process where success can hinge on having a broadly supported plan in place.**

The revenue sources listed below form the basis of the financially constrained Regional Transportation Plan and related project list, which already contains many of the recommended Basalt Creek investments. The RTP assumes federal, state, and local sources, all of which will be key to funding the Action Plan.

### Federal

Based on MAP-21<sup>2</sup> legislation, sources may include:

- **National Highway Performance Program (NHPP).** These funds are intended for rehabilitation and expansion of principal arterials, especially those with important freight functions.
- **Regional Surface Transportation Program (STP) funds.** These funds may be used for virtually any transportation purpose short of building local residential streets.
- **Congestion Mitigation/Air Quality (CMAQ) funds.** These funds typically support biking, walking, and transit projects, and other projects that help to achieve air quality standards.
- **Transportation Alternatives (TA) funds.** TA takes the place of previous programs such as Transportation Enhancements and Recreational Trails, and may be used to fund a variety of non-motorized projects.

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<sup>2</sup> For more information see <http://www.fhwa.dot.gov/map21/>



These funds are allocated to projects through a state or regionally managed competitive process for inclusion in the Metropolitan Transportation Improvement Program (MTIP) and the State Transportation Improvement Program (STIP).

### State

State sources include the statewide gas tax, vehicle registration fees, and weight-mile taxes on trucks. These funds typically go to road and bridge maintenance projects, but funding for projects of regional significance, such as those provided by Oregon House Bill 2001 Jobs and Transportation Act (JTA), may be made available for modernization. Again, having a plan in place allows projects to access funds when new funding opportunities become available.

### Local

A variety of local funding sources are available, although some, such as urban renewal and local improvement districts, are subject to approval. Sources may include:

- Washington County Major Streets Transportation Improvement Program (MSTIP)
- Local portion of State Highway Trust Fund
- Local gas tax
- Transportation System Development Charges (SDCs) or Transportation Development Taxes (TDTs) levied on new development
- Urban renewal funding
- Developer contributions
- Local improvement districts (LIDs)

# Basalt Creek Concept Plan: Acknowledgements

## Joint Council

### **Tualatin City Council**

Mayor Lou Ogden  
Council President Monique Beikman  
Councilor Wade Brooskby  
Councilor Frank Bubenik  
Councilor Joelle Davis  
Councilor Nancy Grimes  
Councilor Ed Truax  
Councilor Jeff DeHaan  
Councilor Robert Kellogg  
Councilor Paul Morrison

### **Wilsonville City Council**

Mayor Tim Knapp  
Council President Scott Star  
Councilor Julie Fitzgerald  
Councilor Susie Stevens  
Councilor Charlotte Lehan  
Councilor Kristin Akervall

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Phil Johansen

**SMART**

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**Tigard/Tualatin School District**

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**TriMet**

Tom Mills

**City of Tualatin Community Services/ Parks and Recreation**

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Rich Mueller  
Ross Hoover

**Tualatin Valley Fire and Rescue**

Brian Sherrard

**Tualatin Valley Water District**

Todd Perimon  
Todd Heidgerken

**Washington County**

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Renus Kelfkens  
Russell Knoebel  
Karen Savage

**Wilsonville/West Linn School District**

Tim Woodley

**City of Wilsonville Natural Resources**

Kerry Rappold

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AMENDING THE ) ORDINANCE NO. 04-1040B  
METRO URBAN GROWTH BOUNDARY, THE )  
REGIONAL FRAMEWORK PLAN AND THE )  
METRO CODE TO INCREASE THE CAPACITY )  
OF THE BOUNDARY TO ACCOMMODATE )  
GROWTH IN INDUSTRIAL EMPLOYMENT ) Introduced by the Metro Council  
)

WHEREAS, by Ordinance No. 02-969B (For The Purpose Of Amending The Urban Growth Boundary, The Regional Framework Plan And The Metro Code In Order To Increase The Capacity Of The Boundary To Accommodate Population Growth To The Year 2022), the Council amended Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan to increase the capacity of industrial land to accommodate industrial jobs; and

WHEREAS, the Metro Council adopted an Employment and Industrial Areas Map as part of Title 4 (Retail in Employment and Industrial Areas) in Ordinance No. 96-647C (For the Purpose of Adopting a Functional Plan for Early Implementation of the 2040 Growth Concept) on November 21, 1996; and

WHEREAS, the Council amended the Regional Framework Plan (RFP) by Exhibit D to Ordinance No. 02-969B (For the Purpose of Amending the Metro Urban Growth Boundary, the Regional Framework Plan and the Metro Code in Order to Increase the Capacity of the Boundary to Accommodate Population Growth to the Year 2022), adopted on December 5, 2002, to establish a new 2040 Growth Concept design type entitled "Regionally Significant Industrial Area" (RSIA) and to add Policies 1.4.1 and 1.4.2 to protect such areas by limiting conflicting uses; and

WHEREAS, by Exhibit F to Ordinance No. 02-969B the Council amended Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan ("UGMFP") to implement Policies 1.4.1 and 1.4.2 of the RFP; and

WHEREAS, by Exhibit E of Ordinance No. 02-969B the Council adopted a "Generalized Map of Regionally Significant Industrial Areas" depicting certain Industrial Areas that lay within the UGB prior to its expansion as part of Task 2 of periodic review as RSIA's; and

Exhibit 4 to  
Ordinance No. 1418-19

WHEREAS, Title 4 calls upon the Council to delineate specific boundaries for RSIA's derived from the "Generalized Map of Regionally Significant Industrial Areas" after consultation with cities and counties; and

WHEREAS, by Ordinance No. 02-969B, the Council added capacity to the UGB but did not add sufficient capacity to accommodate the full need for land for industrial use; and

WHEREAS, the Metro Council submitted Ordinance No. 969B, in combination with other ordinances that increased the capacity of the UGB, to the Land Conservation and Development Commission (LCDC) as part of Metro's periodic review of the capacity of its UGB; and

WHEREAS, on July 7, 2003, LCDC issued its "Partial Approval and Remand Order 03-WKTASK-001524" that approved most of the Council's decisions, but returned the matter to the Council for completion or revision of three tasks: (1) provide complete data on the number, density and mix of housing types and determine the need for housing types over the next 20 years; (2) add capacity to the UGB for the unmet portion of the need for land for industrial use; and (3) either remove tax lots 1300, 1400 and 1500 in Study Area 62 from the UGB or justify their inclusion; and

WHEREAS, the Council completed its analysis of the number, density and mix of housing types and the need for housing over the planning period 2002-2022 and incorporated its conclusions in a revision to its Housing Needs Analysis; and

WHEREAS, the Council increased the capacity of the UGB both by adding land to the UGB and by revising the Regional Framework Plan and Title 4 of the UGMFP to meet the previously unmet portion of the need for land for industrial use; and

WHEREAS, a change in design type designation of a portion of Study Area 12 added to the UGB on December 5, 2002, by Ordinance No. 02-969B from residential to industrial will help the region accommodate the need for industrial use without reducing the region's residential capacity below the region's residential need; and

WHEREAS, the Council decided to remove tax lots 1300, 1400 and 1500 in Study Area 62 from the UGB; and

# Exhibit 4 to Ordinance No. 1418-19

WHEREAS, the Council consulted its Metropolitan Policy Advisory Committee and the 24 cities and three counties of the metropolitan region and considered comments and suggestions prior to making this decision; and

WHEREAS, prior to making this decision, the Council sent individual mailed notification to more than 100,000 households in the region and held public hearings on Title 4 and the efficient use of industrial land on December 4 and 11, 2003, public workshops at six locations around the region in March, 2004, on possible amendments to the UGB, and public hearings on the entire matter on April 22 and 29, May 6, [May 27](#), and June 10 and 24, 2004; now, therefore

## THE METRO COUNCIL HEREBY ORDAINS AS FOLLOWS:

1. Policy 1.12 of the Regional Framework Plan is hereby amended, as indicated in Exhibit A, attached and incorporated into this ordinance, to guide the choice of farmland for addition to the UGB when no higher priority land is available or suitable.
2. Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan is hereby amended, as indicated in Exhibit B, attached and incorporated into this ordinance, to improve implementation of Title 4 by cities and counties in the region.
3. The Employment and Industrial Areas Map is hereby amended, as shown in Exhibit C, attached and incorporated into this ordinance, to depict the boundaries of Regionally Significant Industrial Areas pursuant to Policy 1.4.1 of the Regional Framework Plan in order to ensure more efficient use of the areas for industries reliant upon the movement of freight and to protect the function and capacity of freight routes and connectors in the region.
4. The Revised Housing Needs Analysis, January 24, 2003, is hereby further revised, as indicated in Exhibit D, Addendum to Housing Needs Analysis, April 5, 2004, attached and incorporated into this ordinance, to comply with the first item in LCDC's "Partial Approval and Remand Order 03-WKTASK-001524."
5. The Metro UGB is hereby amended to include all or portions of the Study Areas shown on Exhibit E [with the designated 2040 Growth Concept design type, and more precisely identified in the Industrial Land Alternative Analysis Study, February, 2004, Item \(c\) in Appendix A](#), subject to the conditions set forth in Exhibit F, and to exclude tax lots 1300, 1400 and 1500 in Study Area 62 ~~and the southeast portion of Study Area 9 from the UGB~~, also shown on Exhibit E and more precisely identified in the Staff Report, "In Consideration of Ordinance No. 04-1040, For the Purpose of Amending the Metro Urban Growth Boundary, the Regional Framework Plan and the Metro Code to increase the capacity of the Boundary to Accommodate Growth in Industrial Employment", Item (a) in Appendix A. Exhibits E and F are attached and incorporated into this ordinance to comply with the second and third items in LCDC's "Partial Approval and Remand Order 03-WKTASK-001524."

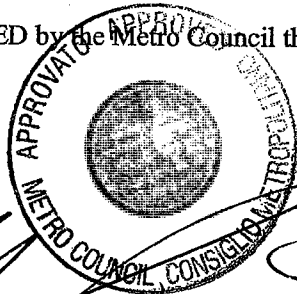
6. Ordinance No. 02-969B is hereby amended to change the 2040 Growth Concept design type designation for that 90-acre portion of Study Area 12 that projects from the rest of the study area to the southeast along Highway 26 from “Inner Neighborhood” to “Regionally Significant Industrial Area.”
67. The Appendix, attached and incorporated into this ordinance, is hereby adopted in support of the amendments to the UGB, the Regional Framework Plan and the Metro Code in sections 1 through 3 of this ordinance. The following documents comprise the Appendix:
- a. Staff Report, ‘In Consideration of Ordinance No. 04-1040, For the Purpose of Amending the Metro Urban Growth Boundary, the Regional Framework Plan and the Metro Code to increase the capacity of the Boundary to Accommodate Growth in Industrial Employment’, April 5, 2004.
  - b. 2002-2022 Urban Growth Report: An Employment Land Need Analysis, June 24, 2004 Supplement.
  - c. Industrial Land Alternative Analysis Study, February, 2004.
  - d. Measure 26-29 Technical Report: Assessment of the Impacts of the June, 2004, UGB Expansion on Property Owners.
  - e. Industrial Land Expansion Public Comment Report, March, 2004.
  - f. ‘An Assessment of Potential Regionally Significant Industrial Areas’, memorandum from Mary Weber to Dick Benner, October 21, 2003.
  - g. ‘Recommended Factors for Identifying RSIA’s’, memorandum from Mary Weber to MTAC, June 30, 2003.
  - h. ‘Slopes Constraints on Industrial Development’, memorandum from Lydia Neill to David Bragdon, November 25, 2003.
  - i. ‘Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use’, prepared by the Metro Agricultural Lands Technical Workgroup, April, 2004.
  - j. ‘Technical Assessment of Reducing Lands within Alternatives Analysis Study Areas’, memorandum from Lydia Neill to David Bragdon, October 30, 2003.
  - k. Agriculture at the Edge: A Symposium, October 31, 2003, Summary by Kimi Iboshi Sloop, December, 2003.
  - m. ‘Industrial Land Aggregation Methodology, Test and Results’, memorandum from Lydia Neill to David Bragdon, September 24, 2003.
  - n. ‘Industrial Areas Requested by Local Jurisdictions’, memorandum from Tim O’Brien to Lydia Neill, July 29, 2003.

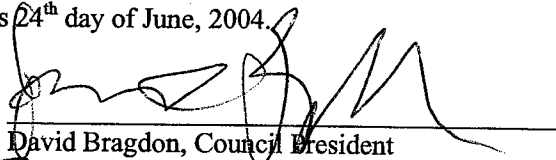


- o. 'Industrial Land Locational and Siting Factors', memorandum from Lydia Neill to David Bragdon, June 9, 2003.
- p. 'A Review of Information Pertaining to Regional Industrial Lands', memorandum from Dick Benner to David Bragdon, January 26, 2004.
- q. Map of Freight Network and Freight Facilities, Metro, November, 2003.
- r. 'Evaluating the Industrial Land Supply with Projected Demand', memorandum from Lydia Neill to David Bragdon, May 14, 2003.
- s. 'Identifying 2003 Industrial Land Alternatives Analysis Study Areas', memorandum from Tim O'Brien to Lydia Neill, July 9, 2003.
- t. 'For the Purpose of Reducing the Land Under Consideration in the 2002 and 2003 Alternatives Analysis for Meet the Remaining Need for Industrial Land through Urban Growth Boundary Expansion', Staff Report, November 18, 2003.
- u. 'Formation of Industrial Neighborhoods', memorandum from Lydia Neill to David Bragdon, October 24, 2003.
- v. 'Developed Lots 5 Acres and Smaller Outside the UGB', memorandum from Amy Rose to Lydia Neill, November 18, 2003.
- w. 'Employment Land Included in the 2002 Urban Growth Boundary Expansion', memorandum from Andy Cotugno to David Bragdon, March 10, 2003.
- x. 'Identifying Additional Land for Industrial Purposes', memorandum from Tim O'Brien to Lydia Neill, March 7, 2003.
- y. Staff Report, 'In Consideration of Ordinance No. 04-1040B, For the Purpose of Amending the Metro Urban Growth Boundary, the Regional Framework Plan and the Metro Code to increase the Capacity of the Boundary to Accommodate Growth in Industrial Employment', June 21, 2004.

78. The Findings of Fact and Conclusions of Law in Exhibit G, attached and incorporated into this ordinance, explain how this ordinance complies with state law, the Regional Framework Plan and the Metro Code.

ADOPTED by the Metro Council this 24<sup>th</sup> day of June, 2004.



  
David Bragdon, Council President

Approved as to Form:

ATTEST:

  
Christina Billington, Recording Secretary

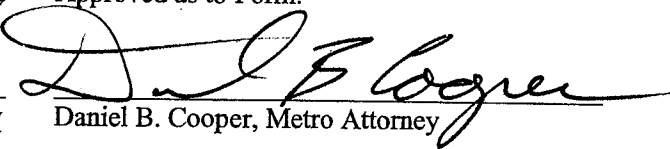
  
Daniel B. Cooper, Metro Attorney

Exhibit A to Ordinance No. 04-1040B

**REGIONAL FRAMEWORK PLAN POLICY 1.12**  
**Protection of Agriculture and Forest Resource Land**

~~1.12.1.1.1~~ 1.12.1.1 Agricultural and forest land outside the UGB shall be protected from urbanization, and accounted for in regional economic and development plans, consistent with this Plan. However, Metro recognizes that all the statewide goals, including Statewide Goal 10, and Goal 14, Urbanization, are of equal importance to Goals 3 and 4, which protect agriculture and forest resource lands. These goals represent competing and, some times, conflicting policy interests which need to be balanced.

~~1.12.1~~ **Rural Resource Lands**

~~— Rural resource lands outside the UGB that have significant resource value should actively be protected from urbanization. However, not all land zoned for exclusive farm use is of equal agricultural value.~~

1.12.2 When the Council must choose among agricultural lands of the same soil classification for addition to the UGB, the Council shall choose agricultural land deemed less important to the continuation of commercial agriculture in the region.

~~1.12.2~~ **Urban Expansion**

~~— Expansion of the UGB shall occur in urban reserves, established consistent with the urban rural transition objective. All urban reserves should be planned for future urbanization even if they contain resource lands.~~

1.12.3 Metro shall enter into agreements with neighboring cities and counties to carry out Council policy on protection of agricultural and forest resource policy through the designation of Rural Reserves and other measures.

~~1.12.3~~ **Farm and Forest Practices**

~~— Protect and support the ability for farm and forest practices to continue. The designation and management of rural reserves by the Metro Council may help establish this support, consistent with the Growth Concept. Agriculture and forestry require long term certainty of protection from adverse impacts of urbanization in order to promote needed investments.~~

1.12.4 Metro shall work with neighboring counties to provide a high degree of certainty for investment in agriculture in agriculture and forestry and to reduce conflicts between urbanization and agricultural and forest practices.

Exhibit B to Ordinance No. 04-1040B

TITLE 4: INDUSTRIAL AND OTHER EMPLOYMENT AREAS

3.07.410 Purpose and Intent

A. The Regional Framework Plan calls for a strong economic climate. To improve the region's economic climate, **[the plan] Title 4** seeks to **provide and** protect **[the] a** supply of sites for employment by limiting **[incompatible uses within] the types and scale of non-industrial uses in Regionally Significant Industrial Areas (RSIAs)**, Industrial Areas and Employment Areas. **Title 4 also seeks to provide the benefits of "clustering" to those industries that operate more productively and efficiently in proximity to one another than in dispersed locations. Title 4 further seeks [T]to** protect the capacity and efficiency of the region's transportation system for **the** movement of goods and services, and to **[promote the creation of jobs within designated Centers and discourages certain kinds of commercial retail development outside Centers] encourage the location of other types of employment in Centers, Employment Areas, Corridors, Main Streets and Station Communities. [It is the purpose of Title 4 to achieve these policies.] The Metro Council will [consider amendments to this title in order to make the title consistent with new policies on economic development adopted] evaluate the effectiveness of Title 4 in achieving these purposes** as part of **its** periodic **[review] analysis of the capacity of the urban growth boundary.**

3.07.420 Protection of Regionally Significant Industrial Areas

A. Regionally Significant Industrial Areas (RSIA) are those areas **[that offer the best opportunities for family-wage industrial jobs] near the region's most significant transportation facilities for the movement of freight and other areas most suitable for movement and storage of goods.** Each city and county with land use planning authority over **[areas] RSIAs** shown on the **[Generalized Map of Regionally Significant Industrial Areas adopted in Ordinance No. 02-969] Employment and Industrial Areas Map** shall derive specific plan designation and zoning district boundaries of **[the areas] RSIAs within its jurisdiction** from the Map, taking into account the location of existing uses that would not conform to the limitations on non-industrial uses in **[subsection C, D and E] this section, and [its] the need [of individual cities and counties] to achieve a mix of [types of] employment uses.**

B. **[Each city and county with land use planning authority over an area designated by Metro on the 2040 Growth Concept Map, as amended by Ordinance No. 02-969, as a Regionally Significant Industrial Area shall, as part of compliance with section 3.07.1120 of the Urban Growth Management Functional Plan, derive plan designation and zoning district boundaries of the areas from the Growth Concept Map] Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit the size and location of new buildings for retail commercial uses - such as stores and restaurants - and retail and professional services that cater to daily customers - such as financial, insurance, real estate, legal, medical and dental offices - to ensure that they serve primarily the needs of workers in the area. One such measure shall be that new buildings for stores, branches, agencies or other outlets for these retail uses and services shall not occupy more than 3,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project, with the following exceptions:**

**1. Within the boundaries of a public use airport subject to a facilities master plan, customary airport uses, uses that are accessory to the travel-related and freight movement activities of airports, hospitality uses, and retail uses appropriate to serve the needs of the traveling public; and**

2. Training facilities whose primary purpose is to provide training to meet industrial needs.

C. [After determining boundaries of Regionally Significant Industrial Areas pursuant to subsections A and B, the city or county] Cities and counties shall [adopt implementing ordinances that limit development in the areas to industrial uses, uses accessory to industrial uses, offices for industrial research and development and large corporate headquarters in compliance with subsection E of this section, utilities, and those non-industrial uses necessary to serve the needs of businesses and employees of the areas] review their land use regulations and revise them, if necessary, to include measures to limit the siting and location of new buildings for the uses described in subsection B and for non-industrial uses that do not cater to daily customers - such as bank or insurance processing centers - to ensure that such uses do not reduce off-peak performance on Main Roadway Routes and Roadway Connectors shown on Metro's Freight Network Map, November, 2003, below standards set in the 2004 Regional Transportation Plan or require added road capacity to prevent falling below the standards.

D. [Notwithstanding subsection C, a city or county shall not approve:

1. A commercial retail use with more that 20,000 square feet of retail sales area in a single building or in multiple buildings that are part of the same development project;  
or

2. Commercial retail uses that would occupy more than five percent of the net developable portion of all contiguous Regionally Significant Industrial Areas] No city or county shall amend its land use regulations that apply to lands shown as RSIA on the Employment and Industrial Areas Map to authorize uses described in subsection B that were not authorized prior to July 1, 2004.

E. [As provided in subsection C of this section, a city or county may approve an office for industrial research and development or a large corporate headquarters if:

1. The office is served by public or private transit; and

2. If the office is for a corporate headquarters, it will accommodate for the initial occupant at least 1,000 employees]

[F. A city or county] Cities and counties may allow division of lots or parcels into smaller lots or parcels as follows:

1. Lots or parcels [less] smaller than 50 acres may be divided into any number of smaller lots or parcels[;].

2. Lots or parcels [**50 acres or**] larger than 50 acres may be divided into smaller lots and parcels pursuant to a master plan approved by the city or county so long as the resulting division yields [**the maximum number of lots or parcels of**] at least [**50 acres**] one lot or parcel of at least 50 acres in size[;].

3. Lots or parcels 50 acres or larger, including those created pursuant to paragraph (2) of this subsection, may be divided into any number of smaller lots or parcels pursuant to a master plan approved by the city or county so long as at least 40 percent of the area of the lot or parcel has

**been developed with industrial uses or uses accessory to industrial use, and no portion has been developed, or is proposed to be developed, with uses described in subsection B of this section.**

4. Notwithstanding paragraphs 2[,] **and** 3 **[and]** of this subsection, any lot or parcel may be divided into smaller lots or parcels or made subject to rights-of-way for the following purposes:

- a. To provide public facilities and services;
- b. To separate a portion of a lot or parcel in order to protect a natural resource, to provide a public amenity, or to implement a remediation plan for a site identified by the Oregon Department of Environmental Quality pursuant to ORS 465.225;
- c. To separate a portion of a lot or parcel containing a nonconforming use from the remainder of the lot or parcel in order to render the remainder more practical for a permitted use; **or**
- d. **[To reconfigure the pattern of lots and parcels pursuant to subsection G or this section]**  
**[e.]** To allow the creation of a lot for financing purposes when the created lot is part of a master planned development.

**[G. A city or county may allow reconfiguration of lots or parcels less than 50 acres in area if the reconfiguration would be more conducive to a permitted use and would result in no net increase in the total number of lots and parcels. Lots or parcels 50 acres or greater in area may also be reconfigured so long as the resulting area of any such lot or parcel would not be less than 50 acres.]**

**[H] F.** Notwithstanding subsections **[C and D]** **B** of this section, a city or county may allow the lawful use of any building, structure or land existing at the time of adoption of its ordinance to implement this section to continue and to expand to add up to 20 percent more floor area and 10 percent more land area. Notwithstanding subsection E of this section, a city or county may allow division of lots or parcels pursuant to a master plan approved by the city or county prior to **[December 31, 2003] July 1, 2004.**

### 3.07.430 Protection of Industrial Areas

**A. [In Industrial Areas mapped pursuant to Metro Code section 3.07.130 that are not Regionally Significant Industrial Areas, c] Cities and counties shall [limit new and expanded retail commercial uses to those appropriate in type and size to serve the needs of businesses, employees and residents of the Industrial Areas] review their land use regulations and revise them, if necessary, to include measures to limit new buildings for retail commercial uses - such as stores and restaurants - and retail and professional services that cater to daily customers – such as financial, insurance, real estate, legal, medical and dental offices - in order to ensure that they serve primarily the needs of workers in the area. One such measure shall be that new buildings for stores, branches, agencies or other outlets for these retail uses and services shall not occupy more than 5,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project, with the following exceptions:**

**1. Within the boundaries of a public use airport subject to a facilities master plan, customary airport uses, uses that are accessory to the travel-related and freight movement activities of airports, hospitality uses, and retail uses appropriate to serve the needs of the traveling public; and**

2. Training facilities whose primary purpose is to provide training to meet industrial needs.

B. [In an Industrial Area, a city or county shall not approve:

1. A commercial retail use with more than 20,000 square feet of retail sales area in a single building or in multiple buildings that are part of the same development project; or

2. Commercial retail uses that would occupy more than ten percent of the net developable portion of the area or any adjacent Industrial Area] Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit new buildings for the uses described in subsection A to ensure that they do not interfere with the efficient movement of freight along Main Roadway Routes and Roadway Connectors shown on Metro's Freight Network Map, November, 2003. Such measures may include, but are not limited to restrictions on access to freight routes and connectors, siting limitations and traffic thresholds. This subsection does not require cities and counties to include such measures to limit new other buildings or uses.

C. No city or county shall amend its land use regulations that apply to lands shown as Industrial Area on the Employment and Industrial Areas Map to authorize uses described in subsection A of this section that were not authorized prior to July 1, 2004.

D. Cities and counties may allow division of lots or parcels into smaller lots or parcels as follows:

1. Lots or parcels smaller than 50 acres may be divided into any number of smaller lots or parcels.

2. Lots or parcels larger than 50 acres may be divided into smaller lots and parcels pursuant to a master plan approved by the city or county so long as the resulting division yields at least one lot or parcel of at least 50 acres in size.

3. Lots or parcels 50 acres or larger, including those created pursuant to paragraph (2) of this subsection, may be divided into any number of smaller lots or parcels pursuant to a master plan approved by the city or county so long as at least 40 percent of the area of the lot or parcel has been developed with industrial uses or uses accessory to industrial use, and no portion has been developed, or is proposed to be developed with uses described in subsection A of this section.

4. Notwithstanding paragraphs 2 and 3 of this subsection, any lot or parcel may be divided into smaller lots or parcels or made subject to rights-of-way for the following purposes:

a. To provide public facilities and services;

b. To separate a portion of a lot or parcel in order to protect a natural resource, to provide a public amenity, or to implement a remediation plan for a site identified by the Oregon Department of Environmental Quality pursuant to ORS 465.225;

c. To separate a portion of a lot or parcel containing a nonconforming use from the remainder of the lot or parcel in order to render the remainder more practical for a permitted use; or




d. To allow the creation of a lot for financing purposes when the created lot is part of a master planned development.

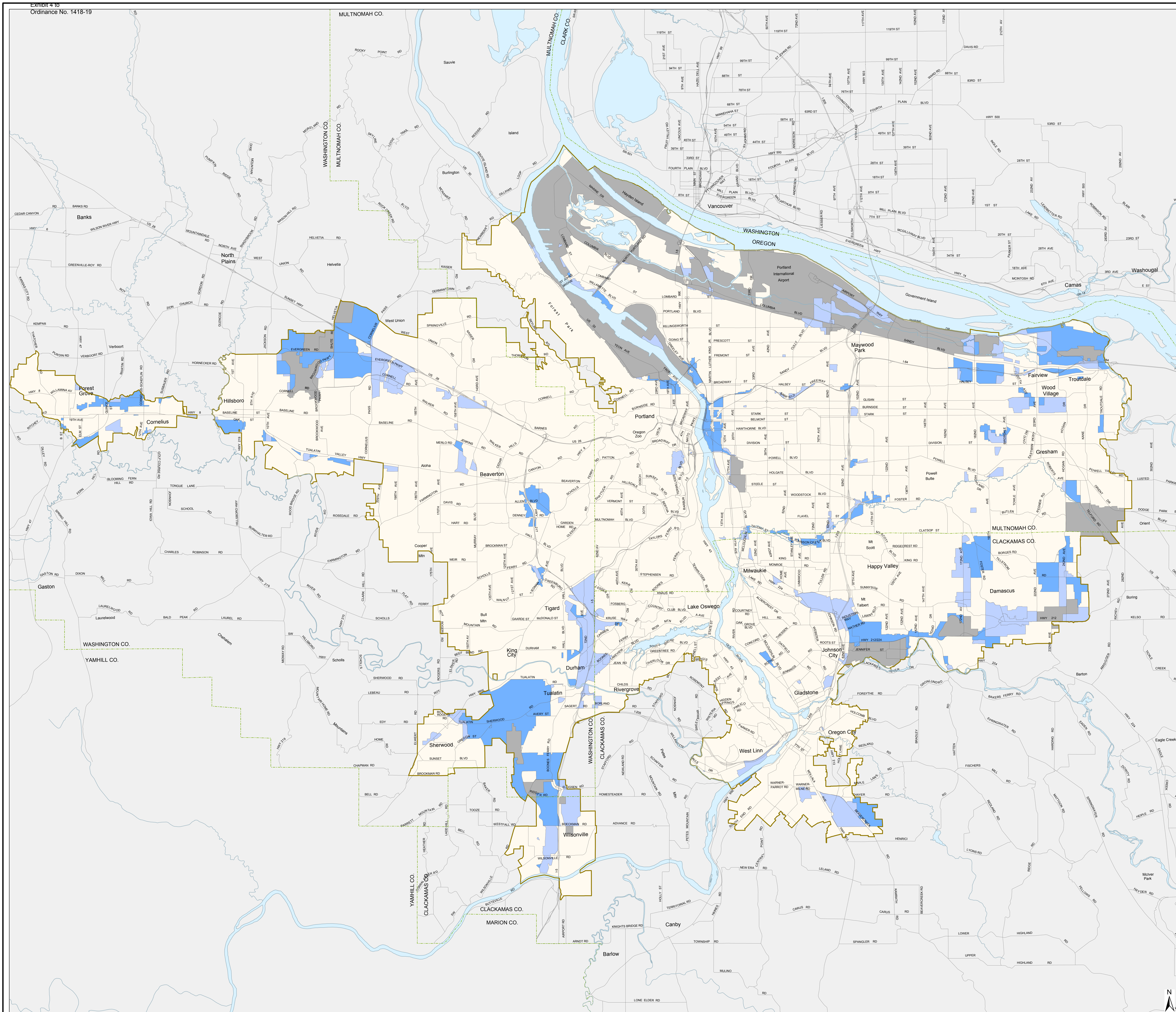
**E. Notwithstanding [subsection B] subsection A of this section, a city or county may allow the lawful use of any building, structure or land existing at the time of [enactment of an] adoption of its ordinance [adopted pursuant to this section] to implement this section to continue and to expand to add up to 20 percent more [floorspace] floor area and 10 percent more land area. Notwithstanding subsection D of this section, a city or county may allow division of lots or parcels pursuant to a master plan approved by the city or county prior to July 1, 2004.**

3.07.440 Employment Areas

- A. Except as provided in subsections C, D and E, in Employment Areas mapped pursuant to Metro Code Section 3.07.130, cities and counties shall limit new and expanded retail commercial uses to those appropriate in type and size to serve the needs of businesses, employees and residents of the Employment Areas.
- B. Except as provided in subsections C, D and E, a city or county shall not approve a commercial retail use in an Employment Areas with more than 60,000 square feet of gross leasable area in a single building, or retail commercial uses with a total of more than 60,000 square feet of retail sales area on a single lot or parcel, or on contiguous lots or parcels, including those separated only by transportation right-of-way.
- C. A city or county whose zoning ordinance applies to an Employment Area and is listed on Table 3.07-4 may continue to authorize retail commercial uses with more than 60,000 square feet of gross leasable area in that zone if the ordinance authorized those uses on January 1, 2003.
- D. A city or county whose zoning ordinance applies to an Employment Area and is not listed on Table 3.07-4 may continue to authorize retail commercial uses with more than 60,000 square feet of gross leasable area in that zone if:
1. The ordinance authorized those uses on January 1, 2003;
  2. Transportation facilities adequate to serve the retail commercial uses will be in place at the time the uses begin operation; and
  3. The comprehensive plan provides for transportation facilities adequate to serve other uses planned for the Employment Area over the planning period.
- E. A city or county may authorize new retail commercial uses with more than 60,000 square feet of gross leasable area in Employment Areas if the uses:
1. Generate no more than a 25 percent increase in site-generated vehicle trips above permitted non-industrial uses; and
  2. Meet the Maximum Permitted Parking – Zone A requirements set forth in Table 3.07-2 of Title 2 of the Urban Growth Management Functional Plan.

# Title 4 Industrial and Employment Land

-  Employment Land
-  Industrial Land
-  Regionally Significant Industrial Area


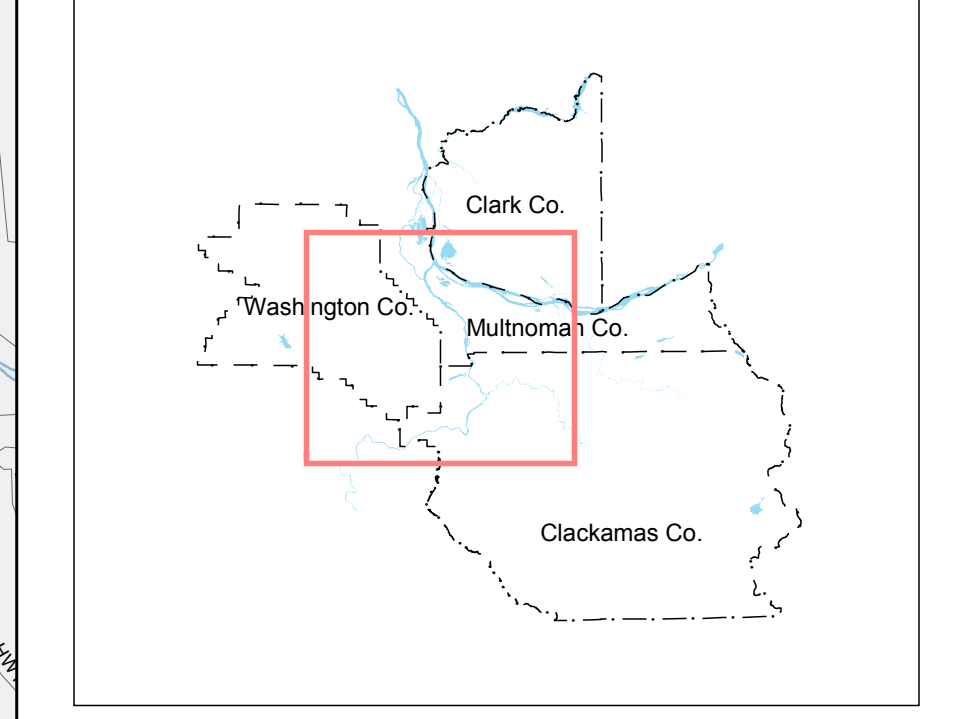


Updated May 10, 2006

WARNING: some maps combine data layers of differing map accuracies, e.g. flood plains can be lost or lost. When this occurs, the map is not reliable to correctly show data at the tax lot level.

The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors will be appreciated.

1 inch equals 1.0 miles

Location Map



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**Exhibit D to Ordinance No. 04-1040B**  
**Addendum to Housing Needs Analysis**  
**April 5, 2004**

**I. INTRODUCTION**

The attached three Tables satisfy the requirements of ORS 197.298(5)(a)(E) to provide at least 3 years of data on the number, density and average mix of housing for vacant, partially vacant, redevelopment and infill (refill) and mixed use designated land. Table 5(a)(E) – 1 provides number, density and mix data on refill land for the period 1997 through 2001. Table 5(a)(E) – 2 provides the same data for development on vacant and partially vacant land for the period 1998 through 2001. Table 5(a)(E) – 3 displays the number, density and mix data for development on mixed use land for the period 1998 – 2001.

As noted in the original Housing Needs Analysis submission, the data in the attached Tables are subsets of more aggregated data contained in the original Housing Needs Analysis Report. While interesting and informative, the data in the attached Tables do not contradict the conclusions and actions taken in conjunction with the Urban Growth Report and periodic review. Nor do the data affect the determinations of the overall average density and overall mix of housing types at which residential development must occur in order to meet housing needs through 2022, as depicted in the original Housing Needs Analysis, pages 2 through 7 and Figures 3.1, 3.2, 3.3, 5.1 and 5.3.

The remainder of the report consists of an explanation of methodology and data sources and a synopsis of the data content of each of the tables.

**II. METHODOLOGY AND DATA SOURCES**

**A. Data Sources**

In order to retrospectively meet the requirements of State Statute we made maximum use of Metro's RLIS archived data that extend back in some degree to 1995. These data consist of the following elements:

1. Land use data at the tax lot level designating land by vacant, developed and zoning category.
2. County assessor tax lot data showing use, value, sales data, etc.
3. Geo-coded building permit data by building type.
4. Air photos for each year taken approximately in July of each year with a trend of improving resolution level over time.

**B. Sampling Approach**

We elected to measure the data using a 20% sampling approach so that we could manually audit each of the selected data points to insure accuracy. Machine processing of the data is not possible due to the following sources of measurement error.

1. Building permit geo-coding variability as approximately 70% of building permits actually geo-code exactly to the correct tax lot.

2. Building permit data error due to incomplete reporting, undetected duplicates and inaccurate descriptions of building type, work done and location.
3. Slight registration discrepancies between tax lot maps, air photos and archived land use coverages.
4. Variability between the time a building permit is issued, building takes place and the tax lot is created and enumerated in the County Assessor's tax lot coverage. The practical consequence of this is often that a row house constructed on a 2,500 sq. ft. lot appears to be on a 100,000 sq. ft. plus lot because the subdivision plat is not yet available in the data base.

For multi-family units we modified the 20% sample to include 100% of all building permits for 20 or more units and applied the 20% rate to permits of under 20 units. This avoided the potential sampling errors associated with having a few permits for multi-family of over 100 or more units.

**C. Expansion Back to the Population Totals**

Because we elected a 100% count of multi-family the sample was not self-weighting. As a consequence after the analysis was complete we used a two phase approach to estimate the building permit population. First, we expanded our sample by building type back to the totals reported in our building permit data base. Secondly, since our building permit data base is incomplete relative to the totals reported to the State and Federal Government, we expanded our building permit data base to match the County totals by building type.

**D. Definition of Entities Being Measure**

State Statute requires we report on the number and densities by building type of development on "refill", "vacant", "partly vacant" and "mixed use" land. These entities we define and discuss in the context of our RLIS data base and measurement protocols as follows:

1. Refill: Housing units developed on land that Metro already considers developed in its data base. Refill is further divided into redevelopment and infill. Redevelopment occurs after an existing building has been removed. Infill is additional building without removal of existing buildings.
  - a. **Method of Measurement**: We measure refill by counting the number of permits that locate on land Metro considers developed in the next fiscal year. For instance for the year "1998" we would compare the RLIS developed and vacant lands inventory for the year ending June 30, 1998 with all building permits issued beginning July 1, 1998 and ending June 30, 1999. Building permits located on land Metro classed vacant as of June 30, 1998 would be classed as development on vacant land and permits landing on land Metro classed as developed as of June 30, 1998 would be classed as refill.
  - b. **Measurement Protocols**: As noted earlier we select a 20% sample of all permits for new residential construction from the RLIS data base for the relevant years (with the exception of the 100% of multi-family permits equal to or exceeding 20 units). Each permit is scrutinized manually by a

trained intern using the RLIS data base and air photos to insure it is properly located and that the permit is for valid construction that did occur as the permit indicated. The analyst then determines whether the permit constitutes refill or vacant land development. Beginning with this study the analyst further classifies the permit to “legal – Urban Growth Report” refill and “economic – MetroScope” refill. This distinction results from the fact that RLIS analysts classify some individual lots in developing green field areas as developed prior to actual development occurring and also classify land cleared for urban renewal areas as vacant. In the former case the economic interpretation is development on new and in the latter case the economic interpretation is refill development. However, to be consistent with the RLIS land accounting system on which the Urban Growth Report is based we classify development the way RLIS accounts for it. On the other hand, the MetroScope land use model used for forecasting and policy evaluation counts green field development as vacant land consumption and urban renewal as refill (redevelopment). Consequently, we report refill data for both classifications.

2. Vacant and partially vacant: In RLIS tax lots that are “completely vacant” (90% vacant) are classed as totally vacant. If the unoccupied portion of a tax lot with development exceeds ½ acre, the unoccupied portion is classed a partially vacant. Green field sites under development may transition from vacant to partially vacant, back to totally vacant to developed and back again to totally vacant depending on the patterns of tax lot subdivision activity and zone changes. This also is true for urban renewal redevelopment sites. There are also a limited number of partially vacant sites in established residential areas where present zoning would allow further subdivision and development.
  - a. **Method of Measurement**: Using the audited building permit sample we machine processed the permits classed as legally vacant to fully vacant and partially vacant. Due to map registration discrepancies the RLIS developed lands coverage for 1997 could not be used so we dropped 600 observations for that year. In addition, another 1400 observations failed the machine screening in that they could not be conclusively classed as either vacant or partially vacant without manual auditing. The 2000 observations excluded from the vacant and partially vacant analysis resulting in the number of units developed on some type of vacant land dropping from 39,000 to 25,000. Though not relevant to the refill study or overall results, discussions with RLIS analysts indicated that the machine filtering process was more likely to exclude partially vacant than vacant tax lots. The bias, resulting from this procedure was minimized, by restating our inventory totals of vacant and partially vacant land using the same screening procedures.
  - b. **Measurement Protocols**: Once the refill data base was reclassified between vacant and partially vacant, we tabulated all the development on vacant land by the type of vacant land it fell on by building type (multi-family and single family) and by lot size.

3. Mixed use development: In our RLIS data base mixed use development is classed as MUC1, MUC2 and MUC3. From the original audited refill data base we selected all the records of building permits that fell on land classed as MUC1, MUC2 or MUC3 regardless of whether it was refill, vacant or partially vacant. Again matching the RLIS land use inventory for 1997 proved problematic for machine selection procedures and this year was excluded. The resulting selection process produced 402 observations representing over 4,600 units constructed from 1998 through 2001.

**E. Years of Data Included in the Retrospective Analysis**

We included building permit data from 12/97 through 6/2002 that could be reliably recovered and geo-coded from our existing RLIS data base. This time period allows us to evaluate 5 years of recent history in regard to “refill” and 4 years of history for “vacant”, “partly vacant” and “mixed use” land.

**III. SYNOPSIS OF RESULTS**

**A. Data Table 5E1: Refill Numbers by Type and Density 1997 – 2001**

The data displayed on Table 5E1 show the amount of residential development of vacant and refill land that occurred during the period 1997 through 2001. During that period nearly 54,000 dwelling units located within the Metro region.<sup>1</sup> Of the 54,000 dwelling units, 26.5% occurred as refill according to the legal – Urban Growth Report definition. Using the economic-MetroScope definition 30.4% were refill reflecting the increasing importance of redevelopment in urban renewal areas and centers. Nearly 20,000 of the units constructed were multi-family with a legal refill rate of 31.5% and an economic rate of 40.2%. 34,000 units constructed were single family with a legal refill rate of 23.6% and an economic rate of 24.7%. Average lot sizes are also reported for every category.<sup>2</sup> For multi-family average lot sizes range from 1,800 to 2,000 sq. ft. depending on category. For single family average lot sizes range from 6,600 to 8,400 sq. ft. with refill development generally in the 6,500 – 7,000 sq. ft. range.

**B. Table 5E1(a): Median Lot Size Data**

This table provides additional and somewhat more meaningful weighted median lot size data. When we compare the average lot sizes in Table 5E1, we observe substantive differences in most cases. In general the median lot sizes are 30% less for vacant single family, 25% more for vacant multi-family, 25% less for refill single family and 30% less for refill multi-family. For all types combined the weighted median is 27% less for vacant and 26% less for refill. Assuming that the present median is a superior measure of long run average lot size, the combined weighted median of 4,417 sq. ft. should be used to determine vacant land consumption. This figure combined with the 39,619 units located on legally vacant land over the 5 year period implies a land consumption of slightly over 4,000 net buildable acres. Using a plausible range of gross to net conversion factors of .55 - .7 yields a gross buildable acre consumption of 1,150 to 1,450 acres per year, within the range estimated in the original Housing Needs Analysis.<sup>3</sup>

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<sup>1</sup> **Real Estate Report for Metropolitan Portland, Oregon**, Spring 2003. Numbers are based on building permits summarized at the County level and only approximate the UGB. This procedure slightly overstates UGB land consumption.

<sup>2</sup> Average as contrasted to median inflates land consumption as the measure is substantially influenced by a few large lot single family permits on urban land still zoned RRFU that will subsequently be subdivided. RLIS procedure of assuming ½ acre of land consumption for permits on non-subdivided land also inflates average lot size.

<sup>3</sup> While appearing precise, attempting to estimate long run densities and land consumption from individual lot sizes involves substantial uncertainties. The most serious of these is the gross to net conversion factor as we only observe

**C. Table 5E2: Housing on Fully Vacant and Partially Vacant Land**

The accompanying table presents the required data on development on a subcategory of vacant land – fully vacant land and land partially vacant. As noted in the methods section, fully or partially vacant is classified relative to the tax lot existing at the time of the RLIS vacant and developed lands inventory. As also noted in the methods section, due to procedures and quirks of the land development and reporting process land may be fully vacant, partially vacant or developed refill land several times during the development process. In addition as a result of attempting to categorize and measure “partially vacant” we discover that the acreage totals are extremely volatile and sensitive to whatever criteria we use in the machine query process to differ partial from full. Very minor discrepancies between vacant land coverages and assessor’s tax lot coverages can dramatically change the inventories of fully and partially vacant. In the methods section we note that we use the same selection criteria for both the inventory totals and the classification of the refill sample into fully and partially vacant.

Of the over 39,000 legal vacant units located in the Metro Region for the period 1997 – 2001 we were able to reliably classify 25,000 units covering the period 1998 – 2001. Of these 15,500 (62.6%) were on fully vacant land and 9,300 (37.4%) were on partially vacant land. Looking at *Table 5E2(a) Fully Vacant and Partially Vacant Land Inventory 1998 – 2001* (replacing Table 4.1AB in the original Housing Needs Analysis) that on average partially vacant comprised 34.3% of the vacant land inventory. In sum development on partially vacant land overall has been occurring at roughly the same rate as development on fully vacant land and appears to not be materially different.

At the same time we recognize that there are a number of instances where partially vacant land shares a tax lot with a high valued single family home. In order to better understand the likelihood of further development under these circumstances, we used our single family sales price study to estimate the “optimum lot size” by neighborhood and house size. We define optimum lot size as the lot size at which at the loss of value to a homeowner by selling off part of his lot just equals the amount he gains by selling the land. If the homeowner sells more land, the value of his house declines more than he gains by the sale. Conversely, if he sells less land, the land unsold contributes less to the value of his home than the amount he would receive were he to sell it. Making that calculation for Dunthorpe we found that a \$1,000,000 home on 5 acres would have a positive incentive to sell off land down to about 1 – 1.5 acres. By comparison, a \$600,000 home on 1 acre would have an incentive to sell off no more than ½ acre. Significantly, in 2000 the average Dunthorpe selling price was \$590,000 for a 3,100 sq. ft. house on a 22,000 sq. ft. lot, almost exactly the optimum lot size determined from our estimates. On average then we would expect Dunthorpe to have no additional capacity other than that resulting from subdivision of lots at least 1 acre to sizes no smaller than ½ acre. Optimum lot size calculations vary dramatically by neighborhood. For instance, the average house in the Powellhurst-Gilbert neighborhood has a positive incentive to sell off land down to and sometimes below a 5,000 sq. ft. lot minimum. This is more often the case within the Metro region notwithstanding the exceptionally high value areas such as Dunthorpe.

**D. Table 5E3: Housing on Mixed Use Designated Land**

As required by statute the accompanying table shows development for the period 1998 – 2001 that occurred on land Metro considered at the time of development to be MUC1, MUC2 and MUC3. As pointed out in the methods section, the mixed use inventory includes refill, vacant and partially vacant

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net buildable land consumption and cannot measure land lost to streets, parks, schools, freeways, etc. The second drawback is that average lot size measures are always exaggerated by a few large lot placements (often of manufactured homes) done by private individuals that will undoubtedly be further subdivided sometime in the future.

lands. Over the 4 year period we noted 4,600 housing units developed of which 3,000 were multi-family and 1,600 were single family. Average lot size for multi-family was 1,400 sq. ft. and single family lot size was 2,300 sq. ft. Table 5E3(a) depicts the 2040 Plan mixed use capacity as of 8/98. Total mixed use capacity at that time was roughly 23,000 units. Mixed use development constituted about 11% of residential development for the 4 year period 98 – 2001. As of 1998, mixed use capacity of 23,000 units constituted 12% of the capacity 193,000 dwelling unit capacity estimated at the time. As was the case with vacant and partially vacant, this sub-classification of land type seems to produce housing at a rate commensurate with its proportion of the land inventory.

**Exhibit 5E1\_: Housing on Vacant and Refill Land -  
Number, Type and Density 1997 Through 2001**

Vacant/Refill Status	Year					Grand Total
	1997	1998	1999	2000	2001	
<b>Legal - Urban Growth Report Basis</b>						
<b>Vacant Legal</b>						
Multi Family	4,412	3,761	2,407	1,824	1,274	13,678
Average Lot Size	2,208	2,021	813	1,244	2,502	1,810
Single Family	4,594	5,670	4,814	5,425	5,439	25,941
Average Lot Size	8,516	8,611	10,104	6,292	8,161	8,292
Total All Types	9,005	9,431	7,221	7,249	6,713	39,619
Average Lot Size	5,425	5,983	7,007	5,022	7,087	6,054
<b>Refill Legal</b>						
Multi Family	2,228	1,567	918	503	1,059	6,275
Average Lot Size	2,729	2,042	1,178	1,353	1,499	2,013
Single Family	2,446	1,451	1,994	958	1,170	8,020
Average Lot Size	6,017	7,505	5,787	7,521	9,260	6,882
Total All Types	4,675	3,018	2,912	1,461	2,229	14,295
Average Lot Size	4,450	4,669	4,334	5,397	5,573	4,744
Percent of Development Refill	34.2%	24.2%	28.7%	16.8%	24.9%	26.5%
<b>Economic - MetroScope Basis</b>						
<b>Vacant Economic</b>						
Multi Family	4,300	3,103	1,983	1,484	1,068	11,938
Average Lot Size	2,260	2,124	955	1,245	2,304	1,885
Single Family	5,196	4,962	5,466	4,503	5,455	25,582
Average Lot Size	8,352	9,035	9,614	6,463	8,178	8,384
Total All Types	9,496	8,065	7,449	5,986	6,523	37,520
Average Lot Size	5,593	6,376	7,309	5,169	7,216	6,317
<b>Refill Economic</b>						
Multi Family	2,340	2,225	1,342	843	1,265	8,015
Average Lot Size	2,608	1,894	852	1,309	1,830	1,856
Single Family	1,844	2,159	1,342	1,880	1,154	8,379
Average Lot Size	5,664	6,891	5,686	6,510	9,196	6,660
Total All Types	4,184	4,384	2,684	2,724	2,419	16,394
Average Lot Size	3,955	4,355	3,269	4,899	5,344	4,311
Percent of Development Refill	30.6%	35.2%	26.5%	31.3%	27.0%	30.4%

**Exhibit 5E1(a)\_: Housing on Vacant and Refill Land -  
Median Lot Size 1997 - 2001**

Year	Legal - Urban Growth Report Basis				2001 Totals	
	1997	1998	1999	2000		
<b>Single Family</b>						
Median Lot Size Vacant	5,936	5,887	6,021	5,268	5,001	5,605
Median Lot Size Refill	5,406	5,628	4,001	5,301	5,047	5,032
<b>Multi Family</b>						
Median Lot Size Vacant	3,550	2,348	352	825	2,377	2,242
Median Lot Size Refill	1,630	2,318	953	408	534	1,384
<b>Total All Types</b>						
Median Lot Size Vacant	4,684	4,480	4,159	4,105	4,562	4,417
Median Lot Size Refill	3,930	3,902	3,003	3,851	2,724	3,506
<b>Economic - MetroScope Basis</b>						
<b>Single Family</b>						
Median Lot Size Vacant	5,955	5,897	6,000	5,277	5,026	5,636
Median Lot Size Refill	5,196	5,569	3,177	5,267	5,001	4,958
<b>Multi Family</b>						
Median Lot Size Vacant	3,562	2,367	385	933	2,377	2,420
Median Lot Size Refill	1,100	2,007	485	404	1,172	1,131
<b>Total All Types</b>						
Median Lot Size Vacant	4,835	4,555	4,628	4,515	4,688	4,660
Median Lot Size Refill	3,031	3,739	1,731	3,218	2,816	2,997



**Exhibit 5E3\_ : Housing on Mixed Use Designated Land by  
Number, Type and Density 1998 Through 2001**

Land Use Class	Year				Grand Total
	1998	1999	2000	2001	
<b>Mixed Use One</b>					
Multi Family	1,116	367	262	321	2,066
Average Lot Size	1,834	1,427	1,437	2,313	1,786
Single Family	226	100	304	737	1,367
Average Lot Size	3,127	4,386	2,482	1,946	2,439
<b>Mixed Use Two</b>					
Multi Family	41	153	132	-	326
Average Lot Size	2,277	252	1,090	-	846
Single Family	40	87	55	25	207
Average Lot Size	1,919	2,159	1,265	1,574	1,803
<b>Mixed Use Three</b>					
Multi Family	133	203	146	107	590
Average Lot Size	1,605	345	250	100	561
Single Family	37	23	21	-	80
Average Lot Size	2,108	1,841	2,144	-	2,043
<b>Total Mixed Use</b>					
Multi Family	1,290	723	541	428	2,982
Average Lot Size	1,824	874	1,032	1,758	1,441
Single Family	303	210	380	763	1,655
Average Lot Size	2,845	3,187	2,287	1,934	2,340
Total All Types	1,593	933	920	1,190	4,637
Average Lot Size	2,018	1,394	1,549	1,870	1,762

**Exhibit 5E3(a)\_: Mixed Use 2040 Plan Designated Land Capacity 8/98**  
**(Includes Capacity of Vacant, Infill and Redevelopment Land & Areas)**

<b>Plan Category</b>	<b>DU Capacity</b>
<b>MUC 1</b>	10,320
<b>MUC 2</b>	7,250
<b>MUC 3</b>	4,650
<b>Total Capacity</b>	22,220

**Source: Compiled from Urban Growth Report Addendum, August 1998, page 40.**  
**MUC 1 includes MUEA capacity.**

**Exhibit 5E2\_: Housing on Fully Vacant and Partially  
Vacant Land - Number, Type and Density 1998 Through 2001**

Land Vacancy Class	Year				Grand Total
	1998	1999	2000	2001	
<b>Fully Vacant</b>					
Multi Family	1,012	1,910	714	801	4,438
Average Lot Size	2,383	871	1,720	2,784	1,698
Single Family	2,554	2,894	2,808	2,951	11,206
Average Lot Size	6,517	6,743	5,684	5,327	6,054
Total	3,566	4,804	3,522	3,752	15,644
Average Lot Size	5,344	4,408	4,880	4,784	4,818
<b>Partly Vacant</b>					
Multi Family	2,496	319	271	126	3,213
Average Lot Size	1,847	638	778	1,339	1,617
Single Family	2,219	1,159	1,501	1,244	6,122
Average Lot Size	5,984	7,764	5,624	4,622	5,956
Total	4,715	1,478	1,772	1,370	9,335
Average Lot Size	3,794	6,227	4,882	4,320	4,463
<b>Combined</b>					
Multi Family	3,508	2,229	986	927	7,651
Average Lot Size	2,002	837	1,460	2,588	1,664
Single Family	4,773	4,053	4,309	4,194	17,329
Average Lot Size	6,269	7,035	5,663	5,118	6,019
Total	8,281	6,282	5,295	5,122	24,979
Average Lot Size	4,461	4,836	4,881	4,660	4,685
Percent Units on Fully Vacant:					62.6%
Percent Units on Partly Vacant:					37.4%

**Exhibit 5E2(a)\_: Housing on Fully Vacant and Partially  
Vacant Land - Inventory of Fully Vacant and Partially Vacant All Land Classes**

Land Vacancy Class	Year				2001 4 Year Average	Percent
	1998	1999	2000			
<b>Fully Vacant</b>	33,422	30,820	28,789	26,631	29,916	65.7%
<b>Partly Vacant</b>	16,678	15,776	15,401	14,738	15,648	34.3%
<b>Total</b>	50,100	46,596	44,190	41,369	45,564	100.0%

**Filter Criteria: Full - 90% of year 1 tax lot is vacant**

**Maybe - Vacant area is <90% of year 1 taxlot and >=5,000 sq. ft. and <1/2 acre**

**Part - Vacant area is <90% of year 1 taxlot and >= 1/2 acre**

**Sliver - vacant area is <90% of year 1 taxlot and < 5,000 sq. ft.**

**Exhibit F to Ordinance No. 04-1040B**  
**Conditions on Addition of Land to the UGB**

**I. GENERAL CONDITIONS APPLICABLE TO ALL LANDS ADDED TO THE UGB**

A. The city or county with land use planning responsibility for a study area included in the UGB shall complete the planning required by Metro Code Title 11, Urban Growth Management Functional Plan (“UGMFP”), section 3.07.1120 (“Title 11 planning”) for the area. Unless otherwise stated in specific conditions below, the city or county shall complete Title 11 planning within two years after the effective date of this ordinance. Specific conditions below identify the city or county responsible for each study area.

B. The city or county with land use planning responsibility for a study area included in the UGB, as specified below, shall apply the 2040 Growth Concept design types shown on Exhibit E of this ordinance to the planning required by Title 11 for the study area.

C. The city or county with land use planning responsibility for a study area included in the UGB shall apply interim protection standards in Metro Code Title 11, UGMFP, section 3.07.1110, to the study area until the effective date of the comprehensive plan provisions and land use regulations adopted to implement Title 11.

D. In Title 11 planning, each city or county with land use planning responsibility for a study area included in the UGB shall recommend appropriate long-range boundaries for consideration by the Council in future expansions of the UGB or designation of urban reserves pursuant to 660 Oregon Administrative Rules Division 21.

E. Each city or county with land use planning responsibility for an area included in the UGB by this ordinance shall adopt provisions – such as setbacks, buffers and designated lanes for movement of slow-moving farm machinery – in its land use regulations to enhance compatibility between urban uses in the UGB and agricultural practices on adjacent land outside the UGB zoned for farm or forest use.

F. Each city or county with land use planning responsibility for a study area included in the UGB shall apply Title 4 of the UGMFP to those portions of the study area designated Regionally Significant Industrial Area (“RSIA”), Industrial Area or Employment Area on the 2040 Growth Concept Map (Exhibit C). If the Council places a specific condition on a RSIA below, the city or county shall apply the more restrictive condition.

G. In the application of statewide planning Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces) to Title 11 planning, each city and county with land use responsibility for a study area included in the UGB shall comply with those provisions of Title 3 of the UGMFP acknowledged by the Land Conservation and Development Commission (“LCDC”) to comply with Goal 5. If LCDC has not acknowledged those provisions of Title 3 intended to comply with Goal 5 by the deadline for completion of Title 11 planning, the city or county shall consider, in the city or county’s application of Goal 5 to its Title 11 planning, any inventory of regionally significant Goal 5 resources and any preliminary decisions to allow, limit or prohibit conflicting uses of those resources that is adopted by resolution of the Metro Council.

[H. Each city and county shall apply the Transportation Planning Rule \(OAR 660 Div 012\) in the planning required by subsections F \(transportation plan\) and J \(urban growth diagram\) of Title 11.](#)

**II. SPECIFIC CONDITIONS FOR PARTICULAR AREAS**

A. Damascus Area

1. Clackamas County and Metro shall complete Title 11 planning requirements through the incorporation of this area into the greater Damascus/Boring Concept Plan planning effort currently underway. This planning shall be completed within the same time frame as specified in Ordinance No. 02-969B.
2. In the planning required by Title 11, subsections (A) and (F) of section 3.07.1120, Clackamas County or any future governing body responsible for the area shall provide for annexation of those portions of the area whose planned capacity is sufficient to support transit to the Tri-met District.
3. In the planning required by Title 11, subsections (A) and (F) of section 3.07.1120, Clackamas County or any future governing body responsible for the area shall provide for annexation of those portions of the area whose planned capacity is sufficient to support transit to the Tri-met District.

B. Beavercreek Area

1. Clackamas County or, upon annexation to Oregon City, the city and county, with Metro, shall complete Title 11 planning for the area.
2. This area shall be planned in conjunction with the adjoining tax lot added to the UGB in 2002, under Ordinance No. 02-969B.

~~C. Borland Area North of I-205~~

- ~~1. Clackamas County or, upon annexation to the City of Tualatin, the city and county, in coordination with the Cities of Lake Oswego, Tualatin, and West Linn and Metro, shall complete Title 11 planning within four years following the effective date of Ordinance No. 04-1040. The county and city, in conjunction with Lake Oswego and West Linn and Metro shall recommend long range boundaries in the Stafford Basin and general use designations for consideration by the Council in future expansions of the UGB.~~
- ~~2. Until the effective date of new regulations adopted pursuant to Title 11, the city or county with land use planning responsibility for the area shall not allow the division of a lot or parcel that is 50 acres or larger into lots or parcels smaller than 50 acres.~~

~~DC. Tualatin Area~~

1. Washington County or, upon annexation to the Cities of Tualatin or Wilsonville, the cities, in conjunction with Metro, shall complete Title 11 planning within ~~four~~ two years following the selection of the right-of-way alignment for the I-5/99W Connector, or within seven years of the effective date of Ordinance No. 04-1040, whichever occurs earlier.

2. Title 11 planning shall incorporate the general location of the projected right of way ~~location~~ alignment for the I-5/99W connector and the Tonquin Trail as shown on the 2004 Regional Transportation Plan. If the selected right-of-way for the connector follows the approximate course of the "South Alignment," as shown on the Region 2040 Growth Concept Map, as amended by Ordinance No. 03-1014, October 15, 2003, the portion of the Tualatin Area that lies north of the right-of-way shall be designated "Inner~~Outer~~ Neighborhood" on the Growth Concept Map; the portion that lies south shall be designated "Industrial."
3. The governments responsible for Title 11 planning shall consider using the I-5/99W connector as a boundary between the city limits of the City of Tualatin and the City of Wilsonville in this area.

~~D.~~ D. Quarry Area

1. Washington County or, upon annexation to the cities of Tualatin or Sherwood, the cities, and Metro shall complete Title 11 planning for the area.
2. Title 11 planning shall, if possible, be coordinated with the adjoining area that was included in the UGB in 2002 under Ordinance No. 02-969B.
3. Until the effective date of new regulations adopted pursuant to Title 11, the city or county with land use planning responsibility for the area shall not allow the division of a lot or parcel that is 50 acres or larger into lots or parcels smaller than 50 acres.
4. Title 11 planning shall incorporate the general location of the projected right-of-way for the Tonquin Trail as shown on the 2004 Regional Transportation Plan.

~~E.~~ E. Coffee Creek Area

1. Washington and Clackamas Counties or, upon annexation of the area to the ~~City~~ cities of Tualatin or Wilsonville, the city, ~~and in conjunction with~~ Metro, shall complete the Title 11 planning for the area within ~~four~~ two years following the selection of the right-of-way alignment for the I-5/99W Connector, or within seven years of the effective date of Ordinance No. 04-1040B, whichever occurs earlier.
2. ~~The concept~~ Title 11 planning shall incorporate the general location of the projected right of way location for the I-5/99W connector and the Tonquin Trail as shown on the 2004 Regional Transportation Plan.

~~G.~~ G. Wilsonville East Area

1. ~~Clackamas County or, upon annexation of the area to the City of Wilsonville, the city, and Metro shall complete the Title 11 planning for the area within two years of the effective date of Ordinance No. 04-1040.~~
2. ~~In the planning required by Title 11 a buffer shall be incorporated to mitigate any adverse effects of locating industrial uses adjacent to residential uses located southwest of the area.~~

- ~~3. Until the effective date of new regulations adopted pursuant to Title 11, the city or county with land use planning responsibility for the area shall not allow the division of a lot or parcel that is 50 acres or larger into lots or parcels smaller than 50 acres.~~

~~H~~F. Cornelius Area

1. Washington County, or, upon annexation of the area to the City of Cornelius, the city and Metro shall complete the Title 11 planning for the area.

~~I~~G. Helvetia Area

1. Washington County, or upon annexation of the area to the City of Hillsboro, the city, and Metro shall complete the Title 11 planning for the area.
2. Until the effective date of new regulations adopted pursuant to Title 11, the city or county with land use planning responsibility for the area shall not allow the division of a lot or parcel that is 50 acres or larger into lots or parcels smaller than 50 acres.



**Exhibit G to Ordinance No. 04-1040B  
Findings of Facts, Conclusions of Law**

**Introduction**

The Metro Council adopted Ordinance 04-1040B in response to LCDC Partial Approval and Remand Order 03-WKTASK-001524, entered July 7, 2003. LCDC's order followed its review of seven ordinances (Nos. 02-969B, 02-983B, 02-984A, 02-985A, 02-986A, 02-987A and 02-990A) adopted by the Metro Council as part of Periodic Review Work Task 2. The findings of fact and conclusions of law that explained how those ordinances complied with state planning laws, together with the supplemental findings and conclusions set forth in this exhibit, are part of the explanation how Ordinance No. 04-1040B complies with those laws. These findings also explain how Ordinance No. 04-1040B complies with the three requirements of the remand order.

**REQUIREMENT NO. 1:**

**REMAND ORDER ON SUBTASK 17: COMPLETE THE ACCOMMODATION OF THE NEED FOR THE INDUSTRIAL LAND NEED COMPONENT OF EMPLOYMENT LAND THAT REMAINS APPROVAL OF WORK TASK 2.**

**I. GENERAL FINDINGS FOR TASK 2 REMAND DECISION ON UGB**

**A. Coordination with Local Governments**

Metro worked closely with the local governments and special districts that comprise the metropolitan region. The Metro Charter provides for a Metropolitan Policy Advisory Committee ("MPAC") composed generally of representatives of local governments, special districts and school districts in the region. MPAC reviewed all elements of this periodic review decision. MPAC made recommendations to the Metro Council on most portions of the decision. All recommendations were forwarded formally to the Council and the Council responded. Metro Councilors and staff held many meetings with local elected officials in the year since LCDC's remand (July 7, 2003).

The record of this decision includes correspondence between local governments and Metro, including Metro's responses to concerns and requests from local governments and local districts related to industrial land.

Metro accommodated the requests and concerns of local governments as much as it could, consistent with state planning laws and its own Regional Framework Plan (Policy 1.11) and Regional Transportation Plan (Policy 2.0).

**B. Citizen Involvement**

These findings address Goal 1 and Regional Framework Plan Policy 1.13.

To gather public input on this Task 2 remand decision, Metro conducted an extensive citizen involvement effort. The findings for Ordinance No. 02-969B set forth Metro's effort leading to adoption of that ordinance on December 5, 2002. Those findings are incorporated here. Since that time, the Metro notified by mail nearly 75,000 people of the pending decision to expand the UGB for industrial land. Metro also provided individual mailed notice to nearly 5,000 landowners of possible revisions to Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan ("UGMFP"). In March, 2004, Metro held six workshops on industrial land throughout the region, attended by some 1,200 people. Finally, the Council held public hearings on the UGB expansion and Title 4 on December 4 and December 11 of 2003 and April 22 and 29, May 6 and 27, and June 10 and 24 of 2004.

# Exhibit 4 to Ordinance No. 1418-19

These efforts bring Metro into compliance with Goal 1 and Metro's Regional Framework Plan. More important, this work to involve Metro area citizens has contributed greatly to their understanding of the importance of this set of decisions for the region and have brought Metro invaluable comment on options available to it.

## **C. Need for Land**

These findings address ORS 197.296; ORS 197.732(1)(c)(A); Goal 2, Exceptions, Criterion (c)(1); Oregon Administrative Rules 660-004-0010(1)(c)(B)(i) and 660-004-0020(2)(a); Goal 9 (local plan policies); Goal 10; Goal 14, Factors 1 and 2; Metro Regional Framework Plan ("RFP") Policies 1.2, 1.4, 1.4.1 and 1.4.2; and Metro Code 3.01.020(b)(1) and (2).

The findings for Ordinance No. 02-969B set forth Metro's analysis of the need for land for new jobs through the year 2022. The Urban Growth Report-Employment ("UGR-E") provides the details of that analysis. The analysis indicates that the region will need approximately 14,240 acres to accommodate an additional 355,000 jobs (all employment, commercial and industrial). Based upon new information that came to the Council during hearings on Title 4 revisions and UGB expansion, Metro completed a supplement (Ordinance No. 04-1040B, Appendix A, Item b) to the UGR-E that describes emerging trends in industrial use.

Leading to adoption of the ordinances that expanded the UGB in December, 2002, Metro analyzed the capacity of the existing UGB to accommodate this employment growth. The analysis determined that the UGB contained a surplus of land (759.6 acres) for commercial employment and a deficit of land (5,684.9 acres) for industrial development. The UGR-E provides the details of this analysis.

Following adoption of the December, 2002, ordinances, Metro analyzed the capacity of the expanded UGB. Those ordinances left Metro with a deficit of 1,968 acres of industrial land and a surplus of 393 acres of commercial land. From this analysis, the Council concluded that the UGB, as expanded by ordinances in December, 2002, did not have sufficient capacity to accommodate the remaining unmet need for industrial land. This deficit was one reason for LCDC's July 7, 2003, remand order directing Metro to complete the accommodation of this need for industrial land.

Based upon interviews with industrial developers, brokers and consultants, the Regional Industrial Land Survey ("RILS") and Metro's UGR-E, Metro refined the need for industrial land. Not just any land will satisfy the need for industrial use. Metro defined the need as 1,968 acres of land composed generally of less than 10 percent slope that lies either within two miles of a freeway interchange or within one mile of an existing industrial area. RILS and the UGR-E also calculate the need for parcels of varying sizes by sectors of the industrial economy. Table 13 of the UGR-E shows a need for 14 parcels 50 acres or larger for the warehouse and distribution and tech/flex sectors (page 25).

## **D. Alternatives: Increase Capacity of the UGB**

These findings address ORS 197.732(c)(B); Goal 14, Factors 3 and 4; Goal 2, Exceptions, Criterion 2; OAR 660-004-0010(1)(B)(ii) and 660-004-0020(2)(b); Metro Code 3.01.020(b)(1)(E); and RFP Policies 1.2, 1.3, 1.4, 1.6, 1.7, 1.8 and 1.9.

To address the shortfall in employment capacity, Metro considered measures to increase the efficiency of land use within the UGB designated for employment. Metro's UGMFP Title 4, first adopted in 1996, limited non-employment uses in areas designated Industrial and Employment. Analysis of results of local implementation of Title 4 indicates that commercial uses and other non-industrial uses are converting land designated for industrial use to non-industrial use.

## Exhibit 4 to Ordinance No. 1418-19

In response to this information, the Metro Council amended the RFP in Ordinance No. 02-969B in December, 2002, to improve the protection of the existing industrial land base. The Council created a new 2040 Growth Concept design type – “Regionally Significant Industrial Land” (“RSIA”) – and revised Title 4 to establish new limitations on commercial office and commercial retail uses in RSIA. Metro estimated that these new measures would reduce the shortfall in industrial land by 1,400 acres by reducing encroachment by commercial uses. The Council counted this “savings” of industrial land in its determination that the deficit of industrial land following the December, 2002, expansion of the UGB was 1,968 net acres.

Following adoption of the December ordinances, the Council began implementation of the new policy and code, including the mapping of RSIA. The process of developing the map with cities and counties in the region uncovered implementation difficulties with the provisions of the new Title 4 that limited commercial retail and office uses. With Ordinance No. 04-1040B, the Council once again revised Title 4 with two objectives: greater flexibility for traded-sector companies and retention of the 1,400-acre “savings” estimated from the December, 2002, revisions. Based upon the analysis of Title 4 revisions in the supplement to the UGR-E (Ordinance No. 04-1040B, Appendix A, Item b), the Council estimates that the revisions, in combination with conditions placed upon areas added to the UGB for industrial use, will continue to “save” 1,400 acres of industrial land from intrusion by commercial uses.

During hearings on the remand from LCDC, the Council received testimony that an increasing number of industrial jobs is finding space in office buildings rather than in traditional industrial buildings. The Council relied upon this testimony to revise Title 4 limitations on offices in industrial areas. The Council also relied upon the testimony to apply the 393-acre surplus of commercial land taken into the UGB by the December, 2002, ordinances to the need for 1,968 acres of industrial land. The Council assumed that offices in the region’s designated Employment Areas, Centers, Corridors, Station Communities and Mains Streets would absorb industrial jobs. This assumption reduced the need for industrial land from 1,968 to 1,575 net acres.

Also during the hearings, the cities of Wilsonville, Oregon City and Fairview brought news of recent plan amendments (adopted after completion of Metro’s inventory of industrial land) adding land to the industrial land supply. The Council concluded that the land added by Wilsonville (127 acres) and Oregon City (74 acres) are actually available for industrial use, subject to timing and infrastructure requirements. The Council concluded that the Fairview land, though designation industrial in the city’s comprehensive plan, is not yet appropriately zoned to make it available for industrial use. These actions reduced the need for industrial land from 1,575 to 1,374 net acres.

The City of Gresham requested a change to the 2040 Growth Concept Map and the Title 4 Employment and Industrial Areas map for a 90-acre tract that is part of Study Area 12 and adjacent to land added to the UGB in December, 2002, for industrial use. The city says further planning work on its part has revealed that some 20 acres of the tract are suitable for industrial use. The Council makes this change in Ordinance No. 04-1040B, reducing the need from 1,374 to 1,354.

In a further effort to accommodate industrial development more efficiently within the UGB, the Council discovered that it had assumed a commercial development refill rate of 50 percent, lower than the most recently observed rate of 52 percent. For the reasons stated above, the Council concludes that this infill and re-development of lands in designated Employment Areas, Centers, Corridors, Station Communities and Mains Streets will accommodate some of the increasing number of industrial jobs that is locating in offices rather than factories or other traditional industrial buildings. Correction of the commercial refill rate assumption reduces the need for industrial land from 1,354 to 1,180 acres.

**E. Alternatives: Expand the UGB**

These findings address ORS 197.732(c)(B), (C) and (D) and Goal 2, Exceptions; ORS 197.298(1); Goal 11; Goal 14, Factors 3-7; OAR 660-004-0010(1) and 660-004-0020(2); RFP Policies 1.2, 1.3.1, 1.4, 1.4.1, 1.7, 1.7.2, 1.9, 1.12.1, 1.12.2 and 5.1.1; Regional Transportation Plan Policy 3.0 and Metro Code 3.01.020(b)(3) through (7) and 3.01.020(d)

The measures taken by the Council to increase the capacity of the existing UGB for industrial use, described above leave an unmet need for industrial land of 1,180 acres.

Metro began the search for the most appropriate land for inclusion in the UGB by applying the priorities in ORS 197.298(1). Because Metro has not re-designated “urban reserve” land since its 1997 designation was invalidated on appeal, the highest priority for addition of land is exception land.

Metro first included for consideration all exception land that was studied for inclusion in the December, 2002, ordinances, but not included at that time (59,263 acres). Metro then expanded the search to consider all other land, resource land included, that met the siting characteristics that help define the need for industrial land (less than 10 percent slope and within two miles of a freeway interchange or one mile of an existing industrial area (9,071 acres). In all, Metro looked at approximately 68,000 acres to find the most appropriate land.

Once Metro mapped land by its statutory priority, Metro analyzed the suitability of the land for industrial use, considering the locational factors of Goal 14, the consequences and compatibility criteria of the Goal 2 and statutory exceptions process, the policies of the Regional Framework Plan (RFP) and the criteria in the Metro Code that are based upon Goal 14. This analysis is set forth in the Alternatives Analysis Study, Item (c) in Appendix A of Ordinance No. 04-1040B and subsequent staff reports [Appendix A, Items (a) and (y)].

The Alternatives Analysis and testimony from the hearings gave the Council few easy or obvious choices among the lands it considered. The land most suitable for the types of industrial use forecast in the region for the next 20 years is flat land near freeway interchanges or near existing industrial areas. In addition, the region needs parcels 50 acres or larger for the warehouse and distribution and tech/flex sectors. The land most likely to meet these needs at the perimeter of the UGB is agricultural land, the last priority for inclusion under ORS 197.298(1).

The highest priority for inclusion, under the priority statute, where no urban reserves have been designated, is exception land. But the character of most exception areas makes them unable to fill the region's needs for industrial use. The great majority of exception land outside the UGB is designated for residential use, and most of that is settled with residences. Parcels are generally small (five acres and smaller), the topography is usually rolling and often steep, and streams, small floodplains and wildlife habitat are common. And residents, as evidenced by testimony at Council hearings, are often vigorously opposed to industrial intrusions into what they consider their neighborhoods.

The Council excluded from further consideration those exception lands that lie further than two miles from a freeway interchange and more than one mile from existing industries for the reason that these areas cannot meet the identified need for industrial land. The Staff Report [Appendix A, Item (a)] describes these specific areas in detail at pages 13 to 18.

The Council excluded other study areas (or portions of them) from further consideration even though they could meet the identified need (less than 10 percent slope and either within two miles from a freeway interchange or within one mile from existing industries) because they are unsuitable for industrial use. Further analysis showed that some combination of parcelization, existing development, limitations on use

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imposed by Title 3 of the UGMFP (Water Quality, Flood Management and Fish and Wildlife Conservation), poor road access, difficulty in providing public services and negative effects of urbanization on nearby agricultural practices renders the areas unsuitable for industrial use. Portions of the areas contain designated farm or forest land. The Staff Report [Appendix A, Item (a)] describes these specific areas in detail at pages 18 to 25 (and portions of other areas at pages 13 to 18).

The Council also excluded those exception areas that are not contiguous to the UGB, or to areas added to the UGB for industrial use, and do not contain enough suitable land to comprise a minimum of 300 gross acres. Based upon an analysis of industrial areas within the pre-expansion UGB and reasoning set forth in "Formation of Industrial Neighborhoods", memorandum from Lydia Neill to David Bragdon, October 24, 2003, the Council concludes that these small areas cannot satisfy the need for industrial land.

The Council looked next to resource land, beginning with land of lowest capability. The Council included 354 acres (236 net acres) designated for agriculture in the Quarry Study Area, composed predominantly of the poorest soils (Class VII) in the region. Other land with poor soils in the vicinity were rejected due to steep slopes. The Council included 63 acres (30 net acres) designated for forestry in the Beaver Creek Study Area composed of Class IV and VI soils and 102 acres (69 net acres) of Class III and IV soils in the Damascus West Study Area. No other land with soil capability lower than Class II can meet the need for industrial use identified by the Council.

Finally, the Council turned to the many lands under consideration with predominantly Class II soils. To choose among thousands of acres of this flat farmland near urban industrial areas or near freeway interchanges, the Council considered the locational factors of Goal 14 and policies in its Regional Framework Plan ("RFP") and Regional Transportation Plan ("RTP"). Further, the Council sought advice from a group of farmers and agriculturalists in the three counties, assembled by the Oregon Department of Agriculture ("ODA"). This group submitted a report to the Council entitled "Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use." [Appendix A, Item (i).] Preliminary guidance from ODA led the Council to consider an amendment to Policy 1.12 of the RFP on agricultural land, adopted and applied in Ordinance No. 04-1040B: "When the Council must choose among agricultural lands of the same soil classification for addition to the UGB, the Council shall choose agricultural land deemed less important to the continuation of commercial agriculture in the region." (Exhibit A.)

The Council finds that the region will be able to urbanize the lands it has added to the UGB in an efficient and orderly fashion. The Council concludes that the overall consequences of urbanization of these lands are acceptable, especially given the protections in place in the RFP and Metro Code for sensitive resources. Through mitigation measures required by the conditions in Exhibit F, the Council believes it can achieve compatibility between urbanization of the land added to the UGB and adjacent land outside the UGB.

The Council also believes that it is able to maintain separations between communities at the urban fringe sufficient to allow each community to retain a sense of place. The Council chose ridgelines, streams, power lines, roads and property lines to define the boundaries of the UGB in an effort to provide a distinct boundary and a clear transition between urban and rural uses.

The Council also finds that the lands it added to the UGB for industrial use contribute to a compact urban form. The lands are adjacent to the existing UGB. Many involve exception lands that are already partially urbanized and contain some components of public facilities needed to serve urban industrial uses. The Council rejected some areas of exception land that extend far from the UGB and would require long extensions of linear services such as sewer, water and stormwater lines. The Council chose land that adheres closely to siting characteristics needed by the industries likely to grow during the planning period: proximity

to existing industrial areas and accessibility to freeway interchanges. These choices contribute to the region's urban form which, among other things, calls for siting uses with higher densities (commercial and residential) in Centers and other design types served by high-capacity public transit.

Combined with areas added to the UGB for employment in the December, 2002, periodic review ordinances, areas added by Ordinance No. 04-1040B for industrial use are distributed round the region. Most of the jobs land was added to the east side of the region in December, 2002. This ordinance adds industrial land mostly to the south and west sides of the region. In particular, addition of 262 acres north of Cornelius will add jobs, income, investment and tax capacity to a part of the region with disproportionately little of those resources.

**F. Water Quality**

Each local government responsible for an area added to the UGB must complete the planning requirements of Title 11, Urban Growth Management Functional Plan ("UGMFP"), including compliance with the water quality provisions of Title 3 of the UGMFP.

**G. Areas Subject to Natural Disasters and Hazards**

The Council has excluded environmentally constrained areas from the inventory of buildable land (see UGRs) and from its calculation of the housing and jobs capacity of each study area (see Alternatives Analysis). Each local government responsible for an area added to the UGB must complete the planning requirements of Title 11, Urban Growth Management Functional Plan ("UGMFP"), including compliance with Title 3 of the UGMFP on floodplains and erosion control.

The Council considered the best information available on known hazards, including earthquake hazard. The study areas with the highest earthquake hazard have been rejected. The are small portions of several study areas with known earthquake hazards added to the UGB. Local governments responsible for Title 11 planning are required by that title (and Goal 7) to take these portions into account in their comprehensive plan amendments.

**H. Economic Development**

As part of Task 2 of periodic review, Metro reviewed the economic development elements of the comprehensive plans of each of the 24 cities and three counties that comprise the metro area. Metro used the review in its determination of the region's need for employment land and for coordination with local governments of its choices to add land to the UGB for employment purposes.

Revisions to Title 4 (Industrial and Other Employment Areas) of the UGMFP and the conditions placed upon lands added to the UGB (Exhibit F of Ordinance No. 04-1040B and exhibits to December, 2002, ordinances) add significant protection to sites designated for industrial use, both those added to the UGB and those within the UGB prior to expansion, to help ensure their availability for that purpose.

Inclusion of these areas adds 1,920 acres (1,047 net acres) to the UGB for industrial use. Combined with the efficiency measures described in Section D of these Findings (Alternatives: Increase Capacity of the UGB), above, and actions taken in December, 2002, these additions to the UGB accommodate approximately 99 percent of the need for industrial land [identified in the 2002-2022 Urban Growth Report: An Employment Land Need Analysis (9,366 net acres)]. Given the unavoidable imprecision of the many assumptions that underlie the determination of need for industrial land – the population forecast; the employment capture rate; the industrial refill rate; employment density (particularly given changes in building types used by industry over time); the rate of encroachment by non-industrial uses; and the vintage

industrial relocation rate – the Council concludes that its actions in the December, 2002, ordinances and in this Ordinance No. 04-1040B provide a 20-year supply of industrial land for the region and comply with part 2 (periodic review Subtask 17) of LCDC’s Partial Approval and Remand Order 03-WKTASK-001524, July 7, 2003.

## **II. SPECIFIC FINDINGS FOR PARTICULAR AREAS ADDED TO UGB IN TASK 2 REMAND DECISION**

These findings address ORS 197.298; ORS 197.732(1)(c)(B), (C) and (D); Goal 2, Exceptions, Criteria (c)(2), (3) and (4); Oregon Administrative Rules (OAR) 660-004-0010(1)(B)(ii), (iii) and (iv); OAR 660-004-0020(2)(b), (c) and (d); Goal 5; Goal 11; Goal 12; Goal 14, Factors 3 through 7; Metro Code 3.01.020(b)(3) through (7) and 3.01.020(d); Metro RFP Policies 1.2, 1.3, 1.4, 1.6, 1.7, 1.11 and 1.12; and Regional Transportation Plan Policies 2.0, 3.0, 4.0 and 14.0.

### **A. Damascus West**

The Council relies upon the facts and analysis in the Industrial Land Alternative Analysis Study [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 21-23; 111; A-1 – A-4] and the Staff Report [Appendix A, Item (a), p. 27] to support its conclusion that addition of a portion of Damascus West will provide for an orderly and efficient transition from rural to urban land use. The Council chose this area of resource land because it contains a concentration of larger parcels (five parcels between 10 and 20 acres). Parcels of this range are needed for the types of industries Metro expects will grow during the planning period (UGR-E, p. 25) and are generally unavailable in exception areas. Also, soils in the area are Class III and IV, of lower capability than other resource land under consideration. In addition, the area lies within a ground-water restricted area designated by the Oregon Department of Water Resources. Finally, it occupies a small notch that extends into land within the UGB and is relatively isolated by topography and forested land from other agricultural lands to the south, as noted in the report of the Metro Agricultural Lands Technical Workgroup led by the Oregon Department of Agriculture [“Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use”, Appendix A, Item (i)].

#### **1. Orderly Services**

The Council relies upon the Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Alternative Analysis Study (Appendix A, Item 6, pages 111 and Table A-2, respectively) for its determination that these services can be provided to the Damascus West area in an orderly and economic manner by extending services from existing serviced areas. Condition IIA(1) of Exhibit F calls for transportation and public facility and service plans within the same four years allowed for Title 11 planning of the entire Damascus area by Condition IIA(1) of Exhibit M of Ordinance No. 02-969B.

The Alternative Analysis Study (p. 20) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the larger Damascus Study Area. Serviceability generally ranges from “easy” to “difficult” to serve (Table 1, p. 111) and compares favorably with areas not included (such as Borland Road South, Norwood/Stafford and Wilsonville West). Transportation services will be only moderately difficult to provide for reasons set forth in the Alternative Analysis Study, p. 21.

#### **2. Efficiency**

The Council relies on the same information on provision of essential services mentioned above for its conclusion that the area can urbanize efficiently, particularly knowing that Damascus West will be planned in conjunction with the greater Damascus area added to the UGB in December, 2002. The Council

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also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

### 3. Consequences

The Council relies upon the analysis of the consequences of urbanization on the Damascus West area set forth in the Alternative Analysis Study, pp. 21-22 and Table A-3. The analysis indicates that the consequences will be low, especially considering the requirements of Title 11 of the UGMFP that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of Ordinance No. 04-1040B.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning considered Metro's adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F). The local governments will eventually adopt provisions to implement Metro's Goal 5 program following the Council's adoption of that program, if the local government's ordinance do not already comply.

### 4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Damascus West area would have low adverse consequences for nearby agriculture (Alternative Analysis Study, p. 21; Table A-4). This is, in part, due to the facts that the area occupies a small notch that extends into land within the UGB and is relatively isolated by topography and forested land from other agricultural lands to the south, as noted in the report of the Metro Agricultural Lands Technical Workgroup led by the Oregon Department of Agriculture ["Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use", Appendix A, Item (i)]. Ordinance No. 04-1040B, Exhibit F, imposes Condition IE upon urbanization of Damascus West to reduce conflict and improve compatibility between urban use in the area and agricultural use on land to the south.

### 5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Damascus West area protected by Clackamas County in its acknowledged comprehensive plan (p. 22). The county will be responsible for protecting these resources in the area when it amends its comprehensive plan and zoning ordinance to implement expansion of the UGB. Condition IG of Exhibit F requires the county to consider Metro's inventory of Goal 5 resources in their application of Goal 5 to the Damascus area. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires Clackamas County to protect water quality and floodplains in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county planning for the area.

### 6. Public Utilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Clackamas County from upzoning and from dividing land into resulting lots or parcels smaller than 20 acres until the county revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public



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facilities such as sanitary sewers, storm sewers and water lines for the area. Metro and the county began this work with the evaluation of the serviceability of the Damascus area in the Alternative Analysis Study (pages 20-21 and 111).

## 7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Damascus West area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Clackamas County from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county revises its comprehensive plans and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county to develop conceptual transportation plans and urban growth diagrams with the general locations of arterial, collector and essential local streets for the area. Metro and Clackamas County began this work with the evaluation of the serviceability of the area in the Alternative Analysis Study (p. 21 and Table A-2) and consideration of how to provide services as part of the analysis required to satisfy Goal 14, factors 3 and 4.

Metro's 2000 Regional Transportation Plan (RTP) anticipated inclusion of the area within the UGB. The plan's "Priority System" of planned transportation facilities shows improvements planned for the area to serve anticipated growth. Among the improvements is the Sunrise Highway, a likely alignment for which (shown on the 2040 Growth Concept Map) borders the portion of the Damascus West Study Area included by this ordinance. The "Financially Constrained System" includes improvements that will add capacity to East Sunnyside Road near the included area (see discussion of RTP below).

## 8. Regional Framework Plan

The area lies within ½-mile of Damascus Town Center and will provide additional employment to support the center. The area will not only provide employment opportunities for new residents of the Damascus area, but also improve the ratio between jobs and housing in the east side of the region.

## 9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan adopted a "Priority System" of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements are the "East Multnomah County Transportation Projects" and the "Pleasant Valley and Damascus Transportation Projects" that will provide the basic transportation services to the area (pages 5-49 to 5-57). Figures 1.4, 1.12, 1.16, 1.17, 1.18 and 1.19 of the RTP show how the region's street design, motor vehicle, public transportation, freight, bicycle and pedestrian systems will extend into the Damascus area.

### **B. Beavercreek**

The Council relies upon the facts and analysis in the Alternative Analyses Study [2003 in Appendix A, Item(d) in Ordinance No. 04-1040B, pp. 32-34; 111; A-1 – A-4] and the Staff Report [Appendix A, Item (a), p. 25] to support its conclusion that addition of a portion of the Beavercreek area will provide for an orderly and efficient transition from rural to urban land use. The Council added this single tract, zoned for forest use but occupied by a portion of a larger golf course, in part because the Council included the other half of the golf course in the UGB by Ordinance No. 02-969B in December, 2002 (as part of Task 2), and

designated it for industrial use. The predominant soils on the tract are Class IV and VI. This parcel (63 acres; 30 net acres) helps satisfy the identified need for large parcels (see UGR-E, page 25), particularly in combination with the other part of the golf course included in December, 2002.

1. Orderly Services

The Council relies upon the Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Alternative Analysis Study (Appendix A, Item 6, pages 111 and Table A-2, respectively) for its determination that these services can be provided to this portion of the Beavercreek area in an orderly and economic manner by extending services from existing serviced areas. Condition IA of Exhibit F calls for transportation and public facility and service plans within two years. Condition IIB(2) specifies that Title 11 planning of the area be done in conjunction with Title 11 planning for the adjoining area added to the UGB by Ordinance No. 02-969B.

The Alternative Analysis Study (p. 32-33) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the larger Beavercreek area. The developable portion of the area included in the UGB adjoins and will be served by the same providers that will serve the area added to the UGB in December, 2002. Serviceability generally ranges from “easy” to “difficult” to serve (Table 1, p. 111) and compares favorably with areas not included (such as Borland Road South, Norwood/Stafford and Wilsonville West). Table A-2 shows transportation services for the larger Beavercreek area to be difficult. However, for the portion of Beavercreek added, transportation services will be the same as those provided to the adjoining property added to the UGB in December, 2002.

2. Efficiency

The Council relies on the same information on provision of essential services mentioned above for its conclusion that the area can urbanize efficiently, particularly knowing that this portion of the Beavercreek area will be planned in conjunction with the portion added to the UGB and designated for industrial use in December, 2002. Both portions can be urbanized more efficiently if the portions are planned and urbanized together.

The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

3. Consequences

The Council relies upon the analysis of the consequences of urbanization on this portion of the Beavercreek area set forth in the Industrial Land Alternative Analysis Study, p. 34 and Table A-3). The analysis indicates that the consequences will be high if the Council were to include the entire Beavercreek study area (2,540 acres). But Ordinance No. 04-1040B includes only a single, 63-acre tract, half of a golf course the other half of which was included in the UGB by Ordinance No. 02-969B. Title 11 of the UGMFP requires that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the tract subject to Title 3 of the UGMFP and the conditions in Exhibit F of this ordinance.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning considered Metro’s adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F). The local governments will eventually adopt provisions to implement Metro’s Goal 5 program following the Council’s adoption of that program, if the local government’s ordinance do not already comply.

4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Beaver creek area would have moderate adverse consequences for nearby agriculture (p. 111). There will be little effect on agriculture from urbanization of this small portion of the area, however, because the tract itself is part of a golf course, and there are no nearby agricultural activities.

5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the larger Beaver creek area protected by Clackamas County in its acknowledged comprehensive plan (page 34). The single portion of the larger area added to the UGB by this ordinance contains no inventoried Goal 5 sites protected by Clackamas County. Condition IG of Exhibit F requires the county to consider Metro's inventory of Goal 5 resources in their application of Goal 5 to the small portion of the Beaver creek area included in the UGB. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires Clackamas County to protect water quality and floodplains in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the counties to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county planning for the area.

6. Public Facilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Clackamas County or Oregon City from upzoning and from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area. Metro, the county and the city began this work with the evaluation of the serviceability of the Beaver creek area in the Alternative Analysis Study done as part of Ordinance No.02-969B (pages 108-09; A-9, A-13;) and the Industrial Land Alternative Analysis Study done as part of Ordinance No. 04-1040A (pages 25, 32-33 and 111).

7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Beaver creek area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Clackamas County or Oregon City from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop a conceptual transportation plan and urban growth diagram with the general locations of arterial, collector and essential local streets for the area. Metro, the county and the city began this work with the evaluation of the serviceability of the Beaver creek area in the Alternative Analysis done as part of Ordinance No.02-969B (pages 108-09; A-9, A-15-19) and the Analysis done as part of Ordinance No. 04-1040B (pages 25 and 33 and A-2).

The City of Oregon City indicates that the Beaver creek area can be provided with transportation services. The small included portion adjoins an area that is more serviceable than other portions of the larger Beaver creek area considered by the Council. It is contiguous to the city and can be served in an orderly manner.

8. Regional Framework Plan

This small addition of industrial land (63 acres) will be planned in combination with adjoining industrial land added by Ordinance No. 02-969B to comprise a more efficient industrial area. The area will provide employment to support the Oregon City Regional Center.

9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan adopted a "Priority System" of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements is the "Highway 213 Corridor Study" to complete a long-term traffic management plan and identify projects to implement the plan (pages 5-59 to 5-61).

**C. Quarry (Partial)**

The Council relies upon the facts and analysis in the Industrial Land Alternative Analyses Study [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 64-66; 111; A-1 – A-4] and the Staff Report [Appendix A, Item (a), pp. 26-27] to support its conclusion that addition of a portion of the Quarry Study Area will provide for an orderly and efficient transition from rural to urban land use. The Council chose this area of resource land because it contains a concentration of larger parcels, relatively few of which are developed with residences. Parcels of this range are needed for the types of industries Metro expects will grow during the planning period (UGR-E, p. 25) and are generally unavailable in exception areas. Also, soils in the area are predominantly Class VII, of lower capability than other resource land under consideration. Significant portions are devoted to quarry operations, which have removed soils altogether. There are major quarry operations adjoining this area to the east and elsewhere nearby. There is also significant industrial development and zoning north and east of the Quarry area. See "Perfect for Industry", prepared by Davis, Wright, Tremaine, LLP, April 29, 2004. The Council included one of the quarry areas in the UGB in Ordinance No. 02-990A for industrial use. Some agricultural activity takes place in the northern section of this area, but it is isolated from other areas devoted to agriculture by quarry operations and other nonfarm activities [Tualatin Valley Sportsmens Club (gun club), for example].

1. Orderly Services

The Council relies upon the Quarry Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Industrial Land Alternative Analysis Study (Appendix A, Item (c), pages 111 and Table A-2, respectively) for its determination that urban services can be provided to the Quarry area in an orderly and economic manner by extending services from existing serviced areas. Condition IIE(2) of Exhibit F calls for coordination of transportation and public facility and service planning for this area with the adjoining area added to the UGB for industrial use on December 12, 2002.

The Alternatives Analysis (p. 64-65) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the Quarry Study Area. Serviceability ranges from "easy" to "moderately difficult" to serve (Table 1, p. 111) and compares favorably with areas not included (such as Borland Road South, Norwood/Stafford and Wilsonville West). Transportation services would be easy to provide for reasons set forth in the Alternative Analysis Study, p. 65.

2. Efficiency

The Council relies on the same information on provision of essential services mentioned above for its conclusion that the area can urbanize efficiently, particularly knowing that this portion of the Quarry Study Area will be planned in conjunction with the quarry area to the east, added to the UGB and designated for industrial use in December, 2002. This portion lies close to existing services and Tualatin-Sherwood and Oregon Roads. Both portions can be urbanized more efficiently if the portions are planned and urbanized together.

The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

3. Consequences

The Council relies upon the analysis of the consequences of urbanization on this portion of the Quarry Study Area set forth in the Alternative Analysis Study, p. 65-66 and Table A-3). The analysis indicates that the environmental consequences will be low. In addition, Title 11 of the UGMFP requires that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of this ordinance.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning considered Metro's adopted Goal 5 inventory during its planning (see Condition I G, Exhibit F). The local governments will eventually adopt provisions to implement Metro's Goal 5 program following the Council's adoption of that program, if the local government's ordinance do not already comply.

4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Quarry Study Area would have few adverse consequences for nearby agriculture. The area has the UGB on three sides and quarry operations to the east and southeast. The portion devoted to agriculture is in the northwest portion, isolated from agricultural operations south of the quarries.

5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Quarry Study Area protected by Washington County in its acknowledged comprehensive plan (page 65-66). Significant portions of the area are identified as aggregate sites in the county's Goal 5 inventory and are protected by aggregate overlays. Under Metro's Title 11, current county land use regulations will remain in place until the county, or one of the cities (Tualatin or Sherwood), adopts new plan provisions and land use regulations to allow industrial uses in the area, at which time the county or city will apply Goal 5 to the area and re-consider the decision to protect the quarries under Goal 5.

Condition IG of Exhibit F requires the county or cities to consider Metro's inventory of Goal 5 resources in its application of Goal 5 to the Quarry area included in the UGB. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires the county to protect water quality and wetlands in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county or city planning for the area.

6. Public Facilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Sherwood or Tualatin from upzoning and from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area. Metro, the county and the cities began this work with the evaluation of the serviceability of the Quarry Study Area in the Alternative Analysis done as part of Ordinance No.02-969B (pages 161-63; A-9) and the Analysis done as part of Ordinance No. 04-1040B (pages 64-65 and 111).

7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Quarry Study Area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Sherwood or Tualatin from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and land use regulations to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop a conceptual transportation plan and urban growth diagram with the general locations of arterial, collector and essential local streets for the area. Metro and the county and cities began this work with the evaluation of the serviceability of the area in the Alternatives Analysis done as part of Ordinances No.02-969B (pages 108-09; A-9, A-15-19) and 990A and the Analysis done as part of Ordinance No. 04-1040B (pages 64-65 and A-2). The cities indicate a willingness to serve the Quarry area with transportation services pending the determination of service boundaries.

8. Regional Framework Plan

This addition of industrial land will be planned in coordination with adjoining industrial land to the east added by Ordinance No. 02-990A to comprise a more efficient industrial area. The area will provide employment to support the Sherwood and Tualatin Town Centers. The Quarry area runs along the Tualatin-Sherwood Road within two miles of the two centers. Given that the added portion of the Quarry area is suitable for the types of industry likely to grow in the future, the Council includes the area notwithstanding that this part of the region is relatively well-endowed with employment.

By adding the Quarry area to the UGB, following addition of the quarry area to the east, Metro will be bringing a “notch” into the UGB that lies between the two cities of Sherwood and Tualatin. This keeps the form of the region compact and efficient.

9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan adopted a “Priority System” of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements are the “The Tualatin-Sherwood Major Investment Study”, to complete environmental design for the I-5 to 99W principal arterial connector, and the “Tualatin-Sherwood

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Connector”, to construct the four-lane tollway connection (pages 5-65 to 5-67). Although a final corridor for this facility has not yet been chosen, it is almost certain that it will pass less than a mile from the south border of the Quarry area.

## **D. Coffee Creek (partial)**

The Council relies upon the facts and analysis in the Alternatives Analyses [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 58-60; 111; A-1 – A-4] and the Staff Report [Appendix A, Item (a), pp. 26] to support its conclusion that addition of a portion of the Coffee Creek Study Area [264 acres (97 net acres) of 442 in the study area] will provide for an orderly and efficient transition from rural to urban land use. The Council chooses this portion because it is almost entirely exception land (there is a 4.6-acre tract of resource at the northern edge), it can be planned in conjunction with land added to the UGB in December, 2002, for industrial use, urban services are available in the vicinity, and urbanization will have no effect on agricultural practices on adjacent land due to its isolation from agricultural activities.

### **1. Orderly Services**

The Council relies upon the Coffee Creek Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Industrial Land Alternative Analysis Study (Appendix A, Item 6, pages 111 and Table A-2, respectively) for its determination that urban services can be provided to the Quarry area in an orderly and economic manner by extending services from existing serviced areas. Condition IIF(1) of Exhibit F allows four years for Title 11 planning for this area so that planning for urban services can be done in conjunction with such planning for the adjoining area added to the UGB for industrial use on December 5, 2002.

The Alternative Analysis Study sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the Coffee Creek area (p. 58-60; Table 1, p. 111). Serviceability ranges from “moderate” to “difficult” to serve and compares favorably with areas not included (such as Borland Road South and Wilsonville West).

### **2. Efficiency**

The Council relies on the same information on provision of essential services mentioned above for its conclusion that the area can urbanize efficiently, knowing that this portion of the Coffee Creek Study Area will be planned in conjunction with the area to the east, added to the UGB and designated for industrial use in December, 2002. The area lies adjacent to a principal north-south rail line that will make industrial use and movement of freight more efficient.

The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

### **3. Consequences**

The Council relies upon the analysis of the consequences of urbanization on this portion of the Coffee Creek area set forth in the Alternative Analysis Study, p. 58-60 and Table A-3). Because the Council included only the easternmost portion of the study area – the portion that borders the UGB on the west – the adverse consequences will be reduced. Title 11 of the UGMFP requires that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of this ordinance.

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The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning considered Metro's adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F, Ordinance No. 04-1040B). The local government will eventually adopt provisions to implement Metro's Goal 5 program following the Council's adoption of that program, if the local government's ordinance do not already comply.

### 4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the included portion of the Coffee Creek area would have no adverse consequences for nearby agriculture (p. 111). The area has quarry operations nearby and is isolated from commercial agricultural activity by stream drainages.

### 5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Coffee Creek Study Area protected by Washington County in its acknowledged comprehensive plan (p. 60). The quarries in the area are protected by aggregate overlays by Washington County. Under Metro's Title 11, current county land use regulations will remain in place until the county, or the City of Wilsonville or Tualatin, adopts new plan provisions and land use regulations to allow industrial uses in the area, at which time the county or city will apply Goal 5 to the area and re-consider the decision to protect the quarries under Goal 5.

Condition IG of Exhibit F requires the county or city to consider Metro's inventory of Goal 5 resources in its application of Goal 5 to the portion of Coffee Creek area included in the UGB. The area contains streams, wetlands and floodplains. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires the county or city to protect water quality and wetlands in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county or city to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county or city planning for the area.

### 6. Public Facilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Wilsonville or Tualatin from upzoning and from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of the area; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area.

### 7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Coffee Creek Study Area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits the county or city from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and zoning ordinance to authorize urbanization of the area; and (2) requires the county or city to develop conceptual transportation plans and urban growth diagrams with the general locations of arterial, collector and essential local streets for the area.



8. Regional Framework Plan

This addition of industrial land will be planned in combination with adjoining industrial land to the east added by Ordinance No. 02-969B to comprise a more efficient industrial area. The Coffee Creek Study Area will provide employment to support the Tualatin and Wilsonville Town Centers, to the north and south respectively. Given that the developable portion of the area is exception land and is suitable for the types of industry likely to grow in the future, the Council includes the Coffee Creek area notwithstanding that this part of the region is relatively well-endowed with employment.

Adding the Coffee Creek area to the UGB, lying between and adjacent to the Cities of Tualatin and Wilsonville, following addition of the area to the east, keeps the form of the region compact and efficient.

9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan (“RTP”) adopted a “Priority System” of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements are improvements to Boones Ferry Road from Durham Road in the north to Elligsen Road in the south, east of the Coffee Creek Study Area.

The RTP also includes “The Tualatin-Sherwood Major Investment Study”, to complete environmental design for the I-5 to 99W principal arterial connector, and the “Tualatin-Sherwood Connector”, to construct the four-lane tollway connection (pages 5-65 to 5-67). Although a final corridor for this facility has not yet been chosen, it is almost certain that it will pass through or just to the north of the Coffee Creek area, likely enhancing its access to I-5. Finally, the principal north-south rail line that lies along the eastern boundary of the area will offer an additional mode of transport for movement of freight in the area.

**E. Tualatin**

The Council relies upon the facts and analysis in the Industrial Land Alternative Analyses Study [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 61-63; 111; A-1 – A-4] and the Staff Reports [Appendix A, Item (a), pp. 27-28] to support its conclusion that addition of a portion of the Tualatin Study Area will provide for an orderly and efficient transition from rural to urban land use. The Council chose this area because it is exception land (rural residential and rural industrial) with characteristics that make it suitable for industrial use. It lies within two miles of the I-5 corridor and within one mile of an existing industrial area, and portions of the area are relatively flat. These characteristics render it the most suitable exception area under consideration for warehousing and distribution, a significant industrial need facing the region.

The City of Tualatin and many residents of the area expressed concern about compatibility between industrial use and residential neighborhoods at the south end of the city. They have also worried about preserving an opportunity to choose an alignment between Tualatin and Wilsonville for the I-5/99W Connector; the south alignment for this facility passes through the northern portion of the Tualatin Study Area.

In response to these concerns, the Council placed several conditions upon addition of this area to the UGB. First, the Council extended the normal time for Title 11 planning for the area: two years following the identification of a final alignment for the Connector, or seven years after the effective date of Ordinance No. 04-1040B, whichever comes sooner. This allows Title 11 planning by Washington County, the cities of Tualatin and Wilsonville and Metro to accommodate planning for the Connector alignment. Second, the

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Council states that, so long as the alignment for the Connector falls close to the South Alignment shown on the 2040 Growth Concept Map, it will serve as the buffer between residential development to the north (the portion least suitable for industrial uses) and industrial development to the south (the portion of the area most suitable for industrial use)

## 1. Orderly Services

The Council relies upon the Tualatin Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Industrial Land Alternative Analysis Study (Appendix A, Item (c), pages 111 and Table A-2, respectively) for its determination that urban services can be provided to the area in an orderly and economic manner by extending services from existing serviced areas.

The Alternatives Analysis (pp. 61-62) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the Tualatin Study Area. Serviceability ranges from “easy” to “difficult” to serve (Table 1, p. 111). Throughout Task 2 of periodic review the Council has found, however, that provision of services to almost every exception area is difficult and expensive. The City of Wilsonville anticipates further industrial development in the portion of the study area north and northwest of the existing city, in part due to the siting of the Coffee Creek Correctional Facility, and expects to be the service provider over time. Given the critical need for sites proximate to interchanges on I-5 and the rarity of such sites, the Council has decided to include the Tualatin Study Area notwithstanding.

## 2. Efficiency

The Council relies on the same information on provision of essential services mentioned above (Orderly Services) for its conclusion that the area can urbanize efficiently. The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

This area lies between two cities and among areas added to the UGB for industrial use in December, 2002, making urbanization of the area more efficient than projecting urbanization from the UGB into a rural area. Given the likelihood that the region will build the I-5/99W Connector through this area, industrial development in the area will ensure efficient use of that facility.

## 3. Consequences

The Council relies upon the analysis of the consequences of urbanization on the Tualatin Study Area set forth in the Alternative Analysis Study, pp. 62-63 and Table A-3). The analysis indicates that the consequences will be low to moderate, especially considering the requirements of Title 11 of the UGMFP that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of Ordinance No. 04-1040B.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning considered Metro’s adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F). The local governments will eventually adopt provisions to implement Metro’s Goal 5 program following the Council’s adoption of that program, if the local government’s ordinance do not already comply.

4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Tualatin Study Area would have low adverse consequences for agriculture (Alternative Analysis Study, p. 62; Table A-4). Although there are a few agricultural uses in the study area itself, the area is designated entirely for rural residential and rural industrial uses, pursuant to exceptions from statewide planning Goals 3 and 4. The area is isolated from land designated for agriculture by the UGB, I-5 and mining operations to the west. Hence, it is unlikely that industrial use will conflict with agricultural activities on land designated for agricultural or forest use.

5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Tualatin Study Area protected by Washington County in its acknowledged comprehensive plan (pp. 62-63). There are aggregate mines in the vicinity; portions of Washington County's Mineral and Aggregate Overlay District B cover small portions of the study area in the northwest and southwest corners and the top central portion.

The county, or the City of Wilsonville or Tualatin upon annexation to one of the cities, will be responsible for protecting these resources when it amends its comprehensive plan and zoning ordinance to implement expansion of the UGB. Condition IG of Exhibit F requires the county or city to consider Metro's inventory of Goal 5 resources in their application of Goal 5 to the Tualatin Study Area. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires the county or city to protect water quality and floodplains in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county or city to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county or city planning for the area.

6. Public Facilities and Service

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County and the cities of Wilsonville and Tualatin from upzoning and from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of the area; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area.

7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Tualatin Study Area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County and the cities of Tualatin and Wilsonville from upzoning and from land divisions into lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land added to the UGB; and (2) requires the county or city to develop conceptual transportation plans and urban growth diagrams with the general locations of arterial, collector and essential local streets for the area. Metro began this work with the evaluation of the serviceability of the area in the Alternative Analysis Study (pp. 61-62 and Table A-2) and consideration of how to provide services as part of the analysis required to satisfy Goal 14, factors 3 and 4.

Table A-2 recognizes that provision of transportation to new industrial uses in the area will be difficult. The Oregon Department of Transportation, Region 1 ("ODOT"), expects the volume-to-capacity ratio on I-5 in the vicinity of the North Wilsonville interchange to be "extremely poor" by 2025, and states

that the interchange “may need to be reviewed for impact” if the Council adds land to the UGB dependent upon the interchange. The “Priority System” in Metro’s RTP calls for improvement to Boones Ferry Road from Durham Road in Tualatin to Elligsen Road in Wilsonville and for construction of a four-lane tollway between I-5 and Highway 99W, the southern and most likely alignment of which passes through the study area. There is no planned improvement to the capacity of the freeway or the interchange in the RTP or either city’s TSP. In 2002, however, a joint ODOT/Wilsonville study concluded that in 2030, widening of I-5 to eight lanes would be required to meet interstate freeway capacity standards set by Metro and ODOT. This study will help Metro, ODOT, Wilsonville and Tualatin understand the improvements needed to accommodate industrial use in the study area. The 2004 Federal RTP also identifies a corridor refinement study for I-5 in the vicinity. These studies will inform Title 11 planning for the study area.

8. Regional Framework Plan

The Tualatin Study Area lies midway between the Tualatin and Wilsonville Town Centers, and is nearly as close to the Sherwood Town Center as to Tualatin and Wilsonville. Industrial development in the study area will provide additional employment to support businesses in those centers. The Council includes this area, notwithstanding that this part of the region is relatively well-endowed with employment, because it has more of the characteristics needed for warehousing and distribution than other areas considered. The Wilsonville South Area has many of the same characteristics. But it lies on the opposite side of the Willamette River and requires a trip on I-5 across the river to gain access to the Wilsonville Town Center. The Council concludes that addition of the north portion of the Tualatin Study Area provides better urban form to the city and the region than adding land on the south side of the Willamette River.

9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan adopted a “Priority System” of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements in the vicinity of the Tualatin Study Area are improvement to Boones Ferry Road from Durham Road in Tualatin to Elligsen Road in Wilsonville and construction of a four-lane tollway between I-5 and Highway 99W, the southern and most likely alignment of which passes through the study area.

**F. Helvetia (Partial)**

The Council relies upon the facts and analysis in the Industrial Land Alternative Analyses Study [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 104-06; 111; A-1 to A-4] and the Staff Reports [Appendix A, Item (a), p. 28] to support its conclusion that addition of a 249-acre portion of the Helvetia Study Area will provide for an orderly and efficient transition from rural to urban land use. The Council chose this area because it has several characteristics that render it among the most suitable sites under consideration for industrial use: a large parcels; relatively flat land; and proximity to a freeway interchange. The Urban Growth Report-Employment (UGR-E) identifies a specific need for large parcels (50 acres or larger) (Ordinance No. 02-969B, Appendix A, Item 4, page 25). This portion of the Helvetia Study Area contains one parcel between 50 and 100 acres.

Two-thirds of this area (162 acres) is designated for agriculture in Washington County’s comprehensive plan (predominantly Class II soil). The farmland portion lies between the existing UGB (to the south and east) and the exception land portion to the west. West Union Road separates the included farmland from excluded farmland to the north. The Council includes this farmland because the exception land portion (87 acres) contains some land suitable for industrial use. Also, among farmlands considered,

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this farmland is already affected by nearby urban and rural residential use. Further, the Council found only two areas designated for agriculture of higher priority (Class IV or III soils) suitable for industrial use (Damascus West and Quarry Study Areas) (see discussion of West Union Study Area, below).

The Council considered including a portion of the Evergreen Study Area, which also contains a combination of exception land and Class II farmland, because it, too, contains several large parcels. The Council favored the Helvetia area because the farmland portion of the Evergreen area that lies between the UGB to the east, the exception land to the west and NW Meek Road to the north includes considerably more farmland than the included portion of the Helvetia Area (478 acres versus 162 acres in Helvetia). Further, unlike the exception land portion of Helvetia, the exception land portion of the Evergreen Study Area does not contain land suitable for industrial use.

The Council also considered inclusion of the West Union Study Area, which contains farmland of Class II and III soils. The Council chose the Helvetia area rather than the West Union area because the portion of the West Union area with higher-priority Class III soils is not suitable for industrial use (slopes greater than 10 percent), and this portion lies to the north of the portion with predominantly Class II soils (adjacent to the UGB). Also, the Council found no good barrier in the West Union area to separate farmland included from farmland excluded until Cornelius Pass Road to the north, which would enclose many more acres of farmland (862 acres) than the 162 acres in the Helvetia area.

The Council also considered Class II farmland in the Wilsonville East Study Area in order to find large parcels suitable for industrial use. The Council chose the Helvetia Study Area over the Wilsonville area because the former will be considerably easier to provide with public facilities and services (p. 111). As a result, inclusion of the Helvetia area has the support of the City of Hillsboro, while the City of Wilsonville opposes inclusion of the Wilsonville East area.

The Council considered two other study areas composed predominantly of Class II soils: the Noyer Creek and South Hillsboro areas. According to the report of the Metro Agricultural Lands Technical Workgroup led by the Oregon Department of Agriculture [“Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use”, Appendix A, Item (i)], both areas have higher value for commercial agriculture than the Helvetia area.

Finally, the Council considered Class II farmland south of Wilsonville, near the I-5 corridor on the south side of the Willamette River. The Council rejected this farmland because inclusion would constitute a projection away from the urbanization portion of the metropolitan region, toward Marion County to the south. Industrial development south of the river would also be separated from the services of the City of Wilsonville and the rest of the metropolitan region, connected only by a limited access (interstate highway) bridge across the river. Inclusion of the Helvetia area would better achieve the compact urban form sought by Policies 1 and 1.6 of the RFP and Policy 3 of the Regional Transportation Plan. The Oregon Department of Agriculture urged the Council not to add farmland south of the Willamette River because it would further introduce urban uses into that core area of the Willamette Valley’s commercial agriculture. Although the department also expressed concern about inclusion of the Helvetia area, it placed a higher priority on protection of farmland south of the Willamette River. The Council concludes that inclusion of the Helvetia area rather than the Wilsonville South Study area farmland better achieves Policy 1.12.2 of the RFP.

In short, of the Class II farmlands considered by the Council, this portion of the Helvetia Study Area best meets the identified need for industrial land and is most separated from nearby agricultural lands. Other than the exception lands that are part of this study area, there are no other exception lands that can help the region meet its need for larger parcels for industrial use.

1. Orderly Services

The Council relies upon the Helvetia Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Industrial Land Alternative Analysis Study (Appendix A, Item (c), pages 111 and Table A-2, respectively) for its determination that urban services can be provided to the area in an orderly and economic manner by extending services from existing serviced areas.

The Alternatives Analysis (pp. 104-05) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the larger Helvetia Study Area. Serviceability ranges from “easy” to “moderate” to serve the entire area (Table 1, p. 111). It will be easier to serve the smaller portion of the study area included by the Council because it is the portion closest to the existing UGB (borders on east and south) and services just to the east.

2. Efficiency

The Council relies on the same information on provision of essential services mentioned above (Orderly Services) for its conclusion that the area can urbanize efficiently. The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

This area borders the UGB on two sides, with employment and industrial uses on the urban sides of the UGB, making urbanization of the area for industrial use more efficient than projecting urbanization from the UGB into a rural area.

3. Consequences

The Council relies upon the analysis of the consequences of urbanization on the Helvetia Study Area set forth in the Alternative Analysis Study, pp. 105-06 and Table A-3). The analysis indicates that the consequences will be moderate. The requirements of Title 11 of the UGMFP that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of Ordinance No. 04-1040B will reduce adverse consequences from urbanization of the area.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning consider Metro’s adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F). The local government will eventually adopt provisions to implement Metro’s Goal 5 program following the Council’s adoption of that program, if the local government’s ordinance do not already comply.

4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Helvetia Study Area would have high adverse consequences for nearby agriculture (Alternative Analysis Study, pp. 105-06; Table A-4). The analysis, however, is based urbanization of the entire Helvetia Study Area (1,339 acres) rather than just the portion included within the UGB (249 acres). Adverse consequences and incompatibility from urbanization of the included portion will be much reduced, given that the UGB borders this portion on the east and south sides, West Union Road borders the portion on the north side, and much of this portion (87 acres) is exception area lying between the included farmland portion and the excluded farmland portion to the west.

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According to the report of the Metro Agricultural Lands Technical Workgroup led by the Oregon Department of Agriculture [“Limited Choices: The Protection of Agricultural Lands and the Expansion of the Metro Area Urban Growth Boundary for Industrial Use”, Appendix A, Item (i)], the included portion of the Helvetia area is less important to commercial agriculture in the region than other agricultural areas under consideration because it lies amid urban and rural residential uses: “However, the workgroup could not ignore the land use pattern both within the area, the location of the area within a small notch of the current urban growth boundary and the two hard edges provided by Helvetia and West Union Roads” (p. 11).

Ordinance No. 04-1040B, Exhibit F, imposes Condition IE upon urbanization of the area to reduce conflict and improve compatibility between urban use in the area and agricultural use on land to the north and west.

## 5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Helvetia Study Area protected by Washington County in its acknowledged comprehensive plan (p. 106). The county, or the City of Hillsboro upon annexation to the city, will be responsible for protecting these resources in the area when it amends its comprehensive plan and zoning ordinance to implement expansion of the UGB. Condition IG of Exhibit F requires the county or the City of Hillsboro to consider Metro’s inventory of Goal 5 resources in their application of Goal 5 to the Helvetia area. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires the county or city to protect water quality and floodplains in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county or city to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county or city planning for the area.

## 6. Public Facilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Hillsboro from upzoning or from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area.

## 7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Helvetia Study Area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Hillsboro from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop conceptual transportation plans and urban growth diagrams with the general locations of arterial, collector and essential local streets for the area. Metro began this work with the evaluation of the serviceability of the area in the Alternative Analysis Study (pp. 104-05 and Table A-2) and consideration of how to provide services as part of the analysis required to satisfy Goal 14, factors 3 and 4.

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The Oregon Department of Transportation (“ODOT”), Region 1, notes that the Shute Road interchange on Hwy. 26, to which most of the trips generated by development in the Helvetia area will go, “is already inadequate to accommodate the 2003 Urban Growth Boundary (“UGB”) expansion in this area.” Metro’s 2004 RTP includes an interchange improvement to serve the industrial land added to the UGB for industrial use in December, 2002, with partial funding. The RTP also identifies the need to widen several stretches of Hwy. 26 from four to six lanes. The county or city, together with Metro, will fully assess the effects of development on these facilities during Title 11 planning. Title 11 calls for a conceptual transportation plan as part of amendment of city or county comprehensive plans and land use regulations, to which statewide planning Goal 12 and the Transportation Planning Rule apply.

### 8. Regional Framework Plan

The Helvetia Study Area lies adjacent to, and will likely become part of the North Hillsboro Industrial Area. This industrial area is the anchor of the high tech cluster that runs from this tract to Wilsonville. It contains the largest concentration of high technology firms in the state. The area supports businesses in the Hillsboro Regional Center, other Centers on the west side of the region, and the Central City. Industrial development in the Helvetia Study Area will provide additional employment to support those centers. The Council includes this area, notwithstanding that this part of the region is relatively well-endowed with employment, because, as noted above, it the characteristics needed for the industrial sectors likely to grow during the planning period.

### 9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan (“RTP”) adopted a “Priority System” of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements in the vicinity of the Helvetia Study Area in Metro’s 2004 RTP is an interchange improvement to serve the industrial land added to the UGB for industrial use in December, 2002, with partial funding.

### G. Cornelius

The Council relies upon the facts and analysis in the Industrial Land Alternative Analyses Study [Appendix A, Item(c) in Ordinance No. 04-1040B, pp. 84-87; 111; A-1 to A-4] and the Staff Reports [Appendix A, Item (a), p. 27] to support its conclusion that addition of this 262-acre portion of the Cornelius Study Area will provide for an orderly and efficient transition from rural to urban land use. Slightly more than half (56 percent) of the included portion is designated for agriculture in Washington County’s comprehensive plan (predominantly Class II soil). The farmland portion lies in two tracts separated by an exception area. A second tract of exception land borders the farmland on the east side. Together, these four adjacent tracts comprise the portion of the study area included in the UGB.

The Council chose this portion of the study area because it has characteristics that render it suitable for industrial use: large and mid-sized parcels and relatively flat land. The Urban Growth Report-Employment (UGR-E) identifies a specific need for large parcels (50 acres or larger) (Ordinance No. 02-969B, Appendix A, Item 4, page 25). The included portion of the study area contains one parcel between 50 and 100 acres [Appendix A, Item (a), p.30].

The Council also chose this area to help achieve Policies 1.2, 1.3.1 and 1.4 of the Regional Framework Plan (RFP), which call, among other things, for an equitable and balanced distribution of employment opportunities, income, investment and tax capacity throughout the region. The Council considered the fiscal and equity effects of including this area on the City of Cornelius. Given that the city



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has the highest poverty rate, the lowest property tax revenue per capita, the lowest land improvement market value and the longest average commute in the region, the Council concluded that industrial development in this area would help achieve these policies better than inclusion of any other Class II agricultural land.

The Council considered including a portion of the Evergreen Study Area, which also contains a combination of exception land and Class II farmland, because it, too, contains several large parcels. The Council favored the Cornelius area for the reasons stated above, and because the farmland portion of the Evergreen area that lies between the UGB to the east, the exception land to the west and NW Meek Road to the north includes considerably more farmland than the included portion of the Cornelius Study Area (478 acres versus 147 acres in the Cornelius area).

The Council also considered inclusion of the West Union Study Area, which contains farmland of Class II and III soils. The Council chose the Cornelius area rather than the West Union area because the portion of the West Union area with higher-priority Class III soils is not suitable for industrial use (slopes greater than 10 percent), and this portion lies to the north of the portion with predominantly Class II soils (adjacent to the UGB).

The Council also considered Class II farmland in the Wilsonville East Study Area in order to find large parcels suitable for industrial use. The Council chose the Cornelius area over the Wilsonville area for the reasons stated above, and because the former will be considerably easier to provide with public facilities and services (p. 111). As a result, inclusion of the Cornelius area has the support of the City of Cornelius, while the City of Wilsonville opposes inclusion of the Wilsonville East area.

The Council considered two other study areas composed predominantly of Class II soils: the Noyer Creek and South Hillsboro areas. The Cornelius area is easier to provide with public services than either Noyer Creek or South Hillsboro. Inclusion of industrial land in the Cornelius area will better accomplish Policies 1.2, 1.3.1 and 1.4 of the RFP than inclusion of Noyer Creek or South Hillsboro.

Finally, the Council considered Class II farmland south of Wilsonville, near the I-5 corridor on the south side of the Willamette River. The Council rejected this farmland because inclusion would constitute a projection away from the urbanization portion of the metropolitan region, toward Marion County to the south. Industrial development south of the river would also be separated from the services of the City of Wilsonville and the rest of the metropolitan region, connected only by a limited access (interstate highway) bridge across the river. Inclusion of the Cornelius area would better achieve the compact urban form sought by Policies 1 and 1.6 of the RFP and Policy 3 of the Regional Transportation Plan. The Oregon Department of Agriculture urged the Council not to add farmland south of the Willamette River because it would further introduce urban uses into that core area of the Willamette Valley's commercial agriculture. Although the department also expressed concern for expansion of the UGB north of Council Creek in the Cornelius area (part of the included area lies north of Council Creek; part lies south), it placed a higher priority on protection of farmland south of the Willamette River. The Council concludes that inclusion of the Cornelius area rather than the Wilsonville South Study Area farmland better achieves Policy 1.12.2 of the RFP.

### 1. Orderly Services

The Council relies upon the Cornelius Study Area Goal 14 Analysis Summary and the Ratings for Transportation Services Feasibility contained in its Industrial Land Alternative Analysis Study (Appendix A, Item (c), pages 111 and Table A-2, respectively) for its determination that urban services can be provided to the area in an orderly and economic manner by extending services from the City of Cornelius.

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The Alternatives Analysis (pp. 84-85) sets forth the likely service providers for sewer, water and storm-water services and assigns a serviceability rating for the entire Cornelius Study Area. Serviceability ranges from “easy” to “moderate” to serve the entire area (Table 1, p. 111). It will be easier to serve the portion of the study area included by the Council because it is the portion closest to the existing UGB (borders on south) and existing services.

## 2. Efficiency

The Council relies on the same information on provision of essential services mentioned above (Orderly Services) for its conclusion that the area can urbanize efficiently. The Council also relies upon its findings and conclusions above (part I, General Findings, section D, Alternatives: Increase Capacity of UGB) regarding actions it has taken to increase the efficiency of the use of employment land within the existing UGB.

This area borders the UGB to the south, with employment and industrial uses along a portion of the urban side of the UGB. The included portion also includes two exception area of predominantly rural residential use. Inclusion of the exceptions areas will, over time, lead to more efficient use of the areas.

## 3. Consequences

The Council relies upon the analysis of the consequences of urbanization on the Cornelius Study Area set forth in the Alternative Analysis Study, pp. 86-87 and Table A-3). The analysis indicates that the consequences will be moderate. The requirements of Title 11 of the UGMFP that comprehensive planning and land use regulations for the area protect the portions (streams, wetlands, floodplains and steep slopes) of the area subject to Title 3 of the UGMFP and the conditions in Exhibit F of Ordinance No. 04-1040B will reduce adverse consequences from urbanization of the area.

The Council has placed a condition on comprehensive planning for the area that the local government responsible for planning consider Metro’s adopted Goal 5 inventory during its planning (see Condition IG, Exhibit F). The local government will eventually adopt provisions to implement Metro’s Goal 5 program following the Council’s adoption of that program, if the local government’s ordinance do not already comply.

## 4. Compatibility

The Agricultural Analysis Consequences shows that urbanization of the Cornelius Study Area would have high adverse consequences for nearby agriculture (Alternative Analysis Study, pp. 84-85; Table A-4). The analysis, however, is based urbanization of the entire study area (1,154 acres) rather than just the portion included within the UGB (262 acres). Adverse consequences and incompatibility from urbanization of the included portion will be much reduced, given that the UGB borders this portion on the south side, and that the farmland portions of the included area border two exception areas, also included.

Ordinance No. 04-1040B, Exhibit F, imposes Condition IE upon urbanization of the area to reduce conflict and improve compatibility between urban use in the area and agricultural use on land to the north and west.

## 5. Natural and Cultural Resources

The Alternative Analysis Study addresses Goal 5 and 6 resources in the Cornelius Study Area protected by Washington County in its acknowledged comprehensive plan (p. 86). The county, or the City of Cornelius upon annexation to the city, will be responsible for protecting these resources in the area when it amends its comprehensive plan and zoning ordinances to implement expansion of the UGB. Condition IG of

# Exhibit 4 to Ordinance No. 1418-19

Exhibit F requires the county or the city to consider Metro's inventory of Goal 5 resources in their application of Goal 5 to the area. Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation) of the UGMFP requires the county or city to protect water quality and floodplains in the area. Title 11 of the UGMFP, section 3.07.1120G, requires the county or city to protect fish and wildlife habitat and water quality. Title 11, section 3.07.1110, protects the status quo in the interim period of county or city planning for the area.

## 6. Public Facilities and Services

Under statewide Planning Goal 11, Metro is responsible for coordination of the preparation of public facility plans within the district. Metro will fulfill this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Cornelius from upzoning or from dividing land into resulting lots or parcels smaller than 20 acres until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop public facilities and services plans and urban growth diagrams with the general locations of necessary public facilities such as sanitary sewers, storm sewers and water lines for the area.

## 7. Transportation

Metro shares responsibility to ensure that its Task 2 decision for the Cornelius Study Area does not significantly affect a transportation facility or allow uses that are inconsistent with the identified function, capacity and performance standards of transportation facilities. Metro fulfills this responsibility through implementation of Title 11 of the UGMFP, which (1) prohibits Washington County or the City of Cornelius from upzoning and from land divisions into resulting lots or parcels smaller than 20 acres in the area until the county or city revises its comprehensive plan and zoning ordinances to authorize urbanization of land Metro brings into the UGB; and (2) requires the county or city to develop conceptual transportation plans and urban growth diagrams with the general locations of arterial, collector and essential local streets for the area. Metro began this work with the evaluation of the serviceability of the area in the Alternative Analysis Study (pp. 85 and Table A-2) and consideration of how to provide services as part of the analysis required to satisfy Goal 14, factors 3 and 4.

The Oregon Department of Transportation ("ODOT"), Region 1, notes that industrial development in the Cornelius area will worsen the level of service on the Tualatin Valley Highway between Cornelius and Hillsboro. The "Financially Constrained" and "Priority System" in Metro's Regional Transportation Plan ("RTP") include several projects that will address congestion in the corridor (Projects 3156, 3164, 3166, 3167, 3168 and 3171). The county or city, together with Metro, will fully assess the effects of development on these facilities during Title 11 planning. Title 11 calls for a conceptual transportation plan as part of amendment of city or county comprehensive plans and land use regulations, to which statewide planning Goal 12 and the Transportation Planning Rule apply.

## 8. Regional Framework Plan

The included portion of the Cornelius Study Area lies directly north of and adjacent to the City of Cornelius. The area is within one mile of the designated Main Street of Cornelius (there is no designated Town Center). Industrial development in the included area will provide additional employment to support the businesses on Main Street, and provide employment opportunities for the many residents of Cornelius who now travel to other parts of the region for work. As stated above, industrial development in this area will help achieve Policies 1.2, 1.3.1 and 1.4 of the RFP better than inclusion of any other land, including other farmland.

9. Regional Transportation Plan

Through its Joint Policy Advisory Committee on Transportation, Metro has coordinated transportation planning and funding of transportation improvements with local governments in the region. The Regional Transportation Plan (“RTP”) adopted a “Priority System” of improvements through the year 2020. The Priority System includes the most critical improvements needed to implement the 2040 Growth Concept. Among the improvements in the vicinity of the included portion of the Cornelius Study Area in Metro’s RTP are intersection safety improvements on the TV Highway couplet and improved transit service (see list of projects noted in section 8, above).

**REQUIREMENT NO. 2:**

**REMAND ORDER ON SUBTASK 17: EITHER REMOVE TAX LOTS 1300, 1400 AND 1500 FROM THE BOUNDARY OF EXPANSION AREA 62, OR JUSTIFY THEIR INCLUSION UNDER GOAL 14.**

Ordinance No. 04-1040A amends the UGB to remove Tax Lots 1300, 1400 and 1500, all in Study Area 62, from the UGB (Exhibit E). The Council concludes that there is no need to include these lots given the small surplus of land for residential use that resulted from expansion of the UGB by Ordinance No. 02-969B.

**REQUIREMENT NO. 3:**

**REMAND ORDER ON SUBTASK 12B: PROVIDE DATA ON THE ACTUAL NUMBER DENSITY AND AVERAGE MIX OF HOUSING TYPES AS REQUIRED BY ORS 197.296(5) AND DETERMINE THE OVERALL AVERAGE DENSITY MUST OCCUR IN ORDER TO MEET HOUSING NEEDS OVER THE NEXT 20 YEARS AS REQUIRED BY ORS 197.296(7)**

Ordinance No. 04-1040A further revises the Revised Housing Needs Analysis (“HNA”) to display data required by ORS 197.296(5) (Exhibit D). The data show the number, density and average mix of housing types arranged by type of buildable land (vacant, partially vacant, redevelopment and infill and mixed-use land). These data were subsets of aggregated data in the HNA, but were not displayed in the Revised HNA submitted to LCDC with the Task 2 Submittal on January 24, 2003.

The purpose for collecting the data is to help determine “the overall average density and overall mix of housing types at which residential development of needed housing types must occur in order to meet housing needs over the next 30 years.” ORS 197.296(7). Metro determined the overall density and mix of needed housing types in the Revised HNA submitted on January 24, 2003 (see pages 2-7, Figures 3.1, 3.2, 3.3, 5.1 and 5.3). [add text and explanation from earlier HNA] The data newly displayed in this revision do not affect Metro’s earlier determination.

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## Basalt Creek Supplemental Transportation Analysis

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The purpose of this document is to demonstrate that the solutions identified in the 2012 Basalt Creek Transportation Refinement Plan are still appropriate in response to the 2018 Regional Transportation Plan update. The Basalt Creek Transportation Refinement Plan was adopted in 2012 and provided the framework for the development of concept and comprehensive plans for the Basalt Creek Urban Growth Expansion Area. Since that time, the plans for the area have refined the types of expected urban development that will occur in the area. In addition, regional planning efforts, such as the 2018 Regional Transportation Plan, have continued to be refined.

The Basalt Creek Transportation Refinement Plan was developed to determine the major transportation system necessary to serve development throughout the Basalt Creek Area. The Basalt Creek Transportation Refinement Plan set the stage for concept planning and comprehensive plan development for the Basalt Creek area. The transportation investments identified by the Basalt Creek Transportation Refinement Plan considered not only future growth within the Basalt Creek Planning area itself, but also future growth in adjacent areas, including:

- Southwest Tualatin Concept Planning Area
- Tonquin Employment Planning Area (in Sherwood)
- Coffee Creek Planning Area in Wilsonville

Since the development of the Basalt Creek Transportation Refinement Plan the Cities of Tualatin and Wilsonville have proceeded with concept and comprehensive planning for the Basalt Creek area. These planning efforts have built upon the Basalt Creek Transportation Refinement Plan as a framework for organizing the land use plans.

Furthermore, the 124th Avenue connection and Basalt Creek parkway has been constructed as an interim 3-lane facility between Tualatin-Sherwood Road and Grahams Ferry Road. The interim improvement is intended to serve existing transportation needs. Development along the corridor is encouraged to dedicate the right-of-way and complete the ultimate cross-section as appropriate.

The Regional Transportation Plan was updated in 2014 to reflect the Basalt Creek Transportation Refinement Plan. Regional land use growth assumptions and additional regional planning efforts have continued as the concept and comprehensive planning for the Basalt Creek area has been developed through an extensive multi-year and multi-jurisdictional public process.

With the advent of the 2018 Regional Transportation Plan and revised growth assumptions it seemed prudent to revisit the Basalt Creek Transportation Refinement Plan to ensure that the transportation system anticipated at the start of the process was indeed still adequate to serve the planning area.

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The following tables document the land use assumptions for the Basalt Creek Area.

Land Use in the 2010 Regional Transportation Plan travel demand forecast  
(Land Use in the 2012 Basalt Creek Transportation Refinement Plan Technical Report)

<b>Zone Number</b>	<b>2005 Households</b>	<b>2035 Households</b>	<b>2005 Total Employment</b>	<b>2035 Total Employment</b>
1013	94	706	52	896
1014	54	645	16	938
<b>Total</b>	<b>148</b>	<b>1,351</b>	<b>68</b>	<b>1,834</b>

Land Use in the 2018 Regional Transportation Plan travel demand forecast

<b>Zone Number</b>	<b>2015 Households</b>	<b>2040 Households</b>	<b>2015 Total Employment</b>	<b>2040 Total Employment</b>
980	45	0	79	1,447
981	107	646	167	1,447
<b>Total</b>	<b>152</b>	<b>646</b>	<b>246</b>	<b>2,894</b>

Buildout of the Basalt Creek Concept Plan

<b>Zone Number</b>	<b>2015 Households</b>	<b>2040 Households</b>	<b>2015 Total Employment</b>	<b>2040 Total Employment</b>
980	45		79	2,227
981	107	581	167	2,227
<b>Total</b>	<b>152</b>	<b>581</b>	<b>246</b>	<b>4,453</b>

It should be noted that the zone numbering system changed in 2013 but the geographic boundaries of these two zones remained the same.

Also note the total 2040 employment for both zones is the same number; however the model assumed zone 981 will have slightly more service employment than zone 980.

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The following table provides a list of transportation investments assumed in the 2040 regional travel demand forecast:

### 2040 Financially Constrained RTP Projects near Basalt Creek area

Nominating Agency	2018 RTP ID	Project Name	Start Location	End Location	Description	Estimated Cost (2016 Dollars)	Time Period	Financially Constrained	RTP Investment Category	Primary Purpose
Washington County	10568	Tualatin-Sherwood Rd Improvements	Langer Farms Pkwy	Teton Ave	Widen from three to five lanes with bike lanes and sidewalks.	\$35,000,000	2018-2027	Yes	Roads and Bridges	Relieve current congestion
Sherwood	10674	Oregon-Tonquin Intersection Improvements	SW Oregon St	SW Tonquin Rd	Reconstruct and realign three leg intersection with a roundabout (partial two-lane roundabout) approx 400 feet northeast of existing roundabout at SW Oregon St & Murdock Rd. ROW, PE, design & construction. Potential for signal in-lieu of dual-roundabout system if better for development and once SW 124th Ave project is completed. If roundabout, project will include rapid flashing beacons at new roundabout and retrofit of adjacent roundabout to meet MUTCD suggestions for pedestrian crossings at roundabouts. This is currently a Washington County facility but would likely become Sherwood's upon completion of project to TSP standards.	\$2,400,000	2018-2027	Yes	Roads and Bridges	Relieve future congestion
Wilsonville	10588	Grahams Ferry Rd Improvements	Day Rd	County line	Widen Grahams Ferry Road to 3 lanes, add bike/pedestrian connections to regional trail system and fix (project development only) undersized railroad overcrossing.	\$13,200,000	2028-2040	Yes	Freight	Improve freight access to indust & intermodal
Washington County	10590	Tonquin Rd Improvements	Grahams Ferry Rd	124th Ave	Realign and widen to three lanes with bike lanes and sidewalks and street lighting.	\$11,400,000	2018-2027	Yes	Roads and Bridges	Build Complete Street
Wilsonville	10853	Garden Acres Road Extension	Day Road	Ridder Road	Construct three lane road extension with sidewalks and cycle track and reconstruct/reorient Day Road/Grahams Ferry Road/Garden Acres Road intersection.	\$14,260,000	2018-2027	Yes	Roads and Bridges	Relieve future congestion
Wilsonville	11243	Day Rd Improvements	Grahams Ferry Rd	Boones Ferry Rd	Widen street from 3 to 5 lanes with buffered bike lanes, sidewalks and street lighting. Improve structural integrity for increased freight traffic and provide congestion relief. Sidewalk infill and creation of Tonquin Trail multi-use path spur will reduce pedestrian and vehicle conflicts. Bike buffers will reduce bicycle and freight conflicts.	\$10,560,000	2028-2040	Yes	Roads and Bridges	Relieve future congestion

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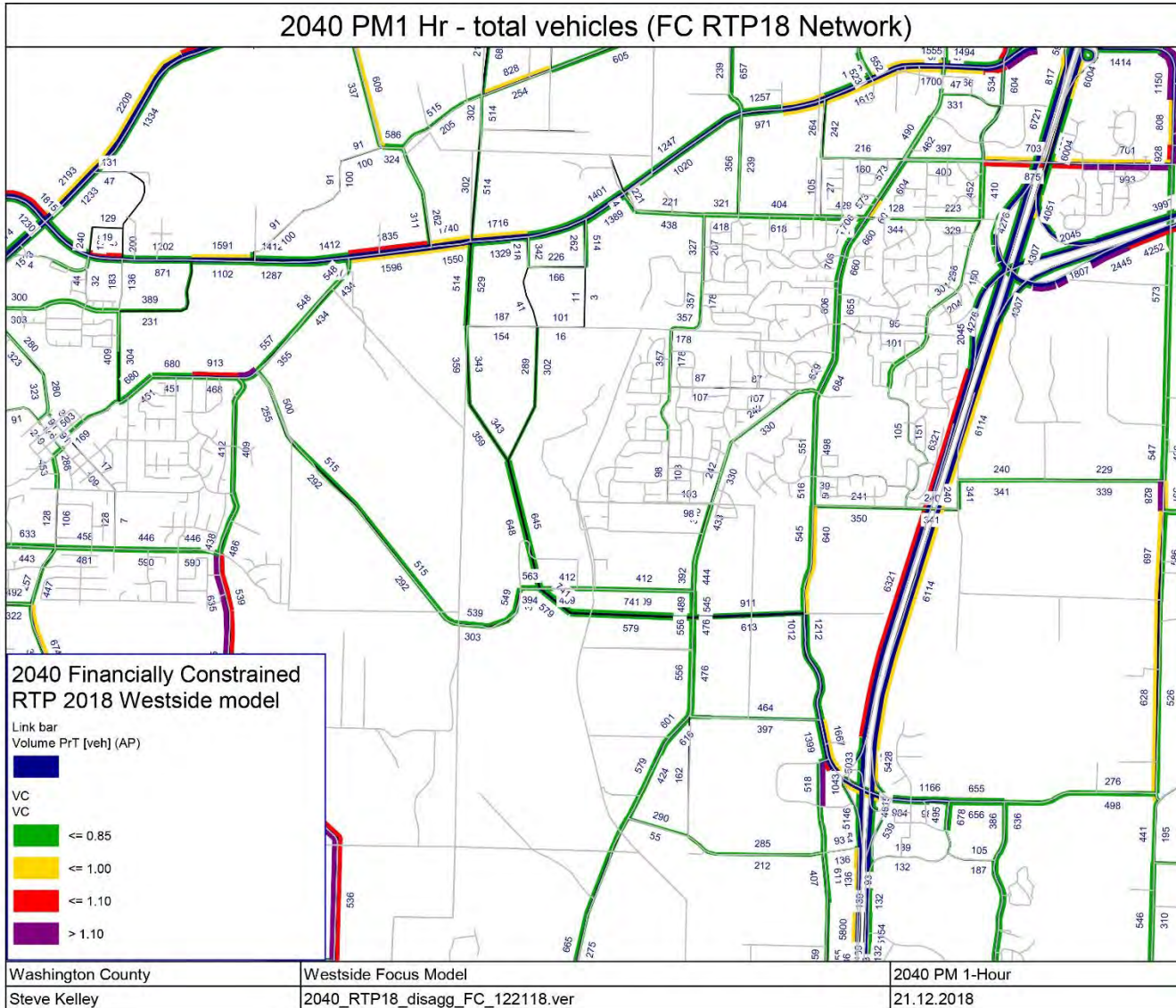
**2040 Financially Constrained RTP Projects near Basalt Creek area (Continued)**

Nominating Agency	2018 RTP ID	Project Name	Start Location	End Location	Description	Estimated Cost (2016 Dollars)	Time Period	Financially Constrained	RTP Investment Category	Primary Purpose
Tualatin	11417	Blake Street Extension	115th Ave	124th Ave	Extend Blake Street to create an east-west connection between 115th and 124th. Install signal at Blake and 124th. New road section will provide an alternative route for industrial traffic on the high injury corridor: Tualatin/Sherwood Road.	\$17,000,000	2018-2027	Yes	Roads and Bridges	Increase access to jobs
Washington County	11470	Basalt Creek Parkway	Grahams Ferry Rd	Boones Ferry Rd	Extend new 5 lane Arterial with bike lanes, sidewalks and street lighting.	\$31,700,000	2018-2027	Yes	Roads and Bridges	Serve new urban area
Washington County	11487	Boones Ferry Improvements	Basalt Creek East-West Arterial	Day Rd	Widen from 3 lanes to 5 lanes with bike lanes, sidewalks and street lighting	\$1,200,000	2028-2040	Yes	Roads and Bridges	Relieve future congestion
Wilsonville	11489	Boones Ferry / I-5 off ramp improvements	SB I-5 off ramp	Boones Ferry Rd	construct second right-turn lane	\$1,063,000	2028-2040	Yes	Roads and Bridges	Relieve current congestion
Tualatin	11962	Grahams Ferry Rd	SW Ibach Rd	Helenius Rd	Upgrade SW Grahams Ferry Road to roadway standards between SW Ibach Road and Helenius Road.	\$5,048,800	2028-2040	Yes	Roads and Bridges	Build Complete Street



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## Financially Constrained 2018 Regional Transportation Plan Network 2040 PM 1 Hour Total Vehicle Volume Forecast Results



Financially Constrained 2018 Regional Transportation Plan Network  
2040 PM 1 Hour Basalt Creek Vehicles (and Total Vehicles) Forecast Results

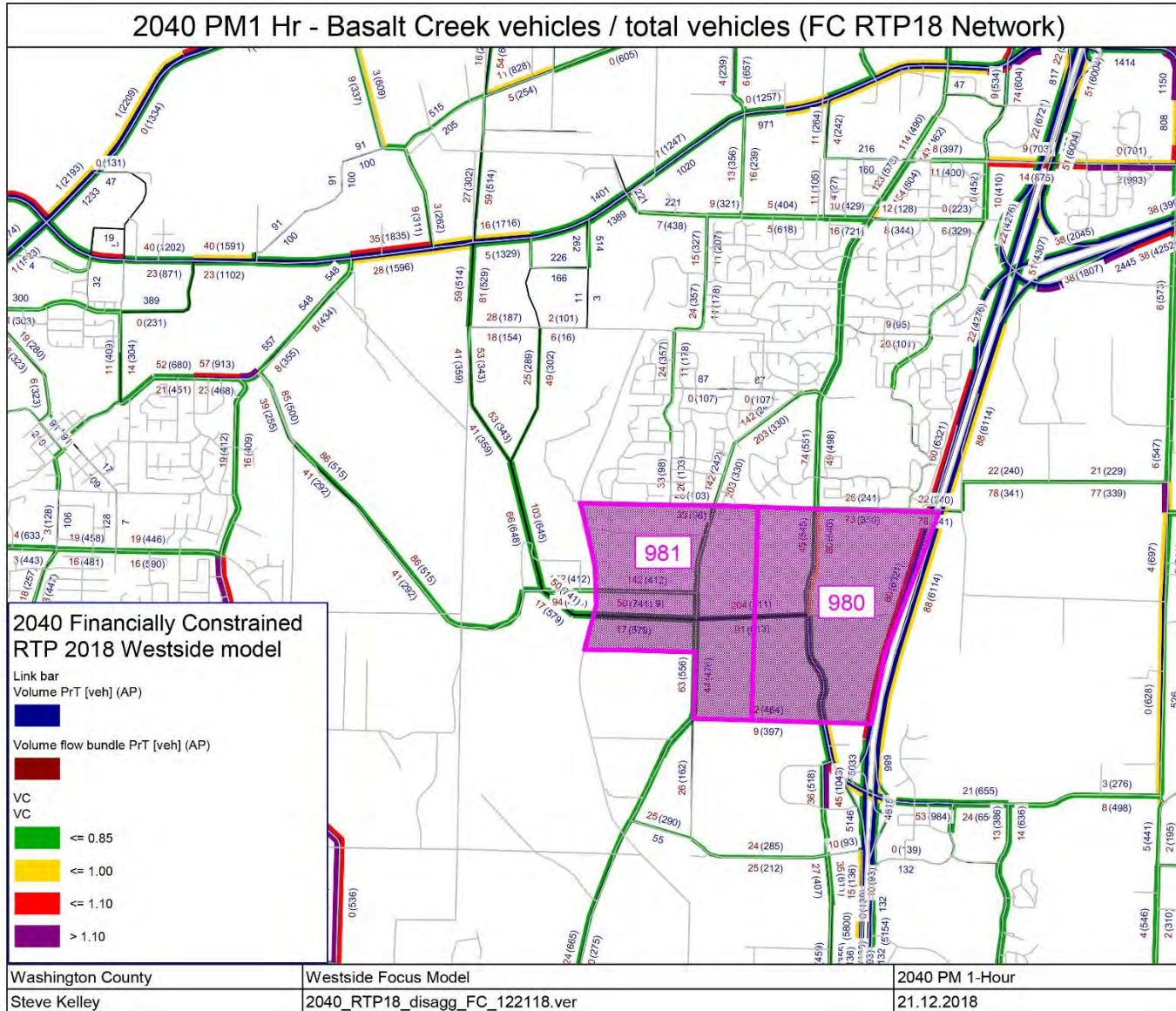


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**Summary**

The 2018 Regional Transportation Plan contains a number of Financially Constrained projects identified in the Basalt Creek area. These projects were generally identified by the Basalt Creek Transportation Refinement Plan in 2012. It is anticipated that these projects will be implemented in conjunction with development in the area. The resulting planned system, including the build out scenario documented in the land use tables above, results in anticipated traffic operations consistent with regional and local level of service standards.

The level of service maps and analysis in this report are intended to provide a planning level system assessment consistent with the requirements for Transportation Planning in Oregon. A detailed operational analysis will be necessary prior to project development. The detailed operational analysis should consider needed turn lanes and assess vehicular movements at intersections to determine the appropriate design configuration. This analysis is intended to provide a generalized system assessment that would be an appropriate input into an operational evaluation necessary for project development.



METRO

December 5, 2006

Doug Rux  
Community Development Director  
City of Tualatin  
18880 SW Martinazzi Avenue  
Tualatin, OR 97062-7092

**RE: CITY OF TUALATIN TITLE 13 AND TUALATIN BASIN PLAN COMPLIANCE REVIEW**

Dear Mr. Rux:

I have had the pleasure of working with Jim Jacks, former Special Projects Manager, on the City's efforts to comply with the Tualatin Basin Program and Metro's Title 13. Until his recent departure to take a new job, Jim served on the Tualatin Basin Natural Resources Steering Committee for many years and contributed to the formulation of the Tualatin Basin Program. He was very helpful to me in explaining the City's amendments to its plan and codes to implement portions of the Tualatin Basin Program. Although the City Council has already taken final action on the proposed code amendments, we ask that the City consider the points raised in this letter and take appropriate action in the future to address them.

Thank you for transmitting to Metro the City of Tualatin's proposed changes to its development code and comprehensive plan to comply with Title 13 of the Metro Urban Growth Management Functional Plan, Metro Code 3.07.1310 through .1370 ("UGMFP"). Tualatin is seeking to comply with Title 13 via "Option 5" (Metro Code 3.07.1330(B)(5)), by complying with the "Tualatin Basin Program." Our comments are based on our review of the City's two September 14, 2006 compliance memoranda, and September 7, 2006 draft code amendments. Please advise us if these are not the most recent versions of the review documents or if we are missing other necessary documents.

This letter serves as Metro's compliance review under Title 8 (Metro Code 3.07.820(A)). I note that compliance with Title 13 pursuant to Option 5 requires Tualatin to undertake certain non-regulatory steps, including some ongoing responsibilities, that do not require amendments to Tualatin's comprehensive plan and land use regulations. This compliance review by Metro is a review only of whether the amendments Tualatin is proposing are consistent with the UGMFP, and is not a review of whether Tualatin has complied, or will comply, with the other requirements of Option 5 and the Tualatin Basin Program.

**Applicable Requirements for Compliance**

There are essentially four substantive elements of Option 5 compliance that could require amendments to comprehensive plan and land use regulations. In order to comply with Title 13 under Option 5, Tualatin must:

- "[F]acilitate and encourage the use of habitat-friendly development practices, where technically feasible and appropriate, in all areas identified as Class I and II riparian habitat areas on the Metro Regionally Significant Fish and Wildlife Habitat Inventory Map." Metro Code 3.07.1330(B)(5)(d) (see also, step 2 of the Tualatin Basin Program implementation steps, applicable via Metro Code 3.07.1330(B)(5)(a), which requires Tualatin to adopt Low Impact-Development guidelines "to reduce environmental impacts of new development and removing barriers to their utilization.") In addition, Metro Code 3.07.1330(E) requires Beaverton to remove

barriers to the use of habitat-friendly development practices in all regionally significant habitats. Metro provides examples of such habitat-friendly practices in Table 3.07-13c of Title 13;

- “[A]llow for the reduction of the density and capacity requirements of Title 1 of the [UGMFP]” for all properties within Metro’s habitat inventory. Metro Code 3.07.1330(B)(5)(e) and 3.07.1330(H). Such allowance may be provided only for properties within the Metro urban growth boundary on January 1, 2002, require the protection of the habitat via a public dedication or restrictive covenant, and only allow for the density/capacity reduction in proportion to the amount of habitat permanently protected on the property;
- Provide both a simple and a detailed process for property owners to verify the location of inventoried habitat on their property. Metro Code 3.07.1330(G); and
- Adopt protection provisions consistent with Title 13 applicable to upland wildlife habitat areas within territory added to the Metro UGB in the future. Metro Code 3.07.1330(B)(5)(f). (A jurisdiction is not required to adopt such provisions at this time, it may instead choose to address this requirement at the time that new areas are brought into the UGB and concept planning and local zoning is applied.)

In addition to these substantive requirements, Tualatin must, first, also ensure that provisions it adopts provide property owners with clear and objective compliance standards, Metro Code 3.07.1330(C), and may also provide discretionary compliance standards, Metro Code 3.07.1330(D). Second, Tualatin must have made its proposed amendments available for public review at least 45 days prior to a public hearing regarding those amendments. Metro Code 3.07.1330(F).

### **Summary of Comments**

We first want to commend Tualatin on its thorough efforts in complying with Title 13. The City’s proposed amendments are responsive to Metro’s expectations and will result in better protection of our region’s wildlife habitats. Despite these commendable efforts, we understand that Title 13 has many complex requirements, and so this letter includes Metro’s comments to ensure the City fully complies with all aspects of Title 13. We also include a number of suggestions to improve the clarity of the proposed amendments. This section provides only a summary of our comments, a more detailed discussion of each comment is found in the following sections.

#### *Required for Compliance*

- The City must ensure that its density waiver is voluntary, applicable to all six habitat types contained in Metro’s Regionally Significant Fish and Wildlife Habitat Inventory Map, and applicable only to properties located inside the UGB as of January 1, 2002;
- The definition of “Fish and Wildlife Habitat Area” (FWHA) (or some equivalent) must be clarified to ensure that it includes all six regionally significant habitats in Metro’s Significant Fish and Wildlife Habitat Inventory Map. The City must then demonstrate that its proposed code changes, using whatever habitat definitions it deems necessary, do in fact facilitate and encourage HFDPs and remove barriers to Low Impact Development practices;
- The City must clearly demonstrate that it has provided a “simple” verification process in addition to the detailed approach to locate boundaries of Metro’s Regionally Significant Fish and Wildlife Habitat on a property specific basis.

#### *Suggestions*

- Amend code to allow flexibility in building height, provided that the height increase results in an offsetting reduction in impervious surface or other beneficial outcome for habitat;
- Amend code to create a mechanism, if one does not already exist, to allow and encourage landowners to shift required landscaping from one part of their property to areas adjacent to a habitat area;

- Modify the City's proposed provisions prohibiting the spillage of light into FWHA to clarify that it only encourages, not prohibits, landowners to do so. One suggestion is to insert the qualifying phrase "where practical and feasible" into the City's language that otherwise prohibits the shining of light into habitat areas;
- Continue to work with CWS to ensure the timely development of effective stormwater facility design standards, including those for open drainage systems, and to make the appropriate future code changes to encourage landowners to take advantage of the new design standards;
- Amend City's code to affirmatively state its encouragement for certain HFDPs involving stream crossings and stormwater facilities (see more detailed comments below), instead of relying only on compliance with Title 3 and CWS standards to comply with Title 13.

### Detailed Comments

#### *Density Waiver*

Metro Code Section 3.07.1330(B)(5)(e) requires that each city or county adopt a waiver process from the density requirements of Title 1 of the UGMFP for all properties in Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map. This waiver can only apply to properties that were within the UGB before January 1, 2002.

*Issue #1: The City's existing density reduction provision, through its Net Acreage definition, is not broad enough to allow density waivers for all six habitat types contained in Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map, as required by Title 13.*

As best can be determined, the City proposes to meet the density waiver requirement by reference to its existing language of Net Acreage, which excludes from development rights-of-way and tracts, as well as habitats protected under CWS requirements. No changes to this definition are proposed. The City explains that the current application of the Net Acreage definition already allows landowners to avoid meeting minimum density requirements and so does not penalize landowners for having protected habitats on their property. It appears, however, that the scope of the allowed density reduction under the Net Acreage definition falls short of Title 13's requirement that the density waiver apply to all regionally significant fish and wildlife habitats (e.g., Class I, II, and III riparian, and Class A, B, and C upland).

Compliance Recommendation: The City must ensure that, regardless of the methodology used to comply with the density waiver requirement of Metro Code Section 3.07.1330(B)(5)(e), the density waiver is applicable to all six regionally significant habitats (see next two issues for complete recommendation).

*Issue #2: The City's proposed scheme makes the density waiver option a mandatory requirement, whereas Title 13 specifies that the waiver is intended to a voluntary option for landowners.*

*Issue #3: The City's proposed scheme fails to limit application of the density waiver to only properties inside the urban growth boundary on January 1, 2002.*

Metro Code Section 3.07.1330(B)(5)(e) requires that each jurisdiction allow landowners to apply for a density waiver as a voluntary option to protect regionally significant habitat. Thus, the density waiver is not intended to be a mandatory density restriction in a landowner's property right. In fact, making the density waiver a mandatory requirement is a prohibition on development that clearly goes beyond the intent of Title 13 and would need to be justified by a separate Goal 5 ESEE analysis and decision.

In addition, Metro Code Sections 3.07.1330(B)(5)(e) and 3.07.1330(H)(1)(a) state that the density waiver applies only to properties that were located inside the UGB on January 1, 2002. The City has not included this limitation in its proposed code changes.

**Compliance Recommendation:** The City must provide a density waiver option that is voluntary and applies to all six of Metro's regionally significant habitats. We recommend the City add language to its Net Acreage definition that states, in effect:

"A landowner of property with regionally significant habitat, as shown on Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map [the City should incorporate Metro's Inventory Map by reference], and which is habitat not already excluded under this definition, may request a density waiver to protect such habitat, provided that the habitat has been verified by local process as regionally significant. This density waiver option applies only to properties located within the UGB before January 1, 2002."

As an alternative to integrating the density waiver into the Net Acreage definition, the City could add an entirely separate code section that specifies how landowners can obtain a density waiver.

#### **Definition of Fish and Wildlife Habitat Area**

*Issue: The City's proposed definition of "Fish and Wildlife Habitat Area" does not clearly demonstrate that it includes all six regionally significant habitat areas in Metro's Inventory Map.*

Tualatin proposes to add to its code a new habitat category called "Fish and Wildlife Habitat Area" (FWHA). This term is defined as "an area in the Natural Resources Protection Overlay District, Other Natural Areas identified in Figure 3-4 of the Parks and Recreation Master Plan, or in the Clean Water Services Vegetated Corridor." The City then applies Title 13's required HFDPs and Low Impact Development practices to properties that contain FWHA. It is not clear, however, whether the proposed definition of FWHA includes all of the six regionally significant habitat areas in Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map, as required by Title 13, because the definition refers to habitat maps and resources that are different from Metro's Habitat Inventory Map. Our best estimate is that the definition includes most, but not all, the habitats in Metro's Regionally Significant Fish and Wildlife Habitat Inventory. Thus, in order to better determine compliance with requirements of Title 13 and the Tualatin Basin Program, Metro needs to know the exact extent of overlap between FWHA and Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map.

**Compliance Recommendation:** The City must ensure that its definition of FWHA (or some other equivalent habitat category) includes all six classes of Metro's regionally significant fish and wildlife habitats.

#### **Verification Process**

Metro Code Section 3.07.1330(G) requires that each jurisdiction provide landowners a "reasonable, timely, and equitable process" to verify the specific location of "habitat areas" (i.e., all six habitat types on the RSFWH Inventory Map or functional equivalent). This is called the "simple" verification process and requires only a minimal expenditure of time and money in cases where the habitat boundary is uncontested or easily resolved. Metro Section 3.07.1340(D) also requires a detailed map verification process for Habitat Conservation Areas ("HCA"), which include Class I and II riparian habitats and Class A and B upland habitats. This detailed process requires expert opinion and more technical supporting data in cases where the habitat boundary is complex or controversial.

*Issue: The City has not clearly demonstrated that it has provided a detailed verification process and a simple verification process for identifying the boundaries of regionally significant fish and wildlife habitat.*

Because the City has not adopted Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map, and because it is unclear how the City's proposed FWHA relates to the Inventory Map (as discussed

above), Metro is unable to determine whether the City has a verification process that complies with Metro Code Sections 3.07.1330(G) and 3.07.1340(D). Although our review indicates that most of the six regionally significant habitats are likely included in the City's definition of FWHA, and that the City appears to have an existing verification process for many of the habitats included in FWHA, we still are not certain that all of Title 13's verification requirements are being met.

It should be noted that Title 13 does allow jurisdictions to rely on existing local habitat maps and verification processes, but compliance is dependent on Metro making a finding that these existing local provisions "substantially comply" with Title 13's requirements. This City appears to be taking this alternative approach. However, the City has not clearly demonstrated how its existing habitat maps include all the acreage that comprises regionally significant fish and wildlife habitat.

Compliance Recommendation: The City must clearly demonstrate that it is providing both a "simple" and more detailed verification process to identify the boundaries of regionally significant fish and wildlife habitat. Enclosed is draft code language from the City of Tigard providing a "simple" as well as detailed verification process. Metro recommends that Tualatin adopt similar provisions. Alternatively, Tualatin can comply by adopting the basic and detailed verification processes contained in Metro's Model Ordinance.

### ***Suggestions on HFDP and LID***

Title 13 requires cities and counties to "facilitate and encourage" the use of habitat-friendly development practices ("HFDP") (Metro Code 3.07.1330(B)(5)(d)), and to "remove barriers" to the use of these HFDPs (Metro Code 3.07.1330(E)). Metro provides examples of such habitat-friendly practices in Table 3.07-13c of Title 13. In addition, step 2 of the Tualatin Basin Program implementation requires Tualatin to adopt Low Impact-Development ("LID") guidelines to reduce the environmental impacts of new development and to remove barriers to the use of these LIDs.

With this in mind, the below comments do not raise "compliance" issues per se, but are intended to pose questions or make suggestions to improve the likely effectiveness of the proposed credit program.

*Flexibility for Building Height:* No code changes are proposed by the City to provide increased flexibility for building height. The City's rationale is that since the presumable intent would be to protect habitat by reducing development (i.e., reducing building height), that it seems counterproductive to allow increased height as a way to protect wildlife habitats. This rationale misses the intent of this HFDP which is to allow increased height in exchange for, for example, a decreased building footprint, thereby reducing impervious surface. This basic rationale is provided in the Tualatin Basin Implementation Report as well.

Recommendation: We recommend that the City amend its code to allow flexibility in building height, provided that the height increase results in an offsetting reduction in impervious surface or other beneficial outcome for habitat.

*Locating landscaping adjacent to habitat areas:* No code changes are proposed by the City to encourage this HFDP. While the City's current landscaping standards may allow for this practice, it does not appear that there is any explicit encouragement to do so.

Recommendation: We recommend that the City amend its code to create a mechanism, if one does not already exist, to allow and encourage landowners to shift required landscaping from one part of their property to areas adjacent to a habitat area.

*Re-direct outdoor lighting away from habitat areas:* Metro's intent with this HFDP is for localities to encourage landowners to avoid shining their outdoor lights, which can disturb wildlife, into habitat areas. The City, however, is proposing to prohibit the shining of light into FWHA. This prohibition is a restriction of land use that goes beyond Title 13's intent to use only non-regulatory measures to encourage HFDPs.



Recommendation: We recommend that the City modify its proposed provisions prohibiting the spillage of light into FWHA to say that it only encourages landowners to do so. One suggestion is to insert the qualifying phrase "where practical and feasible" into the City's language that currently prohibits the shining of light into habitat areas.

*Use of multi-functional open drainage systems:* The City addresses this HFDP by delaying action until CWS and the City develop new design standards for open drainage systems and similar stormwater facilities. While Metro recognizes the benefit of deferring to CWSs expertise to develop a comprehensive stormwater design manual that can be used by jurisdictions throughout the Tualatin Basin, we do expect the City to take future action to amend its code to incorporate the CWS standards that will encouraging these HFDPs.

Recommendation: We encourage the City to continue to work with CWS to ensure the timely development of effective stormwater facility design standards, including those for open drainage systems, and to make the appropriate future code changes to encourage landowners to take advantage of the design standards.

*Stream crossings and detention ponds:* We also note that for a number of HFDPs — such as minimizing stream crossings, encouraging perpendicular crossings, using habitat sensitive bridge and culvert designs, use of detention ponds, and allowance of narrow road widths through stream corridors — the City does not propose any code changes. Instead, the City states that its code is silent on such practices, but does not prohibit them, and mostly relies on its adoption of Metro's Title 3 and CWS requirements to meet Title 13's "encourage and facilitate" requirement.

Recommendation: We recommend that the City amend its code to affirmatively support these HFDPs. Doing so would leave no doubt that the City is encouraging and facilitating these HFDPs.

Please do not hesitate to contact me if you having any questions regarding our comments.

Sincerely,



Paul Ketcham  
Principal Regional Planner

Cc: Councilor Carl Hosticka, District 3  
Michael Jordan, Chief Operating Officer  
Christina Deffebach, Long Range Planning Manager  
Paul Garrahan, Metro Attorney  
Amanda Punton, DLCD Natural Resource Specialist  
Steve Kelley, Senior Planner, Washington County

Enclosure

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF RESOLVING A	)	RESOLUTION NO. 18-4885
DISPUTE BETWEEN THE CITY OF	)	
WILSONVILLE AND THE CITY OF	)	Introduced by Chief Operating Officer Martha
TUALATIN REGARDING THE CONCEPT	)	Bennett in concurrence with Council
PLAN FOR THE BASALT CREEK PLANNING	)	President Tom Hughes
AREA	)	

WHEREAS, in 2004 Metro adopted Ordinance No. 04-1040B, which amended the Urban Growth Boundary to add 1,940 acres of land to satisfy an identified regional need for industrial land, including approximately 646 acres located between the City of Tualatin and the City of Wilsonville that is now known as the Basalt Creek Planning Area; and

WHEREAS, in 2007 Metro awarded a \$365,000 grant of construction excise tax funds to the cities of Tualatin and Wilsonville to undertake concept planning for the Basalt Creek Planning Area; and

WHEREAS, in 2011 Washington County, Metro, and the cities of Tualatin and Wilsonville entered into an Intergovernmental Agreement (IGA) that outlines the requirements and responsibilities of the parties regarding their coordinated efforts toward adopting a concept plan for the Basalt Creek Planning Area; and

WHEREAS, under the 2011 IGA, all parties must agree regarding the jurisdictional boundary between the cities and the planning designations in the concept plan before the county may transfer planning authority to the cities to facilitate future annexation and urban development; and

WHEREAS, between 2013 and 2016 the two cities engaged in a joint concept planning process for the Basalt Creek Planning Area, but reached an impasse in 2017 regarding the appropriate planning designation for a 52-acre portion of the planning area known as the “Central Subarea,” and asked Metro to take on the role of arbitrating their dispute; and

WHEREAS, on January 22, 2018 the two cities, Metro, and Washington County entered into an IGA that assigns Metro the task of creating a process for arbitrating the dispute between the cities and reaching a decision regarding the appropriate land use designation for the Central Subarea; and

WHEREAS, Metro created a special process for the arbitration wherein the Metro Chief Operating Officer (COO) agreed to accept written evidence and argument from the cities and county prior to issuing a written recommendation to the Metro Council that would be reviewed by the Council in an “on the record” proceeding; and

WHEREAS, the 2018 IGA and the arbitration process created by Metro recognize that Metro’s decision as arbitrator does not itself result in the adoption or amendment of any land use plan or map, and will not have any land use effects unless and until it is implemented by the cities through future city land use decisions that will be appealable to LUBA; and

WHEREAS, the Metro COO reviewed the evidence and argument submitted by the cities, Washington County, and two property owners, and issued her written COO Recommendation to the Metro Council on March 26, 2018 recommending that the cities should designate the Central Subarea for future employment use; and

Exhibit 7 to  
Ordinance No. 1418-19

WHEREAS, the Metro Council reviewed the COO Recommendation and all of the evidence that was placed in the record before the COO, and at the Council meeting on April 19, 2018 voted unanimously to approve the COO Recommendation; now therefore,

BE IT RESOLVED that:

1. The Metro Council approves the COO Recommendation and agrees that the cities should designate the 52-acre Central Subarea of the Basalt Creek Planning Area for employment purposes, as depicted on the Basalt Creek Land Use Concept Map attached to the COO Recommendation as Exhibit C.
2. The Metro Council adopts the COO Recommendation dated March 26, 2018, attached as Exhibit A to this Resolution and incorporated herein, as the Council's findings and conclusions in support of this decision.
3. The Metro Council also adopts the Supplemental Findings attached as Exhibit B to this Resolution and incorporated herein as the Council's supplemental findings and conclusions in support of this decision.

ADOPTED by the Metro Council this 3 day of May 2018

  
Tom Hughes, Council President



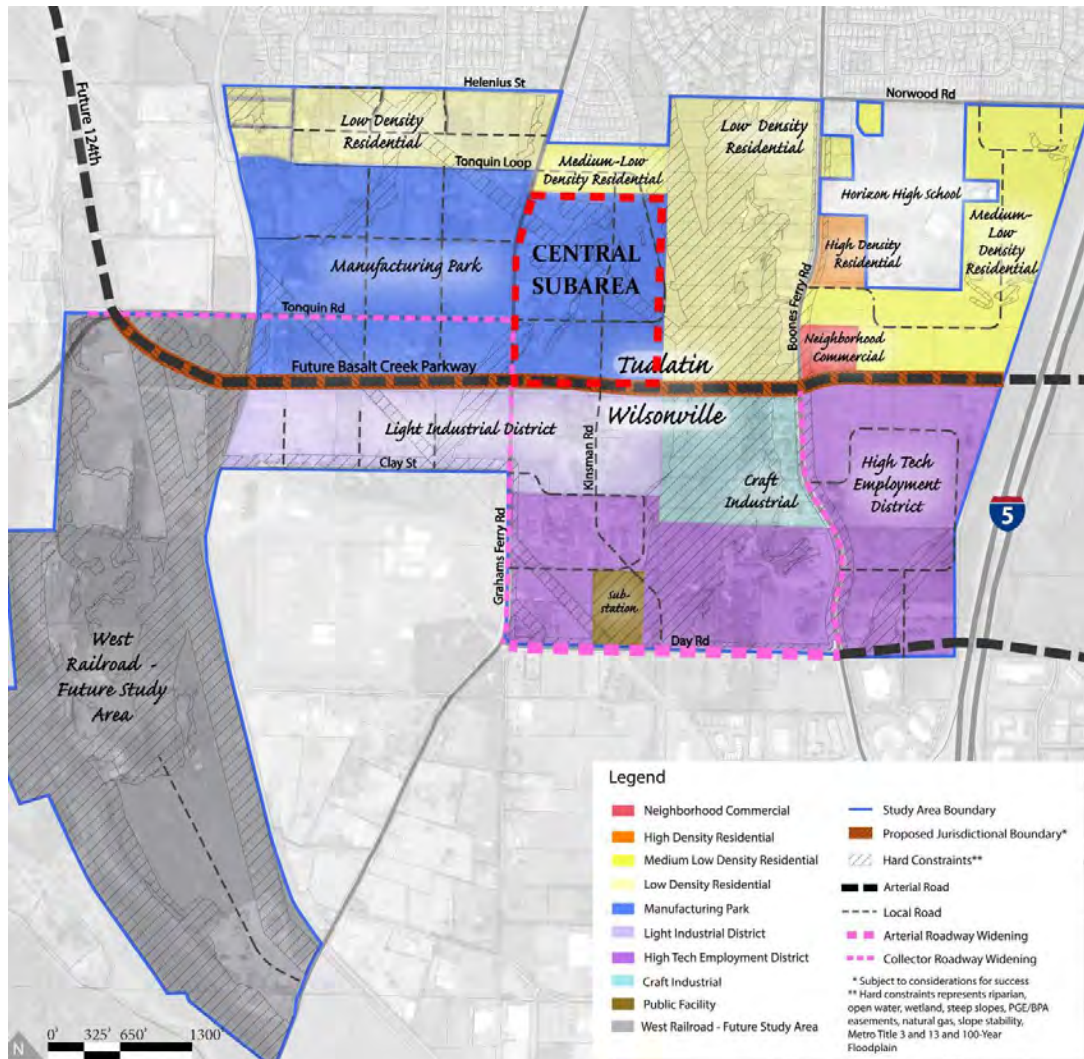
Approved as to Form:

  
Alison R. Kean, Metro Attorney

**EXHIBIT A TO RESOLUTION 18-4885**

**Chief Operating Officer Recommendation to the Metro Council  
Regarding the Basalt Creek Planning Area**

This is my recommendation to the Metro Council concerning the appropriate land use designation of a 52-acre portion of the Basalt Creek Planning Area known as the “Central Subarea,” which is identified in Figure 1 below. A decision by Metro on this issue is contemplated by the Intergovernmental Agreement (IGA) among Metro, the City of Tualatin, the City of Wilsonville, and Washington County creating a process for Metro to resolve the dispute between the two cities regarding whether the Central Subarea should be planned for employment or residential use. My recommendation is that the Central Subarea should be designated as an employment area, as shown on the Figure 1 map.



**Figure 1: Basalt Creek Land Use Concept Map (Sept. 2016)**

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**A. Process**

In 2017 the cities of Wilsonville and Tualatin reached an impasse regarding concept planning for a 52-acre portion of the Basalt Creek Planning Area known as the “Central Subarea” and asked Metro to take on the role of arbitrating their dispute. To that end, the cities, Metro, and Washington County entered into an IGA in January of 2018 that assigns Metro the task of making a final and non-appealable decision regarding the appropriate land use designation for the Central Subarea. The IGA is attached as Exhibit A and provides:

“Metro will have sole discretion to determine what to call this decision making process, where and when to hold the process, who Metro will appoint to make the decision, a briefing schedule, whether or not to hear oral argument, and ground rules that must be adhered to by the cities and county throughout the process.”

The process created by Metro began with the issuance of a staff report to the COO on February 21, 2018, which recommended an employment designation. The cities and the county then had until March 7, 2018 to submit written argument and evidence in support of their positions. The cities and county were provided an additional seven days to submit arguments and evidence in rebuttal to the first round of materials.

In addition to the materials submitted by the cities, Metro received a letter from the Chair of the Washington County Board of Commissioners in support of retaining the employment designation and stating concerns regarding Tualatin’s proposal to add more residential land in an area that has long been planned for industrial and employment use. Metro also received submittals from Herb Koss and Peter Watts, who own property within the Central Subarea and are advocating for a residential designation. Those two submittals include materials that had been provided to the two cities during the concept planning process.

After reviewing all of the documents provided by the parties and relevant regional planning materials, it is my conclusion that an employment designation for the Central Subarea is: (1) more consistent with the planning goals and expectations of the local government stakeholders over the last 14 years; and (2) supported by the greater weight of evidence in the record.

The Metro process calls for the Metro Council to review this recommendation and deliberate to a decision regarding whether to accept, reject, or modify it. The Council’s

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review will be based on the record of written materials submitted by the cities, county, and Metro staff. The Council will then adopt a resolution memorializing its decision and directing the cities to prepare concept plans consistent with Metro's final decision and with Title 11 of the Urban Growth Management Functional Plan. In the IGA, the cities agree that they will accept Metro's final decision and adopt corresponding concept plans.

### **B. Basalt Creek Planning History**

#### **1. 2004 UGB Expansion**

The Basalt Creek Planning Area was added to the UGB as part of a 2004 expansion for industrial and employment purposes. Metro had previously expanded the UGB in 2002 to add 17,458 acres of land, with 15,047 acres added for residential purposes and 2,411 acres for employment. In the 2002 decision, Metro acknowledged that the amount of land being added for employment purposes was not sufficient to meet the identified 20-year need, and therefore requested that the Land Conservation and Development Commission (LCDC) assign a new work task that would allow Metro to complete its work and accommodate the region's need for industrial land. *See* Exhibit P to Metro Ordinance 02-969B. LCDC approved the majority of the decision, and returned the matter to Metro with instructions to satisfy the unmet 20-year need for industrial land.

Metro responded in 2004 by adopting Ordinance No. 04-1040B, the stated purpose of which was "to increase the capacity of the boundary to accommodate growth in industrial employment." That decision expanded the UGB to include 1,940 acres of land for industrial use, including the 646 acres now known as the Basalt Creek Planning Area between the cities of Tualatin and Wilsonville. The Metro Council adopted the following findings in support of adding the Basalt Creek area to the UGB:

"The Council chose this area because it is exception land (rural residential and rural industrial) with characteristics that make it suitable for industrial use. It lies within two miles of the I-5 corridor and within one mile of an existing industrial area, and portions of the area are relatively flat. These characteristics render it the most suitable exception area under consideration for warehousing and distribution, a significant industrial need facing the region." Metro Ordinance 04-1040B at Exhibit G, page 17.

During the Metro proceedings, the City of Tualatin and some of its residents expressed concerns about compatibility between future industrial uses in the Basalt Creek area and residential neighborhoods at the south end of the city, and about preserving the opportunity to choose an alignment between Tualatin and Wilsonville for the then-

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planned connector between Interstate 5 and Highway 99W. In response, the Metro Council adopted the following condition of approval:

“2. Title 11 planning shall incorporate the general location of the projected right of way alignment for the I-5/99W connector and the Tonquin Trail as shown on the 2004 Regional Transportation Plan. If the selected right-of-way for the connector follows the approximate course of the ‘south alignment,’ as shown on the Region 2040 Growth Concept Map, ... the portion of the Tualatin Area that lies north of the right-of-way shall be designated ‘Outer Neighborhood’ on the Growth Concept Map; the portion that lies south shall be designated ‘Industrial.’” Metro Ordinance 04-1040B at Exhibit F, page 3.

A copy of the 2004 version of the 2040 Growth Concept Map showing the two proposed alignments for the I-5/99W connector is attached as Exhibit B. That exhibit also shows the locations of the Central Subarea and the Basalt Creek Parkway. The Metro Council adopted the following findings describing the purpose of the condition:

“Second, the Council states that, so long as the alignment for the Connector falls close to the South Alignment shown on the 2040 Growth Concept Map, it will serve as the buffer between residential development to the north (the portion least suitable for industrial uses) and industrial development to the south (the portion of the area most suitable for industrial use).” Metro Ordinance 04-1040B at Exhibit G, pages 17-18.

**2. Local Concept Planning**

In 2007, Metro awarded a \$365,000 CET Grant to the cities of Tualatin and Wilsonville to perform concept planning for the Basalt Creek Planning Area. In 2011 the cities, Metro, and Washington County entered into an IGA that outlines the requirements and responsibilities of the parties regarding their coordinated efforts on the Basalt Creek concept plan. The IGA defines a decision-making process that requires all four parties to agree to the final decisions about the jurisdictional boundary between the two cities and the appropriate land use designations for the entire area.

The concept plan was put on hiatus from 2011 to 2013 while transportation planning issues for the larger South County Industrial Area were being resolved via the Basalt Creek Transportation Refinement Plan. The stakeholders concluded that it was important to address transportation issues for the area prior to any industrial development occurring. As part of that transportation planning effort, the Basalt Creek Parkway was one of several options identified as critical to the success of the transportation system. The

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Parkway was seen as one of the vital connectors for truck traffic from the Tonquin and Southwest Tualatin Industrial areas to the north down to Interstate 5, in order to mitigate the traffic impacts on Tualatin-Sherwood Road and the Tualatin Town Center.

Upon completion of the Basalt Creek Transportation Refinement Plan in 2013, the cities of Wilsonville and Tualatin resumed their concept planning efforts, utilizing Metro's CET grant funds. In December of 2015, the City Councils of Wilsonville and Tualatin reached an agreement regarding a jurisdictional boundary between the cities, delineated by the Basalt Creek Parkway. Further work between the cities resulted in a "Preferred Basalt Creek Land Use Map" in September of 2016, which designated the majority of the area north of the Basalt Creek Parkway in Tualatin, including the Central Subarea, with a Manufacturing Park zoning classification. Exhibit C.

**3. Summary of Dispute**

In October of 2016, a property owner in the Central Subarea presented the City of Tualatin with a proposal to change the designation of the subarea from employment to residential. The property owner asserted that the area is not well suited for employment uses due to topography and geologic conditions. In support of this proposal, the property owner submitted a request from OTAK to amend the Preferred Basalt Creek Land Use Map, stating a concern that the Central Subarea would be difficult to develop for employment purposes due in part to the existence of slopes in excess of ten percent. The property owner also submitted letters from other development professionals stating that the site topography is too challenging for industrial development and is better suited for smaller footprint buildings such as housing. Tualatin Brief, Exhibit 108.

At a Tualatin City Council work session on October 10, 2016, the City Council directed planning staff to consider the property owner's request as proposed by OTAK. The matter came back to the City Council on November 28, 2016. The Tualatin planning department staff report for that meeting noted that the OTAK proposal to amend the concept plan "includes substantially more residential land uses in the central subarea" than had been previously discussed, and recommended rejecting the property owner's proposal and retaining the proposed employment designation: "After consideration of OTAK's proposal and all of the above factors together, staff believes the central subarea can be developed for employment over the long-term. While there are some hilly areas, the Manufacturing Park designation can be made flexible enough to include some smaller scale employment uses." Wilsonville Rebuttal Brief, Exhibit G.



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In response to the property owner's testimony to the City of Tualatin in October of 2016 regarding the unsuitability of the Central Subarea for employment uses, Washington County hired Mackenzie development group to undertake an independent study regarding the viability of employment uses in that area. The study was completed in January of 2017 and concluded that employment uses are viable in the Central Subarea, specifically for flex business park, office campus, manufacturing, and commercial support services. Wilsonville Brief, Exhibit G.

In February of 2017, the Tualatin City Council directed their staff to proceed with changing the designation of the Central Subarea from employment to residential. In March of 2017, the City of Wilsonville hired the engineering firm KPFF to evaluate the feasibility of development for employment uses in the Central Subarea. The resulting KPFF feasibility study provided three different scenarios for viable employment development, taking into consideration the slope and geologic composition of the site. Wilsonville Brief, Exhibit D.

Under the 2011 IGA regarding concept planning for the Basalt Creek Planning Area, all parties must agree regarding the jurisdictional boundary between the cities and the land use designations. Since the cities cannot agree, the area cannot be planned or annexed by either city. The cities asked Metro to act as an arbitrator and resolve the dispute.

**ANALYSIS**

**A. Planning Goals and Expectations of Local Government Stakeholders**

The planning history of the Central Subarea and the planning expectations of local government stakeholders lean heavily in the direction of an employment designation. The area was brought into the UGB by Metro in 2004 as part of an expansion for the purpose of meeting a regional need for industrial land, and the entire Basalt Creek Planning Area is designated on Metro's Title 4 map as a future industrial area.

Although the 2004 UGB expansion decision did contemplate that some portions of the Basalt Creek Planning Area could become residential, the relevant condition of approval and findings (quoted above on page 3) drew a line at the location of the south alignment of the proposed I-5/99W connector and stated that areas north of that line, closer to the City of Tualatin boundary, are more appropriate for residential use, while areas south of that line (including the Central Subarea) are more appropriate for industrial use.

As noted by the City of Wilsonville in its brief, the City of Tualatin has already designated a substantial portion of its share of the 2004 UGB expansion area for

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residential development. Without removing the employment designation from the Central Subarea, 91 the 194 developable acres in Tualatin's portion of the Basalt Creek Planning Area are designated as residential. Those 91 acres include flat land adjacent to Interstate 5 at the eastern edge of the planning area between Norwood Road and the future Basalt Creek Parkway that appear to be ideal for employment purposes. Wilsonville Brief, Exhibit A. If the Central Subarea designation is changed from employment to residential, Tualatin will have designated 65% of its developable land in the planning area for residential purposes.

Evidence in the record indicates that the City of Tualatin strongly advocated for an employment designation in the Central Subarea during the concept planning process until the end of 2016, when the property owner and OTAK proposed the change to residential. Wilsonville Brief, Exhibit A and Exhibit C at page 6; Wilsonville Rebuttal Brief, Exhibit I. Evidence in the record also shows that the City of Tualatin moved the proposed jurisdictional boundary between the cities farther south in order to provide more employment opportunities for Tualatin. Minutes from the Tualatin City Council work session on August 24, 2015 state:

“Mayor Ogden stated he did not believe the mix of residential and industrial in this option [boundary option 3] is a good value for the people who live in Tualatin. This mix creates more trips in turn creating more congestion. He understands the need for residential capacity but does not believe it should be done at the exclusivity of other options. His recommendation would be to move the boundary line further down to accommodate for job producing land options creating a more balanced growth option.

“Council Bubenik would like to see more land in this option converted to light industrial.

“Council President Beikman expressed dissatisfaction with boundary option three. She stated boundary option three removes all industrial land and converts it to residential leaving no room for job growth.” Wilsonville Rebuttal Brief, Exhibit A.

As a result of this direction from the Tualatin City Council regarding the city's desire for more employment land, Tualatin planning staff generated a new Boundary Option 4, which moved the boundary between the two cities south to Tonquin Road and changed the designation of the Tualatin portion of the Central Subarea from residential to

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employment. Wilsonville Rebuttal Brief, Exhibit C. Planning staff then presented Boundary Option 4 at the joint meeting between the two city councils on December 16, 2015. Wilsonville Rebuttal Brief, Exhibit D.

At the December 16, 2015 meeting, the two city councils agreed that the boundary line between the two cities should be moved even farther south, to the future location of the Basalt Creek Parkway. Tualatin Reply Brief, Exhibit 128. The City of Wilsonville argues that there was an express agreement between the cities at the December 16, 2015 joint meeting regarding an employment designation for the Central Subarea. The City of Tualatin disagrees, noting that the stated purpose and outcome of the meeting was limited to the agreement regarding the location of the jurisdictional boundary, and that future land use designations were not included as part of the presentation to the two city councils. Tualatin Reply Brief, Exhibits 128, 129 and 130.

The City of Tualatin appears to be correct that there was no formal agreement or vote taken by the two cities at the December 16, 2015 joint meeting regarding land use designations. However, the evidence, and common sense, support the City of Wilsonville's contention that its agreement regarding the jurisdictional boundary was based in part on the Tualatin City Council's position regarding Tualatin's need for more employment land, and that Wilsonville would not have agreed to cede more land to Tualatin if it was proposed to be residential.

There is no dispute that the Tualatin City Council directed its staff to move the city boundary south to Tonquin Road because it believed Tualatin was not being provided enough employment land for future job growth in the city. That directive resulted in Boundary Option 4, which changed the Tualatin portion of the Central Subarea from residential to employment. At the same December 16, 2015 joint meeting where Tualatin's Boundary Option 4 was presented to the two city councils, the councils reached agreement on a boundary location even farther south, at the Basalt Creek Parkway. Given Tualatin's push to move the boundary south in order to provide itself with more employment land, there was no reason for Wilsonville to think that Tualatin was going to change its proposed employment designation for the Central Subarea to residential. Although there was no vote or other formal action taken at the December 16, 2015 joint meeting regarding land use designations, the evidence supports a finding that Wilsonville's agreement regarding the jurisdictional boundary was premised on its belief that areas north of that boundary would remain in an employment designation as proposed by Tualatin on December 16, 2015. As stated by Wilsonville Mayor Tim Knapp at a city council work session on March 20, 2017, "Our prior offer to set the boundary at the parkway is contingent on the rest of that agreement that has, apparently, disappeared.

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So the proposal to put the boundary at the parkway is no longer operative.” Wilsonville Rebuttal Brief, Exhibit I, page 2.

Since 2016, Washington County has objected to changing the employment designation based on the county’s planning expectations and related transportation investments in the Basalt Creek Planning Area. The March 5, 2017 submittal from the Chair of the Washington County Commission states:

“Our position remains consistent with my letter to Mayor Ogden and members of the Tualatin City Council dated October 27, 2016, wherein I expressed the concerns of the Board of County Commissioners regarding potential increases in the amount of residential units proposed in the Tualatin side of the Basalt Creek Concept Plan. The County supports the planned employment uses in this area and has invested over \$65 million in the construction of the new 124<sup>th</sup> arterial to leverage future economic development in the area.”

A copy of the county’s October 27, 2016 letter is attached as Exhibit D. That letter provides, in relevant part:

“We believe this area to be prime future industrial land needed to support the regional economy. In 2013, Washington County, City of Tualatin, City of Wilsonville, and Metro acknowledged the Basalt Creek Transportation Refinement Plan. This plan identified transportation infrastructure needed to support this future industrial area. We have moved forward in support of this agreement with construction of the new 124<sup>th</sup> arterial to leverage future economic development. We believe that eliminating industrial land beyond what the latest concepts show would be a big mistake for the economic health of South County and counter to our agreement.”

The Basalt Creek Transportation Refinement Plan Recommendations from 2013, attached as Exhibit E, supports the assertion of Washington County that an important function of the planned Basalt Creek Parkway (also referred to as the SW 124<sup>th</sup> arterial) is “supporting industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas.” Exhibit E, page 2. This planning objective is also reflected in Metro’s 2014 Regional Transportation Plan (RTP), which describes the recommended alternative to the I-5/99W connector proposal as follows:

“The recommended alternative ... is based upon the principle that it is preferable to spread the traffic across three smaller arterials rather than one

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large expressway. The analysis concluded this approach could effectively serve the traffic demand, would provide better service to urban land uses in the Tualatin/Sherwood area, especially industrial lands, and could be built incrementally based upon need to serve growth and revenue availability.”

“\* \* \* \* \*

“Since completion of the I-5/99W Connector Study, Washington County led the Basalt Creek Transportation Refinement Plan along with Metro, ODOT, and the Cities of Tualatin and Wilsonville. The purpose of this refinement plan was to determine the major transportation system to serve the Basalt Creek Planning Area. The plan sets the stage for land use concept planning and comprehensive plan development for the Basalt Creek area. The need to plan for the future transportation system was driven by future growth in the Basalt Creek area itself as well as almost 1000 acres of future industrial development targeted for surrounding areas.” 2014 RTP, pages 5-21 and 5-22.

The relevant transportation planning documents for the Basalt Creek Planning Area indicate that one reason for abandoning the I-5/99W connector proposal was to create a better plan for transportation connectivity for planned industrial development in the area. As noted by Washington County in its March 5, 2017 letter, a primary purpose of the \$65 million investment in the planning and development of the Basalt Creek Parkway is to support future economic development from planned employment areas in the Basalt Creek Planning Area. The City of Tualatin’s decision to add more residential land to the sizeable areas it has already planned for residential is not consistent with the county’s planning expectations and investment in the Basalt Creek Parkway arising out of the agreement reached by the local governments in the Basalt Creek Transportation Refinement Plan.

**B. Consideration of the Cities’ Arguments**

**1. Consistency with Condition of Approval on 2004 UGB Expansion**

The City of Tualatin contends that the Central Subarea must be designated for residential purposes under the condition of approval attached to the 2004 UGB expansion in Metro Ordinance 04-1040B. Tualatin asserts this is because the condition requires all areas north of the Basalt Creek Parkway to be designated “Outer Neighborhood.” However, the condition refers to the south alignment of the proposed I-5/99W connector and not to the Basalt Creek Parkway:

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“2. Title 11 planning shall incorporate the general location of the projected right of way alignment for the I-5/99W connector and the Tonquin Trail as shown on the 2004 Regional Transportation Plan. If the selected right-of-way for the connector follows the approximate course of the ‘south alignment,’ as shown on the Region 2040 Growth Concept Map, as amended by the portion of the Tualatin Area that lies north of the right-of-way shall be designated ‘Outer Neighborhood’ on the Growth Concept Map; the portion that lies south shall be designated ‘Industrial.’” Metro Ordinance 04-1040B at Exhibit F, page 3.

The map below (also attached as Exhibit B) shows the location of the Central Subarea and the Basalt Creek Parkway overlaid on the 2040 Growth Concept Map from 2004 with the proposed north and south alignments for the I-5/99W connector. As shown on this map, the south alignment is located along the northern boundary of the Central Subarea.



**Figure 2: Central Subarea and Basalt Creek Parkway overlaid on Metro 2040 Growth Concept Map (2004 version)**

In reviewing the cities’ arguments on this issue, it is important to note that the I-5/99W connector concept was abandoned by the stakeholders in favor of spreading traffic across three smaller arterials. Therefore the two alternative connector alignments have been removed from the current 2040 Growth Concept Map. As a result, the significance of this condition of approval is limited, since the proposed connector will never exist. Tualatin contends that the Basalt Creek Parkway should be treated as if it were the connector because it “follows the approximate course” of the south alignment, consistent with the condition of approval. Therefore, Tualatin argues, the Parkway must serve as the buffer

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between industrial development to the south and residential to the north, as stated in the Metro Council findings explaining the condition of approval:

“Second, the Council states that, so long as the alignment for the Connector falls close to the South Alignment shown on the 2040 Growth Concept Map, it will serve as the buffer between residential development to the north (the portion least suitable for industrial uses) and industrial development to the south (the portion of the area most suitable for industrial use).” Metro Ordinance 04-1040B at Exhibit G, pages 17-18.

However, the Basalt Creek Parkway and the previously proposed I-5/99W connector are not interchangeable facilities. As stated in the above-quoted portion of the 2014 RTP, the recommended alternative to the I-5/99W connector “is based on the principle that it is preferable to spread the traffic across three smaller arterials rather than one large expressway.” 2014 RTP, page 5-21.

More importantly, the location of the Basalt Creek Parkway is sufficiently south of the proposed connector’s south alignment that it cannot reasonably be considered the “approximate course” of that alignment. Tualatin argues that the distance is only approximately 1800 feet, or one-third of a mile. However, shifting the entire length of a proposed roadway project by one-third of a mile is not an insignificant change. Also, as pointed out by Wilsonville in its brief, the amount of acreage that would be changed from industrial to residential as a result of shifting the alignment that far south is significant – the residential acreage would increase from 110 acres to 380 acres. Wilsonville Rebuttal Brief at Exhibit F, page 2.

This highlights a flaw in Tualatin’s argument – if the condition of approval still applies as the city contends, and is interpreted so that the Basalt Creek Parkway is the equivalent of the I-5/99W connector and therefore must separate industrial uses to the south and residential to the north, then 100% of the approximately 200 acres of employment land in Tualatin’s portion of the planning area would need to be converted to residential. Wilsonville Rebuttal Brief at Exhibit H. This is an outcome that has never been contemplated by any party to this decade-long planning process, and would create further obstacles and disputes among the cities, county, and Metro regarding planning for the Basalt Creek area.

The part of the Metro Council’s 2004 UGB expansion findings regarding the location of the proposed south alignment that is more relevant today is that the Council identified the area north of the proposed alignment as being the least suitable for industrial use, and the

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area to the south as being the most suitable for industrial use. As shown on the map above (and attached as Exhibit B), the location of that proposed alignment follows the northern boundary of the Central Subarea.

In conclusion, the 2004 condition of approval does not support Tualatin's argument that the Central Subarea must be designated for housing. However, the 2004 Metro Council findings do indicate that Metro's UGB expansion decision identified the area south of the proposed I-5/99W connector, including the Central Subarea, as "the area most suitable for industrial use."

**2. Suitability for Industrial/Employment Development**

The primary reason stated by the City of Tualatin for changing the Central Subarea planning designation from employment to residential was that the area is too steep and too rocky to be developable for employment purposes. This issue was initially raised in testimony from a property owner in the Central Subarea, who hired OTAK to prepare and submit a request for an amendment to the concept plan that provides a bullet-point list of concerns, along with a slope analysis and a proposal for residential development in the subarea. The three concerns identified in the OTAK document are topography, access, and the fact that the subarea abuts the Basalt Creek Canyon. Tualatin Exhibit 108.

The property owner also submitted four one-page letters from development professionals at Brian Copton Excavating, Real Estate Investment Group, PacTrust, and Ken Leahy Construction stating that development of the Central Subarea for employment purposes would be "very difficult," "very inefficient," "uneconomic," and that the area is generally better suited for residential use due to its topography, rockiness, and access limitations. Wilsonville Brief, Exhibit H.

In response to this testimony, Washington County hired Mackenzie development group to undertake a study regarding the viability of employment uses in the Central Subarea. The study was completed in January of 2017 and provides a slopes map, an estimation of development area acreage for employment purposes, and a conceptual employment use concept plan. The Mackenzie report acknowledges that there are development constraints on the site, noting that nearly a third of the site consists of slopes greater than 10%, which are generally considered undevelopable for employment purposes. The report states that "of the 63 gross acres, approximately half of the site (about 37 acres) may be suitable for employment development, if slopes ranging above 5% to 10% can be mitigated." Wilsonville Brief Exhibit G, page 3. The report provides an employment use concept plan showing 40% developable area and approximately 315,000 square feet of building



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area, and goes on to conclude that employment uses are viable in the Central Subarea, specifically for flex business park, office campus, manufacturing, and commercial support services.

The Mackenzie report includes two incorrect assumptions that undercut the evidentiary value of the report's concept plan and conclusions. First, Mackenzie mistakenly included the 11-acre property to the north of the Central Subarea as part of its study, and located two buildings and an access road in that location in its concept plan. That property has been agreed upon as a future residential area and is not part of the dispute between the cities. It also includes some of the flattest terrain in the area, so its inclusion in the Mackenzie study skews the conclusions regarding total developable area. Second, the Mackenzie concept plan shows a public road access point onto the Basalt Creek Parkway, which is not correct due to the limited access nature of that facility. However, the Mackenzie report does have evidentiary value in that it describes land suitability factors for employment development, identifies the locations of the best developable areas within the Central Subarea for employment purposes, and identifies types of employment uses that could be located in those areas.

After the Tualatin City Council directed staff to change the designation of the Central Subarea from employment to residential in February of 2017, the City of Wilsonville hired the engineering firm KPFF to undertake a study evaluating the feasibility of development for employment uses in the Central Subarea. The KPFF study provides a comprehensive evaluation of the site, including environmental constraints, slopes, rock location and excavation, grading, and site access. Based on that evaluation, the KPFF study identifies three different "schemes" for employment development of the Central Subarea. The three schemes offer differing intensities of development, based in part on the level of desired protection of open space areas in the northern portion of the site. Scheme A shows a total building area of 480,000 square feet, Scheme B shows a total building area of 594,800 square feet, and Scheme C shows a total building area of 781,350 square feet. The KPFF study concludes as follows:

"Various employment opportunities can be accommodated on the site from larger industrial facilities such as Building A to smaller craft industrial facilities such as Building E. The slope on the site is conducive to the stepped and smaller buildings such as Buildings E and C. These buildings could provide office space as well as smaller craft facilities that can include breweries, textiles, pottery and metal works. Not only will these facilities increase the employment opportunities in the area but they also fill a need for providing space to support local artists and craft industry. As indicated

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in the three schemes there is flexibility on the site to use a variety of building types and footprints. This feasibility study has validated through the test fits that the area can be developed to increase employment opportunities in the region. As a result, other land uses were not analyzed for feasibility since the area is designated as a regional employment area.”

“The site does pose some grading challenges which will require the use of stepped foundations and retaining walls as indicated and discussed. This is not unexpected in the region and the use of retaining walls and stepped footings has been done in other projects locally as indicated by the included images. The cost for accommodating the grade changes is higher than if the project site were completely flat, but it is not out of line with development on similar types of sites. Infrastructure costs such as construction of new roadway and utilities are required for all greenfield sites and would be required to develop the feasibility study site regardless of the intended use.”  
Wilsonville Brief, Exhibit D, page 28.

Metro is presented with a situation where there is conflicting evidence in the record regarding the viability of employment uses in the Central Subarea. Metro’s decision on this issue must be based on substantial evidence in the record, which is legally defined as evidence a reasonable person would rely on in making a decision. In reaching that decision, Metro may consider the weight and credibility of the relevant conflicting evidence and decide which evidence it finds to be more persuasive in reaching its decision.

After reviewing all of the relevant evidence in the record, and evaluating its comparative weight and credibility, the greater weight of more credible evidence supports a conclusion that it is feasible to develop the Central Subarea for employment purposes. The evidence indicates that, although the Central Subarea may not be a likely candidate for a large industrial facility, there is sufficient developable area on the site for multiple buildings housing smaller employment uses, as depicted in the Mackenzie and KPFF studies, such as office, flex business park, manufacturing, and craft industrial.

The best evidence in the record regarding the viability of employment uses in the Central Subarea is the KPFF study, which provides an independent and highly credible professional analysis of potential employment uses on the site, and concludes that although there will be some challenges and costs associated with grading and excavation that would not exist if the site were totally flat, those costs are “not out of line with development on similar types of sites.” Wilsonville Brief, Exhibit D, page 28. The KPFF

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study also provides photo examples of other projects in the Metro region where grading and retaining walls have been used to allow employment development in similarly sloped areas.

The property owner advocating for a residential designation has not provided a similarly thorough and independent professional study of the site. The OTAK materials provide topographic and slope maps that appear identical to those provided by Mackenzie and KPFF, and state the uncontested fact that the site contains slopes in excess of 10% and 25% that are unlikely to be developable. However, as noted in the Mackenzie study, those portions of the Central Subarea that contain slopes of less than 5% may be readily developed, as well as those areas between 5% and 10% with more significant grading. OTAK expressly agreed with this aspect of the Mackenzie analysis. Wilsonville Brief, Exhibit H, item #9. The Mackenzie and KPFF studies each show those locations where employment-related buildings may be developed, including areas with slopes up to 10%. The OTAK memorandum goes on to make two inconclusive statements regarding access and the presence of the Basalt Creek Canyon, which have little evidentiary value. Tualatin Brief, Exhibit 108.

The record includes four one-page letters from individuals in the construction and real estate professions, written at the request of the property owner, generally stating their opinions that the Central Subarea is not well suited for employment uses due to topography, rockiness, and limited access. None of these letters include or reference the type of detailed and site-specific evidence provided in the analysis undertaken by KPFF. Two of the letters state that large industrial or flex buildings would not be viable due to the size of their footprints, but do not appear to consider the types of smaller employment uses identified by KPFF and Mackenzie. The common theme of the letters is that development of the site for employment purposes will be expensive due to grading and excavation costs, followed by conclusions that those higher costs will make future development “inefficient” or “uneconomic,” but providing little or no direct evidence supporting those opinions.

Taking a step back, the question properly before the cities, and now Metro, is a *planning* question regarding what would be the best type of use in this particular location in the future, given the long-range plan for the area. The question is not whether the Central Subarea will be developed tomorrow, or even in the next three years, for employment purposes. Accordingly, testimony that raises potential concerns about site-specific development issues, and particularly economic feasibility, is necessarily less relevant in reaching a determination as to whether an employment designation is appropriate. In reaching a decision regarding a land use planning designation for future development, a

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local government is not required to demonstrate that there is a particular development plan for the property that could occur immediately.

The KPFF study demonstrates that it is feasible for the Central Subarea to be developed for employment uses. The study acknowledges that it will be more challenging (and expensive) than if the area were flat, but states that the resulting costs are not out of line with existing development on similar sites. As noted by the City of Wilsonville in its brief, employment properties in the region that are easy to develop have largely been developed already, requiring developers and local governments to become more innovative and flexible regarding the siting of employment uses. The importance of local government flexibility was recognized by City of Tualatin planning staff when it concluded that the Central Subarea could be developed for employment uses: “While there are some hilly areas, the Manufacturing Park designation can be made flexible enough to include some smaller scale employment uses.” Wilsonville Rebuttal Brief, Exhibit G,

The property owner also submitted three letters from engineering and planning firm CES/NW that are of higher evidentiary value than the other materials relied upon by the City of Tualatin, in that the CES materials include a more objective and evidence-based analysis than letters that primarily state opinion-based conclusions. The first letter, dated February 10, 2017, raises similar issues regarding slopes and access points; however, it is primarily aimed at critiquing the Mackenzie concept plan, which as acknowledged above includes incorrect assumptions regarding access and developable acreage. Those errors are correctly pointed out in the CES letter.

Since the flaws in the Mackenzie plan are now known, and it has been essentially superseded by the more detailed (and accurate) KPFF study, the subsequent CES letter dated May 18, 2017 is more relevant because it provides a direct review of the KPFF study and conceptual development plan. The letter from CES focuses on the preferred Scheme B and makes an estimate regarding the amount of grading that would be required and the associated costs of that grading plus necessary retaining walls. Significantly, one conclusion of the CES letter is that “we feel the proposed grading plan is possible.” Tualatin Brief, Exhibit 113. Thus, the consultants hired by the property owner admit that it is *possible* for the Central Subarea to be graded for employment use. The issue posed by CES is not physical feasibility; it is how much it would cost. The CES letter estimates \$10.5 million for grading and \$1.2 million for retaining walls. However, the letter does not provide any evidence or conclusions regarding whether or why those expenses would render development of the site economically infeasible. This letter has evidentiary value

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for the amount of money that could be required to grade the site, but not for a conclusion that grading costs would render development economically infeasible.

The question of economic feasibility is more directly addressed in the next letter from CES, dated July 20, 2017, the primary point of which is to compare residential development to employment development in the Central Subarea given its site constraints. But again, that letter stops short of saying that employment development is not feasible: “Add rock excavation at six to ten times the normal cost of grading to the excessive amount of grading required, and this property *may not be* economically feasible to develop.” Tualatin Brief, Exhibit 114 (emphasis added). This letter provides evidentiary support for the proposition that it will be more expensive to develop the Central Subarea for employment than residential, and that excavation and grading costs *could* make it economically infeasible. But it does not directly support the conclusion asserted by the City of Tualatin that developing the site for employment use “is not economically feasible.” Tualatin Brief, page 6.

In its brief, the City of Tualatin also challenges certain assumptions and conclusions in the KPFF study. Tualatin notes that all three potential development schemes depicted in the KPFF study “have office space as the predominant use, not industrial.” Tualatin Brief, page 11. Office space is an employment use and the debate here is about whether the site is appropriate for employment purposes, which of course could include industrial but are not limited to industrial. Tualatin also argues that the KPFF study concludes that “the area is useful, at best, for ‘split elevation’ office use.” Tualatin Brief, page 5. The City of Wilsonville provided the following response from KPFF engineer Matt Dolan, which more accurately describes the study’s conclusions: “To the contrary, the study suggests that a different building type could be utilized in areas with steeper slopes and does not suggest this approach for the entire area. All of the scenarios and building typologies imagined in the study support employment opportunities within the study area....” Wilsonville Rebuttal Brief, Exhibit K.

Tualatin also notes that the office buildings include “split elevations and access at varying levels to accommodate grade,” and then asserts “[a]s explained by an industrial/employment developer, stepped floors are not desired for industrial/employment development,” citing the PacTrust letter dated November 14, 2016. However, the PacTrust letter does not say anything about stepped floors being undesirable for employment development. The conclusion of the PacTrust letter is that “the topography of your site makes development of industrial or flex buildings uneconomic.” Tualatin Brief, Exhibit 115. Notably, the PacTrust letter does not say that the site topography

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renders development infeasible for other smaller employment uses, such as the office or craft industrial buildings that are included in the KPFF development schemes.

Tualatin also contends that the KPFF proposed development schemes do not comply with Oregon Fire Code requirements regarding the allowable grade of an access road and a need for secondary access to the southern development area. These issues are adequately addressed in the response from the KPFF engineer, who notes that applicable TVFR requirements allow grades up to 15%, and that whether and where secondary access will be provided would be determined in consultation with TVFR at the time development is actually proposed. The KPFF memo also includes the following assessment:

“The discussion regarding economic feasibility does not seem pertinent or relevant to the determination of the long range planning goals for the area. If they are to be considered, a much more impartial and holistic approach would need to be applied to some sort of criteria that can equally evaluate long term economics for varying development scenarios. This is well beyond the scope of the feasibility study or any conclusions that could be extrapolated from the report and development scenarios envisioned.”

Wilsonville Rebuttal Brief, Exhibit K.

Tualatin also argues that the KPFF study is “biased” because KPFF purposely ignored the possibility of residential development on the site, and only studied the possibility of employment uses. Tualatin Reply Brief at 6. This argument ignores the statement on the first page of the KPFF report that the purpose of the study is to “ascertain whether the policy objective of employment uses is achievable in this subarea. Only if this investigation determines employment uses not to be feasible on this site will this analysis then consider feasibility of other land uses.” Wilsonville Brief, Exhibit D, page 1.

After reviewing all of the evidence in the record, and evaluating its comparative weight and credibility, the greater weight of more credible evidence supports a conclusion that it is feasible to develop the Central Subarea for employment purposes. Regarding credibility, this analysis cannot overlook the property owners’ monetary incentive to obtain a residential designation, which is more likely to provide a higher investment return than employment.

The evidence indicates that, although the Central Subarea may not be a likely candidate for a large footprint industrial facility, there is sufficient developable area on the site for multiple buildings housing smaller employment uses, as depicted in the Mackenzie and KPFF studies, such as office, flex business park, manufacturing, and craft industrial. This

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conclusion is supported by the City of Tualatin staff report to the City Council dated November 28, 2016, which concludes: “After consideration of OTAK’s proposal and all of the above factors together, staff believes the central subarea can be developed for employment over the long-term. While there are some hilly areas, the Manufacturing Park designation can be made flexible enough to include some smaller scale employment uses.” Wilsonville Rebuttal Brief, Exhibit G.

**3. Responding to the Housing Crisis**

The City of Tualatin contends that changing the planning designation for the Central Subarea to housing is an effective response to the regional housing crisis. Tualatin cites Metro materials that identify an urgent need to provide more affordable housing in the region, including the proposed 2018 affordable housing bond.

The Metro materials relied upon by the city describe an urgent need to address the current shortage of affordable housing in the region. As correctly noted by the City of Wilsonville, there is no evidence to support a conclusion that new homes constructed in the Central Subarea would fit any traditional definition of “affordability.”

More importantly, zoning the Central Subarea for residential use also would not address an immediate need for any type of housing. New residential development in this type of greenfield area takes a very long time, due in part to the need to plan, finance and construct all of the necessary infrastructure. Areas in Washington County that were added to the UGB in 2002 have only recently begun to actually be developed with housing. The long timelines associated with greenfield development do not lend themselves to addressing short-term housing needs. That will require development in existing urban areas that are already served by infrastructure.

Tualatin asserts that it has a shortage of land available for housing, based on its number of estimated dwelling units in Metro’s 2015 Buildable Land Inventory (BLI). However, the BLI is an inventory, not a housing needs analysis. In the absence of any information regarding the city’s projected population growth and corresponding future housing needs, an inventory does not support a conclusion that there is a need for housing. Tualatin’s brief does not refer to a local housing needs analysis under Goal 10, and it is not clear if the city has a current acknowledged housing needs analysis.

Tualatin’s argument that adding housing in the Central Subarea is necessary in order to provide housing for workers in the Basalt Creek area is unsubstantiated. Data gathered by Metro regarding work commutes at the intra-county level suggest that decisions regarding where to live are influenced by many other factors besides proximity to work.

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Exhibit F. Locating housing near an employment area does not guarantee that people will choose to live and work in the same area. Also, the high costs of infrastructure for new residential construction in this greenfield area will likely result in home costs exceeding the available income of most individuals working in nearby industrial jobs.

**C. Conclusion**

Metro identified the Central Subarea as viable industrial and employment land and included it in the UGB for that purpose. It has a regional Industrial designation under Title 4 of Metro's functional plan. The area is close to Interstate 5, has good existing and planned transportation infrastructure, including the Basalt Creek Parkway, consists of relatively large parcels, and is in close proximity to other areas planned and developed for employment uses. As described above, the weight of more credible evidence in the record supports a conclusion that an employment designation remains appropriate for the Central Subarea, and that the area should be planned accordingly by the cities.



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EXHIBIT A**

**INTERGOVERNMENTAL AGREEMENT  
BETWEEN METRO, WASHINGTON COUNTY, AND THE CITIES OF  
TUALATIN AND WILSONVILLE SEEKING A BINDING NON-APPEALABLE  
DECISION FROM METRO CONCERNING ONE AREA, THE CENTRAL SUBAREA,  
OF THE BASALT CREEK PLANNING AREA**

This Intergovernmental Agreement (IGA) is entered into by the following parties: Metro, a metropolitan service district organized under the laws of the State of Oregon (hereinafter referred to as "Metro"), Washington County, a political subdivision in the State of Oregon (hereinafter referred to as "County"), and the City of Tualatin ("Tualatin") and City of Wilsonville ("Wilsonville"), incorporated municipalities of the State of Oregon (hereinafter referred to as "Cities").

Whereas, in 2004 the Metro Council added two areas, known as the Basalt Creek and West Railroad Planning Areas, located generally between the Cities, to the Urban Growth Boundary (UGB) via Metro Ordinance No. 04-1040B; and

Whereas, Metro conditioned that these UGB expansion areas undergo Title 11 concept planning, as defined in Metro Code Chapter 3.07, cited as the Urban Growth Management Functional Plan (UGMFP); and

Whereas, County and Cities agreed to consider the Basalt Creek and the West Railroad areas in a single concept planning effort and to refer to the two areas generally as the Basalt Creek Planning Area; and

Whereas, located within the Basalt Creek Planning Area is a distinct subarea consisting of the following parcels identified by Washington County tax lot identification: 2S135CB00400, 2S135CB00500, 2S135CC00300, 2S135CC00100, 2S135CC00800, 2S135CC00900, 2S135CC00500, 2S135CC00600, 2S135CC00700, as reflected in Exhibit 1, attached hereto and incorporated by reference herein, which subarea is hereafter referred to as the "Central Subarea"; and

Whereas, in 2011, Metro, County, and Cities entered into an Intergovernmental Agreement (2011 IGA) for concept planning the Basalt Creek Planning Area; and

Whereas, in 2013, Metro, County, and Cities entered into the First Addendum to the 2011 IGA, acknowledging the Basalt Creek Transportation Refinement Plan; and

Whereas, in 2013, Cities began concept planning the Basalt Creek Planning Area; and

Whereas, a disagreement has arisen with respect to what the land use designation should be for the Central Subarea; and

Whereas, Tualatin wants the land use in the Central Subarea to be designated for housing; and

**EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A**

Whereas, Wilsonville wants the land use in the Central Subarea to be designated for employment; and

Whereas, representatives from the Cities jointly met with County representatives in an attempt to identify a process to move forward and complete the Basalt Creek land use Concept Plan map, but were unable to do so; and

Whereas, the governing bodies for the Cities and County agreed to ask Metro to settle the dispute and to make a final, binding, non-appealable decision on the sole issue of designation of the land use for the Central Subarea; and

Whereas, Metro has agreed to accommodate this request, based on the Cities' joint assertion that they cannot agree, with the clear understanding that this is not a role Metro intended, wanted, or asked for itself, but is willing to take on at the request of the Cities and the County;

Now, therefore, incorporating the above Recitals as if fully set forth below, the Cities, County, and Metro agree as follows:

**1. FINAL BINDING AND NON-APPEALABLE DECISION BY METRO**

Metro will act as the decision-maker to resolve the issue of the land use designation for the area known as the Central Subarea. In that capacity, Metro will have sole discretion to determine what to call this decision making process, where and when to hold the process, who Metro will appoint to make the decision, a briefing schedule, whether or not to hear oral argument, and ground rules that must be adhered to by the Cities and County throughout the process. Metro may require the Cities and County to sign ground rules and decision protocol, as determined solely by Metro. Once designated by Metro, the Parties agree that the Central Subarea will be designated in the final Concept Plans and in the Urban Planning Area Agreement between the Parties, as determined by Metro.

**2. CITIES AND COUNTY AGREEMENT**

The Cities agree to follow whatever decision-making process and rules are created by Metro, including timelines for submitting evidence and argument. The County may participate and advocate for its preference or may elect to be neutral. Cities and County agree that Metro's decision will be binding and non-appealable by any of them and, once made, all of their respective governing bodies and staff will support the decision to move the Basalt Creek Planning effort to completion without delay and in accordance with the decision of Metro. Each City agrees that it will prepare concept plans for the Basalt Creek Planning Area consistent with Metro's final decision and with Title 11 of Metro's Urban Growth Management Functional Plan. Each City agrees to adopt a resolution accepting the concept plan, reflecting the Metro decision, within 120 days after the date Metro's decision becomes final and effective and finalize their respective comprehensive plans to include that concept plan within one year of the Metro decision. Cities and County further agree that if the designation is appealed by any third party, each will vigorously defend and support the decision and will not support or assist in the

**EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A**

decision and will not support or assist in the appeal of the designation determined by Metro through this process. At the conclusion of Metro's decision, a binding agreement will be signed by all Parties to this effect, with any future disputes or violations with respect to the agreement to be resolved in accordance with the specified requirements of that binding decision. Hereafter the Parties will work in good faith to reach agreement on all other issues so that the final Concept Plans and Urban Planning Area Agreement can be finalized.

This Agreement is effective the 22<sup>nd</sup> day of January, 2018.

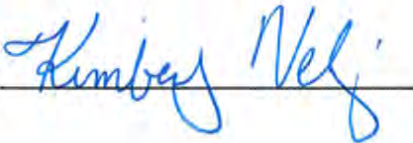
Exhibit 1 – Map

**CITY OF WILSONVILLE, OREGON**

By:   
Tim Knapp  
As Its: Mayor

Date: 12/27/2017

ATTEST:

By: 

*[Signatures continue on following pages]*

**EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A**

CITY OF TUALATIN, OREGON

By:   
\_\_\_\_\_

Lou Ogden

As Its: Mayor

Date: 12-11-2017

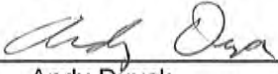
ATTEST:

By:   
\_\_\_\_\_

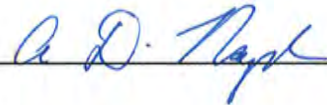
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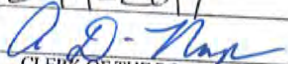
**EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A**

WASHINGTON COUNTY, OREGON

By:   
Andy Duyck  
As Its: Chair, Board of County Commissioners  
Date: 1-4-2018

ATTEST:

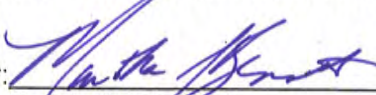
By: 

APPROVED WASHINGTON COUNTY  
BOARD OF COMMISSIONERS  
MINUTE ORDER # 17-351  
DATE 12-19-2017  
BY   
CLERK OF THE BOARD

*[Signatures continued on following page]*

**EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A**

ACCEPTED AND AGREED TO BY METRO:

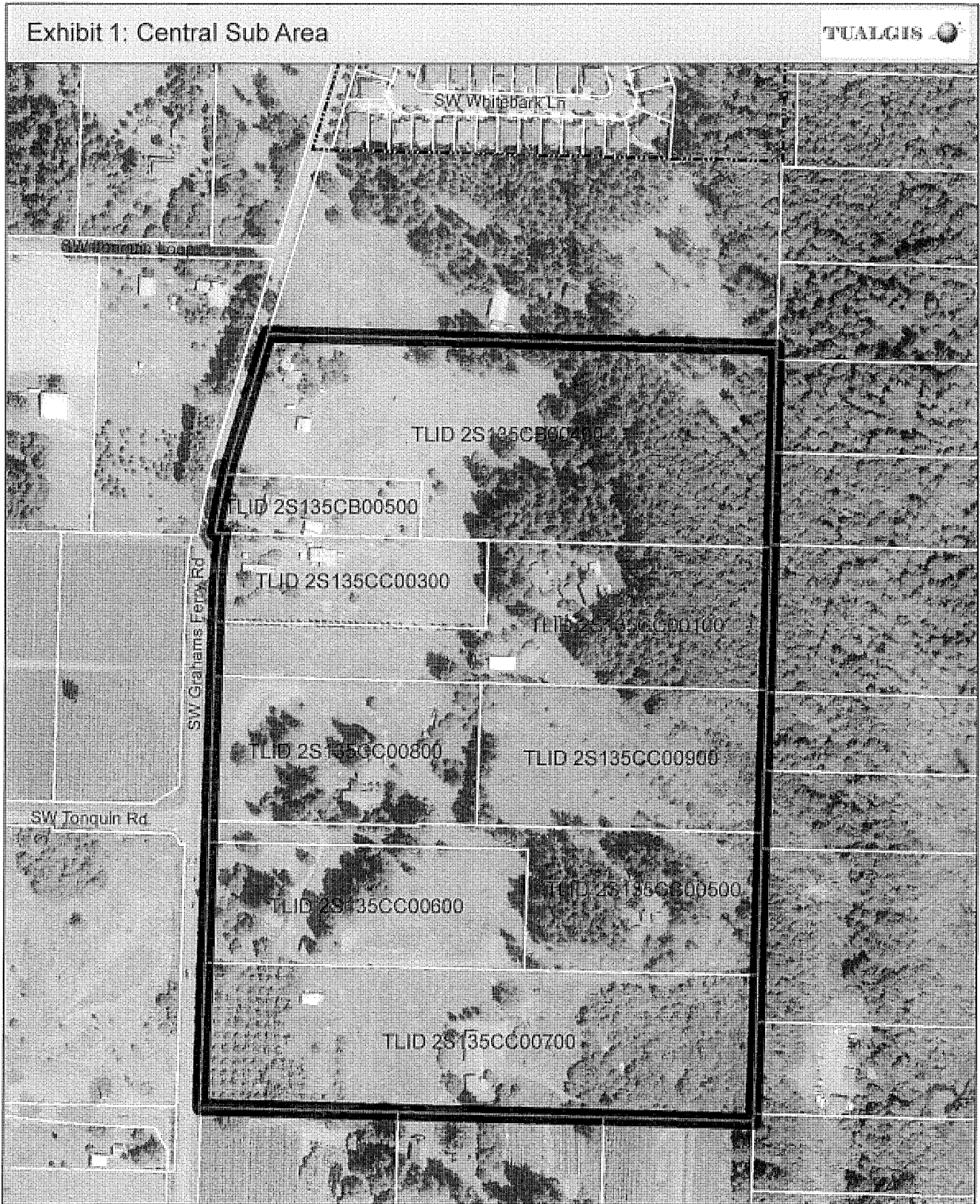
By:   
Martha Bennett  
As Its: Chief Operating Officer

Date: 4/22/18

ATTEST:

By: 

**EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT A**

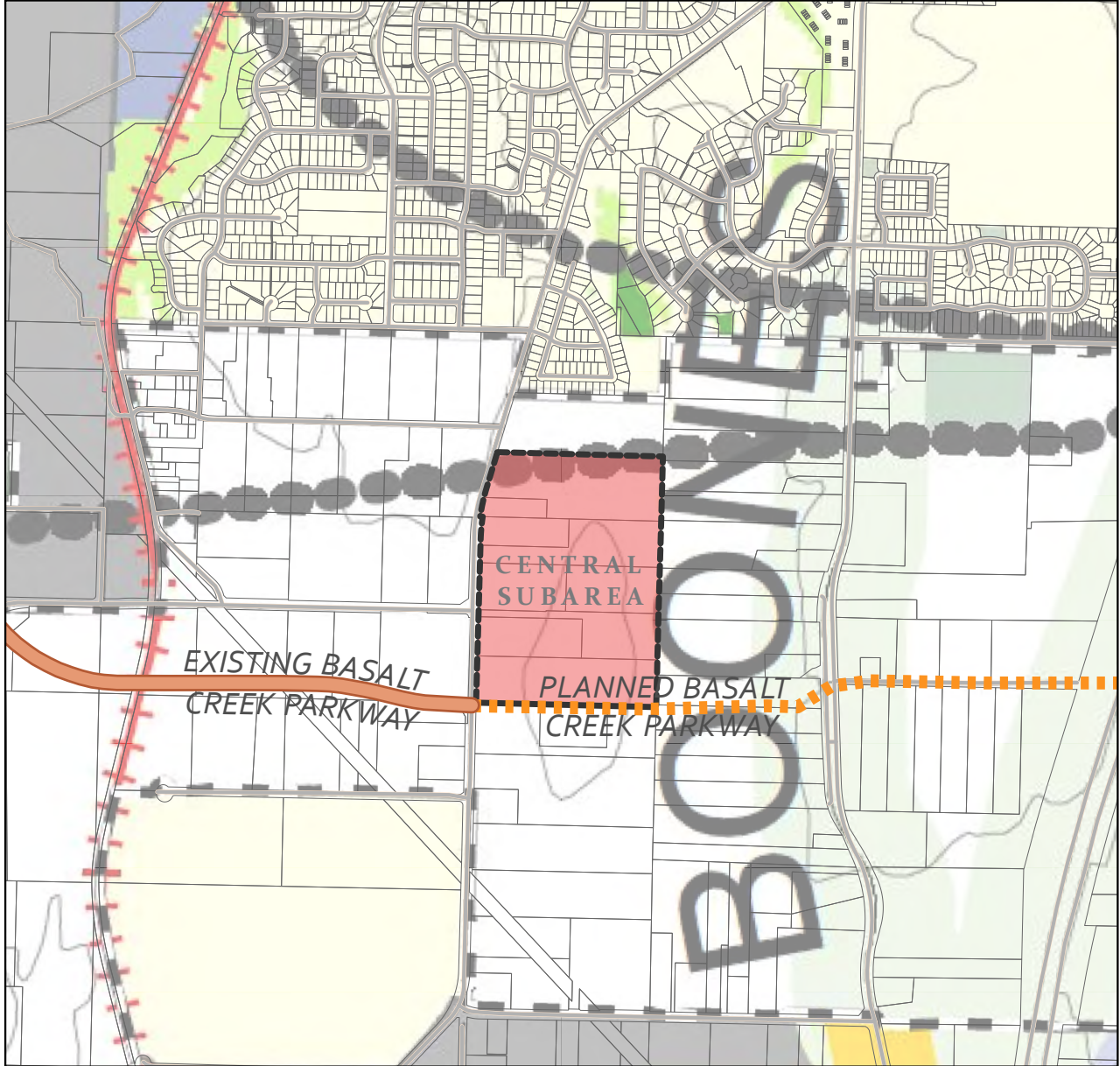


 Central Sub Area



This map is derived from various digital database sources. While an attempt has been made to provide an accurate map, the City of Tualsis, OR assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is".

**EXHIBIT A TO RESOLUTION 18-4885  
EXHIBIT B**

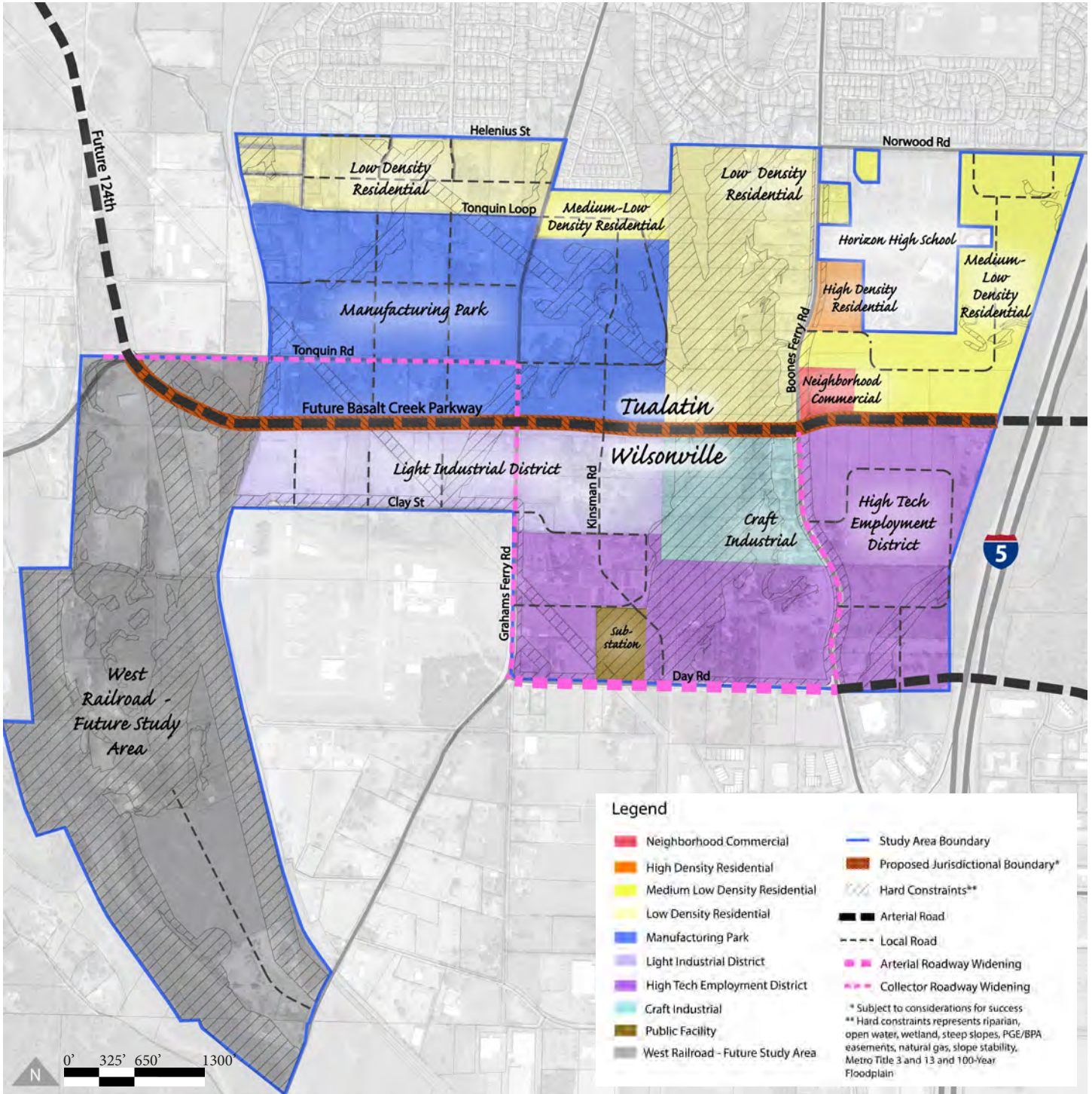


Central Subarea and Basalt Creek Parkway  
overlaid on 2040 Growth Concept Map



EXHIBIT A TO RESOLUTION 18-4885

EXHIBIT C



# Basalt Creek Land Use Concept Map

DRAFT September 16, 2016

**EXHIBIT A TO RESOLUTION 18-4885**

**EXHIBIT D**



**WASHINGTON COUNTY**  
**OREGON**

October 27, 2016

Mayor Ogden  
Tualatin City Council  
18880 SW Martinazzi Ave,  
Tualatin, OR 97062

Dear Mayor Ogden and Members of the Tualatin City Council:

I am writing to express concerns to the Board of County Commissioners regarding potential increases in the amount of residential units proposed in the Tualatin side of the Basalt Creek Concept Plan.

We believe this area to be prime future industrial land needed to support the regional economy. In 2013, Washington County, City of Tualatin, City of Wilsonville, and Metro acknowledged the Basalt Creek Transportation Refinement Plan. This plan identified transportation infrastructure needed to support this future industrial area. We have moved forward in support of this agreement with construction of the new 124<sup>th</sup> arterial to leverage future economic development. We believe that eliminating industrial land beyond what the latest concepts show would be a big mistake for the economic health of South County and counter to our agreement.

Our IGA calls for the Cities to coordinate with the County in developing a concept plan for the Basalt Creek area. After the concept plan is complete, we can amend our Urban Planning Area Agreement to include this area, which is necessary for annexations to occur. This area is currently not included in our Urban Planning Area Agreement with Tualatin.

The City needs to be reminded the Basalt Creek Planning area is not currently within our Urban Planning Area Agreements. We believe Washington County is a partner in the planning of this area and would like to weigh in before any decision is made or report accepted that would substitute more residential units for employment areas.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Duyck". The signature is fluid and cursive.

Andy Duyck, Chairman  
Washington County Board of Commissioners

c: Andrew Singelakis, Director, Land Use & Transportation

EXHIBIT A TO RESOLUTION 18-4885

EXHIBIT E

# Basalt Creek Transportation Refinement Plan Recommendations

## Introduction

The Basalt Creek transportation planning effort analyzed future transportation conditions and evaluated alternative strategies for phased investments that support regional and local needs.<sup>1</sup> This document reflects the Policy Advisory Group’s unanimous approval of the transportation investments, next steps for policy and plan updates, and potential funding strategies described in this document.

## Purpose

The purpose of this refinement plan was to determine the major transportation system connecting Tualatin-Sherwood Road to I-5 in North Wilsonville through the Basalt Creek Planning Area, which is currently an unincorporated urban area of Washington County between the cities of Tualatin to the north, and Wilsonville to the south (see Figure 1). This plan refines recommendations from the I-5/99W Connector Study and the Regional Transportation Plan, setting the stage for land use concept planning and comprehensive plan development for the Basalt Creek area.

## Planning Context

The need to plan for the future transportation system in the Basalt Creek area is driven not only by future growth in the Basalt Creek Planning area itself, but by future growth in surrounding areas targeted for industrial development. Basalt Creek currently lacks the multi-modal transportation facilities needed to support economic and urban-level development. Several planning

The Basalt Creek Transportation Refinement Plan was a joint effort involving:

- Washington County
- City of Tualatin
- City of Wilsonville
- Metro
- The Oregon Department of Transportation
- Area Citizens

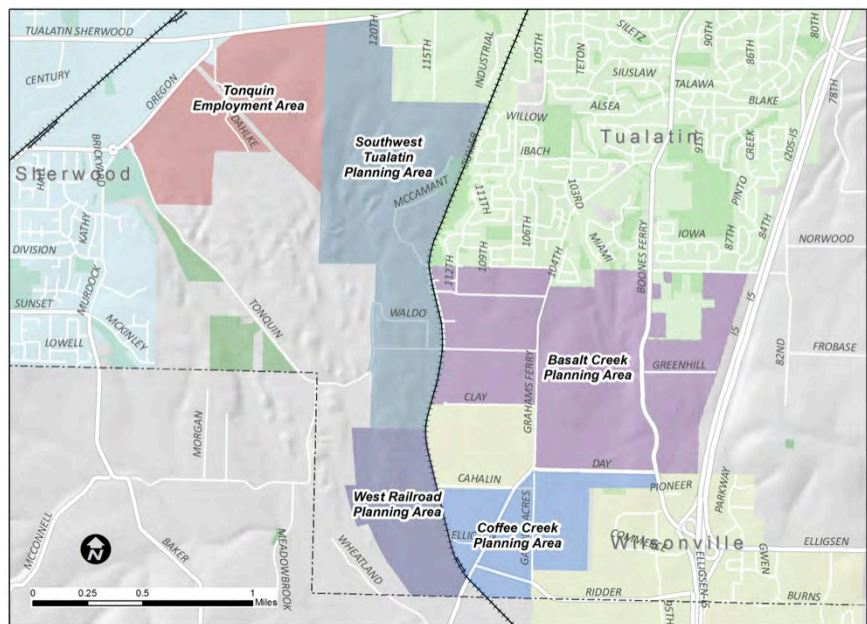


Figure 1: Basalt Creek Planning Area Location

<sup>1</sup> See *Basalt Creek Transportation Refinement Plan Technical Report* for more information.

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efforts, summarized below, provide background and context for the Basalt Creek Transportation Refinement Plan.

- The **I-5/99W Connector Study** recommended an alternative that spreads east-west traffic across three smaller arterials rather than a single expressway. Although specific alignments for these arterials were not defined, the eastern end of the Southern Arterial was generally located within the Basalt Creek Planning Area, south of Tonquin Road. The present planning effort aims to further define the location of the connection between the SW 124<sup>th</sup> Avenue Extension and the I-5/Elligsen interchange in a manner that does not preclude the future Southern Arterial west of SW 124<sup>th</sup>.
- The **2035 Regional Transportation Plan (RTP)** calls for detailed project planning and near-term construction of an extension of SW 124<sup>th</sup> Avenue from Tualatin-Sherwood Road to the I-5/Elligsen Road interchange, supporting industrial access from the Tonquin, Southwest Tualatin, and Basalt Creek Planning Areas. The RTP also calls for the near-term construction of the Tonquin Trail (see below).
- The **Tonquin Employment Area, Southwest Tualatin Concept Planning Area, and Coffee Creek Planning Area** together comprise about 1,000 acres surrounding the Basalt Creek area that are planned primarily for industrial use. These areas are expected to generate growing freight and work-related travel demands on the multi-modal transportation network that runs through the Basalt Creek area.
- The **SW 124<sup>th</sup> Avenue Extension** Project, currently underway, is planning and designing the corridor described in the RTP from Tualatin-Sherwood Road to Tonquin Road. The present planning effort aims to extend the corridor to I-5 as envisioned in the RTP and ensure consistency with current SW 124<sup>th</sup> Avenue project.
- Washington County's **Boones Ferry Road** improvement project, also currently underway, provides pedestrian and bicycle improvements and an intermittent center turn lane between Norwood Road and Day Road. It is an assumed improvement for the Basalt Creek area.
- Near-term construction of the **Tonquin Trail** is called for in the RTP. The master plan identifies an alignment for new bicycle and pedestrian connections between Sherwood, Tualatin, and Wilsonville, with connections to the larger regional trail system. The Tonquin Trail will travel through the Southwest Tualatin Concept Plan Area and the Tonquin Employment Concept Plan Area, and is an assumed improvement within the Basalt Creek Transportation Refinement Plan.
- **Transportation System Plan** updates for Washington County, Tualatin, and Wilsonville are currently underway. Washington County will incorporate recommendations from this refinement plan into the County TSP update. The cities of Tualatin and Wilsonville will not incorporate these recommendations into their current TSP updates, but will carry the recommendations into land use concept planning and future TSP updates.

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### Facility Considerations and Characteristics

At the outset of this effort, agencies articulated a set of considerations to guide selection of the preferred transportation system as well as preferred characteristics of the primary east-west facility through the area.

- **Guiding considerations** included: ability to fund and phase improvements, level of impacts (environmental, right-of-way, etc.), support for development, consistency with regional policy, and traffic operations performance.
- **Facility characteristics** included: for the primary arterial connection, a 45 mph prevailing speed and access spacing of one-half mile to one mile to improve capacity.

### Recommendation

The Policy Advisory Group (PAG), which consists of elected officials and key staff from the project's five partner agencies, recommends the following elements as part of an overall Action Plan (illustrated in Figure 2) for the area.

### Roadways

The final recommendation is for a combination of new and improved roadways through the Basalt Creek area. The key new roadway through the area is a five-lane east-west extension of SW 124<sup>th</sup> Avenue, aligned south of Tonquin Road and extending east to Boones Ferry Road. The recommendation also includes improvements to existing roadways in the area, such as Tonquin Road, Grahams Ferry Road, Boones Ferry Road, and Day Road.

Protection of right-of-way for the new east-west roadway from the 124<sup>th</sup> Avenue extension to Boones Ferry Road is a key element of this recommendation. Right-of-way protection and purchase will be addressed separately, concurrent with the Basalt Creek land use concept planning.

During the planning process, the City of Wilsonville expressed concern about the structural condition of Day Road (i.e., failing roadway base and resulting pavement deterioration) and its ability to carry freight traffic for further development of industrial lands. While the Basalt Creek Transportation Refinement Plan focused on roadway needs related to capacity, the PAG agreed that the function of the arterial network in the Basalt Creek area includes providing roadways with adequate structural design for regional freight needs. Therefore, the PAG agreed that the project recommendations include a commitment to address the construction, operations, and maintenance of the arterial network through the concept planning process.

### Overcrossings

The ability to construct two new I-5 overcrossings, including an off-street multi-use path, should be preserved in order to provide for future circulation and connectivity across the Basalt Creek area and into areas east of I-5. These overcrossings are recommended as long-term improvements and are likely not needed until 2035 or later. Forecasts show that the second overcrossing is not needed unless surrounding urban reserve areas east of I-5 and south of I-205 are developed. This refinement plan is neutral on the timing of urban reserves development, and therefore does not specify the timing and order of overcrossing improvements.

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**Active Transportation**

All improved roadways in the Action Plan include bike lanes and sidewalks consistent with Washington County urban standards. This recommendation also includes integration of the regional Tonquin Trail into the transportation network. Metro, in close coordination the cities of Tualatin, Wilsonville, Sherwood, and Washington and Clackamas counties, led the master planning effort that identified a preferred alignment that travels through the Basalt Creek Planning Area. Roadway cross-sections and right-of-way purchases for the future east-west facility will consider needs for the Tonquin Trail in the design for the railroad overcrossing and improvements to Tonquin Road between Morgan Road and Tonquin Loop Road. Design for the east-west facility should also consider providing an off-street multi-use path that connects to the Tonquin Trail and extends east of I-5. Details of how this multi-use path will be integrated with the east-west facility design will be refined during later land use concept planning.

**Action Plan**

The recommended Action Plan consists of 18 transportation investments, shown in Figure 2. Timing of projects was prioritized through an analysis of likely transportation needs in 2020, 2030, and 2035 based on growth assumptions from the adopted Regional Transportation Plan. Because of uncertainty regarding the years during which development in the Basalt Creek Planning Area and surrounding areas will occur, phasing for investments is classified as short-term, medium-term, and long-term. Descriptions of these investments, as well as timing and the funding needed, are shown in Table 1. Cost estimates include right-of-way.

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**Table 1: Basalt Creek Action Plan**

ID	Project	Short-Term	Medium-Term	Long-Term	Cost (\$2012)
1	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Construct three lane road extension with bike lanes and sidewalks	x			\$20,000,000
2	Tonquin Road (124 <sup>th</sup> Avenue to Grahams Ferry Road): Widen to three lanes with bike lanes and sidewalks, grade separate at railroad, improve geometry at Grahams Ferry Road <sup>1</sup>	x			\$10,500,000
3	Grahams Ferry Road (Tonquin Road to Day Road): Widen to three lanes with bike lanes and sidewalks	x			\$5,400,000
4	Boones Ferry Road (Norwood Road to Day Road): Widen to three lanes with bicycle and pedestrian improvements	x			\$10,800,000
5	124 <sup>th</sup> Avenue/Tonquin Road Intersection: Signal (may include Tonquin Trail crossing)	x			-. <sup>2</sup>
6	Grahams Ferry Road/Tonquin Road Intersection: Signal	x			\$500,000
7	Boones Ferry Road/Day Road Intersection: Add second southbound through approach lane	x			-. <sup>3</sup>
8	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Construct dual left-turn and right-turn lanes; improve signal synchronization, access management and sight distance	x			\$2,500,000
9a	Tonquin Trail (Clackamas County Line to Tonquin Loop Road): Construct multi-use trail with some segments close to but separated from road	x			\$8,900,000 <sup>4</sup>
9b	Tonquin Trail (Tonquin Loop Road to Tualatin-Sherwood Road): Construct multi-use trail with some segments close to but separated from road		x		\$7,100,000 <sup>4</sup>
10	124 <sup>th</sup> Avenue Extension (Tualatin-Sherwood Road to Tonquin Road): Widen from three to five lanes with bike lanes and sidewalks		x		\$14,000,000
11	East-West Arterial (124 <sup>th</sup> Avenue to Boones Ferry Road): Construct 5 lane roadway with railroad and creek crossings, integrate segment of Tonquin Trail <sup>5</sup>		x		\$57,900,000
12	Boones Ferry Road (East-West Arterial to Day Road): Widen to five lanes with bike lanes and sidewalks		x		\$1,100,000
13	Kinsman Road Extension (Ridder Road to Day Street): Construct three lane road extension with bike lanes and sidewalks		x		\$10,400,000
14	Day Road (Kinsman Road to Boones Ferry Road): Widen to five lanes with bike lanes and sidewalks		x		\$5,800,000
15	I-5 Southbound off-ramp at Boones Ferry Road/Elligsen Road: construct second right turn lane		x		\$500,000
16	Boones Ferry Road/95 <sup>th</sup> Avenue Intersection: Access management		x		-. <sup>6</sup>
17	Day Road Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Elligsen Road			x	\$33,700,000- \$44,100,000 <sup>7</sup>
18	East-West Arterial Overcrossing: Extend new four lane crossing over I-5 from Boones Ferry Road to Stafford Road. Integrate multi-use path in corridor that connects to Tonquin Trail			x	\$38,000,000
<b>TOTAL</b>		<b>\$59M</b>	<b>\$97M</b>	<b>\$72-82M</b>	<b>\$228-238M</b>

<sup>1</sup> Grade separation for Tonquin Road is optional. An at-grade crossing would reduce cost by around \$2,000,000

<sup>2</sup> Cost included in Project 1

<sup>3</sup> Coordinate with Project 4. Cost of approach lane included in estimate for Project 12

<sup>4</sup> Tonquin Trail cost estimated by Metro as part of trail planning effort

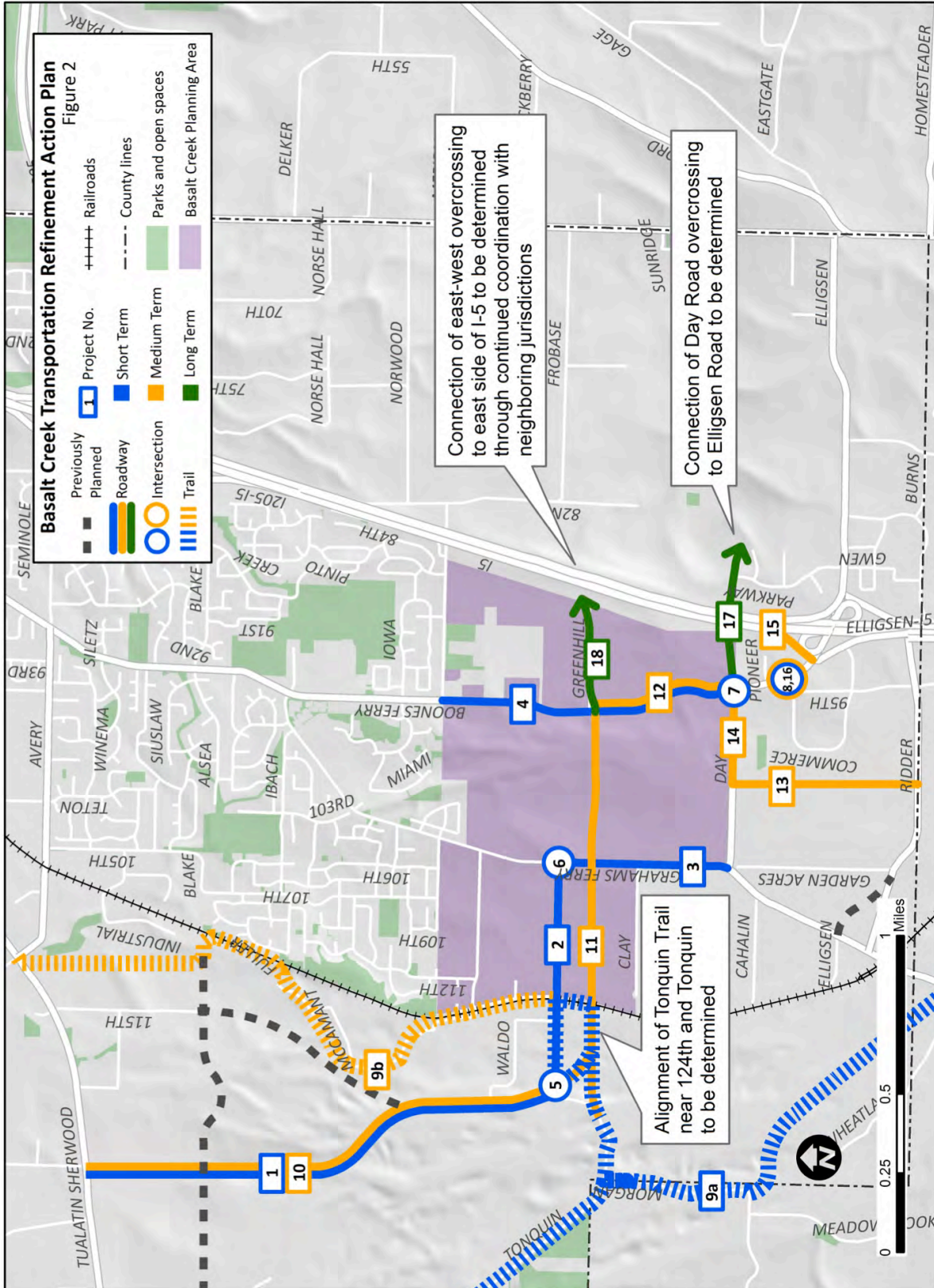
<sup>5</sup> Project 11 can potentially be built in two phases funded separately, west and east of Grahams Ferry Road. However, traffic benefits needed in the medium term (around 2030) will not be realized unless entire project is completed

<sup>6</sup> Project details to be determined by further coordination between City of Wilsonville and ODOT. Cost expected to be minimal

<sup>7</sup> Specific alignment approaching Elligsen Road will determine project cost. Alignment to Parkway Center Drive is estimated at \$33,700,000, and alignment to Canyon Creek Road is estimated at \$44,100,000

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Each investment adds important improvements to the major transportation system in the Basalt Creek area to support future development, adding new multimodal facilities and upgrading existing facilities to urban standards. Although not shown on the map, it is expected that future concept planning will identify locations for additional, lower-classification roads and other transportation facilities to serve future development as well.

**Are these new projects?**

While cost estimates for the entire recommendation may total as high as \$238,000,000, all of the 18 projects have some relation to investments already planned in the adopted RTP. Table 2 shows projects from the RTP that have overlap or similarity to projects contained in the Action Plan. **Note that many of these projects are different in scope from those contained in the Action Plan, and will have different cost estimates. Future RTP updates may include updated cost estimates from this study.**

**Table 2: Related projects from the Regional Transportation Plan**

RTP ID	RTP Project	Related Action Plan Projects	Time Period	Cost (\$2007)
10736	124 <sup>th</sup> Avenue: Construct new street from Tualatin-Sherwood Road to Tonquin Road: 5 lanes	1,5,10,11	2008-2017	\$82,500,000
10590	Tonquin Road: Realign and widen to three lanes with bike lanes and sidewalks (Oregon Street to Grahams Ferry Road)	2,6	2018-2025	\$28,406,000
10588	Grahams Ferry Road: Widen to three lanes, add bike/pedestrian connections to regional trail system and fix undersized railroad crossing (Helenius Street to Clackamas County line)	3	2008-2017	\$28,000,000
10732	Boones Ferry Road: Widen to five lanes (Norwood Road to Day Road)	4,7,12	2018-2025	\$40,050,000
10852	95 <sup>th</sup> /Boones Ferry/Commerce Circle Intersection Improvements	8,16	2008-2017	\$2,500,000
10854	Tonquin Trail: Construct multi-use trail with some on-street segments (Tualatin-Sherwood Road to Clackamas County line)	9a,9b	2008-2017	\$3,000,000
10853	Kinsman Road extension with bike lanes and sidewalks (Ridder Road to Day Road)	13	2008-2017	\$6,500,000
11243	Day Road reconstruction to accommodate trucks (Grahams Ferry Road to Boones Ferry Road)	14	2008-2017	\$3,200,000
11342	I-5/99W Connector Southern Arterial/I-5 Interface <sup>1</sup>	15,17,18	2026-2035	\$50,000,000

<sup>1</sup> Construction of projects specifically related to the I-5/99W Connector Southern Arterial, such as the I-5 interface, are contingent on certain project conditions being met. See Regional Transportation Plan for details.

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## **Policy and Plan Updates**

Recommendations in this plan allow new concept planning efforts to move forward and provide guidance for updates of existing transportation plans.

### **Basalt Creek and West Railroad Area Concept Planning**

The transportation system recommended in this plan becomes the framework for more detailed land use concept planning of the Basalt Creek Planning Area and West Railroad Planning Area by the cities of Tualatin and Wilsonville. Key recommendations to be carried forward during concept planning include:

- Protection of the major transportation facility corridors from development encroachment.
- Coordination of the local transportation system with the transportation investments included in this plan (unless amended by the parties of this study). Each roadway in the Basalt Creek area has access spacing standards that protect the safety and operations of the system, and these standards help determine appropriate local street connections. The new east-west facility is limited to accesses at 124<sup>th</sup> Avenue, Grahams Ferry Road, and Boones Ferry Road.
- Detailed concept planning in the Basalt Creek area should consider multi-use path connections to the Tonquin Trail that emphasize directness and minimize conflicts, enhancing bicycle and pedestrian access to new residential and employment areas. In the West Railroad area, concept planning will also include sections of the Tonquin Trail.

### **Regional Transportation Plan**

In many cases, this transportation refinement plan provides new detail and cost estimates for projects that are already in the adopted RTP. These refined project descriptions, cost estimates, and timing considerations should be considered when projects are forwarded to Metro for the next RTP update. Examples of RTP projects that overlap with projects in this refinement plan include:

- 10590 (Tonquin Road). Action Plan project #2 includes a grade-separated railroad crossing, which is not included in the RTP project description.
- 10852 (95<sup>th</sup>/Boones Ferry/Commerce). Action Plan projects 8 and 16 will require further coordination with ODOT to determine geometry and timing of intersection improvements.
- 11243 (Day Road). Action Plan project #14, which widens part of Day Road, should also upgrade the roadway structure and pavement conditions to accommodate increasing heavy truck volumes. Although project #14 applies only to the section of Day Road between Kinsman Road and Boones Ferry Road, funding of roadway reconstruction between Kinsman Road and Grahams Ferry Road should also be discussed as part of land use concept planning.
- 10854 (Tonquin Trail). Action Plan projects #2, #5, #11 all need to consider Tonquin Trail in their design, including most recent alignment information and cost estimates from the trail master plan.

### **Washington County TSP Update**

Most of the projects included in the Action Plan are new facilities in unincorporated Washington County or improved facilities already under County jurisdiction. An amendment to update the Washington County TSP will be done in 2013 to incorporate the descriptions, cost estimates, and timing of these projects.

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**Tualatin and Wilsonville TSP Updates**

The Cities of Tualatin and Wilsonville are also currently updating their transportation system plans. However, because concept planning for Basalt Creek will include agreement on the future city limit boundary between the two cities, as well as more detailed transportation network considerations, the projects included in this plan will not be incorporated as part of the current TSP updates. Future TSP updates may reflect elements from this refinement plan by amending project lists, maps, and funding strategies.

**Funding**

Funding for some short-term Action Plan projects has already been programmed by Washington County through their Major Streets Transportation Improvement Program (MSTIP). This includes \$16.9 million (\$10.9 million in MSTIP funding and \$6 million from other sources) for an interim two-lane extension of SW 124<sup>th</sup> Avenue from Tualatin-Sherwood Road to Tonquin Road. It also includes an additional \$10 million for right-of-way purchase or other improvements from the list identified by this Plan. Washington County has also provided \$11 million in funding for the current Boones Ferry Road improvement project.

While this recommendation does not identify a specific overall funding strategy for the Action Plan, there are many existing revenue sources that may be used to fund the recommended investments. **Many are subject to a state or regionally competitive process where success can hinge on having a broadly supported plan in place.**

The revenue sources listed below form the basis of the financially constrained Regional Transportation Plan and related project list, which already contains many of the recommended Basalt Creek investments. The RTP assumes federal, state, and local sources, all of which will be key to funding the Action Plan.

**Federal**

Based on MAP-21<sup>2</sup> legislation, sources may include:

- **National Highway Performance Program (NHPP).** These funds are intended for rehabilitation and expansion of principal arterials, especially those with important freight functions.
- **Regional Surface Transportation Program (STP) funds.** These funds may be used for virtually any transportation purpose short of building local residential streets.
- **Congestion Mitigation/Air Quality (CMAQ) funds.** These funds typically support biking, walking, and transit projects, and other projects that help to achieve air quality standards.
- **Transportation Alternatives (TA) funds.** TA takes the place of previous programs such as Transportation Enhancements and Recreational Trails, and may be used to fund a variety of non-motorized projects.

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<sup>2</sup> For more information see <http://www.fhwa.dot.gov/map21/>

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These funds are allocated to projects through a state or regionally managed competitive process for inclusion in the Metropolitan Transportation Improvement Program (MTIP) and the State Transportation Improvement Program (STIP).

**State**

State sources include the statewide gas tax, vehicle registration fees, and weight-mile taxes on trucks. These funds typically go to road and bridge maintenance projects, but funding for projects of regional significance, such as those provided by Oregon House Bill 2001 Jobs and Transportation Act (JTA), may be made available for modernization. Again, having a plan in place allows projects to access funds when new funding opportunities become available.

**Local**

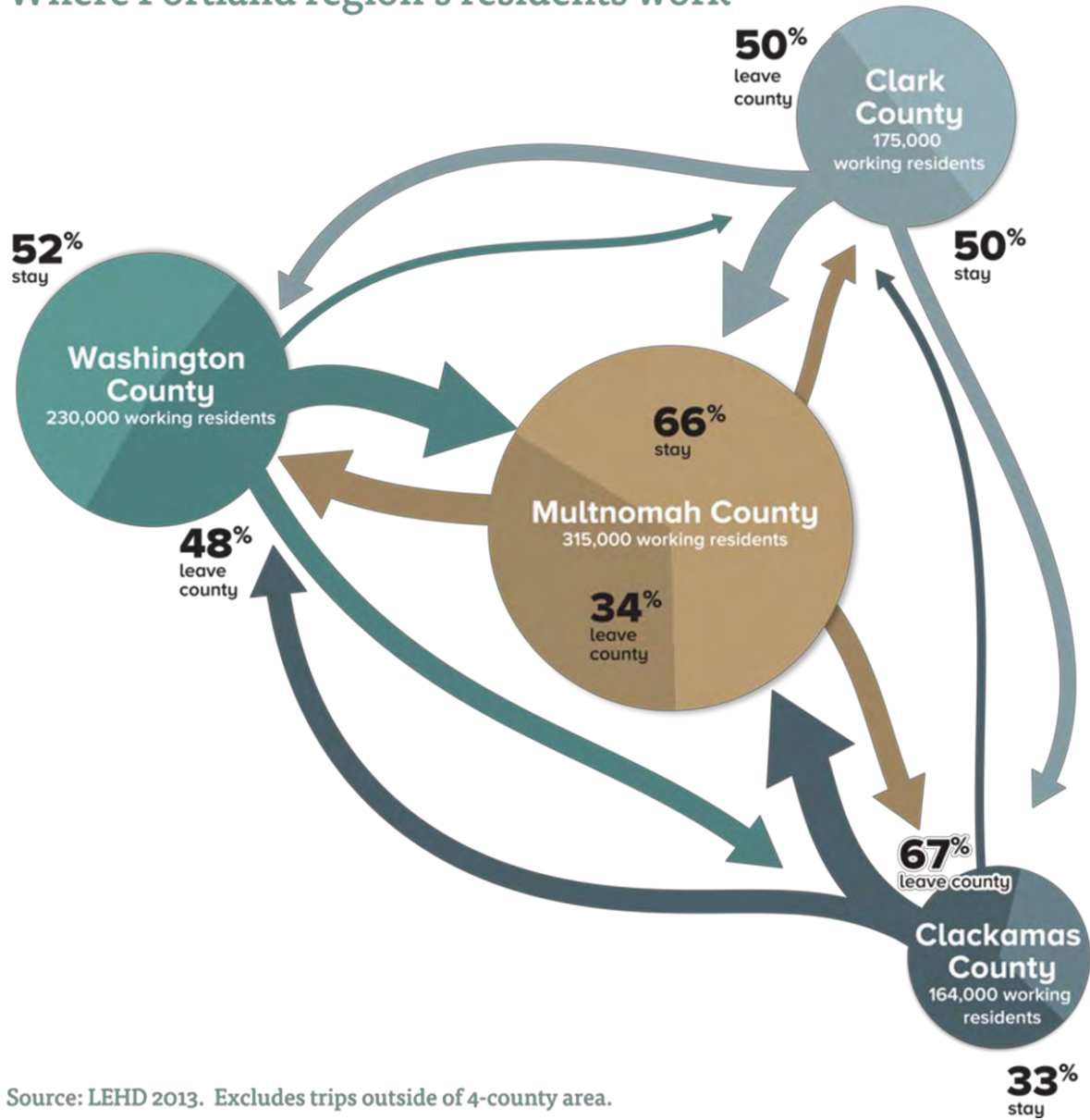
A variety of local funding sources are available, although some, such as urban renewal and local improvement districts, are subject to approval. Sources may include:

- Washington County Major Streets Transportation Improvement Program (MSTIP)
- Local portion of State Highway Trust Fund
- Local gas tax
- Transportation System Development Charges (SDCs) or Transportation Development Taxes (TDTs) levied on new development
- Urban renewal funding
- Developer contributions
- Local improvement districts (LIDs)

EXHIBIT A TO RESOLUTION 18-4885

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Where Portland region's residents work



**Supplemental Findings of the Metro Council  
In Support of Resolution No. 18-4885  
Regarding the Basalt Creek Planning Area**

These findings supplement the decision of the Metro Council in Resolution No. 18-4885 regarding its arbitration of the dispute between the City of Tualatin and the City of Wilsonville concerning the concept plan for the Basalt Creek Planning Area. The Metro Council adopts these supplemental findings in support of its decision to adopt the Metro COO Recommendation dated March 26, 2018 regarding the appropriate designation of the Central Subarea.

**1. Process and Record**

The Intergovernmental Agreement (IGA) among Metro, the two cities, and Washington County dated January 22, 2018 expressly delegates complete authority and discretion to Metro regarding the creation of a process to arbitrate the dispute between the cities. Metro described the process in a letter to the cities and the county dated February 15, 2018. The process calls for a written recommendation to the Metro Council from the Metro Chief Operating Officer (COO) to be made after review of written evidence and argument submitted by the cities and the county during two consecutive open record periods. As stated in that letter, “the Metro Council’s review will be based on the record of written materials submitted by the cities, county, and Metro staff.”

The first open record period closed on March 7, 2018; the second (and final) open record period closed on March 14, 2018. As contemplated by the parties to the IGA, Metro received submittals from the two cities and the county during those time periods. Metro also received emails from two property owners, one from Peter Watts dated March 7, 2018 and another from Herb Koss dated March 8, 2018. Those emails raised objections to the process and requested that the emails and attached exhibits be included in the record. The email from Mr. Watts included references to 12 attached exhibits, but no exhibits were attached. However, the first 11 of the 12 referenced exhibits were attached to the email from Mr. Koss, which forwarded an earlier similar version of the email from Mr. Watts. The first 11 exhibits referenced in the email from Mr. Watts were also included in the exhibits attached to the briefs submitted by the cities on March 7, 2018, and those exhibits are therefore part of the record.

The process created by Metro calls for an “on the record” review of the COO Recommendation by the Metro Council. Accordingly, any evidence or other testimony that was not provided to the Metro COO during the open record period prior to the

issuance of her recommendation is not properly before the Metro Council in this proceeding, and is expressly rejected.

The two property owners who submitted emails to the Metro COO raise objections to the process, alleging that Metro's proposal to only accept evidence and argument from the cities and the county violates Statewide Planning Goal 1 and Metro's Public Engagement Guide. As described above, Metro agreed to accept the testimony that was provided via email from the property owners on March 7, 2018 and March 8, 2018 for consideration by the Metro COO in making her recommendation to the Metro Council.

Metro disagrees with the implicit assertion by the property owners that the process created by Metro results in a final land use decision that is subject to Goal 1 and typical land use decision-making procedures. At the request of the cities, Metro agreed to create a unique arbitration process for the limited purpose of resolving their dispute. The purpose and intent of Metro and the cities was solely to resolve a dispute, and not to create a process that would result in a final land use decision.

The Metro Council's adoption of Resolution No. 18-4885 does not result in the adoption or amendment of a concept plan or a comprehensive plan map for the Basalt Creek area, and does not itself have any effects on land use. Metro's decision has no effect until it is implemented by the cities in their own future land use decisions, as described in paragraph 2 of the IGA. Those local land use decisions will need to be supported by substantial evidence in the record, and will be appealable to LUBA.

## **2. Regional Housing Needs**

The March 7, 2018 email from Peter Watts includes a Metro-specific argument regarding regional housing needs that was not previously raised before the cities. The gist of the argument is that the Central Subarea should be designated for residential purposes in order to address an "extreme need" for more housing in the Metro region. Mr. Watts asserts that this need exists by challenging certain growth-related forecasts made by Metro in its most recent Urban Growth Report (UGR), which was adopted by the Metro Council in 2015 and concluded that the region has enough land inside the boundary to meet housing needs for 20 years.

A slightly different version of this argument is addressed in the COO Recommendation in response to arguments made by the City of Tualatin. The COO Recommendation notes that there is broad agreement in the region that there is an immediate need to address the

current shortage of *affordable* housing, and building a new residential subdivision on undeveloped land south of Tualatin does not address that shortage.

Metro's most recent UGR in 2015 concluded that, based on peer-reviewed population growth forecasts for the region, there was no need to expand the Urban Growth Boundary because there is a sufficient supply of residentially zoned land in the region to accommodate 20 years of growth. The growth forecasts, buildable land inventory, and legal conclusions in the UGR were adopted by the Metro Council via Ordinance No. 15-1361. That ordinance and the UGR were not challenged by any party, are acknowledged by DLCD, and are not subject to collateral attack in this proceeding.

Metro planning department staff reviewed the arguments and data provided in the March 7, 2018 email from Mr. Watts and were unable to fully understand the arguments or corroborate the cited data regarding population forecasts and 2016 census figures. For example, there is a reference to U.S. Census estimates showing one-year 2016 population growth of 57,677 in Metro cities with populations over 5,000. Metro staff was unable to identify a census-based source for the 57,677 figure, which is significantly higher than the annual increases shown in U.S. Census data for the entire seven-county Portland Metropolitan Statistical Area (MSA).

The population forecast in Metro's UGR is based in part on census data for the seven-county MSA. Those figures show an average annual increase of just 23,300 people in all seven counties between 2010 and 2015. UGR Appendix 1a, page 9. The UGR forecast for 2020 predicts an average annual increase of 35,300 people in all seven counties. Based in part on the U.S. Census data, the UGR projects that there will be about 400,000 more people in the Metro UGB over the 20-year period ending in 2035, which reflects an average increase of approximately 20,000 people each year – a forecast that is consistent with previous annual averages within the UGB.

Even if the census data could be corroborated, it is empirically misguided to use a single year of estimated population growth in an attempt to disprove the accuracy of a 20-year forecast. Population increases are subject to fairly dramatic fluctuations on a year-to-year basis, and a single year of high growth can be easily offset by much lower growth in subsequent years. It appears that some of the figures cited by Mr. Watts attempt to create an annualized growth projection for individual cities. However, the purpose of the UGR is to assess the adequacy of the regional land supply over a 20-year horizon, not to assess the annual local growth and future land needs for each individual city. The UGR provides a long-term regional forecast regarding the next 20 years that is not intended to capture annual growth fluctuations and/or business cycles in individual jurisdictions.



Another argument asserts that the 2015 UGR improperly allocates 27% of future housing to “high rise condos.” The actual figure in the UGR is 26%, and it is not assigned to “high rise condos,” it is assigned to any multifamily dwelling of two units or more. UGR Appendix 4, Table 11. This would include duplexes, rowhouses, one or two-story condos or co-housing developments, and any other form of ownership structure involving at least two attached units.

The housing-related argument is summarized as follows: (1) in the 2015 UGR, Metro incorrectly applied ORS 197.296 and adopted inaccurate future growth projections; (2) because of those errors, there is “an inadequate amount of available unconstrained buildable land in the region” for residential purposes; and (3) therefore, the 52-acre Central Subarea should be planned for residential purposes. First, Metro’s growth management decision in 2015 is not being reviewed in this proceeding. This arbitration does not provide a forum to collaterally attack Metro’s application of ORS 197.296 or Metro’s population forecasts in the 2015 UGR. The conclusions in the UGR were adopted by ordinance, acknowledged by DLCD, and under ORS 195.036 must be applied by Metro and local governments in the region for land use planning purposes until the next UGR is adopted at the end of 2018. Because that process is currently underway, stakeholders who are interested in regional growth issues already have an opportunity this year to comment on any perceived deficiencies in the population-related data and projections that were made in 2015.

Second, even if there was evidence in the record suggesting that actual growth in 2016 outpaced the 2015 forecast, that does not mean there is currently an inadequate amount of buildable land for housing in the Metro region. The Metro Council adopted the UGR a little over two years ago, concluding that there is enough buildable land inside the UGB to provide housing for the next 20 years. Mr. Watts is arguing that the region has already used up 20 years’ worth of its buildable land supply in the last 2.5 years; however, the evidence in the record does not support that conclusion.

The COO Recommendation provides a detailed analysis of the planning goals and expectations of local government stakeholders regarding the Basalt Creek Planning Area and the Central Subarea. As noted in that recommendation, “the planning history of the Central Subarea and the planning expectations of local government stakeholders lean heavily in the direction of an employment designation.” The Metro Council finds that unsubstantiated arguments regarding an inadequate land supply inside the UGB do not provide a compelling basis to reject the COO Recommendation.



# 2018 Compliance Report

*February 28, 2019*

**Public service**

*We are here to serve the public  
with the highest level of  
integrity.*

**Excellence**

*We aspire to achieve exceptional  
results*

**Teamwork**

*We engage others in ways that foster  
respect and trust.*

**Respect**

*We encourage and appreciate  
diversity in people and ideas.*

**Innovation**

*We take pride in coming up with  
innovative solutions.*

**Sustainability**

*We are leaders in demonstrating  
resource use and protection.*

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We inspire, engage, teach and invite people to preserve and enhance the quality of life and the environment for current and future generations.

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## **Executive Summary**

Metro's Urban Growth Management Functional Plan provides tools and guidance for local jurisdictions to implement regional policies and achieve the goals set out in the region's 2040 Growth Concept. The 2018 Compliance Report summarizes the status of compliance for each city and county in the region with the Metro Code requirements included in the Urban Growth Management Functional Plan and the Regional Transportation Functional Plan. Every city and county in the region is required if necessary to change their comprehensive plans or land use regulations to come into compliance with Metro Code requirements within two years of acknowledgement by the Oregon Land Conservation and Development Commission and to remain in compliance. The information in this report confirms the strong partnerships at work in this region to implement regional and local plans.

In 2018, there were no requests for extensions of existing compliance dates for the Urban Growth Management Functional Plan.

### **Metro Code Chapter 3.07 Urban Growth Management Functional Plan and Metro Code Chapter 3.08 Regional Transportation Functional Plan – March 2018**

#### **Introduction**

Metro Code 3.07.870 requires the Chief Operating Officer to submit the status of compliance by cities and counties with the requirements of the Metro Code Chapter 3.07 (Urban Growth Management Functional Plan) annually to the Metro Council. In an effort to better integrate land use and transportation requirements, this compliance report includes information on local government compliance with the Regional Transportation Functional Plan (Metro Code Chapter 3.08) as well as the Urban Growth Management Functional Plan (Metro Code Chapter 3.07).

#### **Overview**

Per the Metro Code, the Chief Operating Officer (COO) may grant an extension request if a local government meets one of two criteria: 1) the city or county is making progress towards compliance; or 2) there is good cause for failure to meet the deadline for compliance.

By statute, cities and counties had two years following the date of acknowledgement of Metro's Regional Transportation Plan (RTP) in Summer 2014 to bring their Transportation System Plans (TSPs) into compliance with any new or changed regional requirements. However, Metro exercised its authority under the state's Transportation Planning Rule to extend city and county deadlines beyond the two-year statutory deadline. Metro consulted with each city and county to determine a reasonable timeline for this work and adopted a schedule that is available on Metro's website at [www.oregonmetro.gov/tsp](http://www.oregonmetro.gov/tsp). The deadlines are phased to take advantage of funding opportunities and the availability of local and Metro staff resources.

Appendix A summarizes the compliance status for all local governments with the requirements of the Urban Growth Management Functional Plan (UGMFP) by the end of 2018.

Appendix B shows the status of Title 11 new urban area planning for areas added to the Urban Growth Boundary (UGB) since 1998.

Appendix C summarizes the compliance dates for each UGMFP title.

Appendix D summarizes the compliance dates for the Regional Transportation Functional Plan (RTFP) in effect as of December 31, 2018.

Appendix E is the Annual Report on Amendments to the Title 4 Employment and Industrial Areas Map dated January 8, 2018.

Appendix F is Exhibit C to Ordinance No. 18-1427.

Appendix G is the Accessory Dwelling Unit (ADU) Zoning Code Audit Report dated September 2018.

### **Urban Growth Management Functional Plan Compliance Status**

All jurisdictions are in compliance with the Urban Growth Management Functional Plan.

### **2018 Urban Growth Management Decision**

In December 2018, the Metro Council made an urban growth management decision (Ordinance No. 18-1427). The decision included four urban growth boundary expansions into urban reserves. The four cities responsible for planning these expansions – Beaverton, Hillsboro, King City, and Wilsonville – are now required to complete a comprehensive plan that complies with Title 11 (Planning for New Urban Areas) of the Urban Growth Management Functional Plan. Additionally, the Metro Council adopted conditions of approval (attached to this report as Appendix F) that will guide the planning that the four cities conduct both for the expansion areas and for existing urban areas in their jurisdiction. Metro Planning and Development staff will participate in those planning efforts to ensure compliance with applicable regulations and conditions.

### **Title 1 (Housing Capacity)**

Since 1997, Metro code section 3.07.120g has stated “a city or county shall authorize the establishment of at least one accessory dwelling unit for each detached single-family dwelling unit in each zone that authorizes detached single-family dwelling. The authorization may be subject to reasonable regulation for siting and design purposes.” A number of years ago, all cities and counties in the region were found to be in compliance with this requirement.

Barring subsequent amendments to city or county codes, it is not the practice of Metro staff to review codes that were previously found to be in compliance with Metro regulations. However, in an effort to encourage the development of accessory dwelling units (ADU), Metro completed the September 2018 ADU Zoning Code Audit, which is attached to this

report as Appendix G. The audit presents a snapshot of city and county codes as of spring 2018. That audit indicates that a number of cities and counties in the region have codes that do not follow a literal reading of Metro code section 3.07.120g. In particular, most codes authorize one ADU on each lot rather than for each dwelling.

Although current Metro staff are not familiar with previous staff's reasoning when determining earlier compliance, it is likely that these local codes were deemed to substantially comply with Metro code. This would be consistent with the reasoning of the 2018 ADU Code Audit, which asserts that the reference to "lots" instead of "dwellings" "...likely has a limited impact on actual ADU feasibility..."

In 2017, the Oregon legislature passed SB 1051, which mirrors Metro code section 3.07.120g. In response to this as well as the Metro ADU code audit, a number of cities and counties in the region have been updating relevant code sections. Metro staff will continue to monitor city and county plan amendments to ensure compliance. It also appears possible that the 2019 legislature will adopt additional laws that clarify what constitutes "reasonable siting and design standards" for ADUs.

### **Regional Transportation Functional Plan Compliance Status**

All (non-exempt) jurisdictions are in compliance with the Regional Transportation Functional Plan, with the exception of the City of Hillsboro. Hillsboro is scheduled to adopt its TSP update in late 2019, which will allow the city to be in compliance with the Regional Transportation Functional Plan.



**APPENDIX A**  
**Summary of Compliance Status as of December 31, 2018**  
**(Functional Plan effective 1/18/12)**

<b>City/ County</b>	<b>Title 1 Housing Capacity</b>	<b>Title 3 Water Quality &amp; Flood Management</b>	<b>Title 4 Industrial and other Employment Land</b>	<b>Title 6<sup>1</sup> Centers, Corridors, Station Communities &amp; Main Streets</b>	<b>Title 7 Housing Choice</b>	<b>Title 11 Planning for New Urban Areas</b> <small>(see Appendix B for detailed information)</small>	<b>Title 13 Nature in Neighborhoods</b>
Beaverton	In compliance	In compliance	In compliance	See footnote	In compliance	Not in compliance	In compliance
Cornelius	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance
Durham	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Fairview	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Forest Grove	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance
Gladstone	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Gresham	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance
Happy Valley	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance
Hillsboro	In compliance	In compliance	In compliance	See footnote	In compliance	Not in compliance	In compliance
Johnson City	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
King City	In compliance	In compliance	In compliance	See footnote	In compliance	Not in compliance	In compliance
Lake Oswego	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Maywood Park	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Milwaukie	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Oregon City	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance

<sup>1</sup> Title 6 is an incentive approach and only those local governments wanting a regional investment (currently defined as a new high-capacity transit line) will need to comply.

<b>City/ County</b>	<b>Title 1 Housing Capacity</b>	<b>Title 3 Water Quality &amp; Flood Management</b>	<b>Title 4 Industrial and other Employment Land</b>	<b>Title 6<sup>1</sup> Centers, Corridors, Station Communities &amp; Main Streets</b>	<b>Title 7 Housing Choice</b>	<b>Title 11 Planning for New Urban Areas</b> <small>(see Appendix B for detailed information)</small>	<b>Title 13 Nature in Neighborhoods</b>
Portland	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance	In compliance
Rivergrove	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Sherwood	In compliance	In compliance	In compliance	See footnote	In compliance	Area 61 extended to 12/31/21*	In compliance
Tigard	In compliance	In compliance	In compliance	See footnote	In compliance	In compliance.	In compliance
Troutdale	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Tualatin	In compliance	In compliance	In compliance	See footnote	In compliance	Basalt Creek extended to 9/1/2019	In compliance
West Linn	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Wilsonville	In compliance	In compliance	In compliance	See footnote	In compliance	Basalt Creek extended to 9/1/2019 not in compliance	In compliance
Wood Village	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Clackamas County	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Multnomah County	In compliance	In compliance	In compliance	See footnote	In compliance	Not applicable	In compliance
Washington County	In compliance	In compliance	In compliance	See footnote	In compliance	North Cooper Mountain not in compliance	In compliance

\*The City of Tualatin requested that the City of Sherwood take over concept planning for Area 61 Title 11 planning in 2012.

<sup>1</sup> Title 6 is an incentive approach and only those local governments wanting a regional investment (currently defined as a new high-capacity transit line) will need to comply.

**APPENDIX B**  
**TITLE 11 NEW AREA PLANNING COMPLIANCE**  
**(As of December 31, 2018)**

<b>Project</b>	<b>Lead Government(s)</b>	<b>Compliance</b>	<b>Status</b>
<b>1998 UGB Expansion</b>			
Rock Creek Concept Plan	Happy Valley	Yes	Concept plan and implementation measures completed; development on-going.
Pleasant Valley Concept Plan	Gresham and Portland	Yes	Concept plan and implementation measures completed; city annexed 524 acres and development to begin in eastern section.
<b>1999 UGB Expansion</b>			
Witch Hazel Community Plan	Hillsboro	Yes	Concept plan and implementation measures completed; development on-going.
<b>2000 UGB Expansion</b>			
Villebois Village	Wilsonville	Yes	Concept plan and implementation measures completed; development on-going.
<b>2002 UGB Expansion</b>			
Springwater Community Plan	Gresham	Yes	Concept plan and implementation measures completed for this mostly industrial area; waiting annexation & development.
Damascus/Boring Concept Plan	Happy Valley	Yes	HV portion: Concept plan and implementation measures completed; waiting annexation and development.
	Happy Valley/ Clackamas County	No	The former City of Damascus land area. Happy Valley currently completing comprehensive planning for additional portions of the area.
	Gresham	Yes	Gresham portion, called Kelley Creek Headwaters Plan, was adopted by city in 2009.
Park Place Master Plan	Oregon City	Yes	Concept plan and implementation measures completed; waiting annexation & development.
Beavercreek Road	Oregon City	Yes	Concept plan completed and accepted by Metro.
South End Road	Oregon City	Yes	Concept plan and implementation measures completed.
East Wilsonville (Frog Pond area)	Wilsonville	Yes	Comprehensive plan adopted; development on-going.
NW Tualatin Concept Plan (Cipole Rd & 99W)	Tualatin	Yes	Concept plan and implementation measures completed for this small industrial area.
SW Tualatin Concept Plan	Tualatin	Yes	Concept plan and implementation measures completed for this industrial area.
Brookman Concept Plan	Sherwood	Yes	Concept plan completed. Refinement plan underway
West Bull Mountain (River Terrace)	Tigard	Yes	Concept plan completed.
Study Area 59	Sherwood	Yes	Concept plan and implementation measures completed; school constructed.
Study Area 61 (Cipole Rd)	Sherwood	Extension to 12/31/2021	Extension agreement – planning shall be completed when Urban Reserve 5A is completed, or by 12/31/2021, whichever is sooner.
99W Area (near Tualatin-Sherwood Rd)	Sherwood	Yes	Concept plan and implementation measures completed.

Project	Lead Government(s)	Compliance	Status
Cooper Mountain area	Washington County	No	Preliminary planning completed by City of Beaverton. Community plan pending Washington County work program.
Study Area 64 (14 acres north of Scholls Ferry Rd)	Beaverton	Yes	Concept plan and implementation measures completed; annexed to City.
Study Area 69 & 71	Hillsboro	Yes	Areas are included in South Hillsboro Area Plan. City has adopted these areas into its comprehensive plan; upon annexation, they will be zoned to comply with comp plan.
Study Area 77	Cornelius	Yes	Concept plan and implementation measures completed; annexed to City.
Forest Grove Swap	Forest Grove	Yes	Concept plan and implementation measures completed; annexed to City.
Shute Road Concept Plan	Hillsboro	Yes	Concept plan and implementation measures completed; annexed to City and portion developed with Genentech.
North Bethany Subarea Plan	Washington County	Yes	Concept plan and implementation measures completed; annexations underway with development occurring.
Bonny Slope West Concept Plan (Area 93)	Multnomah County	Yes	Planning completed; development on-going.
<b>2004/2005 UGB Expansion</b>			
Damascus area	Damascus	See under 2002 above	Included with Damascus comprehensive plan (see notes above).
Tonquin Employment Area	Sherwood	Yes	Concept plan and implementation measures completed.
Basalt Creek/West RR Area Concept Plan	Tualatin and Wilsonville	IGA extension to 10/2019; CET extension to 6/30/18	Basalt Creek Concept Plan adopted by both jurisdictions. Comprehensive plan adoption expected by mid-2019.
N. Holladay Concept Plan	Cornelius	Yes	Concept plan completed; implementation to be finalized after annexation to City.
Evergreen Concept Plan	Hillsboro	Yes	Concept plan and implementation measures completed.
Helvetia Concept Plan	Hillsboro	Yes	Concept plan and implementation measures completed.
<b>2011 UGB Expansion</b>			
North Hillsboro	Hillsboro	Yes	Concept planning completed. Development on-going.
South Hillsboro	Hillsboro	Yes	Concept planning completed. Development on-going.
South Cooper Mountain	Beaverton	Yes	Concept planning completed.
Roy Rogers West (River Terrace)	Tigard	Yes	See West Bull Mountain.

<b>2014 UGB Expansion (HB 4078)</b>	<b>Lead Government(s)</b>	<b>Compliance</b>	<b>Status</b>
Cornelius North	Cornelius	Yes	Comprehensive planning completed. Awaits annexation to city.
Cornelius South	Cornelius	Yes	Comprehensive planning completed. Partially annexed to city.
Forest Grove (Purdin Road)	Forest Grove	Yes	Comprehensive planning completed. Awaits annexation to city.
Forest Grove (Elm Street)	Forest Grove	Yes	Comprehensive planning completed. Awaits annexation to city.
Hillsboro (Jackson School)	Hillsboro	No	Comprehensive plan work in progress.
<b>2018 UGB Expansion</b>			
Cooper Mountain	Beaverton	No	Added to the UGB in December 2018
Witch Hazel Village South	Hillsboro	No	Added to the UGB in December 2018
Beef Bend South	King City	No	Added to the UGB in December 2018
Advance Road	Wilsonville	No	Added to the UGB in December 2018

**APPENDIX C  
COMPLIANCE DATES FOR THE  
URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN**

Functional Plan Requirement	When Local Decisions Must Comply		
	Plan/Code Amendment 3.07.810(C) <sup>1</sup>	Land Use Decision 3.07.810(D) <sup>2</sup>	Adoption 3.07.810(B) <sup>3</sup>
<b>Title 1:</b> Adopt minimum dwelling unit density (3.07.120.B)	12/21/2013	12/21/2013	12/21/2014
<b>Title 1:</b> Allow accessory dwelling unit in SFD zones (3.07.120.G) <i>(provision included in previous version of Metro Code as 3.07.140.C)</i>	12/8/2000		12/8/2002
<b>Title 3:</b> Adopt model ordinance or equivalent and map or equivalent (3.07.330.A)	12/8/2000		12/8/2002
<b>Title 3:</b> Floodplain management performance standards (3.07.340.A)	12/8/2000	12/8/2001	12/8/2002
<b>Title 3:</b> Water quality performance standards (3.07.340.B)	12/8/2000	12/8/2001	12/8/2002
<b>Title 3:</b> Erosion control performance standards (3.07.340.C)	12/8/2000	12/8/2001	12/8/2002

<sup>1</sup> After one year following acknowledgment of a UGMFP requirement, cities and counties that amend their plans and land use regulations shall make such amendments in compliance with the new functional plan requirement.

<sup>2</sup> A city or county that has not yet amended its plan to comply with a UGMFP requirement must, following one year after acknowledgement of the requirement (the date noted), apply the requirement directly to land use decisions

<sup>3</sup> Cities and counties must amend their plans to comply with a new UGMFP requirement within two years after acknowledgement of the requirement (the date noted)

<b>Functional Plan Requirement</b>	<b>When Local Decisions Must Comply</b>		
	<b>Plan/Code Amendment</b> 3.07.810(C) <sup>1</sup>	<b>Land Use Decision</b> 3.07.810(D) <sup>2</sup>	<b>Adoption</b> 3.07.810(B) <sup>3</sup>
<b>Title 4:</b> Limit uses in Regionally Significant Industrial Areas  (3.07.420)	7/22/2005	7/22/2006	7/22/2007
<b>Title 4:</b> Prohibit schools, places of assembly larger than 20,000 square feet, or parks intended to serve people other than those working or residing in the area in Regional Significant Industrial Areas  (3.07.420D)	12/21/2013	12/21/2013	12/21/2014
<b>Title 4:</b> Limit uses in Industrial Areas  (3.07.430)	7/22/2005	7/22/2006	7/22/2007
<b>Title 4:</b> Limit uses in Employment Areas  (3.07.440)	7/22/2005	7/22/2006	7/22/2007
<b>Title 6:</b> (Title 6 applies only to those local governments seeking a regional investment or seeking eligibility for lower mobility standards and trip generation rates)	12/21/12	12/21/13	12/21/14
<b>Title 7:</b> Adopt strategies and measures to increase housing opportunities  (3.07.730)			6/30/2004
<b>Title 8:</b> Compliance Procedures (45-day notice to Metro for amendments to a comprehensive plan or land use regulation)  (3.07.820)	2/14/2003		
<b>Title 11:</b> Develop a concept plan for urban reserve prior to its addition to the UGB  (3.07.1110)	N/A	N/A	N/A

<b>Functional Plan Requirement</b>	<b>When Local Decisions Must Comply</b>		
	<b>Plan/Code Amendment</b> 3.07.810(C) <sup>1</sup>	<b>Land Use Decision</b> 3.07.810(D) <sup>2</sup>	<b>Adoption</b> 3.07.810(B) <sup>3</sup>
<b>Title 11:</b> Prepare a comprehensive plan and zoning provisions for territory added to the UGB  (3.07.1120)	12/8/2000	12/8/2001	2 years after the effective date of the ordinance adding land to the UGB unless the ordinance provides a later date
<b>Title 11:</b> Interim protection for areas added to the UGB  (3.07.1130) <i>(provision included in previous version of Metro Code as 3.07.1110)</i>	12/8/2000	12/8/2001	12/8/2002
<b>Title 12:</b> Provide access to parks by walking, bicycling, and transit  (3.07.1240.B)			7/7/2005
<b>Title 13:</b> Adopt local maps of Habitat Conservation Areas consistent with Metro-identified HCAs  (3.07.1330.B)	12/28/2005	1/5/2008	1/5/2009
<b>Title 13:</b> Develop a two-step review process (Clear & Objective and Discretionary) for development proposals in protected HCAs  (3.07.1330.C & D)	12/28/2005	1/5/2008	1/5/2009
<b>Title 13:</b> Adopt provisions to remove barriers to, and encourage the use of, habitat-friendly development practices  (3.07.1330.E)	12/28/2005	1/5/2008	1/5/2009



**APPENDIX D**  
**Summary of Compliance Status for 2018**  
**(Regional Transportation Functional Plan in effect as of 12/31/2014)**

<b>Jurisdiction</b>	<b>Title 1 Transportation System Design</b>	<b>Title 2 Development and Update of Transportation System Plans</b>	<b>Title 3 Transportation Project Development</b>	<b>Title 4 Regional Parking Management</b>	<b>Title 5 Amendment of Comprehensive Plans</b>
Beaverton	In compliance	In compliance	In compliance	In compliance	In compliance
Cornelius	In compliance	In compliance	In compliance	In compliance	In compliance
Durham	Exempt	Exempt	Exempt	Exempt	Exempt
Fairview	In compliance	In compliance	In compliance	In compliance	In compliance
Forest Grove	In compliance	In compliance	In compliance	In compliance	In compliance
Gladstone	In compliance	In compliance	In compliance	In compliance	In compliance
Gresham	In compliance	In compliance	In compliance	In compliance	In compliance
Happy Valley	In compliance	In compliance	In compliance	In compliance	In compliance
Hillsboro	12/31/17*	12/31/17*	12/31/17*	12/31/17*	12/31/17*
Johnson City	Exempt	Exempt	Exempt	Exempt	Exempt
King City	Exempt	Exempt	Exempt	Exempt	Exempt
Lake Oswego	In compliance	In compliance	In compliance	In compliance	In compliance
Maywood Park	Recommending exemption	Recommending exemption	Recommending exemption	Recommending exemption	Recommending exemption
Milwaukie	In compliance	In compliance	In compliance	In compliance	In compliance
Oregon City	In compliance	In compliance	In compliance	In compliance	In compliance
Portland	In compliance	In compliance	In compliance	In compliance	In compliance
Rivergrove	Exempt	Exempt	Exempt	Exempt	Exempt
Sherwood	In compliance	In compliance	In compliance	In compliance	In compliance
Tigard	In compliance	In compliance	In compliance	In compliance	In compliance
Troutdale	In compliance	In compliance	In compliance	Exception	In compliance
Tualatin	In compliance	In compliance	In compliance	In compliance	In compliance
West Linn	In compliance	In compliance	In compliance	In compliance	In compliance
Wilsonville	In compliance	In compliance	In compliance	In compliance	In compliance
Wood Village	In compliance	In compliance	In compliance	In compliance	In compliance
Clackamas County	In compliance	In compliance	In compliance	In compliance	In compliance
Multnomah County	12/31/17	12/31/17	12/31/17	12/31/17	12/31/17
Washington County	In compliance	In compliance	In compliance	In compliance	In compliance

*Date shown in table is the deadline for compliance with the Regional Transportation Functional Plan (RTFP). Note – a city or county that has not yet amended its plan to comply with the RTFP must, following one year after RTFP acknowledgement, apply the RTFP directly to land use decisions.*

*\*Expected completion by end of 2019.*



# Memo

Date: January 1, 2019  
To: Metro Council and the Metro Policy Advisory Committee  
From: Martha Bennett, Chief Operating Officer  
Subject: Annual report on amendments to the Title 4 Employment and Industrial Areas Map

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## **Background**

Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan seeks to improve the region's economy by protecting a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas, Industrial Areas, and Employment Areas. Those areas are depicted on the Employment and Industrial Areas Map.

Title 4 sets forth several avenues for amending the map, either through a Metro Council ordinance or through an executive order, depending on the circumstances. Title 4 requires that, by January 31 of each year, Metro's Chief Operating Officer submit a written report to the Council and MPAC on the cumulative effects on employment land in the region of amendments to the Employment and Industrial Areas Map during the preceding year. This memo constitutes the report for 2018.

## **Title 4 map amendments in 2018**

There were no amendments made to the Title 4 Map in 2018 either by the Council or through executive order.

## **Chief Operating Officer recommendations**

I do not, at this time, recommend changes to Title 4 policies. However, the intended refresh of the 2040 Growth Concept and its work program on changes in the economy may eventually lead to policy and regulatory updates for Metro Council consideration.

## **Conditions of Approval on Land Added to UGB**

### **A. Comprehensive planning in the four UGB expansion areas:**

1. Within four years after the date of this ordinance, the four cities shall complete comprehensive planning consistent with Metro code section 3.07.1120 (Planning for Areas Added to the UGB).
2. The four cities shall allow, at a minimum, single-family attached housing, including townhomes, duplexes, triplexes, and fourplexes, on all lots on which single family housing is allowed in the expansion areas; however, cities may adopt standards that limit housing types on particular lots if necessary due to site constraints or in order to comply with environmental protections under the Metro Code or state law.
3. The four cities shall explore ways to encourage the construction of ADUs in the expansion areas.
4. As the four cities conduct comprehensive planning for the expansion areas, they shall address how their plans implement relevant policies adopted by Metro in the 2014 regional Climate Smart Strategy regarding: (a) concentrating mixed-use and higher density development in existing or planned centers; (b) increasing use of transit; and (c) increasing active transportation options. The cities shall coordinate with the appropriate county and transit provider regarding identification and adoption of transportation strategies.
5. As the four cities conduct comprehensive planning for the expansion areas, they shall regularly consult with Metro Planning and Development staff regarding compliance with these conditions, compliance with the Urban Growth Management Functional Plan, compliance with the state Metropolitan Housing Rule, and use of best practices in planning and development, and community engagement. To those ends, cities shall include Metro staff in advisory groups as appropriate.
6. At the beginning of comprehensive planning, the four cities shall develop – in consultation with Metro – a public engagement plan that encourages broad-based, early and continuing opportunity for public involvement. Throughout the planning process, focused efforts shall be made to engage historically marginalized populations, including people of color, people with limited English proficiency and people with low income, as well as people with disabilities, older adults and youth.

### **B. Citywide requirements (for the four cities):**

1. Within one year after the date this ordinance is acknowledged by LCDC (excluding any subsequent appeals), the four cities shall demonstrate compliance with Metro code

Exhibit C to Ordinance No. 18-1427

section 3.07.120(g) and ORS 197.312(5) regarding accessory dwelling units. In addition to the specific requirements cited in Metro code and state law, cities shall not require that accessory dwelling units be owner occupied and shall not require off street parking when street parking is available.

2. Within one year after the date this ordinance is acknowledged by LCDC (excluding any subsequent appeals), the four cities shall demonstrate compliance with ORS 197.309 regarding clear and objective standards for affordable housing.
3. Before amending their comprehensive plans to include the expansion areas, the four cities shall amend their codes to ensure that any future homeowners associations will not regulate housing types, including accessory dwelling units, or impose any standards that would have the effect of prohibiting or limiting the type or density of housing that would otherwise be allowable under city zoning.
4. Before amending their comprehensive plans to include the expansion areas, the four cities shall amend their codes to ensure that any future homeowners associations will not require owner occupancy of homes that have accessory dwelling units.
5. The four cities shall continue making progress toward the actions described in Metro Code section 3.07.620 (Actions and Investments in Centers, Corridors, Station Communities, and Main Streets).
6. Cities shall engage with service providers to consider adoption of variable system development charges designed to reduce the costs of building smaller homes in order to make them more affordable to purchasers and renters.
7. For at least six years after this UGB expansion, the four cities shall provide Metro with a written annual update on compliance with these conditions as well as planning and development progress in the expansion areas. These reports will be due to the Metro Chief Operating Officer by December 31 of each year, beginning December 31, 2019.

**C. Beaverton:**

1. Beaverton shall plan for at least 3,760 homes in the Cooper Mountain expansion area.
2. The expansion area shall be designated Neighborhood on the 2040 Growth Concept map.
3. The city may propose the addition of Corridors for depiction on the 2040 Growth Concept map as an outcome of comprehensive planning for the area.

**D. Hillsboro:**

1. Hillsboro shall plan for at least 850 homes in the Witch Hazel Village South expansion area.
2. The expansion area shall be designated Neighborhood on the 2040 Growth Concept map.
3. The city may propose the addition of Corridors for depiction on the 2040 Growth Concept map as an outcome of comprehensive planning for the area.

**E. King City:**

1. King City shall coordinate with Washington County and the City of Tigard as it engages in its work on a Transportation System Plan, other infrastructure planning, and comprehensive planning.
2. Before amending the King City comprehensive plan to include the expansion area, King City shall conduct additional market analysis to better understand the feasibility of creating a new mixed-use town center.
3. Pending the results of the market analysis of a new town center, King City shall plan for at least 3,300 homes in the Beef Bend South expansion area. If the market analysis indicates that this housing target is infeasible, King City shall work with Metro to determine an appropriate housing target for the expansion area.
4. The expansion area shall be designated Neighborhood on the 2040 Growth Concept map.
5. Pending the results of the market analysis of a new town center, Metro will work with King City to make necessary changes to the 2040 Growth Concept map.
6. Prior to amending the King City comprehensive plan to include the expansion area, King City shall complete a Transportation System Plan for the city.
7. Prior to amending the King City comprehensive plan to include the expansion area, King City shall amend its code to remove barriers to the construction of accessory dwelling units, including:
  - a. Remove the requirement that accessory dwelling units can only be built on lots that are at least 7,500 square feet, which effectively prohibits construction of accessory dwelling units in the city.

Exhibit C to Ordinance No. 18-1427

- b. Remove or increase the requirement that accessory dwelling units be no bigger than 33 percent of the square footage of the primary home so that an accessory dwelling unit of at least 800 square feet would be allowable.
8. The Columbia Land Trust holds a conservation easement over portions of the Bankston property, which King City's concept plan identifies as the intended location for a key transportation facility serving the expansion area. King City shall work with the Columbia Land Trust to protect, to the maximum extent possible, the portion of the Bankston property covered by the conservation easement.
9. To reduce housing costs, King City shall, in its comprehensive planning, explore ways to encourage the use of manufactured housing in the expansion area.

**F. Wilsonville:**

1. Wilsonville shall plan for at least 1,325 homes in the Advance Road expansion area.
2. The expansion area shall be designated Neighborhood on the 2040 Growth Concept map.
3. The city may propose the addition of Corridors for depiction on the 2040 Growth Concept map as an outcome of comprehensive planning for the area.

**G. West Union Village Property:**

1. There shall be no change of use or intensification of individual uses on any portion of the 4.88-acre property until Urban Reserve Area 8F has been brought into the UGB and the City of Hillsboro has adopted comprehensive plan amendments for the surrounding urban reserve land.



Metro



**BUILD SMALL COALITION**

# Accessory dwelling unit (ADU) zoning code audit report

September 2018

[oregonmetro.gov/buildsmall](http://oregonmetro.gov/buildsmall)

## Acknowledgements

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## Executive summary

Accessory Dwelling Units (ADUs) are self-contained homes located on the same property as a larger, principal home and can be detached, attached or internal to the primary home. ADUs have gained interest across the nation as an opportunity to diversify the housing market and use urban land more efficiently, increasing the number of new homes in an area while not changing the look or feel of the existing neighborhood.

They also provide options that can match peoples' needs at different life stages and income levels. For example, young homeowners may rent out their ADU to help pay their new mortgage; a retired senior may rent an ADU to supplement their pension; or an aging parent can live with their child, allowing families to stay connected while still enjoying a degree of independence.

Almost all cities and counties across greater Portland adopted regulations in 1997 to allow one ADU per single-family dwelling in single-family zones, subject to reasonable siting and design standards.

The construction of ADUs, however, has not been widespread. Nearly 2,700 ADUs have been permitted in the City of Portland alone since 1997; only about 250 units have been permitted in all other Metro-area jurisdictions combined. Simply allowing ADUs in the zoning code has not been enough to foster their widespread production.

Emerging best practices from across the country suggest that other factors such as regulations, building requirements, fees and other issues also play a significant role in supporting - or deterring - ADU development.



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In 2018, Metro's Build Small Coalition conducted a code audit to better understand the regulatory conditions across the region and their relationship to ADU production.

This audit consisted of three primary efforts:

- a review of zoning codes and public documents related to ADU regulations;
- select stakeholder interviews to gain insight into how those regulations function in practice;
- and collection of data on the number of ADUs in the region.



While regulations and practices varied widely, the coalition found opportunities for every jurisdiction to reduce barriers to ADU production. The most significant regulatory barriers to ADUs identified through the audit were:

- owner-occupancy requirements;
  - design standards;
  - off-street parking requirements; and
  - significant dimensional restrictions such as ADU height limits, size limits or property line setback requirements.
- System Development Charges (SDCs) were also identified as a significant financial barrier, though generally not the sole deterrent in places where ADU production was limited.



Based on these findings, the coalition recommended ADU code provisions and regulations that incorporate observed best practices in the greater Portland region, advice from ADU developers and best practices from across the country.

The findings of this audit and related technical assistance are intended to support jurisdictions as they continue to innovate through subsequent code updates, with the ultimate goal of removing barriers to ADU development across the region.



The audit comes at a time of great opportunity for jurisdictions as many are working to update or have recently updated their regulations to meet specific SB 1051 state requirements.

Metro offered technical assistance to local jurisdictions for reviewing or developing code language, navigating the adoption process and coordinating with the Department of Land Conservation and Development (DLCDD).

These updates are an opportunity to set direction for the next 20 years of ADU regulations - and in doing so, to take a meaningful step in supporting housing choice and affordability for the region.

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## Introduction

The Accessory Dwelling Unit (ADU) code audit is an initiative of Metro's Build Small Coalition intended to understand ADU development trends and the regulatory environment, and to support greater ADU development throughout the greater Portland region.

The Build Small Coalition is a group of public, private and non-profit small home and housing affordability advocates who work together to increase development of and equitable access to smaller housing options across the region.

The coalition was previously led by the Oregon Department of Environmental Quality and was known as the Space-Efficient Housing Work Group. In general, the coalition is working to encourage a greater variety of housing to match people's needs at different life stages and income levels.

One of the focus areas in the coalition's work plan for the year is catalyzing ADU development beyond the city of Portland. By understanding existing development ADU regulations and development patterns, this report will support greater ADU development by providing distilled best practices and recommendations to reduce regulatory barriers in Metro jurisdictions.

The work also overlaps with existing Metro code requirements and the broader Equitable Housing Initiative, an effort to work with partners across the region to find opportunities for innovative approaches and policies that result in more people being able to find a home that meets their needs and income levels.

Since 1997, Metro has required jurisdictions to permit one ADU per single-family dwelling in single-family zones subject to reasonable siting and design standards. However, ADU development and interest has varied across the region over the past 20 years, with the majority of ADU activity centered in Portland and little ADU development in most other jurisdictions around the region.

ADU development supports two of the four Equitable Housing Initiative strategies: increasing and diversifying market-rate housing, and stabilizing homeowners and expanding access to home ownership.

### ADU code audit project goals

- Summarize existing ADU regulations across all Metro cities and counties and compare against Metro code requirements, state SB 1051 requirements and emerging best practices.
- Understand how regulations are dynamically applied in practice through discussion with ADU developers, practitioners and regulators.
- Understand ADU development trends in all Metro cities and counties, and any correlations between regulations and development, particularly those that highlight potential regulatory barriers.
- Share regional trends, best practices, and recommendations with Metro jurisdictions to support code updates to catalyze ADU development beyond the City of Portland.

With existing interest and increasing conversations around ADUs and affordable housing, as evidenced by the Equitable Housing Initiative, the coalition wanted to better understand the existing scope of ADU regulations across the region, understand their relationship to resulting ADU production and feasibility and promote innovative practices emerging locally.

The audit scope includes review and analysis of ADU zoning regulations across all 27 Metro cities and counties.

The audit is intended to describe existing regulatory conditions for ADUs both as codified and as applied, in order to generate insight into aspects of ADU regulatory and practical approaches that best support ADU development.

Though zoning and regulatory approaches alone may not catalyze ADU development, understanding regulatory barriers is central to recommending updated regulatory approaches that better support ADU development.

The audit also comes at a time of great opportunity for jurisdictions as many are working to update or have recently updated their regulations to meet specific SB 1051 state requirements and to better support affordable housing development.

The findings and related technical assistance are intended to support jurisdictions as they continue to innovate through subsequent code updates, with the ultimate goal of removing barriers to ADU development across the region.



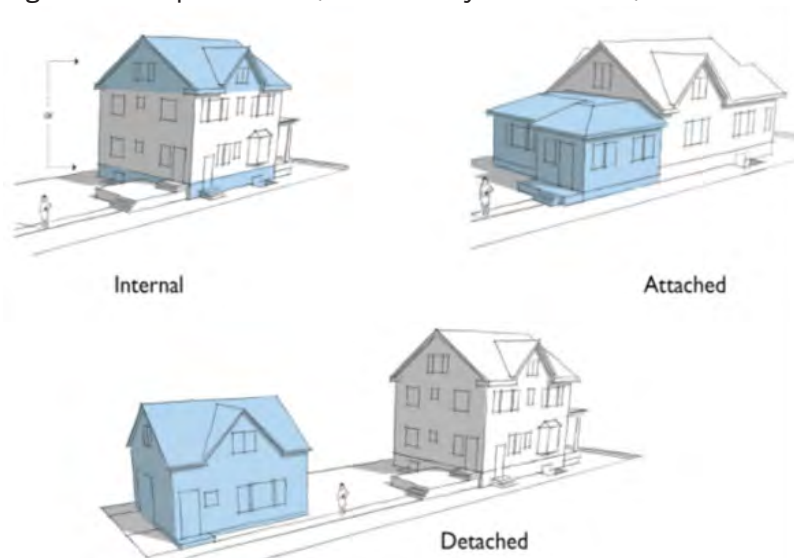
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## ADU background

ADUs have existed historically in a variety of forms, dating back at least as far as the late 18th century. ADUs are smaller, secondary dwellings built in a variety of forms, including:

- Detached: New or converted detached structures such as garages.
- Attached: New or converted attached addition to the existing home.
- Internal: Conversion of existing space such as a basement or attic.

Figure 1: Example of ADUs, Source: City of Saint Paul, MN



ADUs are often built by the owners of the primary dwelling as a space for family, friends or caretakers, as a rental unit to generate income, or as a space for the homeowner to live while renting the primary dwelling. A common pattern is for ADU use to change over time, providing particular flexibility to support new homeowners, multigenerational households, and aging in place. For example, an older homeowner may construct an ADU initially for additional rental income to pay the mortgage, may use it to accommodate a live-in caretaker, or may subsequently move into the ADU to downsize while renting the primary house.

### What is an ADU?

Accessory dwelling units (ADUs) are small, self-contained homes located on the same property as a larger, principal home with their own kitchen, bathroom and sleeping area.

ADUs can be attached or detached, can be converted from existing structures or new construction.

They are also known by other names that reflect their various potential uses, including granny flats, in-law units, studio apartments and secondary dwellings.



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Since 1997, Metro has required jurisdictions to permit one ADU per single-family dwelling in single-family zones subject to reasonable siting and design standards. Almost all cities adopted ADU regulations immediately following, but interest among both jurisdictions and homeowners has varied over the past 20 years. Some codes have remained unchanged and unused, while others have undergone successive rounds of improvement as ADU development has expanded.

Portland is the most notable example in the region, where ADU growth has taken off concurrent with regulatory changes that expand ADU allowances and system development charge (SDC) waivers to reduce up-front costs for homeowner developers.

Other greater Portland cities have not seen similar rates of ADU construction despite adopting some measure of ADU regulations to meet Metro requirements. Since 2000, ADU development in jurisdictions outside of Portland ranges from 0 to 60 total ADUs (see Table 3).

Examples across the West Coast also add to the understanding of ADU regulations and development potential. Vancouver, BC is notable for allowing two ADUs per lot, with approximately 35 percent of existing single-family homes estimated to be ADUs. Research by Sightline Institute mapped ADU regulations across Washington, Oregon and Idaho, concluding that many cities allow ADUs but make it difficult for ADUs to be built at scale.

California passed a new statewide requirement for all cities to permit ADUs in an effort to jumpstart development and ease the housing crisis. These developments highlight increasing national interest in how ADUs can be integrated into communities to expand housing opportunities, strengthen neighborhoods, provide flexibility for homeowners and changing family dynamics and generate financial benefits for homeowners and renters.

In Oregon, Senate Bill (SB) 1051, which passed in 2017, is intended to support more affordable housing development across the state, and includes a requirement for virtually all cities and counties to allow ADUs with all single-family detached dwellings in single-family zones, subject to “reasonable local regulations relating to siting and design.”



The statutory provisions also require that ADU regulations be “clear and objective.” The Oregon Department of Land Conservation and Development (DLCD) has issued guidance on implementing SB 1051 requirements in local jurisdictions.

The DLCD guidance on ADUs supports a number of innovative practices, including permitting two ADUs per lot, removing off-street parking requirements and removing owner-occupancy requirements. This guidance goes beyond what many jurisdictions would have considered in the late 1990s when first drafting their ADU regulations.

Although the actual language of the SB 1051 ADU requirements is remarkably similar to the language from the 1997 Metro requirement, the requirement and deadline come at a time when there is increasing interest in ADUs and in affordable and varied housing options.

There is also 20 years of experience of ADU development to draw upon from the greater Portland region, the state and nationally, reflected in the DLCD implementation guidance and emerging recommendations about best practices for ADUs from think tanks such as Sightline Institute.

Meeting state requirements in 2018 is thus an opportunity for Metro jurisdictions to refresh existing regulations and innovate to better support ADU development.



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### ADU requirements timeline

**1997:** Portland allows ADUs by right

**1997:** Metro code requirement for all cities to permit one ADU per single-family dwelling in single-family residential zones

**2000:** Majority of Metro cities have adopted ADU regulations

**2010:** Portland SDC waiver for ADUs first passed, permits markedly increase

**2017:** State SB 1051 passes, requires majority of cities and counties to permit ADUs subject to “clear and objective” standards

**July 1, 2018:** SB 1051 effective date, deadline for cities to adopt or update ADU regulations

## Project approach and methodology

The code audit combined several layers of analysis of ADU regulations and development patterns to understand regulations as written and as applied. Audit findings across key issue areas are summarized in the *Code Audit Findings* section, incorporating insights from the regulatory code review and stakeholder interviews.

The first step of the code audit examined the published zoning codes, supplemented with review of land use application forms, fee schedules, and any other documents publicly available related to ADUs and SDCs for the 24 Metro cities and three Metro counties.

The code audit is based on regulations current as of March 31, 2018 when the audit was completed, however, many codes were already under review at the time of the audit to meet the SB 1051 effective date of July 1, with rolling adoption of new codes over summer 2018. Rather than making the audit a moving target, the audit matrix reflects the ADU regulations as they existed at the time; future work will include monitoring and evaluating new codes as they are adopted.

The evaluation matrix describes existing regulations across multiple categories for easy comparison between cities, and is intended to be both descriptive of the existing regulations as well as evaluative of whether the regulations support or inhibit ADU development, based on emerging best practices. Audit review categories were based on the requirements of state and Metro ADU mandates, and emerging best regulatory practices to support ADU development.



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Categories were derived from noted regulatory barriers to ADU development including off-street parking requirements, owner-occupancy requirements of the ADU or primary dwelling, total occupancy limits, restrictive dimensional standards including total square footage, and design compatibility requirements with the primary dwelling.

Additional review categories capture non-code related elements such as System Development Charges (SDCs) for ADUs, land use application materials, and availability of information materials for prospective ADU developers.

Basic demographic data including city size, average home price, and prevalence of single-family dwellings, from the 2016 American Community Survey, is provided for a quick snapshot of the conditions in which ADUs may or may not perform well.

The matrix incorporates both descriptive summaries of applicable regulations, as well as an evaluative component using a tri-color-coding system to evaluate the status of each aspect of the regulations, relative to emerging best practices and regulatory requirements, rather than attempting to score or rank jurisdictions. Green indicates compliance with a specific regulatory aspect, yellow indicates mostly in compliance with opportunities to reduce barriers, and orange indicates the greatest opportunities to remove barriers.

For example, any regulation that allows one ADU per lot rather than per single-family detached dwelling was flagged as orange, because of the SB 1051 legal requirement to permit ADUs on a per dwelling rather than per lot basis, but regulations that permit one ADU per dwelling rather than the recommended two per dwelling consistent with DLCDC guidance were flagged as yellow to indicate additional opportunity rather than lack of compliance.

Given the emerging consensus that off-street parking and owner-occupancy requirements are significant barriers to ADU development, both types of regulations were flagged as orange, as were any design standards requiring “similar” materials and character as the primary dwelling, which is contrary to the state requirement for clear and objective standards.

**Code audit matrix intended to be:**

*Descriptive:* capture the extent of ADU regulations that exist as of March 31, 2018.

*Evaluative:* compare existing regulations against state and Metro ADU requirements, and emerging best practices, in order to highlight opportunities for code updates that better support future ADU development.



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Stakeholder interviews were conducted with selected city and county planners and local ADU development professionals for additional insight into how the regulations function in practice.

The six representative jurisdictions were selected to include a variety of sizes, geographies, demographics, and ADU development trends; the six included City of Beaverton, City of Gresham, City of Lake Oswego, City of Wilsonville, Washington County, and City of Vancouver, WA.

ADU professionals interviewed were selected based on their experience developing or knowledge of ADU development around the greater Portland region beyond Portland, and included Dave Spitzer, with DMS Architects, Joe Robertson of Shelter Solutions, and Kol Peterson, author of “Backdoor Revolution: The Definitive Guide to ADU Development.”

Interviews were used for insight and general understanding, rather than for verbatim quotes.

A quantitative element of the project includes gathering data on ADU construction trends and SDC levels across jurisdictions to better understand the ADU development context and outcomes. Data on permitted ADU construction, estimated unpermitted ADUs and estimated level of interest was collected from multiple sources.

Data compiled by Metro’s Research Center as of February 27, 2018, was used as initial data for permitted ADUs built since 2000, and was supplemented with self-reported data from jurisdictions; individual jurisdictions relied on a range of permit data and other internal tracking metrics to provide estimates.

Results are shown in Table 3; in the event of conflicting totals, the higher figure was used provided it was deemed reliable. Jurisdictional estimates were also gathered for unpermitted ADUs and number of ADU inquiries to understand ADU interest beyond finalized permits; for example, a jurisdiction with a high level of interest but no or few final ADUs might indicate significant regulatory barriers. While anecdotal and impressionistic, the self-reported observations are summarized in Table 2.

Finally, SDC rates applied to ADUs were calculated based on published fee schedules where available, or through inquiries to jurisdictional staff in the planning or engineering departments. Because of the uneven availability of SDC rates, data is provided for a subset of Metro jurisdictions to illustrate the general range of SDC variation rather than fully catalogue SDC rates; see Table 1.

Given the relevance of the ADU code audit findings for jurisdictions currently amending their codes to address housing opportunities generally and the SB 1051 requirements specifically, the audit approach was also expanded midway through the project to incorporate outreach and technical assistance for Metro jurisdictions.

Representatives from nearly half of Metro cities and counties attended a workshop convened April 23, 2018, to share preliminary audit findings, and code audit advice from both the Metro and state perspective intended to inform code update efforts. Metro will offer continuing technical assistance with code amendment and implementation issues over the rest of the year, as detailed in Section 7 on next steps, and monitor ADU code updates to identify emerging trends and issues.

## Code audit findings

Comprehensive ADU regulations have been adopted in nearly every Metro jurisdiction, with limited exceptions, and address a similar suite of issues including dimensional standards, design standards, occupancy standards and permitting requirements.

Adopted regulations and practices are less consistent in addressing infrastructure requirements, including SDCs, and in providing application and informational materials for would-be ADU builders.

The most significant regulatory barriers to ADUs identified through the audit were owner-occupancy requirements, off-street parking requirements, and significant dimensional restrictions such as 20-foot rear-yard setbacks, one-story ADU height limits, or ADU size limits below 600 SF.

SDCs for ADUs were reported to have an outsize effect on discouraging ADU construction, however, even cities with reduced or eliminated SDCs did not report a significant boost in ADU permits, except for Portland. Conditional use review requirements are generally considered a barrier to ADUs, but none were observed in the greater Portland region.

One overarching trend is that cities appear to be learning from and copying each other, with certain code provisions repeated among neighboring cities, or even across the larger metropolitan area. For example, Tigard and Tualatin have similar provisions limiting ADUs to internal and attached ADUs, as do Gresham and Troutdale.

Many cities have nearly identical code language on required design elements. There may be a feeling of “safety in numbers,” with one city feeling more



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comfortable with certain provisions because they are already being used in a neighboring city with few apparent ill effects.

Another takeaway is the diversity of regulatory combinations and the resulting cumulative impact on ADU development feasibility. Codes generally fell along a spectrum from less supportive to more supportive depending on the exact mix of code provisions, rather than a dichotomy of prohibitive and permissive: jurisdictions do not seem to have taken an “all or nothing” approach but rather crafted codes to respond to local priorities.

Many codes excluded some of the most significant barriers but included one or more “poison pills” (such as those listed on page 12) that could nevertheless make it difficult to develop.

For example, West Linn has no owner-occupancy requirement but does have one minimum off-street parking space required and design compatibility standards. King City has no owner occupancy requirement and many sites are exempt from providing off-street parking, but the high minimum lot size to develop an ADU disqualifies many potential ADUs.

### Significant ADU regulatory barriers

- Off-street parking requirements, particularly if separate access is required and tandem parking is not permitted.
- Owner-occupancy requirements.
- Significant dimensional restrictions such as 20-foot rear-yard setbacks, one-story ADU height limits, or ADU size limits below 600 SF.
- Limiting types of ADUs, such as prohibiting detached ADUs.
- Design compatibility requirements with main dwelling.
- System development charges (SDCs).



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Portland is unique for having removed all of the most significant barriers, coupled with the current SDC waiver.

Among the codes outside of Portland, fewer barriers generally seem to support ADU development, such as examples in West Linn, Hillsboro and Wilsonville, compared to jurisdictions with several significant barriers that have seen limited ADU development.

#### A. Existence of Regulations

The vast majority of jurisdictions have code provisions to permit some type of ADU development. Of the 27 jurisdictions audited, only two jurisdictions did not have ADU codes: Multnomah County and Johnson City, both of which have unique factors limiting ADU development potential.

Multnomah County staff reports only 600 homes in urban areas of the UGB that could be eligible for ADU development. However, to comply with SB 1051 requirements, the County adopted ADU regulations on June 7, 2018, after the audit was completed, to permit ADUs within those urban areas.

No records were found for ADU regulations in Johnson City, home to approximately 500 residents where 90 percent of dwellings are manufactured homes, which are less likely to have flexibility for addition of an ADU, particularly those within manufactured home parks.

The majority of ADU codes were initially developed around 2000, and many have not been updated since. It seems likely that the frequency of updates and the number of ADUs built are directly related.

That is, the more ADUs are built, the more the code is examined and revised, whereas jurisdictions with no ADU development leave the code unchanged, potentially perpetuating barriers to development.

#### B. Number and Type of ADUs

The prevailing code approach is to permit one ADU per residential lot, including all types of ADUs. The majority of codes audited permit one ADU per lot, rather than per single-family dwelling as required by SB 1051.

This likely has a limited impact on actual ADU feasibility, given that most single-family houses are built on individual lots, but such language does not comply with state requirements. Only three jurisdictions clearly permit ADUs on a per dwelling basis rather than per lot. No codes permit more than one ADU per dwelling or per lot, however, several cities, such as Tigard and Portland, are considering whether to permit two ADUs per dwelling.

Most codes permit detached, attached, and internal ADUs, but a notable minority limit detached ADUs, potentially to encourage retention of garages for off-street parking or to minimize impact of ADUs by confining them within the existing dwelling.

Gresham and Rivergrove do not allow any detached ADUs unless over a garage. Tigard does not permit new detached ADUs, and prohibits garage conversions unless the garage is replaced. Troutdale and Tualatin prohibit all new or converted detached ADUs, and Troutdale further prohibits conversion of an attached garage for use as an ADU.

### C. Where Allowed

All codes allow ADUs in all or almost all single-family detached residential districts, and most allow ADUs in all zones where single-family detached residences are permitted even if it is not a primary use.

The limited exceptions tend to be zones with narrow applicability, such as overlay zones or subdistricts, or unique situations such as an overwater zone in Lake Oswego where homes are only allowed on pilings over water and ADUs are not permitted.

Additional borderline situations included ADU limitations in zones where existing homes are explicitly permitted but no new ones are allowed, in mixed-use zones where single-family detached dwellings are permitted as part of a larger mix of uses, and for lots with attached single-family dwellings.

The majority of jurisdictions prohibit ADUs in these situations, which fall outside of state and Metro requirements to allow ADUs in zones where single-family detached dwellings are permitted. A small minority of jurisdictions has explicitly permitted ADUs in such situations to expand ADU development potential.

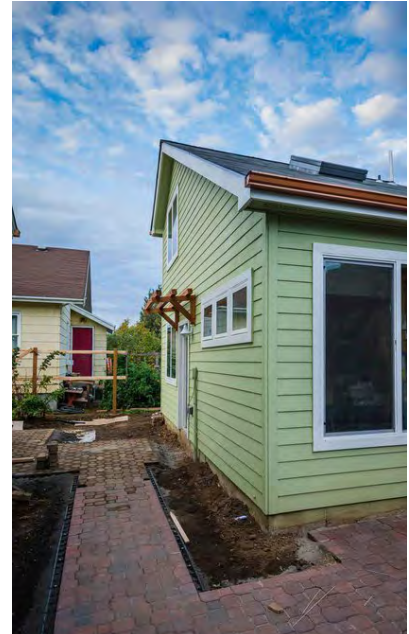


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For example, Wilsonville, Clackamas County and Hillsboro permit ADUs with attached single-family dwellings as well as detached dwellings. Washington County is unique in permitting ADUs as part of some cottage housing developments.

Caution: Some regulations intentionally or inadvertently disqualify many existing lots from developing ADUs, even if ADUs are a permitted use, through minimum lot size requirements or nonconforming lot limitations, and this may not be fully captured in the code audit matrix in Appendix A.

An example of the former is King City. ADUs are permitted in all zones where single-family detached dwellings are permitted, but ADUs are only permitted on lots 7,500 SF or larger while minimum lot sizes for the residential zones range from 2,400 to 5,000 SF. Thus, few existing lots are likely to meet the minimum lot size requirements for ADUs.

Codes were mostly silent on whether nonconforming lots, that is, legally created lots that are smaller than the minimum lot size under current zoning, could be developed with an ADU. Hillsboro directly addressed the issue by limiting ADUs to lots that meet the minimum lot size, and many other jurisdictions may interpret their nonconforming standards to similarly prohibit ADUs on nonconforming lots.

As a practical matter, smaller lots may not have room to add ADUs regardless of the zoning; Wilsonville noted that many new, master planned developments with intentionally smaller lots and higher lot coverage were not conducive to adding ADUs because of lack of available lot area.

#### **D. Dimensional Standards**

Dimensional standards apply to the size of the ADU and to where on the lot ADUs may be placed. ADU dimensional standards were evaluated for impacts to ADU development feasibility, and compared to dimensions for the primary dwelling and other accessory structures to understand the relative flexibility of ADU standards. Many codes default to the same dimensional standards as the primary dwelling, or to the standards for other detached accessory structures. Though using similar standards may seem reasonable, in practice they can be difficult to interpret or inappropriately scaled for ADU construction.



### *Setbacks*

Setbacks generally default to those for the primary dwelling or for similarly sized accessory structures. A quarter of jurisdictions has an additional standard requiring detached ADUs to be set back relative to the primary dwelling, measured in a variety of ways including minimum setback from the front property line, from the rear of the primary dwelling, or from the front façade of the primary dwelling.

No jurisdictions differentiate rear and side setbacks for ADUs, instead using standards for primary dwelling or accessory structures. Base zone setbacks were not fully audited as part of this project, but merit further review by individual jurisdictions to ensure they are not overly restrictive for ADU development.

A limited survey of setbacks showed that 20 to 25-foot rear setbacks apply in many single-family dwelling zones, which ADU developers report can be a significant obstacle to fitting a detached ADU on a standard lot. Some cities tie detached ADU setbacks to those for accessory structures, which generally require a greater setback for larger and taller structures; ADUs are typically larger than garden sheds or greenhouses, however, and few would likely qualify for the reduced setbacks.

One unique approach to ensure adequate yard space without a uniform rear setback is a minimum outdoor space standard, used by Washington County and Portland, which requires a yard meeting a minimum total size and minimum dimensions, but with the flexibility to locate the yard anywhere in the side and rear setbacks which frees up portions of the remaining side and rear setbacks for siting an ADU.



*Photo credit: accessorydwellings.org*

*Height*

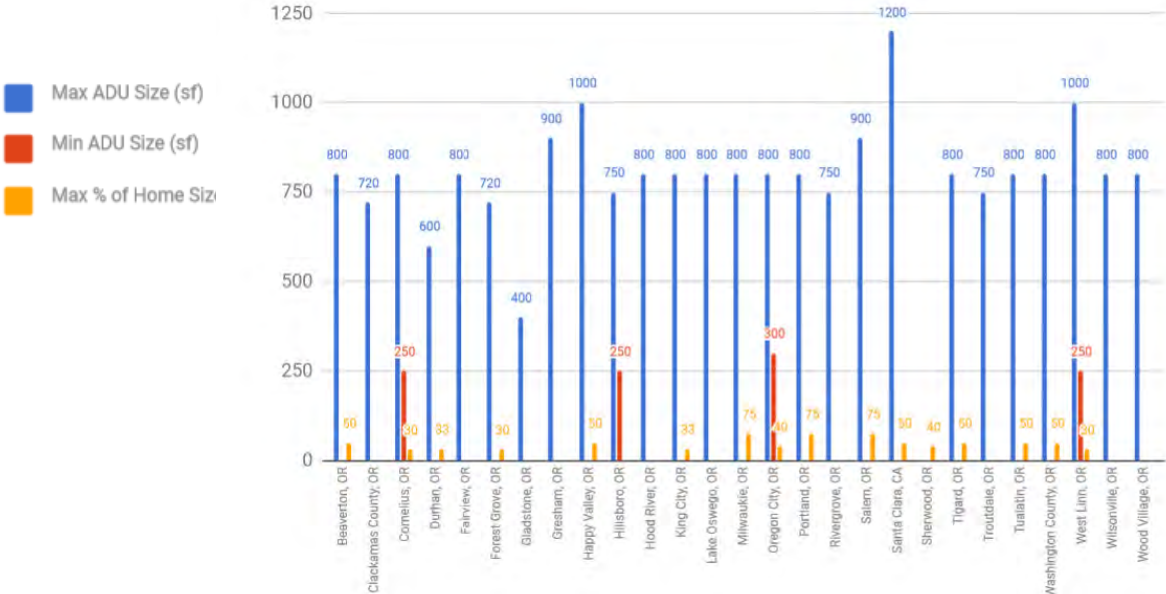
For detached ADUs, the most common height standard is 20 to 25 feet, in line with best practices to permit two-story and over-garage units. There are a few outliers limiting height to 12 to 15 feet or one story, which is not recommended. ADU developers report that two-story ADU construction is a desirable option for some lots in order to minimize the ADU footprint.

A few cities have tiered height standards, with taller heights allowed through a more detailed review process (Milwaukie) or outside of setbacks (Portland). Almost all codes limit height for attached and internal ADUs to the same height as the primary dwelling, typically meaning the maximum height permitted in the underlying zone but a few codes, such as West Linn’s, specifically limit ADU height to the height of the existing primary dwelling.

*Unit size*

The large majority of jurisdictions uses a maximum building size limit of 720 to 1,000 square feet for ADUs, with 800 square feet the most common maximum size. About half of the jurisdictions also ties the maximum size to a percentage of the primary dwelling’s size ranging from 30-75 percent; this is generally intended to keep ADUs in proportion to existing development.

Figure 2: ADU size regulations. Source: Multnomah County Department of Community Services Land Use Planning Division



In practice this limitation has equity implications because it disproportionately limits ADU development on lots with smaller dwellings, typically owned by lower-income households, with no impact on larger homes owned by higher-income households. A few codes included size restrictions by type of ADU (attached or detached) or zone where the ADU is built, or maximum number of bedrooms.

### *Lot Coverage*

All cities default to the maximum lot coverage standards allowed in the base zones, to include the total coverage of the primary dwelling, ADU and any accessory structures, except Portland which specifically limits ADUs and all detached accessory structures to a combined 15 percent lot coverage.

A representative sample of base standards indicated that many jurisdictions limit lot coverage to 30-40 percent, which may be a tight fit for a home and ADU. For example, West Linn limits lots in the R-7 zone to combined 35 percent lot coverage and 0.45 FAR, which would translate to 2,450 SF lot coverage and 3,150 total SF for the primary dwelling and ADU. While not overly restrictive, some sites potentially near these limits could benefit from additional flexibility. For example, Milwaukie permits a 5 percent increase in lot coverage for detached ADUs.

### **E. Occupancy Quotas**

Over two-thirds of jurisdictions have no stated limit on ADU occupants and treat an ADU as a dwelling – similar to any other dwelling such as a house or apartment – that may be occupied by a ‘family’ or ‘household’, typically defined as any number of related individuals or up to five unrelated individuals. While most jurisdictions thus allow two ‘families’ to occupy the lot where the ADU is located, Portland, Sherwood and Wood Village limit occupancy to one family/household quota shared between the ADU and primary dwelling.

This limitation is likely intended to keep total site occupancy at a level comparable to other properties in the neighborhood developed with a single-family dwelling. The remaining handful of jurisdictions use a variety of regulations to limit occupancy, either an overall limit of two to three occupants or an allowed ratio of one occupant per 250 SF.

### **Unique ADU regulations**

- Yurts may be used as an ADU, exempt from design standards. (Milwaukie)
- 15 percent size bonus for ADA-accessible ADUs. (Washington County)
- Six total off-street parking spaces required to serve primary dwelling and ADU, including three covered, enclosed spaces. (Rivergrove)
- 7,500 SF minimum lot size to develop ADUs, when minimum lot sizes for affected zones range from 2,000 to 5,000 SF. (King City)
- Windows must be arranged above ground level when located within 20 feet of the property line. (Milwaukie)

These regulations may have a cascading impact, exemplified by West Linn: occupancy is limited to one person per 250 SF, and a maximum permitted ADU size of 1,000 SF could accommodate four occupants, except that detached ADUs are limited to 30 percent of the primary dwelling size, such that only a 3,333 SF primary dwelling would qualify for a 1,000-SF, four-person ADU. With a maximum of 0.45 FAR permitted, only lots close to 10,000 SF could accommodate the combined dwelling and ADU, and smaller lots would be effectively limited to fewer ADU occupants.

In practice, few cities actively enforce occupancy limits for any type of dwelling, including ADUs, and ADU occupancy rates are not likely to exceed occupancy limits due to their small size. There were no reported code enforcement concerns around occupancy limits among the jurisdictions interviewed.

### **F. Design**

The large majority of codes require some degree of design compatibility between the ADU and the primary dwelling. Most of those list specific elements, from siding materials, eave depth, colors, roof form and materials to window treatments and proportions, that must be compatible; this specificity about elements helps make the code more objective, but many codes still use vague, discretionary language requiring those elements to be consistent with the primary dwelling.



*Photo credit: accessorydwellings.org*

Though the approach is similar, the precise code wording varies across jurisdictions: design elements are required to be “similar,” “consistent,” “same or similar,” “the same or visually similar,” “match,” “generally match,” “match or be the same as,” “compatible,” “same or visually match,” “substantially the same,” “conform to the degree reasonably feasible,” or be “architecturally consistent.”

Only five jurisdictions have no design compatibility standards, and an additional three only apply compatibility standards to attached ADUs. One specific design element required by many codes is to restrict any new street-facing entrances for the ADU, presumably to preserve the single-family ‘character’ of homes.

While design compatibility is generally identified as important for maintaining neighborhood character, both ADU developers and regulators noted that it can limit design options, particularly in cases where the primary dwelling design may not be high quality, and it can be difficult to demonstrate whether a particular design does or does not satisfy the standard. Design standards will be under heightened scrutiny to meet new state requirements for “clear and objective” standards.

### **G. Comparison to ADU alternatives**

To understand the relative complexity of standards and processes for ADUs, the audit reviewed requirements for similar projects including home additions, new detached accessory structures such as garages and guest houses. There is potential concern that non-ADU standards that are significantly more permissive than ADU standards may incentivize construction of illegal ADUs in accessory structures as an easier work-around.

The main points of comparison were dimensional standards, design requirements, permitting requirements, and SDCs. Dimensional standards for accessory structures are largely similar to those for ADUs of comparable size; many accessory structure standards include reduced setbacks proportionate to the size of the structure, such as a 3-foot setback for a 200-SF structure, but no relative reduction for larger accessory structures compared to ADUs.



Photo credit:  
[accessorydwellings.org](http://accessorydwellings.org)

In some instances the ADU standards are more generous, with ADU standards notably allowing detached structures closer to 800 SF and accessory structures often limited to 400-500 SF. However, there are almost no design standards for accessory structures compared to ADUs, and no land use permitting required, which could make the accessory structures relatively easier to construct.

SDCs associated with ADUs were reported as a primary deterrent to submitting a project as an ADU rather than an accessory structure or addition. In interviews, many jurisdictional staff were familiar with this type of project – one called such projects the “everything but” meaning “everything but” a stove and oven, since adding a stove meets the definition of a permanent cooking facility, thus meeting the definition of a dwelling unit and an ADU. Other jurisdictional staff described a surprising number of homeowners submitting permits for pottery studios, complete with a 220V plug needed for the pottery kiln, which coincidentally is the same plug needed for an oven.

Jurisdictions were asked to estimate the number or ratio of unpermitted ADUs to permitted ADUs to better understand the relative temptation of “everything but.” Nearly every jurisdiction had an example of one or two that were addressed through code enforcement, but no jurisdictions reported a wide-spread, prevalent trend of unpermitted ADUs masquerading as accessory structures or home additions.



*Photo credit: accessorydwelling.org*

Several cities also permit guest houses, similar to ADUs but without permanent cooking facilities and sometimes with occupancy time limits. Of the five cities and counties that permit guest houses, the guest houses are typically allowed under similar situations as ADUs, but would be exempt from SDCs.

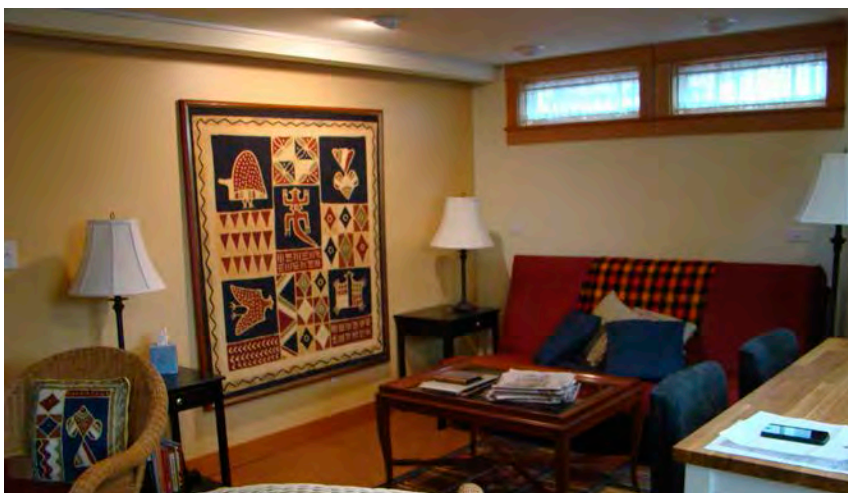
However, none of these jurisdictions reported significant numbers of known guest houses, either because they are less understood or less desirable without a kitchen. Guest house standards are evenly split on whether a guest house is permitted in addition to an ADU or not.

### **H. Occupancy limits**

Just over half of jurisdictions require owner occupancy of either the primary dwelling or the ADU, and half of those jurisdictions require a recorded deed restriction to that effect. No owner-occupancy limits were identified for other types of dwellings.

A few jurisdictions permit minor permutations of the owner-occupancy requirements to permit a family member to occupy the owner unit, or to limit required residency to seven months of the year provided the owner-occupied unit is not rented out during the remainder of the year.

Washington County has a unique provision requiring owner occupancy unless the property is owned by a nonprofit serving persons with a developmental disability; staff explained that the provision was developed for a local nonprofit to facilitate a specific project that has since been built and is operating successfully.



*Photo credit: accessorydwellings.org*



Photo credit:  
[buildinganadu.org](http://buildinganadu.org)



Photo credit:  
[accessorydwellings.org](http://accessorydwellings.org)

Owner-occupancy requirements are unique in that they create an ongoing use restriction rather than a standard that can be evaluated at a single point in time, requiring ongoing monitoring and potential code enforcement actions. Jurisdictions reported that owner occupancy enforcement rarely came up for ADUs, except in individual code enforcement cases.

Owner-occupancy regulations have a mix of potential impacts on ADU development feasibility. In the initial stage, many homeowners may not have any concerns about the owner-occupancy requirements because many do intend to continue living in their homes, though some express reservations or concerns about the limitations or the deed restriction requirements.

More significantly, however, the restrictions can reduce the assessed value of the ADU under many financing and assessment methodologies, making it more difficult to obtain financing for initial ADU construction and limiting property resale value in the long-term.

Owner-occupancy restrictions are often promoted as a tool to limit short-term rentals of ADUs. Only Portland and Milwaukie have developed specific short-term rental regulations to specifically address concerns around short-term rentals, and they regulate ADUs the same as other dwellings.

Concern about ADUs being used a short-term rentals, and desire for ADUs to be reserved for long-term housing, informed the recent Portland measure to permanently waive SDCs for ADUs—provided that homeowners sign a deed restriction prohibiting short-term rentals.

ADU developers report that some of their clients have in fact use their ADUs for short-term rentals for a limited time, primarily as a way to recoup some of costs associated with building the ADU, but that many then transition to long-term rentals or use by family members.

### **I. Off-street parking**

The large majority of jurisdictions require off-street parking for ADUs, with additional parking locational standards that can significantly affect the overall impact of the off-street parking requirements.



The most common requirement is one off-street parking space for an ADU, reported in three-quarters of jurisdictions, though over one-third of those had an option to waive the off-street requirement if on-street parking was available adjacent to the site. Three jurisdictions had no off-street parking requirement for ADUs: Portland, Durham and King City.

When considering the total impact of off-street parking requirements for the site, just over half of jurisdictions require a total of two off-street parking spaces for the ADU and primary dwelling, while nearly a third of jurisdictions require more than two total off-street parking spaces. More than two spaces may have greater impacts on feasibility of ADU development because of the greater site area required for parking.

Rivergrove had the highest total parking requirement, six spaces total for a primary dwelling and for an ADU with one bedroom, including three covered, enclosed parking spaces, and even more parking for larger ADUs.

There is significant diversity and complexity of parking-related regulations, some that lessen and others that increase the impact of off-street requirements. Supportive regulations include allowing the portion of the driveway in the yard setbacks to count towards required parking spaces, allowing tandem parking to count multiple parking spaces in the driveway, and most significantly allowing adjacent on-street parking to fulfill ADU parking requirements, effectively eliminating the off-street parking requirements for many sites.

Problematic regulations include requiring covered, enclosed parking spaces, requiring replacement of any garages converted to an ADU, requiring separate driveway access for the ADU and primary dwelling parking, and prohibiting parking in the first 10 to 20 feet of the driveway. Parking standards that require a range of parking spaces for dwellings are also concerning as they create uncertainty and could be used to effectively block ADU development.

An example is Gresham's requirement for one space for the ADU and two to three spaces for the primary dwelling, or "as many spaces deemed necessary by reviewer to accommodate the actual number of vehicles" for the ADU and primary dwelling.



Photo credit:  
[buildinganadu.org](http://buildinganadu.org)



Photo credit:  
[buildinganadu.org](http://buildinganadu.org)

Off-street parking requirements were identified by ADU developers as one of the top barriers to ADU site development feasibility, though jurisdictional staff had mixed reports about the perceived impact of parking requirements for homeowners in their jurisdictions depending on prevalent lot sizes and common expectations of car usage and parking availability.

### **J. Other zoning standards**

There were a limited number of special concerns outside of the main categories and there was general convergence on the topics included in ADU regulations. The most common issue addressed is privacy and screening between an ADU and neighboring single-family properties, including either minimum 4 to 6-foot tall fencing or landscaping requirements or more discretionary standards for an “appropriate” level of screening, included in regulations in Happy Valley, Lake Oswego and Milwaukie. One-off regulations, addressed in only one or two jurisdictions, included:

- Limiting types of home occupations permitted with ADUs (Portland, Tigard)
- Explicitly permitting simultaneous construction of ADUs and primary dwellings (Sherwood)
- Prohibiting occupation of an ADU before the primary dwelling (Gresham)
- Limiting ADUs to 50 percent of the lots per block face (Fairview)
- Prohibiting land division or separate ownership of ADU and primary dwelling (Sherwood, Tualatin)

Few of these concepts emerged as either critical needs or concerns for jurisdictional staff or ADU developers, and were likely developed in response to specific local issues. ADU developers did identify permitting simultaneous construction and occupation of ADU prior to the primary dwelling as supportive practices, particularly in communities with significant new construction, but acknowledged these as “extra” rather than central requirements.

## K. Application requirements

Three-quarters of jurisdictions require some type of land use review in addition to building permit review; a handful either have a combined land use and building permit review option or simply require building permit review.

Of those requiring land use review, jurisdictions are split nearly evenly between requiring Type I – an administrative review with no discretion applied by the staff reviewer – and Type II land use review, which requires the staff reviewer to apply limited discretion to interpret standards and allows for a written public comment period.

Slightly more than half of jurisdictions required a Type I review, with the other half requiring a Type II or higher level review for some or all ADUs. Some triggers for higher-level review include larger ADUs, taller ADUs, detached ADUs, or ADUs located in specific zoning districts. Cities requiring Type II review generally had more discretionary or onerous ADU regulations, such as design compatibility requirements.

No jurisdictions uniformly require conditional use review, the most onerous review type involving a public hearing and documentation of how the ADU would not impact neighboring properties, though Cornelius requires it in limited circumstances and Rivergrove requires Planning Commission review of all ADU applications.

## L. Infrastructure requirements

The code audit examined jurisdictional regulations on infrastructure improvements required with ADUs including any separate water and sewer connection requirements, stormwater treatment requirements for additional impervious surface, or street improvements if lot frontage is currently substandard.

Over two-thirds of ADU regulations do not specifically address these infrastructure requirements, and those regulations that were identified generally state that infrastructure improvements are required on a case-by-case basis to ensure adequate capacity to serve the site.

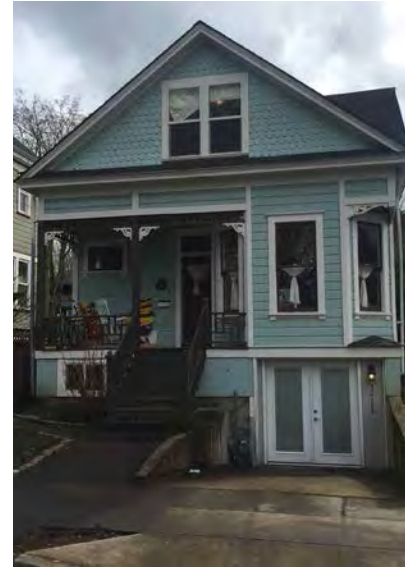


Photo credit:  
[buildinganadu.org](http://buildinganadu.org)



In part this highlights the different regulatory approaches for land use and public works issues. Sewer and water capacity, stormwater treatment requirements, and street improvement requirements are generally site-specific, or may be addressed through more general policies rather than ADU-specific policies.

For example, Portland ADU standards include a cross-reference to stormwater treatment requirements for any development creating 500 SF or more of new impervious surface, for all development types not just ADUs.

More commonly, utility requirements and thresholds triggering improvements are included in separate code chapters and not explicitly referenced in ADU standards; those thresholds typically apply to total size or value of new construction, and as such are not ADU-specific, making it more difficult to identify such standards.



For example, Oregon City's code chapter on street and sidewalk improvements requires that new construction or additions to single-family homes that exceed 50 percent of the existing square footage trigger street and sidewalk improvements, if needed; ADUs will likely not trigger such improvements because ADU size is limited to 40 percent of the existing square footage, but the policy does not clearly exempt ADUs. Milwaukie staff noted that new frontage improvements can be triggered by ADU construction, and are a significant obstacle to ADU development.

Another complication in determining infrastructure requirements is that many jurisdictions, particularly smaller suburban districts, are served by a combination of city and district utility providers, such as Clean Water Services which provides sewer and stormwater services to many cities and unincorporated areas in Washington County, so district standards for utility improvements are not regulated at the local level.

Unfortunately, the application of non-ADU specific engineering standards, sometimes administered by utility providers unaware of ADU-specific issues, means that utility improvement requirements for ADUs generally boil down to "it depends," and could not be fully captured in this audit.

Photo credit:  
[buildinganadu.org](http://buildinganadu.org)

**M. System development charges**

SDCs are one-time fees assessed on new development intended to support expanded infrastructure capacity needed to serve said development. SDCs or similar one-time development fees for residential development including ADUs are typically assessed for water, sewer, transportation, parks, schools, and sometimes for stormwater. ADU developers and jurisdictional staff repeatedly identified high SDC rates as a barrier to ADU development, citing concern that adding \$10-20,000 in fees to ADU projects overran many project budgets and homeowners' willingness to pay.

**Table 1:** Total SDCs applied to new ADUs for selected Metro jurisdictions

	<b>SDCs</b>	<b>Notes</b>
Hillsboro	\$0	City practice is to not apply SDCs at this time
Portland	\$0	Temporary waivers since 2010, made permanent in 2018 for ADUs not used as short-term rentals
Rivergrove	\$0	No SDCs assessed for individual dwellings, only for subdivisions
Tigard	\$0	City practice is to not apply SDCs at this time
Tualatin	\$0	City practice is to not apply SDCs at this time
Wilsonville	\$0	Permanent waiver since 2010
Wood Village	\$0	For sole permitted ADU to date, a converted space above a garage. SDCs for single-family dwellings would be applied to ADUs in new structures.
Fairview	\$2,417.43	Includes parks and stormwater.
Gresham	\$4,729 - 7,823	Includes parks, transportation and stormwater. Higher fees associated with detached ADU
Happy Valley	\$5,512	Includes transportation and parks.
Beaverton	\$10,823 - 11,831	Higher fees associated with detached ADU
Oregon City	\$14,547	Includes sewer, transportation, and parks. Water may be additional depending on meter size.
Forest Grove	\$15,143 – 22,171	Higher fees assessed for detached ADUs.
Washington County	\$15,600	Average, can range from \$6,000 to 25,000. Estimate includes transportation, parks, and schools. Water and sewer possible but rarely triggered.
Lake Oswego	\$21,324	Includes water, sewer, parks and transportation.

Source: Self-reported by jurisdictions in response to audit inquiry May 2018.



Photo credit:  
[accessorydwellings.org](http://accessorydwellings.org)

SDCs are typically due at the time a building permit is issued, meaning that would-be ADU developers must write a check for the full amount before even beginning the project. For infrastructure services, that can be difficult to appreciate, particularly in developed neighborhoods where fees are not immediately translated into additional infrastructure.

SDC price sensitivity is compounded by relative difficulty determining SDC rates. Almost no cities have developed ADU-specific SDC rates, and few offer clarification on which of the existing residential SDC rates apply to an ADU. SDC rates are typically found outside of land use standards, in master fee schedules, info sheets, or fee calculators.

ADU-specific rates or clear explanation of which SDC rates applied to ADUs were identified in the audit for a handful of cities, but the majority of cities did not have clear information available about which category of rates (single-family, multifamily, townhouse or other) to apply to ADUs without specific guidance from jurisdictional staff.

Often planning staff needed to refer to public works departments to provide estimates. There were many variables that may influence the total SDCs for a given ADU even within the same city. Similar to infrastructure improvements noted above, SDCs can be a combination of charges assessed by city and utility service providers, each using different methodologies and adding additional complexity to determining ADU rates.

A representative sample of SDC rates for ADUs reveals a wide range of rates applied to ADUs, from zero to over \$20,000, and the details behind the totals capture a variety of methodologies used to develop those totals.

Only two cities, Portland and Wilsonville, explicitly offer an SDC waiver for ADUs, and an additional five cities reported assessing no SDCs for ADUs as a matter of practice. To add nuance to the common perception that SDCs are a significant barrier to ADU construction, ADU development trends in Portland and Wilsonville under similar SDC waivers have produced differing results. SDC waivers are largely credited with spurring ADU development in Portland: development increased from approximately 50 to 500 ADUs permitted annually after SDCs were waived in 2010.

However in Wilsonville, only seven total ADUs have been permitted since 2000 with no noticeable uptick in permits after the SDC waiver took effect in 2010. In addition to significant real estate market differences between the two cities, another difference that may relate to these divergent outcomes is that Portland's waiver was heavily publicized and was intended to be temporary – though was in fact extended multiple times – fueling a “beat the deadline” mentality.

In comparison, city practices to not assess SDCs in cities from Hillsboro to Tualatin have not been publicized and were only identified in audit research through discussion with cities, perhaps limiting their efficacy as an ADU development incentive.

#### **N. Information and incentives**

The availability of online information varied greatly between jurisdictions, but generally was minimal. All jurisdictions with adopted ADU regulations made those regulations available online, though some were harder to find than others and all required navigating through the municipal code to locate relevant sections. The audit specifically identified information written for prospective developers explaining the ADU regulations and permitting requirements.

ADU developers cited Portland's ADU website as the best local example, providing centralized, ADU-specific information including an overview of requirements, worksheets, application forms, and explanation of the permitting and inspection process.

Informational materials available online, specific to ADUs, were identified in slightly less than half of local jurisdictions; the



*Photo credit: accessorydwellings.org*

breadth and depth varied widely from a one-page info sheet summarizing land use code requirements for accessory structures generally with a few lines about ADUs, to a comprehensive packet with diagrams and checklists.

The most comprehensive materials detailed site requirements, ADU regulations, permitting procedures including any necessary application forms, and fees including SDCs. Of the information available, nearly all was specific to land use regulations with little available on engineering or building-related requirements.

## Related issue: CC&Rs' Impact on ADU Feasibility



Photo credit:  
[accessorydwellings.org](http://accessorydwellings.org)

Codes, covenants and restrictions (CC&Rs) are a set of rules and limits imposed on a residential development by the Homeowners Association (HOA), in which all homeowners agree to abide by certain standards for the neighborhood. CC&Rs are a private contract between homeowners and HOAs, separate from local zoning regulations, meaning that the jurisdiction cannot override CC&Rs nor can they enforce them. Generally CC&Rs can be more restrictive than local zoning regulations, but not less. Only HOAs have the power to amend CC&Rs.

Existing CC&Rs may prevent ADU development. A small sampling of Metro-area CC&Rs indicated that CC&Rs have moderate variation over time, depending on the era and place when they were recorded, and there was no single format. Generally the sampled CC&Rs included residential use and structure restrictions, which could be interpreted to restrict additional dwelling units such as an ADU, though none addressed ADUs explicitly.

Identified standards included:

- Properties limited to residential use only.
- Structures limited to one residential dwelling and accessory structures, restricted in the most limited version to “One single-family dwelling...designed for occupancy by not more than one family, together with a private garage.” Even without the one family restriction, such structural restrictions would make it difficult to build a detached ADU.
- Garage use limited to vehicle parking only, or other restrictions on parking in driveways or on the street that would compel use of garages for vehicles and effectively prohibiting conversion into an ADU.
- Architectural review required for any site improvements, which is inherently discretionary and could be used by the review board to deny any ADUs. For example, review intended to “assume quality of workmanship and materials and harmony between exterior design and the existing improvements and landscaping.”



There has been significant interest in whether CC&Rs generally prohibit ADUs, whether jurisdictions can override any such restrictions, and how widespread any such limitations on ADUs may be. Jurisdictions could consider an educational effort to engage interested homeowners to amend the CC&Rs for their neighborhood, but it would be an individual rather than comprehensive strategy outside of the jurisdiction's typical activities.

Jurisdictions may have the opportunity to limit any CC&Rs provisions for new development that interfere with ADU development. For example, the City of Medford requires that:

“A development’s Conditions, Covenants, and Restrictions (CC&Rs) or similar legal instrument recorded subsequent to the effective date of this ordinance shall not prohibit or limit the construction and use of ADUs meeting the standards and requirements of the City of Medford.” (MMC 10.821(9).)

There is no simple measurement of the effect of CC&Rs on potential ADU development feasibility. Generally suburban jurisdictions with high growth rates over the past 30 to 40 years fueled by greenfield development of large parcels are estimated to have a higher percentage of homes subject to CC&Rs that might inhibit ADU development compared to older, more urban communities with development limited to smaller infill sites, notably Portland.

The first challenge would be to determine how many single-family detached homes in a jurisdiction, or the Metro UGB more broadly, are subject to CC&Rs, which could be estimated based on the ratio of overall residential permit data and recorded subdivision plats, with the assumption that all subdivisions were subject to CC&Rs.



Photo credit: [accessorydwellings.org](http://accessorydwellings.org)

The second step would be to estimate how many of those CC&Rs might be interpreted to restrict ADUs, possibly by making assumptions about prevailing practices specific to the era in which the CC&Rs were recorded.

A related consideration should be whether there are significant differences between typically development patterns of CC&R-restricted communities, compared to those of non-CC&R-restricted communities that might make it less likely or feasible for an ADU to be built in those communities regardless of any CC&R restrictions.

For example, city staff in Wilsonville reported that they see most ADU permits in the Old Town area because homes were built on lots with enough remaining area capable of accommodating an ADU.

In contrast, many of the homes such as those in the recent 2,700-unit Villebois development, are built on smaller lots with reduced setbacks, such that an ADU could only be added by converting a portion of the existing home rather than adding a detached or attached structure.

## Regional ADU development trends

A comparison of data on permitted ADUs, unpermitted ADUs, and inquiries around ADUs provides additional insight into the ADU development climate, and any potential impacts of ADU regulations to support or restrict development.

**Table 2:** Over-the-counter inquiries related to ADUs for selected jurisdictions

Jurisdiction	Estimated ADU Inquiries	Notes
Beaverton	One per week	Approximately one in 50 inquiries lead to permitted ADUs
Fairview	One per 1-2 months	
Forest Grove	A couple per month	Very few are permitted due to the required SDCs
Gresham	5% of counter inquiries related to ADUs	Approximately 10-20% of inquiries lead to permitted ADUs
Happy Valley	Unknown	One in 10 inquiries may lead to permitted ADUs
Hillsboro	10 inquiries per month	One in three inquiries may submit an ADU application
King City	No interest	
Lake Oswego	Unknown	7 out of 22 projects that completed pre-application conference have resulted in permitted ADUs since 2012.
Milwaukie	High level of interest	Many choose not construct ADUs due to SDCs, owner-occupancy requirements, frontage improvements.
Oregon City	A few per week	Vast majority do not go on to construct ADUs, often choose an accessory structure without a full kitchen instead.
Rivergrove	2-3 in the last year	
Troutdale	Greater interest in tiny homes than ADUs	
West Linn	Increase in the past year, but not a lot	
Wilsonville	Limited interest	
Wood Village	Increased interest over the past two years	
Washington County	1-2 inquiries per day	

Source: Self-reported by jurisdictions in response to audit inquiry May 2018; not all jurisdictions provided estimates.

**Table 3:** Total permitted ADUs by jurisdiction ranked by ADU adoption rates, approximately 2000 to 2018

Jurisdiction	Total Permitted ADUs	Adoption Rate (ADUs per 1,000 population)	Notes
Forest Grove, OR	0	0	Metro data; local permit data does not differentiate ADUs
Gladstone, OR	0	0	
Johnson City, OR	0	0	ADUs are not permitted
King City, OR	0	0	
Maywood Park, OR	0	0	
Rivergrove, OR	0	0	
Tualatin, OR	0	0	
Gresham, OR	7	0.06	
Troutdale, OR	1	0.06	
Cornelius, OR	1	0.08	
Lake Oswego, OR	7	0.18	From 2012-2017
Beaverton, OR	19	0.2	
Sherwood, OR	5	0.26	
Wilsonville, OR	7	0.32	
Milwaukie, OR	9	0.44	
Hillsboro, OR	47	0.47	
Wood Village, OR	2	0.5	
Tigard, OR	26	0.51	
Happy Valley, OR	10	0.57	
West Linn, OR	15	0.57	From 2012 to 2018
Oregon City, OR	23	0.66	
Durham, OR	1	0.71	
Fairview, OR	7	0.76	
Portland, OR	2,686	4.33	
Clackamas County	Not available	0	
Multnomah County	0	0	Not permitted
Washington County	60	Not available; population estimate of non-urban population within Metro limits not available.	Includes 6 guesthouses, similar to ADUs. May include ADUs outside of Metro UGB.

Source: Metro and self-reported by jurisdictions in response to audit inquiry May 2018; in the case of differing estimates, the higher was used. Population data from 2016 American Community Survey.



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Jurisdictions self-reported estimated levels of ADU interest described by many as relatively high, though with significant variation, and relatively low rates of permitted ADUs resulting from those inquiries.

Some of the reported interest levels are significantly higher than actual ADU production to date, as shown in Table 3, but should be understood as general estimates intended to capture broader trends.

Total permitted ADUs around the region remains relatively low outside of Portland. Portland ADUs total an estimated 2,686 permitted since 2000, with 247 permitted ADUs in all other Metro-area jurisdictions combined. Though total numbers would be expected to vary based on the different sizes of respective cities, ADU rates relative to population are also proportionally high for Portland compared to all other jurisdictions, with 4.33 ADUs per 1,000 residents in Portland compared to 0 to 0.76 ADUs per 1,000 residents outside of Portland.

Variation between cities is difficult to parse, and more difficult still to associate with ADU regulatory practices. Conclusions are further limited by potential limits of the self-reported data; though deemed the best available data source, quality varied widely from cities with spreadsheets tracking ADU permits to looser estimates, making significant comparisons between cities on the basis of ADU development rates less reliable.

One predominating trend is that one-third of cities have no permitted ADUs at all. It is unclear how much of the variation among non-Portland jurisdictions with at least one permitted ADU since 2000 can be attributed to presence of supporting ADU regulations, or absence of regulatory barriers.

Higher rates of ADU development might be expected for jurisdictions notably lacking in barriers, such as Wilsonville and Hillsboro that do not charge SDCs for ADUs. Both cities report middle-of-the-pack ADU permits and ADUs per 1,000 residents, lending some support to the theory, but the data is simply too limited to draw such conclusions.

West Linn has generally more restrictive ADU regulations on paper, but a higher ADU adoption rate than either city.

In several jurisdictions including Tigard and Oregon City, a relatively high percentage of the total ADUs are attributable to one new development that elected to construct ADUs simultaneously with new homes.

Research also explored the estimated number of unpermitted ADUs in each jurisdiction. Relatively low numbers of reported unpermitted ADUs – those that function as ADUs but were not permitted as such – may indicate limited regulatory barriers to legal ADU development, or lower levels of ADU interest.

Relatively high numbers of unpermitted ADUs might indicate a desire for ADU development but significant regulatory barriers to permitting them; until recently Los Angeles was the best-known example of this, estimated to have up to 50,000 unpermitted ADUs due to byzantine permitting restrictions. However, low numbers of unpermitted ADUs could indicate the permitting process is relatively free of barriers, there is little demand for ADUs, or both.

Jurisdictional estimates of unpermitted ADUs were relatively low, though that is data that jurisdictions explicitly do not track unless they receive a code enforcement complaint. Anecdotally, jurisdictions reported learning of one to two unpermitted ADUs through code enforcement complaints. Alternative data sources or investigation may be needed to fully answer this question, however, it is unlikely that local jurisdictions with such low numbers of permitted ADUs would have a large “black market” for unpermitted ADUs.

A more useful comparison might be to understand how many “everything butts” – that is, a home addition with all the same

features as an ADU except for a stove triggering the definition of a “dwelling unit” and the related permitting and fees – are built in place of an ADU. Such home additions would be difficult to track with most cities’ permitting records because they would be undifferentiated from home additions for other purposes, but anecdotal observations from Washington County, for example, estimated as many as three “everything butts” for every one ADU.

Generally, the observed rarity of unpermitted ADUs suggests that demand for ADUs is not yet strong enough in many Metro-area jurisdictions to incentivize such development. Future ADU demand may expose regulatory barriers, such as high SDC fees, that could drive more unpermitted ADU or alternative home expansion projects as a work-around.



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### **Vancouver, WA Case Study**

Vancouver, WA, right across the river from the audited Metro jurisdictions, recently completed a significant ADU regulatory update that provides a lens for understanding the possibilities for liberalizing ADU regulations and some lessons on how to get there.

Although operating outside of Metro and Oregon state requirements to permit ADUs, city planning staff, community advocates, and interested homeowners worked together to significantly overhaul the existing ADU regulations to respond to increasing community interest in ADUs.

The city was experiencing a lot of interest around ADUs, but off-street parking requirements and an ADU size limitation of 40 percent of the existing dwelling were significant deterrents. Simultaneously, a city-led affordable housing task force came out with a recommendation to update the ADU regulations.

Significant changes with the 2017 amendments included:

- Increasing allowed size from 40 percent to 50 percent of the main dwelling, or 800 SF, whichever was less. The 40 percent limitation had emerged as a concern for homeowners converting one story or a basement of a two-story house, and not being able to use the full floor for the ADU.
- Removing off-street parking requirements, which had emerged as a significant obstacle when trying to fit a parking space on a standard 50 by 100-foot lot.
- Removing owner-occupancy requirements for greater use flexibility, though this was the most debated provision among both staff and elected officials.
- Retaining SDC practices of not assessing impact fees or SDCs for ADUs.

The update process benefited from targeted public outreach and positive local stories that illustrated the benefits of ADUs, culminating in a close vote in favor of the update. Planning department staff drafted the updates in-house relying on local experience, comparative research and internal debate to shape the recommendations.

Public outreach included an early open house and presentations to local neighborhood groups.

Staff focused their messaging on familial ADU benefits, such as opportunities to house older relatives or kids returning home after college, as well as messages about how ADUs can add value to single-family homes and help with mortgage costs.

Staff also reported success framing the discussion in terms of the city's own ADU history, pointing at the modest trend of 60 ADUs permitted in the past decade and limited short-term rental usage across the city to calm any fears about future growth.

The mayor, while not the main proponent, was a literal poster child for the ADU update because she had built an ADU herself; a timely newspaper story about an ADU built for a homeowner's adult child with disabilities also helped make ADUs a personal, relatable issue. The vote was close at both the Planning Commission and the City Council, but the council narrowly voted in favor of all the provisions.

ADU development trends are just starting to respond to the regulatory changes. The city permitted a total of 60 ADUs in the previous decade, averaging six per year, and has now seen a modest increase of eight permits in the first nine months under the updated regulations, but it is still too soon to assess impacts of the new regulations or predict future trends with this limited data.

Staff reports a marked increase in interest around ADUs, as well as the number of inquiries that continue moving forward to ADU permitting and development; the most common concerns now voiced by potential ADU developers are problems outside of the city's control related to building costs and financing.



*Photo credit: accessorydwellings.org*

## Recommended ADU regulatory practices



These recommended ADU code provisions and regulations incorporate observed best practices in the greater Portland region, advice from ADU developers and best practices from across the country.

Recommendations are intended to fulfill state and Metro minimum requirements, with the caveat that the interpretation of “reasonable siting and design standards” for ADUs required under SB 1051 is still an open question. These recommendations deliberately avoid any regulations that could be seen as “unreasonable” as a cautionary approach.



Many recommendations are as simple as discouraging any regulation around a particular area, based on audit findings that such regulations were either a barrier to ADU development without a concurrent benefit, or over-regulation in anticipation of negative impacts that were not in fact observed. A code audit checklist incorporating these recommendations is included in Appendix B.

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**Type and number of ADUs:** At a minimum, permit one ADU per detached single-family dwelling, not per lot, to meet specific SB 1051 requirements. Consider allowing two ADUs per dwelling, possibly one attached and one detached. Permit all types of ADUs: attached or detached, through new construction or conversion of an existing space or garage.

**Where allowed:** Permit ADUs in all zones where single-family detached dwellings are permitted, and consider whether to permit ADUs in special situations such as in mixed-use zones where single-family detached dwellings are allowed on a limited basis, zones where existing dwellings are permitted but new dwellings are not.

Consider whether to permit ADUs with attached dwellings for additional flexibility, even if they are not likely to be as popular given smaller average lots. Address nonconforming situations by allowing ADUs on nonconforming lots that may not meet dimensional standards such as minimum lot size, and in converted, existing nonconforming accessory structures such as a garage that is within setbacks, provided it does not increase the degree of nonconformity.



Consider whether to allow ADUs in nonconforming use situations, where the single-family detached dwelling is located in a zoning district that does not allow the use and is intended for future redevelopment, where the interface between residential and nonresidential uses may be a concern.

**Dimensional standards:** Make clear which dimensional standards apply to ADUs, whether they are ADU-specific standards, accessory structure standards, or primary dwelling standards.

**Size:** Approximately 800 SF size limit provides sufficient space for ADU development at a scale consistent with most single-family dwellings and surrounding neighborhoods.

Decouple size limit from the size of the primary dwelling in favor of a straight square footage limit for all dwellings, to avoid penalizing smaller dwellings that by definition already have a small footprint and visual presence.

Promote equity by utilizing a uniform size limit in lieu of a percentage to avoid disproportionately restricting ADU potential of smaller homes typically owned by lower-income and disadvantaged households. If a percentage limit is desired, allow ADUs to be at least 50 percent and preferably 75 percent of the size of the primary dwelling.

**Setbacks:** Reduce side and rear setbacks for detached ADUs to 5 to 10 feet, either by reducing standards specific for ADUs and accessory structures or reducing setbacks for the base zones.

Consider additional tools to minimize impacts of ADUs on adjoining properties if warranted, such as: height stepbacks that reduce height closer to the property line, landscape buffering within the setback, or minimum outdoor yard space to ensure open space somewhere in the side and rear yards, such as 400 SF minimum area with no dimension less than 10 feet, in lieu of a uniform 20-foot-wide backyard guaranteed by a rear setback.

**Height:** Allow at least 20 to 25-foot maximum height for detached ADUs depending on whether height is measured as the average or the top of a sloped roof, and up to 35 feet or the base zone maximum height for attached ADUs, to permit two-story ADUs for additional flexibility, such as ADUs over a garage.



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**Coverage:** Allow 40 to 50 percent lot coverage, and at least 0.5 FAR if used, preferably higher, to provide greater flexibility for adding ADUs to existing developed lots. Alternatively, consider a small lot coverage and/or FAR bonus for ADUs such as 5-10 percent to mitigate concerns about large primary dwellings.



**Design standards:** Require no or minimal design standards for ADUs, and do not require design compatibility for ADUs and primary dwellings. Homeowners developing ADUs have a vested interest in the design and visual impact of the ADU, at least after accounting for matters of taste.

Standards about compatibility are vague and difficult to apply, many do not meet the state requirements for “clear and objective” standards, and may increase costs associated with custom designing an ADU to match a particular house. In some cases, the primary dwelling’s design may be undesirable and not worthy of repeating.



Absence of discretionary design standards should also simplify the land use review process. If minimum design standards are desired, use clear and objective standards such as minimum window trim requirements, roof pitch, or eave projections.

**Accessory structure standards:** Align dimensional, design and required review standards for accessory structures and ADUs for parity and to reduce incentives for unpermitted residential use of accessory structures.

Focus particularly on dimensional standards for similarly sized structures, such as a detached garage and detached ADU. Review guest house standards, if they exist, to establish parity and to clarify whether both guest houses and ADUs are permitted on the same lot.

Photo credit:  
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Consider the need for guest houses separate from ADUs, and potential to consolidate standards.

**Owner occupancy:** Avoid any owner-occupancy requirements for ADUs or primary dwellings, which limit the normalization of ADUs as a mainstream residential option and often create financing limitations for ADUs. Eliminating owner-occupancy requirements also minimizes code enforcement concerns about tenant residency status, which is not regulated for any other type of residence.

**Occupancy quotas:** Define an ADU as a dwelling that may be occupied by a ‘household’ or ‘family,’ same as any other dwelling ranging from studio apartments to detached single-family dwellings, which provides maximum flexibility for ADU use and requires minimum ongoing oversight by code enforcement to monitor number of occupants.

**Parking requirements:** Avoid requirements for off-street parking for ADUs. If parking is a significant political or neighborhood concern, consider a low parking standard of one space per ADU that can be located on-street if available or off-street.

Provide flexible off-street configuration standards including allowing tandem parking in driveways, shared access to parking spaces for both dwellings, and allowing parking within the portion of driveway that crosses required yards.

Also review requirements for off-street parking for the primary dwelling to ensure that primary dwelling parking spaces or garage requirements are limited to one or two spaces maximum and do not take up a significant portion of the site and limit ADU development feasibility.

**Additional regulations:** Consider any community-specific concerns and address through tailored requirements as needed, but generally limit the scope of regulations as tightly as possible to avoid over-regulation.

- If privacy between ADUs and abutting properties is a concern, provide a menu of clear and objective options including window placement, fences or vegetative buffers.
- Consider explicitly permitting simultaneous construction of primary dwellings and ADUs, and permitting occupation of the ADU earlier than the primary dwelling to better support ADU development in communities with significant new construction.

**Application requirements:** Review ADUs through a Type I land use process either in advance of or combined with building permit review, or simply require a building permit application similar to most single-family dwellings.

Optimize internal coordination between planning and building departments to ensure that the permitting process is “one-stop shopping” for applicants.

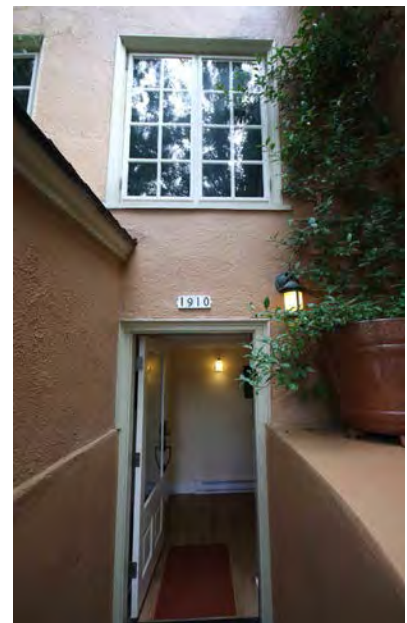


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Assuming that ADU standards are indeed “clear and objective” as required by state law, a nondiscretionary Type I review should be the appropriate review type and there should not be any need for a discretionary Type II process or conditional use review.

**Infrastructure requirements:** Coordinate with and cross-reference any existing engineering standards about thresholds for public works improvements, specifically separate sewer and water connections for ADUs, stormwater treatment triggered by new impervious surface or street improvements.



If policies can be set locally with buy-in from the Public Works department, specifically exempt ADUs from mandatory sewer and water connections, and from triggering street frontage improvements. Provide as much information on potential infrastructure improvement requirements, including resources translating engineering requirements to ADU projects and options for individualized consultation.

**SDC rates:** Make SDC rates for ADUs clear in a publicly available format, preferably online. List SDC-specific rates or explain which of the existing categories apply to ADUs. Provide a fee waiver or reduction for ADUs, or elect not to assess SDCs for new ADUs.



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When developing any financial incentives, it is both the total amount of fee reduction and the messaging that matter: Promote any fee reductions, temporary or permanent, even if a full fee waiver is not possible. In future SDC calculations, promote alternative methodologies to calculate SDCs for ADUs that scale to ADU size and impacts.

**Information:** Provide clear supporting materials including info sheets, application forms, fee schedules, permitting procedures and procedural overview from project initiation through final occupancy, coordinating requirements for planning, engineering and building departments.

Consider developing educational materials such as local case studies, promotional videos and more. Ensure department staff can provide consistent information in an accessible manner to potential ADU developers.

## Next Steps

ADU regulatory innovation is well underway around the region as this report is being completed, with jurisdictions around the greater Portland region and the state updating their regulations to meet state SB 1051 requirements and to generally support additional residential development opportunities in the midst of a housing crisis.

SB 1051 is effective as of July 1, 2018, though many jurisdictions are still in the process of updating their requirements. To date we are aware of updates completed, in process or under consideration in: Beaverton, Cornelius, Fairview, Gladstone, Gresham, Hillsboro, Lake Oswego, Maywood Park, Milwaukie, Oregon City, Portland, Sherwood, Tigard, Tualatin, Wilsonville, Multnomah County and Washington County, together nearly two-thirds of area jurisdictions.

Targeted technical assistance will be available through 2018 for jurisdictions interested to update their code, and to implement new code provisions. Assistance could include code audit suggestions, support during the adoption process, recommendations for educational materials to support implementation, or other expert ADU guidance. Please contact Metro staff about available services.

Metro will continue to monitor the outcomes of code update efforts through the end of 2018 to identify key updates, particularly efforts to remove significant barriers including off-street parking requirements, owner-occupancy requirements, significant dimensional limitations and SDC requirements.

Ongoing discussions with jurisdictions will also be valuable to understand the local opportunities and concerns raised around these issues, and early implementation experiences. We look forward to learning from our jurisdictional partners in this dynamic and evolving field, and sharing lessons learned through further workshops or updates as useful.

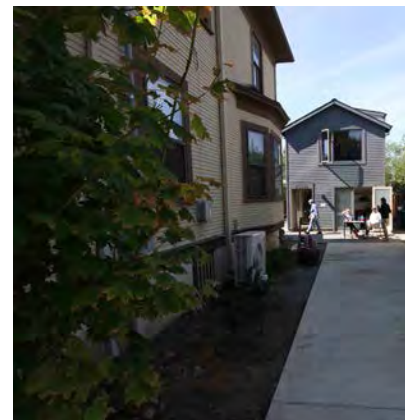


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# Revised Tualatin Transportation System Plan Update

Prepared for  
**City of Tualatin**

February 2013  
Updated ~~February~~ April 2014 2019

**CH2MHILL®**

With

Angelo  
planning group

DKS

ila  
public  
involvement

Exhibit 9 to  
Ordinance No. 1418-19

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## Acronyms and Abbreviations

CIO	Citizen Involvement Organization
ESL	English as a Second Language
HDM	ODOT's <i>Highway Design Manual</i>
HOV	High-Occupancy Vehicle
LID	Local Improvement District
MBP	Minor Betterment Program
MSTIP	Major Streets Transportation Improvement Program (Washington County funding source)
NHS	National Highway System
ODOT	Oregon Department of Transportation
OHP	<i>Oregon Highway Plan</i>
OR 99W	Oregon Highway 99W
PNWR	Portland and Western Railroad
RTFP	<i>Metro's Regional Transportation Functional Plan</i>
RTP	<i>Metro's Regional Transportation Plan</i>
SDC	System Development Charges
SMART	South Metro Area Regional Transit
SOV	Single-Occupancy Vehicle
SRTS	Safe Routes to School
STIP	Statewide Transportation Improvement Program
TDC	Tualatin Development Code
TDM	Transportation Demand Management
TDT	Transportation Development Tax
TE	Transportation Enhancement
TMA	Transportation Management Association
TPC	Tualatin Planning Commission
TPARK	Tualatin Parks Advisory Committee
TPR	Transportation Planning Rule
TSM	Transportation System Management
TSMO Plan	<i>Metro's 2035 Transportation System Management and Operations Plan</i>
TSP	<i>Transportation System Plan</i>

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Acronyms and Abbreviations

TTF	Transportation Task Force
UGB	Urban Growth Boundary
WES	Westside Express Service

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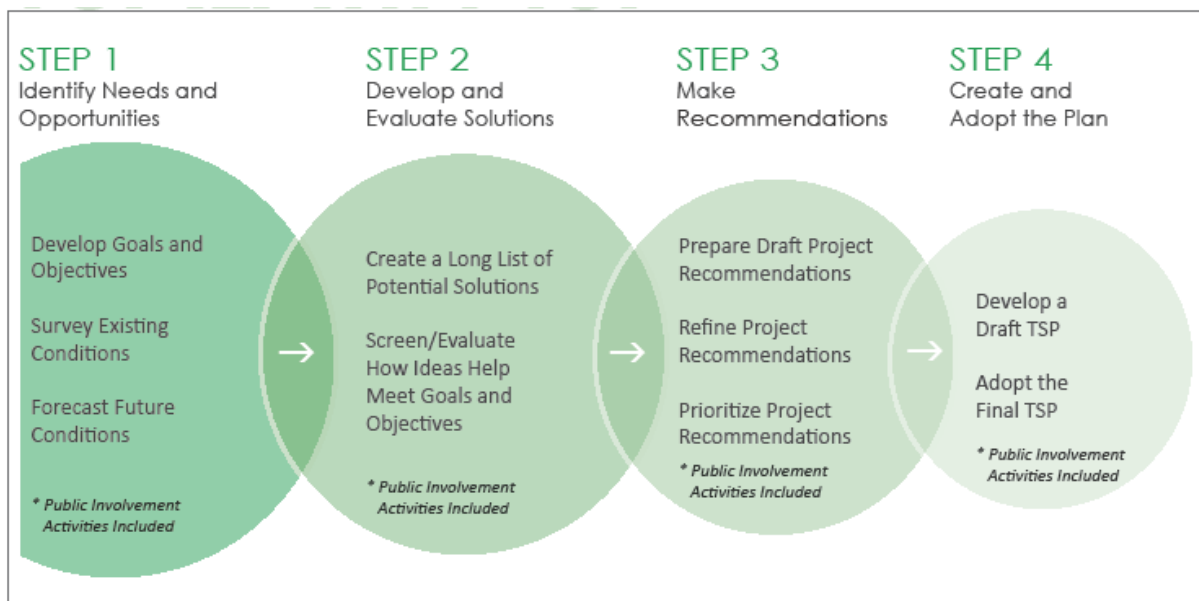
## Chapter 1. Introduction

The Tualatin Transportation System Plan (TSP) establishes a long-range vision for the combination of projects, programs, and policies that will achieve Tualatin's transportation goals. To do this, the TSP looks at the needs of its residents, businesses, employees, and visitors – now (year 2012), and what is expected for the future (Year 2035). TSPs are required by the state of Oregon for all cities with populations greater than 2,500 people, and this is not Tualatin's first TSP. However, it serves as a major update. The previous TSP was adopted in 2001, with analyses completed in 2000, necessitating a new evaluation of transportation conditions in Tualatin and an updated vision for its future. The TSP considers the diverse needs of all users of the City's transportation network, and sets out recommendations that will serve the needs of transit riders, bicyclists, pedestrians, freight traffic, and drivers.

This plan has been prepared in compliance with state, regional, and local plans and policies, including the *Oregon Highway Plan (OHP)*, the state *Transportation Planning Rule (TPR)*, *Metro's Regional Transportation Plan (RTP)*, *Metro's Regional Transportation Functional Plan (RTFP)*, Washington and Clackamas Counties Transportation System Plans, and Tualatin's Comprehensive Plan. The TSP presents a vision specific to the City's transportation future, while remaining consistent with these state, regional, and local plans. Plan elements will be implemented by the City, private developers, and regional, or state agencies.

## Plan Process

Tualatin began the process to update their TSP in 2011. Staff organized their work into four basic steps, as described here and illustrated in the graphic below. Step 1 identified existing and future needs, opportunities, project goals, and objectives. City staff and the consultant project team assembled existing and collected new data, analyzed the data to identify deficiencies and opportunities, and attended a number of community events to



Vision → Reality

### The Adopted Tualatin Transportation System Plan (TSP):

- Creates a vision for Tualatin's future as it relates to transportation
- Establishes our community's priorities so we know what should be done first
- Helps the City of Tualatin get funding and build projects

ask about issues with the transportation system to form an understanding of transportation problems to be addressed in the TSP. Additionally, the project website included an issues map where visitors to the website could identify transportation problems within the City.

Step 2 of the process included creating a long list of potential solutions, then screening and evaluating the potential solutions to see how ideas help meet project goals and objectives. An open house, several Transportation Task Force meetings, and the working group meetings helped create and/or evaluate potential solutions (working groups are described in the next section). Throughout each of these steps, the project team engaged the community to ensure that each element was appropriate for Tualatin. The Public Involvement section presents more information about the public involvement activities.

Step 3 included preparing the draft recommendations for projects to be included into the TSP, refining a number of recommendations for the more complex transportation needs, and prioritizing the project recommendations to help both the City and the community define which projects and programs should be implemented first.

Step 4 included developing the draft and final TSPs for City adoption. This process focused on compiling all recommendations into the TSP document, and coordinating with relevant stakeholders in reviewing the TSP for completeness and consistency. These stakeholders included the community, City Council, Tualatin Planning Commission (TPC), Tualatin Parks Advisory Committee (TPARK), Washington County, Metro, Oregon Department of Transportation (ODOT), Clackamas County, adjacent cities, and the state's Department of Land Conservation and Development (DLCD).

## Study Area

The study area for the Tualatin TSP is comprised of the Tualatin Planning Area Boundary, with two additions - the Basalt Creek planning area between Tualatin and Wilsonville, and the SW Concept Plan area between the Cities of Sherwood and Tualatin. Those areas outside of the City limits, but within the study area, were included because of the transportation impact that they could have on the City's transportation network associated with the potential development of residential and employment areas. The Tualatin River serves as the northerly boundary of the City west of I-5, with SW Cipole Road and SW 124th Avenue as the boundary to the west, and SW Helenius Street and SW Norwood Road to the south. There is a section of the city north and east of the Tualatin River south of SW Peters Road and west of SW Upper Boones Ferry Road. Additionally, the Horizon Christian High School south of SW Norwood Road is within City limits. The eastern study area boundary from the south follows the west side of I-5 until north of I-205. The City then extends east into Clackamas County east of SW 65th Avenue to Halcyon Road. The City also includes a section of the Bridgeport Village shopping center on the west side of I-5. The northern part of the City also extends to the east side of I-5 to the rail line, and north of the Tualatin River to approximately SW Rosewood Street. In addition to the City limits, there are a handful of areas that are surrounded by the City but not officially incorporated. The study area is shown on several of the TSP's figures, including Figure 1 in the following section.

## Public Involvement for the Transportation System Plan

The TSP planning process actively engaged the citizens of Tualatin in the production of its TSP. Residents, business owners, employees, and agency partners were encouraged to participate and were provided with multiple ways to share their thoughts - from initial goal development and issue identification to evaluation and screening. The public involvement plan outlined a thorough outreach process, making it easy and fun for the public to share ideas. The process provided meaningful ways to influence outcomes and took advantage of existing communication networks to reach more people.

## Transportation Task Force

The public involvement plan established a clear decision-making framework for the TSP. The Transportation Task Force (TTF), with input from the Working Groups (described below), advised the TPC. TPC then made a recommendation to the City Council, which will then adopt the final TSP and any changes to the City's Code. In addition, TPARK made recommendations on the bicycle and pedestrian elements to the City Council. Each of these organizations received regular project updates from City staff throughout the process and each had representative members on the TTF. These groups were given the opportunity to provide their recommendation before the TTF decisions were forwarded to TPC and the City Council.

The TTF was formed in November 2011 for the purpose of advising TPC and the City Council about the needs and concerns of the community with regard to transportation. The City Council Citizen Involvement Committee selected TTF members carefully to be representative of neighborhoods, the business community, and the interests of Tualatin's advisory committees. Members and alternates were selected from a pool of applications. Neighboring communities, counties, Tualatin Valley Fire & Rescue, ODOT, Metro, and TriMet also had representatives on the TTF.

The TTF met 16 times between November 2011 and November 2012. The TSP was discussed at most meetings, though the TTF also helped to prepare Tualatin's companion land use plan for high capacity transit, known as *Linking Tualatin* during the same timeframe. TTF meetings were advertised by the City and open to the public. The TTF agenda included time for public comment at the beginning and end of every meeting.

## Public Open Houses

The TSP process featured two in-person public involvement opportunities as well as a two-month long online open house. The City of Tualatin held the "Tualatin Year of Transportation" kick-off meeting on February 16, 2012, to provide information and an opportunity to comment on various transportation projects in the Tualatin area. The City also sponsored a Transportation Summit on September 20, 2012, to allow the public an opportunity to understand the full picture of how proposed projects work together. The Summit included a presentation by technical staff and provided a "town hall" style forum for comment and discussion of final recommendations before the draft TSP was developed.

## Working Groups

Working Groups were another forum for public engagement in the project. The groups were open to the public and generated ideas and transportation solutions to be considered by the TTF. Six groups were established: Neighborhood Livability, Transit, Downtown, Bike and Pedestrian, Industrial and Freight, and Major Corridors and Intersections. Each working group met at least three times between February and July 2012, and anyone with an interest was encouraged to attend. Between six and thirty-five participants attended each working group meeting.



Because community members are much more likely to get involved if invited by a trusted source, the project made use of established lines of communication within the community. Notifications for events and opportunities to participate were sent through the City's list of interested citizens, the Tualatin Mayor's email list, the Chamber of Commerce email list, and members of City advisory committees. Emails were also sent to major employers and the Portland Hispanic Professionals Network. The City posted fliers and meeting notices in English and Spanish at City offices and the library. Event information was presented in school newsletters. The project produced press releases and submitted articles for the City's sponsored newsletter and the local newspaper, *Tualatin Life*.

## Spanish Language Outreach

According to the 2005–2009 American Community Survey, 17 percent of Tualatin's population speaks Spanish at home. For that reason, attention was placed on reaching out to this important part of the population. Interviews with leaders in the Latino community held early in the process suggested several ways to engage the Spanish-speaking population of Tualatin. Following these suggestions, the project team:

- ◆ Created English and Spanish language materials
- ◆ Visited the bilingual Parent-Teacher Organization at Bridgeport Elementary School
- ◆ Provided materials at the library and especially at Spanish-language events attended by families
- ◆ Shared information at local English as a Second Language (ESL) classes
- ◆ Contacted local churches (Tualatin Spanish Seventh-Day Adventist Church and Esperanza Iglesia)
- ◆ Left materials at local businesses

## Making Involvement Easy and Fun

In addition to the more traditional meetings and events, this TSP process employed many unique tools for making involvement easy and fun.

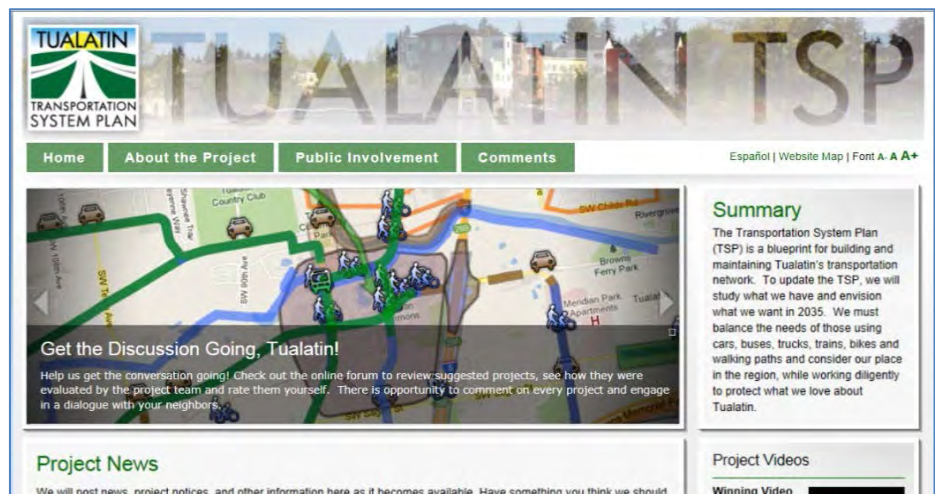
All project information was shared on the website,

[www.tualatintsp.org](http://www.tualatintsp.org), with information available in both English and Spanish. The website was updated weekly throughout the project with new deliverables, upcoming meetings, ways to get involved, questions for the

community, and updates on what the team was doing. Project videos were produced that appeared on the project website that provided fun and unique updates from community members throughout the process. More than 2,240 people accessed the website during the project and more than 460 people submitted comments online on the Comment Map, the TSP Ideas Map, and the general comments section.

All TSP information was posted to the website to maintain an open and transparent process. TTF materials—including agendas, technical material, and meeting summaries—were posted on the City of Tualatin's website at <http://www.tualatinoregon.gov/meetings> and linked through the TSP project site.

Through the summers of 2011 and 2012, City staff attended public events to educate people about the TSP update and seek input on transportation system needs and recommendations. During this time staff attended the Tualatin Farmers Market, Concerts on the Commons, ArtSplash Arts Festival, and the annual Crawfish Festival.



Staff also attended each of the city Advisory Committee meetings, made contact with the Juanita Pohl Senior Center attendees, and made presentations to the Tualatin Chamber and the Tualatin Rotary.

In the summer of 2011 the project team developed an iPhone application and a map-based web tool for the public to suggest project ideas and identify system needs. About 250 people participated, providing more than 360 suggestions. The project also sponsored a video contest and honored two winners in October 2011. The City used its Facebook account to share TSP updates with its 392 followers and the project ran a Facebook ad in August 2012. Finally, the team prepared a short video to encourage input on the TSP's preliminary recommendations in summer 2012; this video was featured in several prominent spots and helped drive traffic to the project website. These non-traditional methods expanded the reach of the outreach program and engaged more Tualatin residents in development of the TSP.

## Project Goals

Over a span of three meetings the TTF prepared a vision for the TSP, conveyed as a set of goals and objectives. In early 2012 they adopted seven principal goals organized into the following goal categories:

1. Access and Mobility
2. Safety
3. Vibrant Community
4. Equity
5. Economy
6. Health and the Environment
7. Ability to be Implemented

These goals and objectives were also discussed by the community at the first open house in February 2012 and by TPC, TPARK, and City Council. The full description of goals and objectives, included as Table 1, served as the basis for the TSP's evaluation framework. This means that all TSP recommendations were tied back to the underlying vision as established by these groups.

## Regulatory Requirements

The TPR, developed by the state DLCD in accordance with state law, requires that local TSPs contain the following elements:

- ◆ A road plan for a network of arterial and collector roads
- ◆ A public transit plan
- ◆ A bicycle and pedestrian plan
- ◆ An air, rail, water, and pipeline plan
- ◆ A transportation financing plan
- ◆ Policies and ordinances for implementing the TSP

The TPR requires that alternate travel modes including cycling, walking, and transit, be given equal consideration with automobile travel and states that reasonable effort must be applied in the development and enhancement of alternate modes in Tualatin's future transportation system. Local jurisdictions must also coordinate their plans with relevant state, regional, and county plans and amend their own ordinances to implement the TSP.

Exhibit 9 to  
Ordinance No. 1418-19

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# Exhibit 9 to Ordinance No. 1418-19



**TABLE 1  
Goals and Objectives of the Tualatin Transportation System Plan**

Goal Category	Goal	Objective
<b>Access and Mobility</b>	Maintain and enhance the transportation system to reduce travel times, provide travel-time reliability, provide a functional and smooth transportation system, and promote access for all users.	Improve travel time reliability//provide travel information for all modes including freight and transit.
		Provide efficient and quick travel between points A and B.
		Provide connectivity within the City between popular destinations and residential areas.
		Accommodate future traffic, bicycle, pedestrian, and transit demand.
		Reduce trip length and potential travel times for motor vehicles, freight, transit, bicycles, and walkers.
		Improve comfort and convenience of travel for all modes including bicycles, pedestrians, and transit users.  Increase access to key destinations for all modes.
<b>Safety</b>	Improve safety for all users, all modes, all ages, and all abilities within the City of Tualatin.	Address known safety locations, including high-crash locations for motor vehicles, bicycles, and pedestrians.
		Address geometric deficiencies that could affect safety including intersection design, location and existence of facilities, and street design.
		Ensure that emergency vehicles are able to provide services throughout the City to support a safe community.
		Provide a secure transportation system for all modes.
<b>Vibrant Community</b>	Allow for a variety of alternative transportation choices for citizens of and visitors to Tualatin to support a high quality of life and community livability.  Produce a plan that respects and preserves neighborhood values and identity.	Create a variety of safe options for transportation needs including bicycles, pedestrians, transit, freight, and motor vehicles.
		Provide complete streets that include universal access through pedestrian facilities, bicycle facilities, and transit on some streets.
		Support a livable community with family-friendly neighborhoods.
		Maintain a small-town feel.
<b>Equity</b>	Consider the distribution of benefits and impacts from potential transportation options, and work towards fair access to transportation facilities for all users, all ages, and all abilities.	Promote a fair distribution of benefits to and burdens on different populations within the City (that is, low-income, transit-dependent, minority, age groups) and different neighborhoods and employment areas within the City.
		Consider access to transit for all users.



## Major Arterials

The following roadways are either reclassified as major arterials or are future major arterials:

- ◆ **SW Lower Boones Ferry Road** between SW Boones Ferry Road and SW Bridgeport Road changed from a minor arterial. This section of SW Lower Boones Ferry Road provides the only non-highway north-south connection within the City and carries a large amount of regional traffic from I-5 into Tualatin.
- ◆ **SW Boones Ferry Road between SW Norwood Road and the Basalt Creek Parkway** is classified as a major arterial.
- ◆ **SW 124th Avenue** south of SW Tualatin-Sherwood Road (~~future road~~) to SW Tonquin Road. This connection will allow industrial and manufacturing properties on the west side of Tualatin to access the regional highway system south of the City.
- ◆ **SW Basalt Creek Parkway (future road)** which acts as an extension of SW 124<sup>th</sup> Avenue as it turns east-west, from SW Tonquin Road to SW Boones Ferry Road. This connection will act as one of three ultimate connectors between Highway 99W and I-5.
- ◆ **SW 65th Avenue** south of SW Sagert Street to the city limits changed from a minor collector. This designation recognizes that south of SW Sagert Street, SW 65<sup>th</sup> Avenue provides connections to the Stafford area, and changing this designation makes it consistent with the rest of SW 65<sup>th</sup> Avenue within the City.

## Minor Arterials

The following roadways are reclassified as minor arterials:

- ◆ **SW 108th Avenue** between SW Leveton Drive to SW Herman Road changed from a major arterial. Downgrading this section of roadway recognizes that freight and regional traffic will access SW Leveton Drive due to the existing land uses, but it is not a major freight throughway. A minor arterial will serve the industrial and manufacturing area without attracting additional through traffic to SW Tualatin Road.
- ◆ **SW Leveton Drive** between SW 118<sup>th</sup> and SW 124<sup>th</sup> Avenues changed from a minor collector, and SW Leveton Drive between SW 118<sup>th</sup> and SW 108<sup>th</sup> Avenues changed from a major arterial. These changes address the freight traffic anticipated on SW Leveton Drive and recognize the importance of connecting to the regional transportation system via SW 124<sup>th</sup> Avenue and OR 99W.
- ◆ **SW Herman Road** west of SW Teton Avenue to SW 108<sup>th</sup> Avenue changed from a major arterial, and SW Herman Road between SW 108<sup>th</sup> Avenue and SW Cipole Road changed from a major collector. These changes make the roadway a consistent minor arterial between SW Cipole Road and SW Teton Avenue, and help support the community's desire to remove some through traffic off of SW Tualatin Road to SW Herman Road.
- ◆ **SW Teton Avenue** between SW Tualatin Road and SW Avery Street changed from a major collector. SW Teton Avenue is recommended as a freight route to reduce pressure on SW Tualatin Road, upgrading to a minor arterial indicates the anticipated traffic.
- ◆ **SW Avery Street** between SW Teton Avenue and SW Tualatin-Sherwood Road changed from a major collector. Upgrading this section of SW Avery Street provides a connection to the minor arterial on SW Teton Avenue and SW Tualatin-Sherwood Road, a major arterial to allow freight and other regional traffic access to I-5 and OR 99W.
- ◆ **SW Sagert Street** from SW Martinazzi Avenue to SW 65<sup>th</sup> Avenue changed from a major arterial. This change acknowledges that SW Sagert Street is an important connection between SW 65<sup>th</sup> Avenue and SW Martinazzi

Avenue, but recognizes that the road carries local trips and serves residential land uses. SW Sagert Street carries a mix of through and local traffic.

- ◆ **SW 90th Avenue** from SW Tualatin Road to SW Tualatin-Sherwood Road changed from a major arterial. This change is in response to removing the Hall Street north-south extension over the Tualatin River from the City's TSP. Reducing the classification from a major to a minor collector reflects the reduced importance of SW 90th Avenue without that connection.

## Major Collectors

The following roadways are reclassified as major collectors or are future major collectors:

- ◆ **SW Grahams Ferry Road** between SW Ibach Street and ~~the southern City limits~~ Basalt Creek Parkway as a major ~~changed from a minor~~ collector. This ~~change classification~~ anticipates planned development along SW Graham's Ferry Road both in Tualatin and to the south, recognizing that it is the only route from the neighborhoods to arterial connections and the regional network.
- ◆ **SW Myslon Street Extension** (Future road) to SW 112th Avenue as a future major collector. This is consistent with roadway designations on either side of the future connection.
- ◆ **SW Tualatin Road** between SW 90th Avenue and the curve south at SW Chinook Street changed from a major arterial. This change creates consistency between the segments east and west, which are already major collectors. Originally this was a major arterial because along with SW 90th Avenue, it was to connect to a future Hall Boulevard extension over the river. Since the Hall Boulevard extension was removed from the City's TSP, this roadway was downgraded.
- ◆ **SW Norwood Road** between SW Boones Ferry Road and the eastern City limits changed from a local road. SW Norwood Road is one of the only east-west connections in the south part of the City, and provides a connection over I-5. There are very few local accesses along SW Norwood Road, and the connectivity makes it consistent with a major collector designation.
- ◆ **SW Tonquin Road between SW 124th Ave. and SW Grahams Ferry Road.**

## Minor Collectors

The following roadways are future minor collectors:

- ◆ **New Roads in Urban Renewal Block 2<sup>1</sup>** will be classified as minor collectors since they connect two major arterials, SW Boones Ferry Road and SW Nyberg Street.
- ◆ **New Road** east of SW 65th Avenue and SW Borland Road.

## Regional Coordination

Several roadways within the City of Tualatin are owned by Washington County, Clackamas County, or ODOT. Coordination with these regional partners is key to implement a functional roadway network. Many of the County- and State-owned roadways are major and principal arterials respectively, and serve regional traffic needs. The City of Tualatin will continue to work with regional partners to implement projects on County and State-

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<sup>1</sup> Urban Renewal Block 2 is the site of the former Kmart. It is located north of SW Nyberg Road west of I-5 in the northwest quadrant of the interchange.

More information on Urban Renewal in downtown Tualatin is located here:

[www.tualatinoregon.gov/sites/default/files/fileattachments/economicdevelopment/webpage/12237/curp-curr\\_oct\\_2009.pdf](http://www.tualatinoregon.gov/sites/default/files/fileattachments/economicdevelopment/webpage/12237/curp-curr_oct_2009.pdf)

owned roadways in Tualatin. Within the following modal plans, the projects that require regional coordination are called out separately than the projects under the City's sole jurisdiction.

### Street Design Standards

Street functional classification guides the design standards including the number of travel lanes, presence of bicycle lanes, the width of sidewalks, and other design elements. Table 3 shows the design standards by functional classification, and Figure 2 has the minimum and preferred street cross sections.

## Chapter 2. Modal Plans

This chapter outlines the preferred transportation system for the City of Tualatin. It is organized by modal element, though it should be noted that many TSP programs and projects benefit more than one mode of transportation. All attempts have been made to describe multi-modal TSP recommendations under the mode primarily served, with cross references made to other modes benefited by the project.

This chapter consists of a street system plan, a transit plan, a bicycle, pedestrian, and trail plan, a rail plan, a freight plan, a water and pipeline plan, and an air plan. As per TPR requirements this chapter also specifically includes plans for TDM, TSM, and parking.

### Definitions: TDM and TSM

#### *TDM*

Projects designed to manage travel demand, preserving transportation system capacity. Examples include teleworking, carpooling, and a Transportation Management Association.

#### *TSM*

Projects designed to optimize travel on the current network. Examples include traffic calming techniques, signal timing, and signal coordination.

## 1 Functional Classification Plan

A city's functional classification plan defines the intended operations and character of roadways within the overall transportation system including standards for roadway and right-of-way width, access spacing, and pedestrian and bicycle facilities. The City of Tualatin's functional classification system applies to roadways owned by the City, the County, and the State, and includes principal arterials, major arterials, minor arterials, major collectors, minor collectors, connector, and local roads. Figure 1 presents the updated functional classification plan for the City of Tualatin. Table 2 describes the functional classifications and the purpose they are intended to serve.

Tualatin's street system has a well-established network of arterials and collectors serving a variety of land uses throughout the City. The arterial roadways carry a high number of vehicles including transit and freight vehicles, and provide mobility with few opportunities for local access. Collectors assemble traffic from a neighborhood or district and deliver it to the closest arterial street. Collectors serve shorter trip lengths than arterials and have more local access opportunities. Both arterials and collectors within Tualatin are owned by a variety of agencies including the City, ODOT, and Clackamas and Washington Counties. The roadway owners are responsible for maintenance and upkeep on the roadways and they make decisions on upgrades to their facilities. Appendix A, Plan and Policy Review, provides a detailed description of the various policies associated with roadway ownership.

There are a number of existing freight and truck routes through the City designated by the City, the State, and the Federal government. These routes have specific design criteria and mobility standards to ensure that these roadways serve freight traffic.

### Functional Classification Policies

Policies support the City's transportation goals and objectives included in the previous section. Policies help provide direction for roadways and roadway classifications.

- ◆ **Functional Classification Policy 1:** Major and minor arterials will comprise the main backbone of the freight system, ensuring that freight trucks are able to easily move within, in, and out of the City
- ◆ **Functional Classification Policy 2:** Continue to construct existing and future roadways to standard when possible for the applicable functional classification to serve transportation needs within the City

## Functional Classification Changes

Several changes were made to the City’s functional classification system in this TSP update, including a simplification of the classifications themselves (from nine to seven classifications), updates to the descriptions and design standards, and several modifications within the City. Table 2 includes the description of the functional classifications, and Figure 1 includes a map of the updated Functional Classifications in Tualatin.

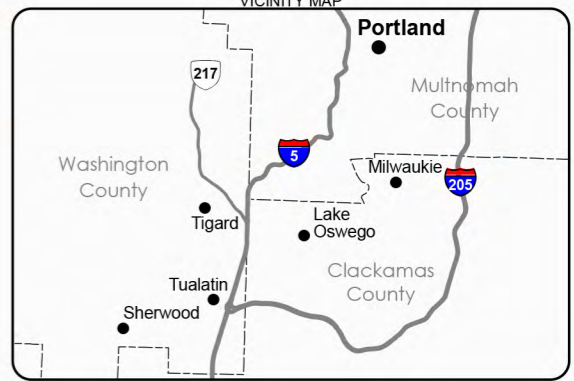
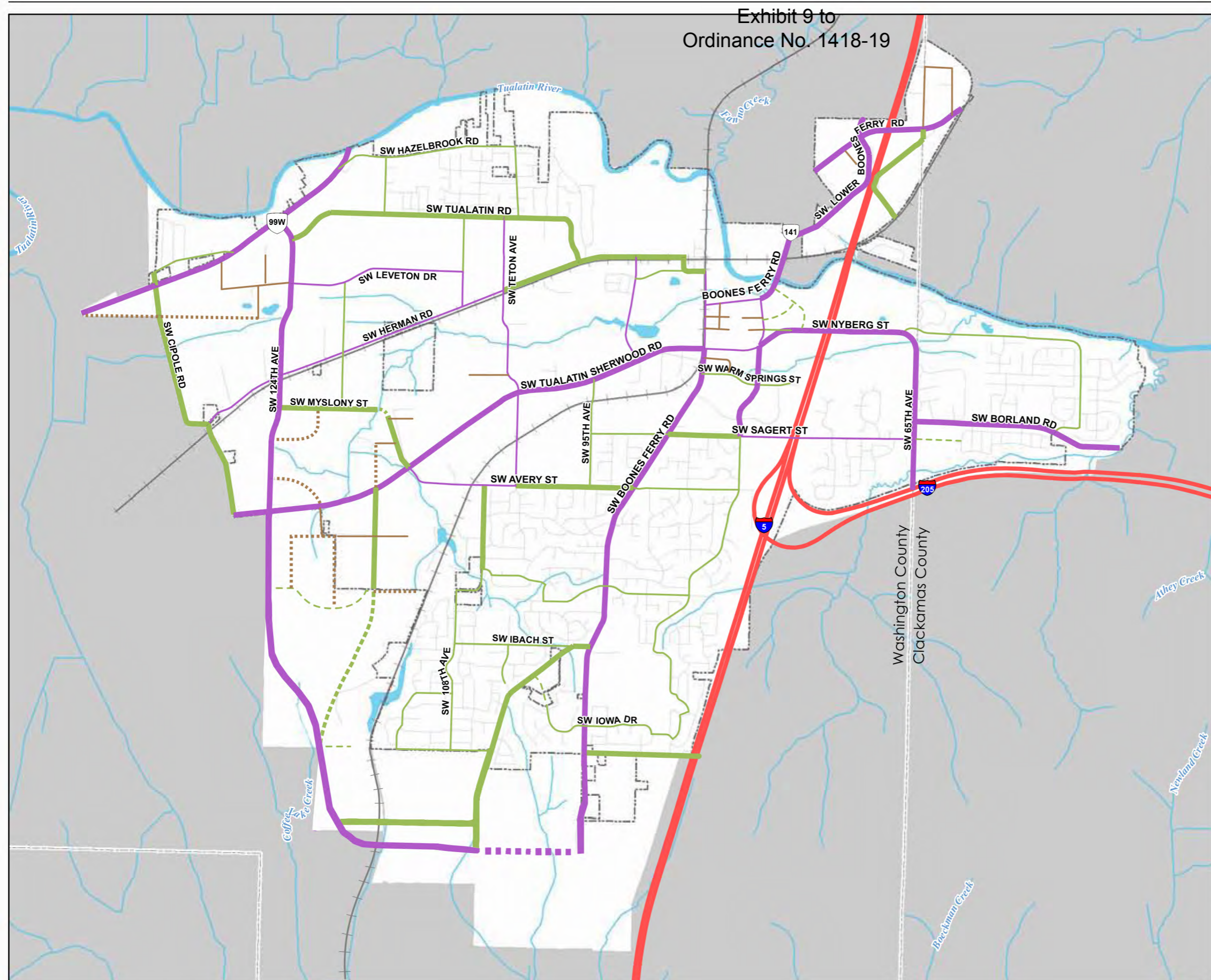
TABLE 2  
**City of Tualatin Functional Classification Description**

Functional Classification	Description
Principal Arterial	Primary function is to serve through, intra-city, regional, and interstate travel; connects major cities and states; connects to the major arterial system; serves through and regional freight movements; facilities are fully and partially access controlled; access control through medians, interchanges; no on-street parking, few sidewalks and bicycle facilities; may be used by public transit.
Major Arterial	Primary function is to serve both local and through traffic as it enters and leaves the urban area; connects the minor arterial and collector street system to principal arterials and other major arterials; serves freight movements between Tualatin and the regional system; provides access to other cities and communities; serves major traffic movements; access control through medians and/or channelization; restricted on-street parking; sidewalks and bicycle facilities required; may allow a right-turn pocket if warranted; will be used by public transit.
Minor Arterial	Primary function is to serve local and through traffic between community and regional facilities; distributes traffic from major arterials to collectors and local streets; serves freight movements between Tualatin and the regional system; higher degree of access than major arterials; trip lengths, traffic volumes, and speeds are lower than on major arterials; sidewalks and bicycle lanes required; may allow a right turn pocket if warranted; likely to be used by public transit.
Major Collector	Primary function is to serve local traffic between neighborhoods and community facilities; principal carrier between arterials and local streets; provides some degree of access to adjacent properties, while maintaining circulation and mobility for all users; carries lower traffic volumes at slower speeds than arterials; typically has two to three lanes; typically does not include on-street parking; pedestrian and bicycle facilities are required; may be used by public transit.
Minor Collector	Primary function is to connect neighborhoods with major collector streets to facilitate movement of local traffic; serves as primary routes into residential neighborhoods; has slower speeds to ensure community livability and safety for pedestrians and bicyclists; on-street pedestrian and bicycle facilities are required; bicycle facilities may be exclusive or where street parking is prevalent, shared roadways depending on traffic volumes, speeds, and extent of bicycle travel; may be used by public transit.
Connector	Primary function is to provide direct access to adjacent land uses, specifically in the downtown core* and industrial, commercial, and manufacturing areas; characterized by short roadway distances, slow speeds, and low volumes; offers a high level of accessibility; provides on-street parking, serves passenger cars, pedestrians, bicycles, and trucks for industrial areas. May be used by public transit; pedestrian facilities are required. Does not serve through traffic.
Local Street**	Primary function is to provide direct access to adjacent land uses; characterized by short roadway distances, slow speeds, and low volumes; offers a high level of accessibility; serves passenger cars, pedestrians, and bicycles, but not trucks; pedestrian facilities are required.

\* The downtown core is consistent with the Town Center Plan study area, centered on the Lake of the Commons and includes land south of the Tualatin River and west of I-5, including the Tualatin Community Park. The western Boundary is SW 95<sup>th</sup> Avenue south to SW Tualatin-Sherwood Road, and then east near SW Warm Springs Street.

\*\* Local streets are not address in the TSP as per the TPR Section 660-012-0020(2)(b)

Exhibit 9 to  
Ordinance No. 1418-19



**LEGEND**

- Study Area
- Principal Arterial
- Major Arterial
- Future Major Arterial
- Minor Arterial
- Major Collector
- Future Major Collector
- Minor Collector
- Future Minor Collector
- Connector
- Future Connector
- City Boundaries
- County Boundaries
- Railroad

Note:  
Future roadway alignments are approximate and subject to additional engineering and design.

0 0.5 1  
Miles

**FIGURE 1**  
**Functional Classification**  
Functional Classification Plan  
City of Tualatin Transportation System Plan

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## Major Arterials

The following roadways are either reclassified as major arterials or are future major arterials:

- ◆ **SW Lower Boones Ferry Road** between SW Boones Ferry Road and SW Bridgeport Road changed from a minor arterial. This section of SW Lower Boones Ferry Road provides the only non-highway north-south connection within the City and carries a large amount of regional traffic from I-5 into Tualatin.
- ◆ **SW 124th Avenue** south of SW Tualatin-Sherwood Road (future road). This connection will allow industrial and manufacturing properties on the west side of Tualatin to access the regional highway system south of the City.
- ◆ **SW 65th Avenue** south of SW Sagert Street to the city limits changed from a minor collector. This designation recognizes that south of SW Sagert Street, SW 65<sup>th</sup> Avenue provides connections to the Stafford area, and changing this designation makes it consistent with the rest of SW 65<sup>th</sup> Avenue within the City.

## Minor Arterials

The following roadways are reclassified as minor arterials:

- ◆ **SW 108th Avenue** between SW Leveton Drive to SW Herman Road changed from a major arterial. Downgrading this section of roadway recognizes that freight and regional traffic will access SW Leveton Drive due to the existing land uses, but it is not a major freight throughway. A minor arterial will serve the industrial and manufacturing area without attracting additional through traffic to SW Tualatin Road.
- ◆ **SW Leveton Drive** between SW 118<sup>th</sup> and SW 124<sup>th</sup> Avenues changed from a minor collector, and SW Leveton Drive between SW 118<sup>th</sup> and SW 108<sup>th</sup> Avenues changed from a major arterial. These changes address the freight traffic anticipated on SW Leveton Drive and recognize the importance of connecting to the regional transportation system via SW 124<sup>th</sup> Avenue and OR 99W.
- ◆ **SW Herman Road** west of SW Teton Avenue to SW 108<sup>th</sup> Avenue changed from a major arterial, and SW Herman Road between SW 108<sup>th</sup> Avenue and SW Cipole Road changed from a major collector. These changes make the roadway a consistent minor arterial between SW Cipole Road and SW Teton Avenue, and help support the community's desire to remove some through traffic off of SW Tualatin Road to SW Herman Road.
- ◆ **SW Teton Avenue** between SW Tualatin Road and SW Avery Street changed from a major collector. SW Teton Avenue is recommended as a freight route to reduce pressure on SW Tualatin Road, upgrading to a minor arterial indicates the anticipated traffic.
- ◆ **SW Avery Street** between SW Teton Avenue and SW Tualatin-Sherwood Road changed from a major collector. Upgrading this section of SW Avery Street provides a connection to the minor arterial on SW Teton Avenue and SW Tualatin-Sherwood Road, a major arterial to allow freight and other regional traffic access to I-5 and OR 99W.
- ◆ **SW Sagert Street** from SW Martinazzi Avenue to SW 65<sup>th</sup> Avenue changed from a major arterial. This change acknowledges that SW Sagert Street is an important connection between SW 65<sup>th</sup> Avenue and SW Martinazzi Avenue, but recognizes that the road carries local trips and serves residential land uses. SW Sagert Street carries a mix of through and local traffic.
- ◆ **SW 90th Avenue** from SW Tualatin Road to SW Tualatin-Sherwood Road changed from a major arterial. This change is in response to removing the Hall Street north-south extension over the Tualatin River from the City's TSP. Reducing the classification from a major to a minor collector reflects the reduced importance of SW 90<sup>th</sup> Avenue without that connection.



## Major Collectors

The following roadways are reclassified as major collectors or are future major collectors:

- ◆ **SW Grahams Ferry Road** between SW Ibach Street and the southern City limits changed from a minor collector. This change anticipates planned development along SW Graham's Ferry Road both in Tualatin and to the south, recognizing that it is the only route from the neighborhoods to arterial connections and the regional network.
- ◆ **SW Myslony Street Extension** (Future road) to SW 112th Avenue as a future major collector. This is consistent with roadway designations on either side of the future connection.
- ◆ **SW Tualatin Road** between SW 90<sup>th</sup> Avenue and the curve south at SW Chinook Street changed from a major arterial. This change creates consistency between the segments east and west, which are already major collectors. Originally this was a major arterial because along with SW 90<sup>th</sup> Avenue, it was to connect to a future Hall Boulevard extension over the river. Since the Hall Boulevard extension was removed from the City's TSP, this roadway was downgraded.
- ◆ **SW Norwood Road** between SW Boones Ferry Road and the eastern City limits changed from a local road. SW Norwood Road is one of the only east-west connections in the south part of the City, and provides a connection over I-5. There are very few local accesses along SW Norwood Road, and the connectivity makes it consistent with a major collector designation.

## Minor Collectors

The following roadways are future minor collectors:

- ◆ **New Roads in Urban Renewal Block 2<sup>1</sup>** will be classified as minor collectors since they connect two major arterials, SW Boones Ferry Road and SW Nyberg Street.
- ◆ **New Road** east of SW 65th Avenue and SW Borland Road.

## Regional Coordination

Several roadways within the City of Tualatin are owned by Washington County, Clackamas County, or ODOT. Coordination with these regional partners is key to implement a functional roadway network. Many of the County- and State-owned roadways are major and principal arterials respectively, and serve regional traffic needs. The City of Tualatin will continue to work with regional partners to implement projects on County and State-owned roadways in Tualatin. Within the following modal plans, the projects that require regional coordination are called out separately than the projects under the City's sole jurisdiction.

## Street Design Standards

Street functional classification guides the design standards including the number of travel lanes, presence of bicycle lanes, the width of sidewalks, and other design elements. Table 3 shows the design standards by functional classification, and Figure 2 has the minimum and preferred street cross sections.

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<sup>1</sup> Urban Renewal Block 2 is the site of the former Kmart. It is located north of SW Nyberg Road west of I-5 in the northwest quadrant of the interchange.

More information on Urban Renewal in downtown Tualatin is located here:

[www.tualatinoregon.gov/sites/default/files/fileattachments/economicdevelopment/webpage/12237/curp-curr\\_oct\\_2009.pdf](http://www.tualatinoregon.gov/sites/default/files/fileattachments/economicdevelopment/webpage/12237/curp-curr_oct_2009.pdf)

# Exhibit 9 to Ordinance No. 1418-19

Tualatin TSP February 2013

Functional Classification Plan



TABLE 3  
Street Design Standards

Functional Classification	Cross-section width	Travel lanes	Center lane or landscaped median <sup>¥</sup>	Bike lanes	Sidewalks*	Multi-use path <sup>†</sup>	On-street Parking	Planter Strip <sup>£</sup>
Major Arterial	70-98'	Two to four lanes at 12' each	14'	5-6' on both sides	5-6' on both sides	12' multi-use path could replace bike lanes and sidewalks on one or both sides	None	6' on both sides
Minor Arterial	56-74'	Two lanes at 12' each	Optional 14'	5-6' on both sides	5-6' on both sides	12' multi-use path could replace bike lanes and sidewalks on one or both sides	None	6' on both sides
Major Collector	54-74'	Two lanes, 11' minimum, 12' maximum	Optional 14'	5-6' on both sides	5-6' on both sides	12' multi-use path could replace bike lanes and sidewalks on one or both sides	None	6' on both sides
Minor Collector	62-76'	Two lanes, 11' minimum, 12' maximum	None	5-6' on both sides	5-6' on both sides	12' multi-use path could replace bike lanes and sidewalks on one or both sides	8' parking strip on one or both sides	6' on both sides
Connector	60'	Two lanes at 12' each	None	None	6' on both sides	None	8' parking strip on both sides	4' on both sides, 5' x 5' tree well for downtown connector streets
Local Street	46-50'	Two lanes, 14' minimum, 16' maximum	None	None	5' on both sides	None	Allowed	4' on both sides

\*All sidewalks shall have a clear zone - minimum unobstructed width of five feet for all City streets, and assume a 6" curb

<sup>†</sup> The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

<sup>¥</sup> Landscaped medians may include pedestrian refuges where appropriate, and where they can be installed by meeting appropriate design standards.

<sup>£</sup> Low Impact Development Approaches (LIDA) are allowed, where appropriate as determined by the City Engineer

For roadways all efforts are made to achieve the preferred cross sections described in Table 3 and illustrated in Figure 2. However it is acknowledged that this preferred width is not always achievable, due to environmental constraints or existing development.

The City Engineer may reduce the requirements of the preferred standard based on specific site conditions, but in no event will the requirement be less than the minimum cross-section. The City Engineer shall take into consideration the following factors when decision whether the site conditions warrant a reduction of the preferred standard:

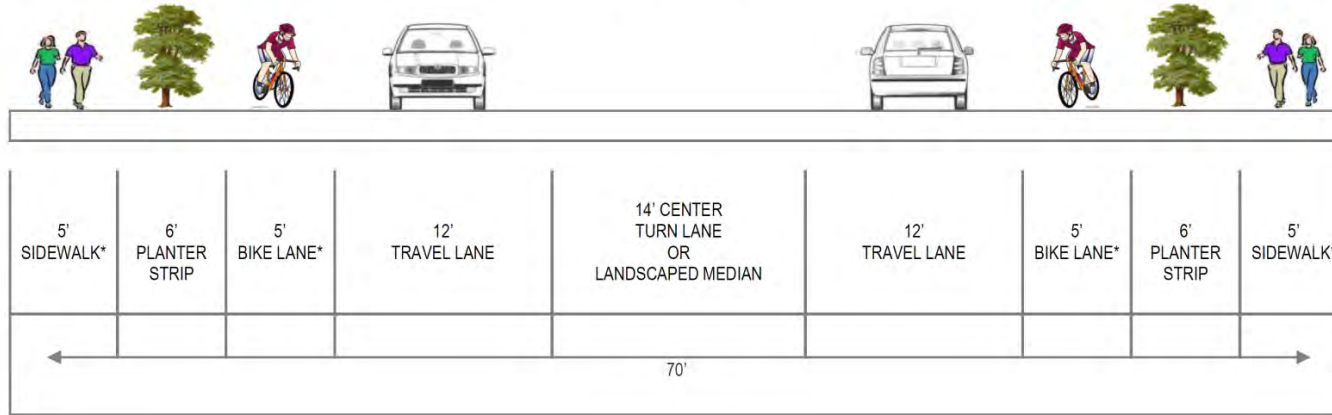
### Arterials

1. Whether adequate right-of-way exists
2. Impacts to properties adjacent to right-of-way
3. Current and future vehicle traffic at the location
4. Amount of heavy vehicles (buses and trucks)

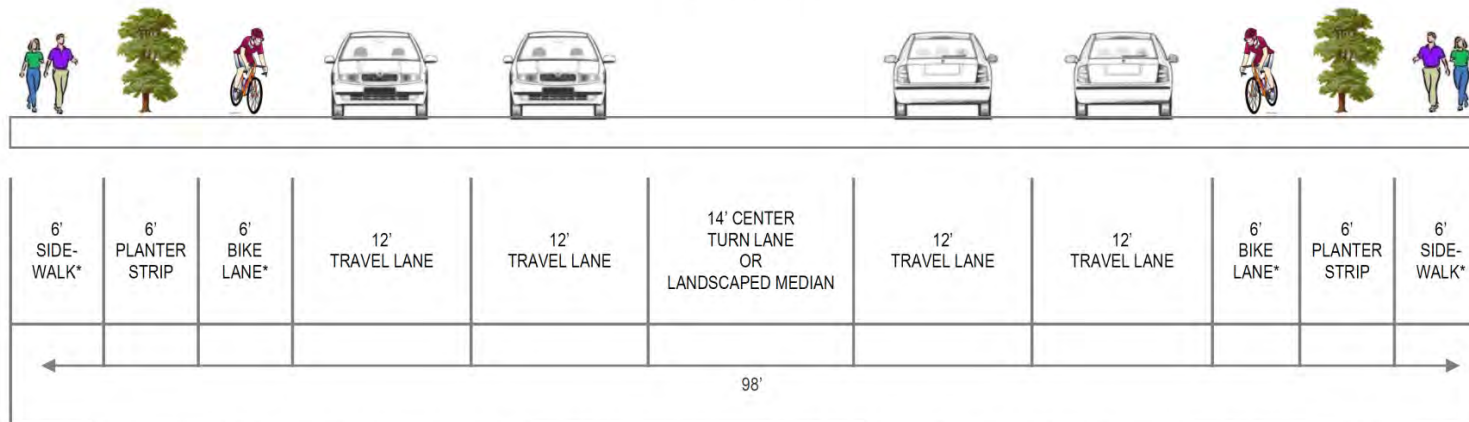
### Collectors

1. Whether adequate right-of-way exists
2. Impacts to properties adjacent to right-of-way
3. Amount of heavy vehicles (buses and trucks)
4. Proximity to property zoned manufacturing or industrial

**Figure 2. Street Design Standards**  
Major Arterial  
Minimum



Preferred

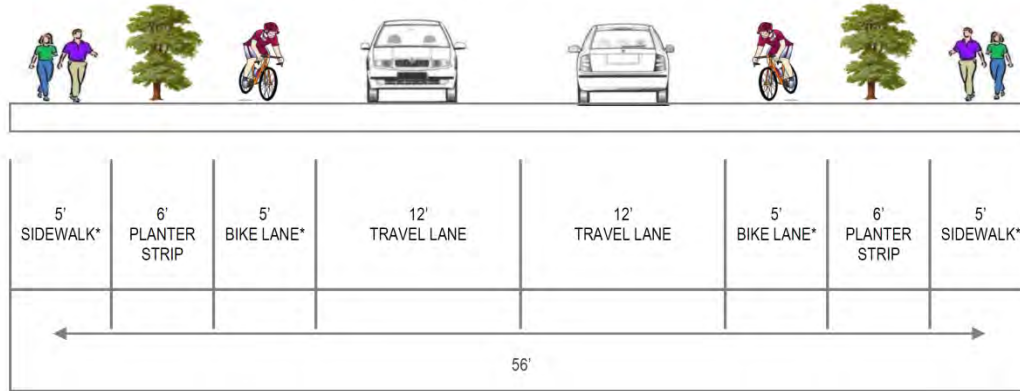


\*The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

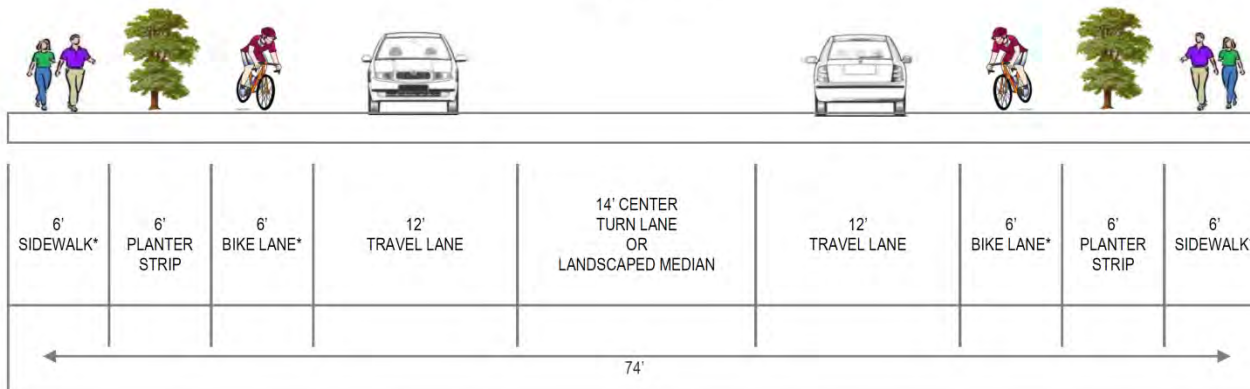
Figure 2. Street Design Standards, cont.

Minor Arterial

Minimum



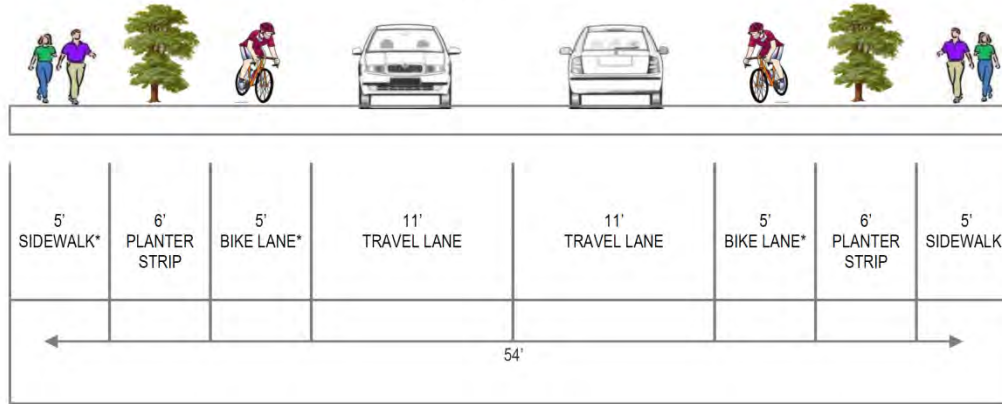
Preferred



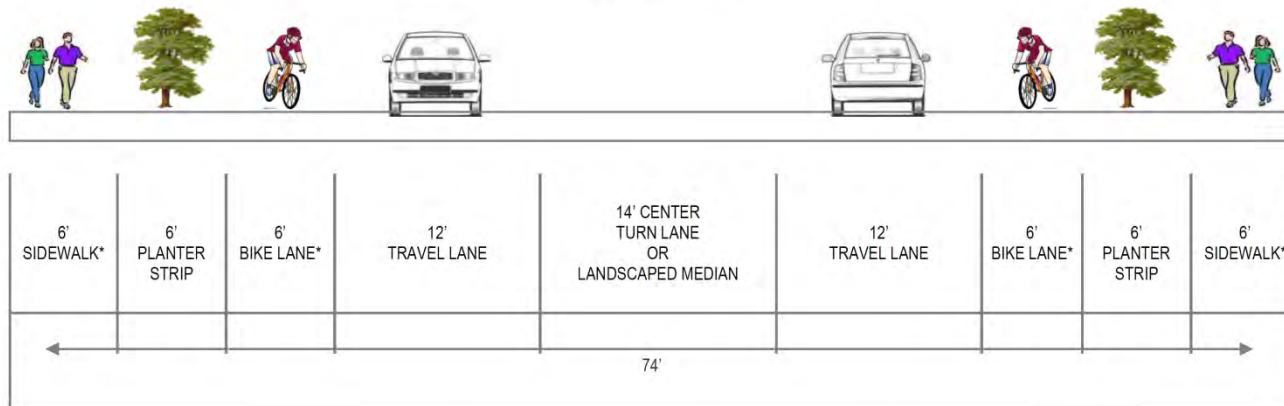
\*The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

Figure 2. Street Design Standards, cont.  
Major Collector

Minimum



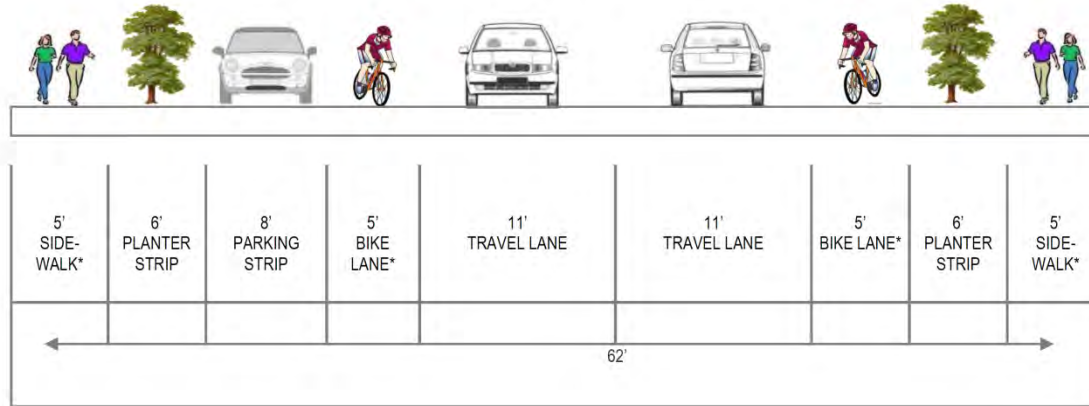
Preferred



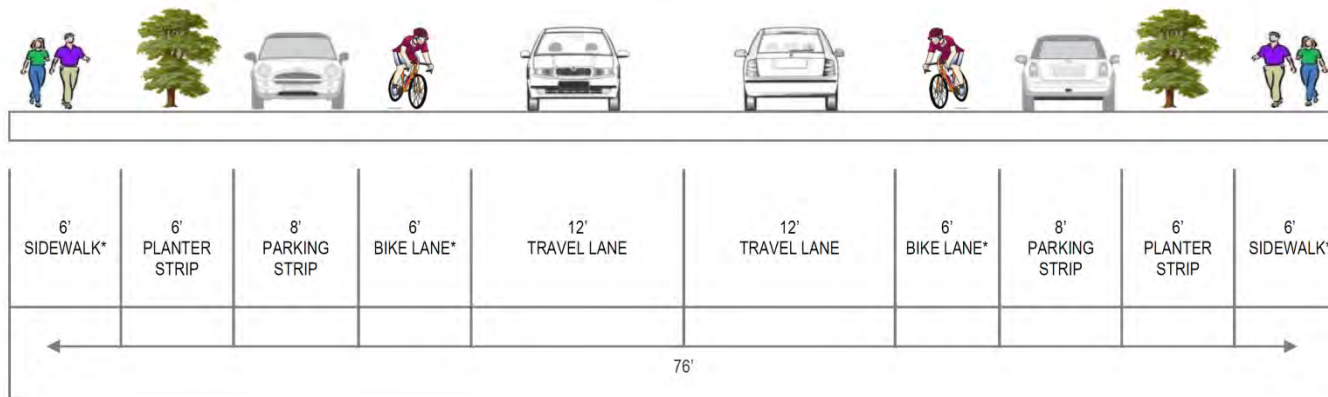
\*The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

Figure 2. Street Design Standards, cont.  
Minor Collector

Minimum



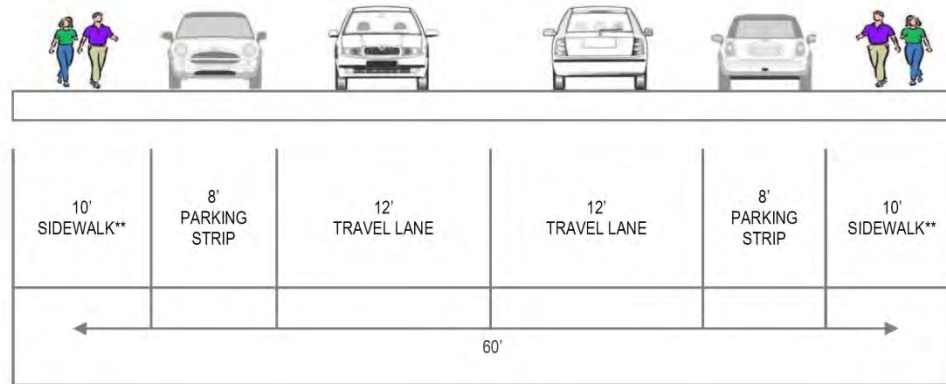
Preferred



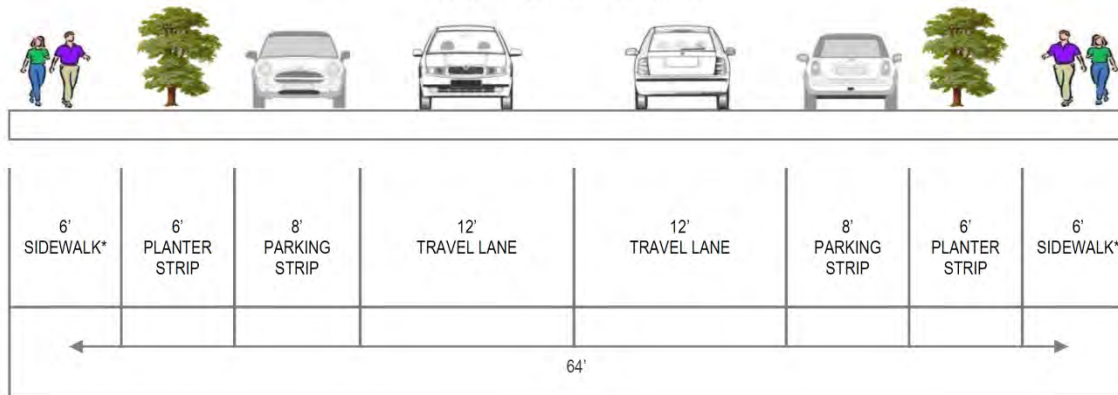
\*The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

**Figure 2. Street Design Standards, cont.**  
Connector

Downtown Core



Commercial/Industrial



\*The City of Tualatin may allow a 12' multi-use path to be substituted for the sidewalk and bicycle lane on either or both sides. If allowed, the planter strip must be installed between the travel lane and the multi-use path.

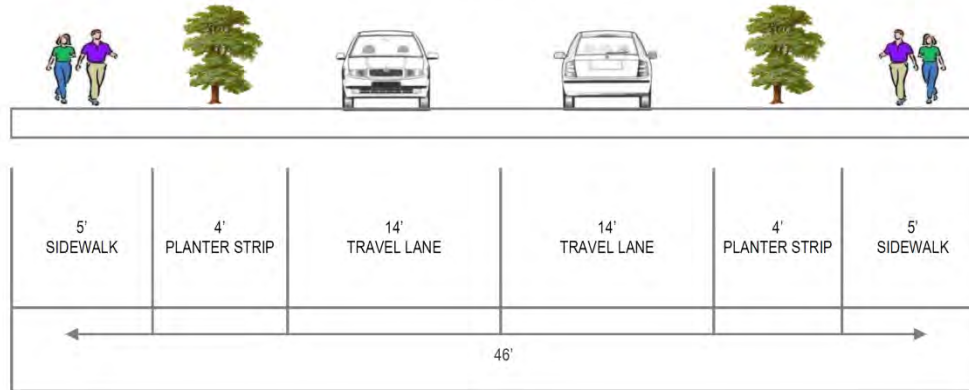
\*\*Sidewalks on the downtown connector roads have 4' x 4' tree grates instead of planter strips.



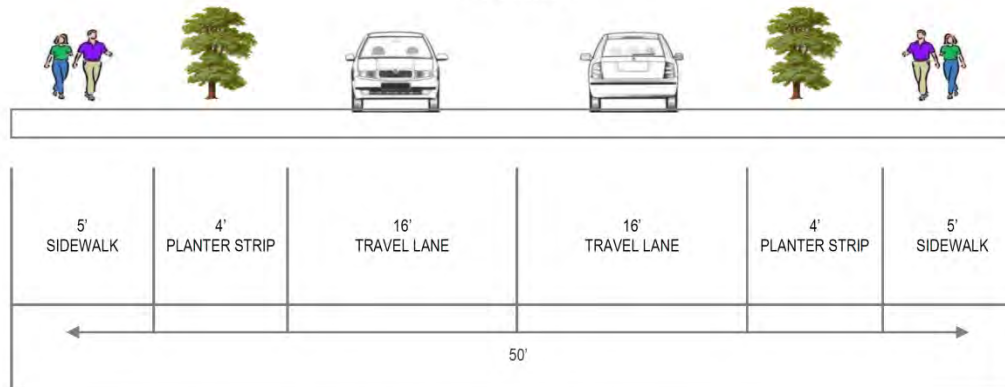
Figure 2. Street Design Standards, cont.

Local

Minimum\*



Preferred



\* The City of Tualatin may consider as low as 28' curb-to-curb pavement widths and as low as 46' right-of-way when needed to address constraints.

## 2 Street System Modal Plan

The street system modal plan consists of several sections: a listing of street urban upgrades and new streets, other intersection-specific or non-capacity streets projects, access management policies, and traffic operation standards.

### Existing and Future Roadway Conditions

Some of the existing roadways do not meet City, County, or State design standards. Further, there are a number of major roadways intersect with other roadways at a skew. This creates sight distance limitations and, thus, safety concerns.

The two most highly-traveled roadways are SW Tualatin-Sherwood Road and SW Nyberg Road with over 20,000 vehicles per day. SW Tualatin Road and SW Boones Ferry Road corridors have 10,000 vehicles daily at multiple locations. Additionally, SW Tualatin-Sherwood Road carries a large amount of heavy vehicles, around 11.5 percent, with SW Boones Ferry Road carrying 8.4 percent heavy vehicles.<sup>2</sup> Appendix B provides a full description of existing (2011) roadway conditions, while Appendix C provides a description of future (2035) forecasted roadway conditions.

In the existing conditions analysis only two intersections - SW Martinazzi Avenue and SW Sagert Street as well as SW Teton Avenue and SW Tualatin Road were found to have greater congestion than mobility standards allow. In the future (2035) the number of intersections not meeting operations standards grew to twelve, as listed below:

- ◆ SW Teton Avenue and SW Tualatin-Sherwood Road
- ◆ SW Boones Ferry Road and SW Tualatin-Sherwood Road
- ◆ SW Martinazzi Avenue and SW Tualatin-Sherwood Road
- ◆ SW 65<sup>th</sup> Avenue and SW Borland Road
- ◆ SW Martinazzi Avenue and SW Boones Ferry Road
- ◆ SW Boones Ferry Road and SW Lower Boones Ferry Road
- ◆ SW Boones Ferry Road and SW Avery Street
- ◆ SW Boones Ferry Road and SW Sagert Street
- ◆ SW Teton Avenue and SW Avery Street
- ◆ SW 65<sup>th</sup> Avenue and SW Sagert Street
- ◆ SW Teton Avenue and SW Tualatin Road
- ◆ SW Nyberg Street and SW 65<sup>th</sup> Avenue

The key needs identified in the existing conditions report include:

- ◆ **Improved Roadway connectivity** - new roadway connections should be explored to improve east-west connectivity south of SW Tualatin-Sherwood Road and north-south regional connectivity. Metro RTP policies related to a complete street system identify one-mile spacing between major arterial streets with collector streets or minor arterials spaced a half-mile apart.

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<sup>2</sup> The average road in the Portland Metro area typically carries 2-4 percent heavy vehicles.

- ◆ **Improved travel time along congested corridors** – Focus on reducing vehicle delay on key corridors.
- ◆ **Intersection improvements** - address intersection delay and intersection issues in congested areas.
- ◆ **Upgrading roadway geometries** - City design standards for roadway width, sidewalks, and bicycle facilities should be followed where specific deficiencies have been identified.

Additionally, safety is a concern for the community. Safety issues were identified at the following intersections:

- ◆ SW Tualatin-Sherwood Road and SW Boones Ferry Road
- ◆ SW Nyberg Street and I-5 southbound off ramps.

## Roadway Policies

The following establish the City's policies on roadways.

- ◆ **Roadway Policy 1:** Implement design standards that provide clarity to developers while maintaining flexibility for environmental constraints.
- ◆ **Roadway Policy 2:** Ensure that street designs accommodate all anticipated users including transit, freight, bicyclists and pedestrians, and those with limited mobility.
- ◆ **Roadway Policy 3:** Work with Metro and adjacent jurisdictions when extending roads or multi-use paths from Tualatin to a neighboring City.

## Roadway Projects

### City Street Urban Upgrades

Tualatin's TSP strives to put forward a set of complete streets that minimize delay for trucks and drivers while maintaining Tualatin's community character. The TSP's ultimate goal with its street upgrade program is to provide a safe system for those walking, driving, riding transit, operating a wheelchair, or riding a bicycle.

Several streets in Tualatin do not meet design standards outlined in the previous section, and create a safety risk. These streets are identified here for upgrades as development occurs. Many of these upgrades include adding travel lanes to address congestion, adding a center turn lane or median to help mobility and safety, widening travel lanes, and upgrading the cross section to improve a roadway from a rural two-lane facility to an urban feel with curb, gutters, and bicycle and pedestrian facilities or just adding bicycle and pedestrian facilities. For cost estimating purposes, the project team used the street standards in Figure 2 to estimate the lane and right-of-way width.

Bicycle and pedestrian upgrades are projects where only a sidewalk, bicycle lane, or multi-use path would be added to make the street more attractive to all modes. Table 4 describes a suite of local urban upgrade projects, presenting cost estimates, potential funding sources, and implementation timeframe for these upgrades. Table 5 includes the regional urban upgrades that require coordination with other agencies, including Washington and Clackamas Counties and ODOT. Figure 3 shows the projects geographically, and bicycle and pedestrian urban upgrades are also shown on the bicycle and pedestrian figure (Figure 7). The evaluation process which led to these TSP recommendations is described in Appendix D.

Projects included in the City tables over \$5 million will require the City to find additional funding sources (i.e. potential transportation bonds, regional flex funds, and transportation enhancements) beyond funding currently available to the City. Most of these projects are long-term priorities.

# Exhibit 9 to Ordinance No. 1418-19

Tualatin TSP February 2013

Street System Modal Plan

TABLE 4

### City Urban Upgrade Cost Estimates and Prioritization

Project ID	Project Description	Cost Estimate (in 2012 dollars)*	Champion	Funding Source	Priority**
R1	Widen SW Herman Road to a three-lane cross-section between SW 124 <sup>th</sup> Avenue and SW Cipole Road	\$2,574,000	City	TDT, LID, gas tax, Bike/Ped funds	As development occurs
R2	Upgrade SW Hazelbrook Road to roadway standards between 99W and just east of SW Jurgens Avenue	\$3,543,000	City	TDT, LID, gas tax, Bike/Ped funds	As development occurs
R3	Upgrade SW Herman Road as an urban two-lane cross-section between SW Tualatin Road and SW Teton Road	\$2,390,000	City	TDT, LID, gas tax, Bike/Ped funds	As development occurs
R4	Widen SW Teton Avenue between SW Herman Road and SW Tualatin-Sherwood Road to a complete three-lane cross-section including bike lanes for its entire length	\$2,464,000	City	TDT, LID, gas tax, Bike/Ped funds	As development occurs
R5	Upgrade SW Myslony Street to roadway standards for its entire length	\$11,437,000 <sup>3</sup>	City	TDT, LID, gas tax, Bike/Ped funds, Regional flex funds, bonds, TE	Short-term
R6	Widen SW Avery Street to a three lane cross-section between SW Teton Avenue and SW Tualatin-Sherwood Road	\$3,600,000	City	TDT, gas tax, Bike/Ped funds	Long-term
R7	Upgrade SW 105 <sup>th</sup> Avenue/SW Blake Street/SW 108 <sup>th</sup> Avenue to roadway standards between SW Avery Street and SW Willow Street	\$5,086,000	City	TDT, gas tax, Bike/Ped funds	Short-term
R8	Upgrade SW Boones Ferry Road to roadway standards between SW Ibach Road and SW Norwood Road	\$660,000	City	TDT, gas tax, Bike/Ped funds	Long-term
R9	Upgrade SW Helenius Road to roadway standards between SW 109 <sup>th</sup> Terrace and SW Grahams Ferry Road	\$1,403,000	City	TDT, gas tax, Bike/Ped funds	Long-term
R10	Upgrade SW Norwood Road to roadway standards between SW Boones Ferry Road and the eastern City limits.	\$2,824,000	City	TDT, gas tax, Bike/Ped funds	Long-term
R11	Add sidewalks or a multi-use path on SW Sagert Street bridge over I-5 – assume widening on either side of the bridge	\$3,282,000	City, ODOT	TDT, Bike/Ped funds, Travel Options	Long-term
R12	Fill sidewalk gaps on SW Boones Ferry Road between Tualatin High School and the southern City limits	\$315,000	City	TDT, Bike/Ped funds, Travel Options	Short-term

<sup>3</sup> From Metro's *Regional Transportation Plan (RTP) 2007*. Estimate grown to 2012 dollars.

TABLE 4

**City Urban Upgrade Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate (in 2012 dollars)*	Champion	Funding Source	Priority**
R13	Fill sidewalk gaps on SW Herman Road between SW Tualatin Road and the western City limits	Included in cost estimates for Projects R1 and R3	City	TDT, Bike/Ped funds, Travel Options	As development occurs
R14	Add bicycle lane on SW Martinazzi Avenue between SW Warm Springs Road and SW Boones Ferry Road	\$2,403,000 <sup>4</sup>	City	TDT, Bike/Ped funds, Travel Options, LID	Medium-term
R15	Add bicycle facilities on SW 95 <sup>th</sup> Avenue between SW Avery Street and SW Tualatin-Sherwood Road	\$2,920,000 <sup>5</sup>	City, school	TDT, Bike/Ped funds	Medium-term
R16	Add a multi-use path along SW 65 <sup>th</sup> Avenue from the Tualatin River to I-205	\$9,734,000 <sup>6</sup>	City	TDT, Bike/Ped funds, Travel Options	Long-term
R17	Add sidewalks and bicycle lanes (or a multi-use path) on SW Norwood Road from SW Boones Ferry Road to the eastern City limits	\$305,000	City	TDT, Bike/Ped funds, Travel Options	Medium-term

\* Costs are rounded to the nearest \$1,000

\*\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

LID – Local Improvement District

TDT – Transportation Development Tax

TE – Transportation Enhancement

<sup>4</sup> From the *East Commons Enhancement Plan* 2010. Estimate grown to 2012 dollars.

<sup>5</sup> From Metro's *Regional Transportation Plan (RTP)* 2007. Estimate grown to 2012 dollars.

<sup>6</sup> From Metro's *Regional Transportation Plan (RTP)* 2007. Estimate grown to 2012 dollars.

## Regional Street Urban Upgrades

Regional street upgrades serve regional travel needs, and are more expensive than what the City is anticipated to be able to fund by itself. These projects will rely on regional and State funding sources for implementation.

TABLE 5

**Regional Urban Upgrade Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate (in 2012 dollars)	Champion	Funding Source	Priority*
R18	Upgrade SW Cipole Road to roadway standards between 99W and SW Tualatin-Sherwood Road, include a multi-use path on one side	\$20,030,000 <sup>7</sup>	Washington County, City	Washington County MSTIP, TDT, LID, Bike/Ped funds	As development occurs
R19	Widen SW Boones Ferry Road to 5-lanes north of SW Martinazzi Avenue	\$17,818,000	City, ODOT, Washington County	Washington County MSTIP, TDT, gas tax, STIP	Long-term
R20	Widen SW Tualatin-Sherwood Road to five lanes between SW Teton Avenue and SW Cipole Road†	\$10,883,000	Washington County, City	TDT, Washington County MSTIP, gas tax	Medium-term
R21	Upgrade SW Borland Road to roadway standards between SW 65 <sup>th</sup> Ave. and the eastern City limits	\$9,646,000	Clackamas County, City	TDT, gas tax, Clackamas County	Medium-term
R22	Upgrade SW Grahams Ferry Road to roadway standards between SW Ibach Road and SW Helenius Road	\$3,300,000	Washington County	TDT, gas tax, Washington County MSTIP,	Long-term
R23	Upgrade SW Tonquin Road to roadway standards between SW Waldo Way and SW Grahams Ferry Road	\$11,193,000 <sup>8</sup>	Washington County	TDT, gas tax, Washington County MSTIP	Medium-term
R24	Fill sidewalk gap and add a colored bicycle lane at SW Boones Ferry Road and SW Lower Boones Ferry Road Intersection	\$10,000	City, ODOT, Washington County, City of Durham	Bike/Ped funds, Travel Options	Short-term
R25	Fill sidewalk gaps on SW Grahams Ferry Road between SW Ibach Road and southern City limits	\$1,680,000 <sup>9</sup>	Washington County	TDT, Bike/Ped funds, Travel Options, MBP	Short-term
R26	Fill sidewalk gaps on SW Borland Road from SW 65 <sup>th</sup> Avenue to the eastern City limits	\$2,603,000	Clackamas County, City	TDT, Bike/Ped funds, Travel Options	Short-term

<sup>7</sup> From Metro's *Regional Transportation Plan (RTP) 2007*. Estimate grown to 2012 dollars.

<sup>8</sup> From the *SW Tualatin Concept Plan 2010*. Estimate grown to 2012 dollars.

<sup>9</sup> From the *Tualatin Bikeway Plan 1993*. Estimate grown to 2012 dollars.

# Exhibit 9 to Ordinance No. 1418-19

TABLE 5

**Regional Urban Upgrade Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate (in 2012 dollars)	Champion	Funding Source	Priority*
R27	Add bicycle lanes on SW Boones Ferry Road from SW Norwood Road south to SW Day Road. Project will realign horizontal curves, add an intermittent center turn lane, pedestrian facilities on the west side of the road.	\$10,000,000 <sup>10</sup>	Washington County	Washington County MSTIP	Short-term (underway)

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

† Metro’s *Regional Transportation Plan (RTP)* includes SW Tualatin-Sherwood Road as a 5 lane cross section west of the City limits to 99W

LID – Local Improvement District

MBP – Minor Betterment Program (Washington County)

MSTIP – Major Streets Transportation Improvement Program

STIP – Statewide Transportation Improvement Program

TDT – Transportation Development Tax

<sup>10</sup> From Washington County’s ongoing Boones Ferry Road improvement project.

## New City Street Extensions

Tualatin’s residential areas are largely established; most of the recommended new streets occur as extensions in the industrial and manufacturing areas and in conjunction with other planning processes. The extension of SW 124<sup>th</sup> Avenue and ~~the east-west connection south of the City~~ [SW Basalt Creek Parkway](#) addresses the need for additional access to the regional transportation network including the OR 99W and I-5 corridors. The [adopted](#) Basalt Creek [Concept planning Plan](#) area ~~anticipates~~ [identified future](#) additional residential, [industrial](#) and commercial development, creating more demand, and future industrial and manufacturing development in the western part of the City ~~will need additional access~~. Table 6 presents cost estimates and priorities for the City street extensions, and Table 7 presents cost estimates for the regional street extensions.

TABLE 6

**City Street Extension Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
R28	Build a bridge over Hedges Creek and extend SW Myslony Street to connect with SW 112 <sup>th</sup> Avenue	\$2,593,000	City	TDT, LID, bonds, gas tax	Medium-term
R29	Build the Roadways from the SW Concept Plan: Extend SW 115 <sup>th</sup> Avenue south to connect with the SW 124 <sup>th</sup> Avenue, create an east-west connection between SW 115 <sup>th</sup> and SW 124 <sup>th</sup> Avenues.	\$31,446,000 <sup>11</sup>	City	TDT, LID, gas tax, Oregon Immediate Opportunity Fund	Long-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

LID – local improvement district

TDT – Transportation Development Tax

<sup>11</sup> From the *SW Tualatin Concept Plan* 2010. Estimate grown to 2012 dollars.



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## New City Street Extensions

Tualatin’s residential areas are largely established; most of the recommended new streets occur as extensions in the industrial and manufacturing areas and in conjunction with other planning processes. The extension of SW 124<sup>th</sup> Avenue and the east-west connection south of the City addresses the need for additional access to the regional transportation network including the OR 99W and I-5 corridors. The Basalt Creek planning area anticipates additional residential and commercial development, creating more demand, and future industrial and manufacturing development in the western part of the City will need additional access. Table 6 presents cost estimates and priorities for the City street extensions, and Table 7 presents cost estimates for the regional street extensions.

TABLE 6  
**City Street Extension Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
R28	Build a bridge over Hedges Creek and extend SW Myslony Street to connect with SW 112 <sup>th</sup> Avenue	\$2,593,000	City	TDT, LID, bonds, gas tax	Medium-term
R29	Build the Roadways from the SW Concept Plan: Extend SW 115 <sup>th</sup> Avenue south to connect with the SW 124 <sup>th</sup> Avenue, create an east-west connection between SW 115 <sup>th</sup> and SW 124 <sup>th</sup> Avenues.	\$31,446,000 <sup>11</sup>	City	TDT, LID, gas tax, Oregon Immediate Opportunity Fund	Long-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more  
LID – local improvement district  
TDT – Transportation Development Tax

<sup>11</sup> From the *SW Tualatin Concept Plan* 2010. Estimate grown to 2012 dollars.

## Regional Street Extensions

TABLE 7

**Regional Street Extension Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
R30	Extend SW 124 <sup>th</sup> Avenue south – include a multi-use path on one or both sides per street standards	\$15,000,000 <sup>12</sup>	City, City of Wilsonville, Washington County	Washington County MSTIP, TDT, LID	Short-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

LID – local improvement district

MSTIP – Major Streets Transportation Improvement Program

TDT – Transportation Development Tax

Please note: the City considered possible north-south crossings of the Tualatin River both east and west of I-5 in its TSP development. In the end, the City decided that the impacts of these crossings to Tualatin and/or to its neighboring communities outweighed the forecasted benefits and therefore no new river crossings are recommended in this TSP.

## Additional City Roadway Projects

Table 8 presents cost estimates and priorities for City roadway projects designed to address transportation deficiencies. Table 9 presents cost estimates for Regional roadway projects. These deficiencies include safety, congestion, and other community concerns. These projects are focused on improving localized issues, and intersection-specific upgrades to address safety and congestion concerns. Where traffic signals are recommended, traffic signal warrants would be conducted and the intersection would need to meet warrants before a signal is installed. Traffic warrant requirements are based on traffic volumes, pedestrian volumes, safety, and operation analyses. Figure 4 shows the projects geographically.

TABLE 8

**City Roadway Project Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
R31	Add a traffic signal at SW Tualatin Road and SW 115 <sup>th</sup> Avenue	\$609,000 <sup>13</sup>	City	TDT, LID, gas tax	Medium-term
R32	Remove some trees in the southwest corner of the intersection of SW Tualatin Road and SW 108 <sup>th</sup> Avenue to improve sight distance	\$8,000	City	TDT, LID, gas tax	Short-term
R33	Add a traffic signal at SW Tualatin Road and SW Teton Avenue	\$609,000 <sup>14</sup>	City	TDT, LID, gas tax	Short-term
R34	Eliminate the free right turn at SW Tualatin Road at the intersection with SW Herman Road, and consider a roundabout at this location. (cost estimate is for roundabout as assumed to	\$1,631,000	City	TDT, LID, gas tax	Long-term

<sup>12</sup> From Washington County's ongoing 124<sup>th</sup> Avenue extension project.

<sup>13</sup> See Project R33 for the cost estimate to a similar project.

<sup>14</sup> See Project R33 for the cost estimate to a similar project.

# Exhibit 9 to Ordinance No. 1418-19

Tualatin TSP February 2013

Street System Modal Plan

**TABLE 8  
City Roadway Project Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
	be higher cost of the two options)				
R35	Add a traffic signal or roundabout at SW Sagert Street and SW Martinazzi Avenue	\$2,069,000 <sup>15</sup>	City	TDT, LID, gas tax	Medium-term
R36	Add a southbound turn pocket from SW Teton Avenue to Avery Street	\$274,000	City	TDT, LID, gas tax	Medium-term
R37	Add a traffic signal at SW Avery Street and SW Teton Avenue	\$609,000	City	TDT, LID, gas tax	Medium-term
R38	Add signage to indicate that SW Tualatin Road is for local traffic, both along SW Tualatin Road and at either end (SW 124 <sup>th</sup> Avenue and SW Boones Ferry Road)	\$20,000	City	TDT, LID, gas tax	Short-term
R39	Add truck information signs along SW 105 <sup>th</sup> and 108 <sup>th</sup> Avenues. Install signs for no through trucks on SW 105 <sup>th</sup> and SW 108 <sup>th</sup> Avenues. Also places signs on SW Avery Street east and west of SW 105 <sup>th</sup> .	\$12,000	City	TDT, gas tax	Short-term
R40	Create a local street grid system on Urban Renewal Block 2 upon redevelopment with a connection opposite SW Seneca Street	\$2,307,000	City	TDT, gas tax, LID	Short-term
R41	Add bus pullouts on SW Boones Ferry Road at existing bus stops– 10 assumed at \$20,000 each	\$20,000 each	City	TDT, LID, gas tax, Travel Options	Medium-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more  
 LID – local improvement district  
 TDT – Transportation Development Tax

<sup>15</sup> From Metro's *Regional Transportation Plan (RTP) 2007*. Estimate grown to 2012 dollars.

## Regional Roadway Projects

TABLE 9

**Regional Roadway Project Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
R42	Add an eastbound right-turn lane on SW Tualatin-Sherwood Road at SW Boones Ferry Road	\$792,000	City	TDT, gas tax	Medium-term
R43	Restripe the turn lanes to extend the southbound left turn pocket on SW Boones Ferry Road at SW Tualatin-Sherwood Road to accommodate more vehicles	\$8,000	City	TDT, LID, gas tax	Short-term
R44	Move the guardrail directly east of the I-5 southbound off-ramp to the north to improve sight distance for vehicles turning west off of I-5.	\$32,000	City, ODOT	TDT, gas tax	Short-term
R45	Add an additional on-ramp lane for vehicles traveling westbound on SW Nyberg Street to I-5 northbound (northeast quadrant of the Nyberg Interchange). Reduce the pedestrian island and improve illumination to enhance safety	\$1,071,000	City, ODOT	STIP: TE, TDT	Medium-term
R46	Add signage on the northbound off-ramp at Nyberg Interchange to discourage traffic getting off and then right back onto I-5	\$2,000	City, ODOT	STIP: TE, TDT	Medium-term
R47	Redesign SW Nyberg Street and Fred Meyer intersection and improve pedestrian crossing. Add pedestrian warning signs, and a concrete z-crossing on SW Nyberg Street with a pedestrian island. Optimize signal timing so it allows adequate time for pedestrian crossing while minimizing impacts on auto traffic.	\$156,000	City, ODOT, Washington County	TDT, LID, STIP: TE, Bicycle and Pedestrian Program	Medium-term
R48	Add a dedicated right-turn lane on SW Teton Avenue southbound onto SW Tualatin-Sherwood Road westbound	\$890,000	City, Washington County	TDT, LID, gas tax	Medium-term
R49	Add a right turn lane from westbound SW Tualatin-Sherwood Road to northbound SW 124 <sup>th</sup> Avenue	\$320,000	City, Washington County	Washington County MSTIP, TDT, LID	Medium-term
R50	Improve lane signage on SW Tualatin Sherwood Road west of the Nyberg interchange to help vehicles be in the correct lane before entering the interchange area	\$345,000	City, Washington County, ODOT	TDT, gas tax, STIP: TE	Short-term
R51	Add a signal at SW 65 <sup>th</sup> Avenue and SW Sagert Street	\$681,000	City, Washington County	TDT, LID, gas tax	Medium-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

LID – local improvement district

MSTIP – Major Streets Transportation Improvement Program

STIP – Statewide Transportation Improvement Program

TDT – Transportation Development Tax

TE – Transportation Enhancement

# Exhibit 9 to Ordinance No. 1418-19

Tualatin TSP February 2013

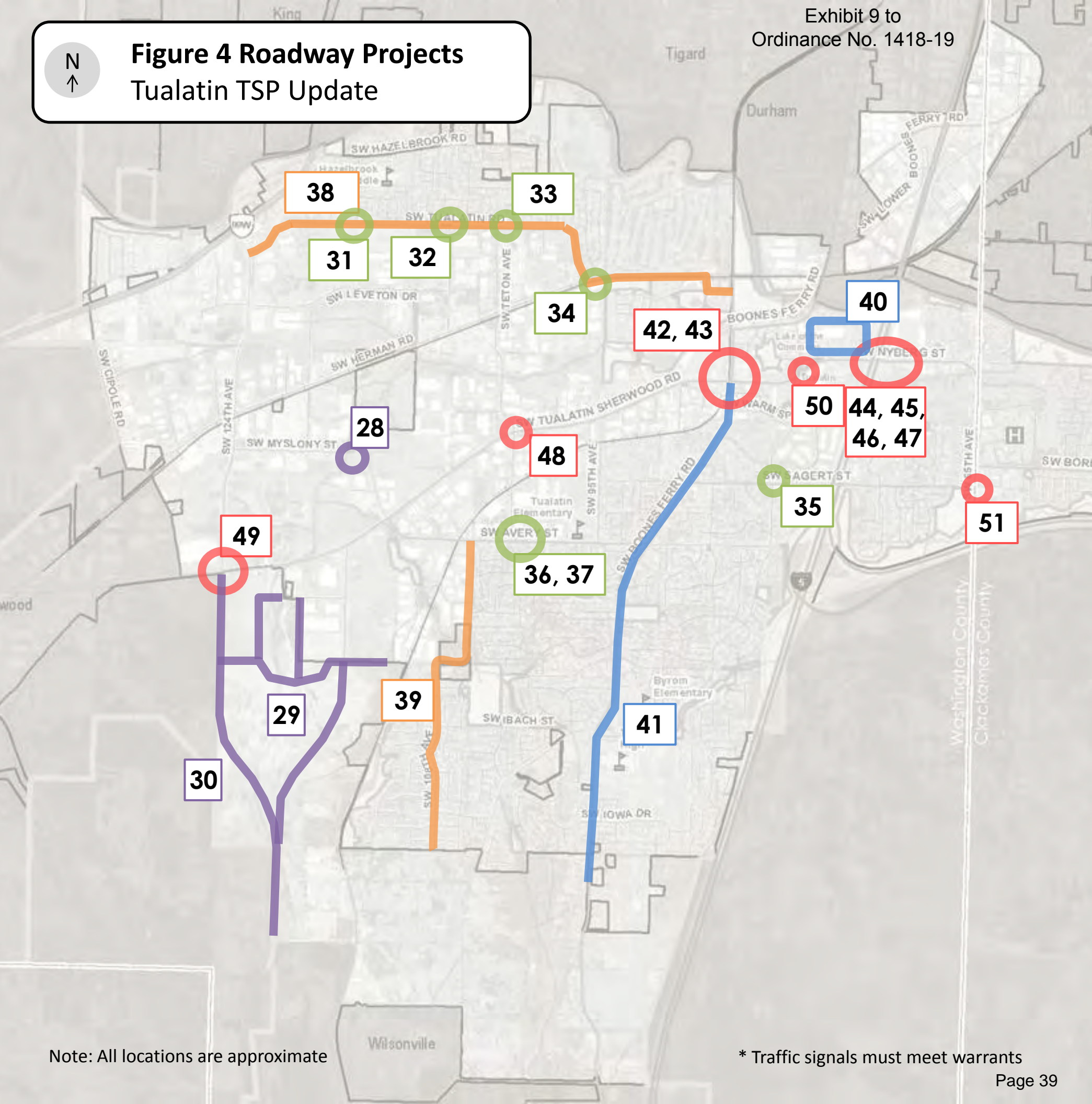
Street System Modal Plan

Tualatin/I-5 Nyberg Interchange: I-5 Northbound Off-ramp At the Tualatin/I-5 Nyberg Interchange Northbound off-ramp, future traffic growth (2035) indicates a potential for backups into the deceleration portion of the ramp due to lack of storage space. The existing off-ramp structure has a horizontal curve which limits the ability to modify striping on the ramp in an effort to extend the deceleration section, especially in light of exiting freight vehicles. In addition, the off-ramp is adjacent to the I-205 interchange which limits the ability to extend the off-ramp length for additional storage. It is likely that a solution to this issue would require widening of the existing structure to provide safe and sufficient vehicle storage. This project is not included in the TSP at this time, However, ODOT will coordinate with the City of Tualatin to explore this project and the City will consider adding it to the TSP at a future date.

Exhibit 9 to  
Ordinance No. 1418-19

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**Figure 4 Roadway Projects**  
Tualatin TSP Update



- New Streets and Street Extensions**
- 28 Connect SW Myslony Street to SW 112<sup>th</sup> Avenue
  - 29 Build the roadways from the SW Concept Plan
  - 30 Extend SW 124<sup>th</sup> Avenue south (Regional Project)

- City Intersection Improvements**
- 31 Add signal\* at SW Tualatin Road and SW 115<sup>th</sup> Avenue
  - 32 Remove some trees at intersection of SW Tualatin Road and SW 108<sup>th</sup> Avenue to improve sight distance
  - 33 Add signal\* at SW Tualatin Road and SW Teton Avenue
  - 34 Remove the free right turn at SW Tualatin Road at the intersection of SW Herman Road, consider a roundabout
  - 35 Add a signal\* or roundabout at SW Sagert St and SW Martinazzi Ave
  - 36 Add a southbound turn pocket from SW Teton Avenue to Avery Street
  - 37 Add a signal\* at SW Avery Street and SW Teton Avenue

- City Roadway Signs**
- 38 Add signage indicating that Tualatin Road is for local traffic
  - 39 Add truck info signs along 108<sup>th</sup>/105<sup>th</sup> Avenues to indicate that these roads are for local traffic

- City Roadway Changes**
- 40 Create a local street grid system on Urban Renewal Block 2 upon redevelopment with a connection to SW Seneca Street
  - 41 Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible (this project is also shown on the transit figure)

- Regional Intersection Improvements**
- 42 Add an eastbound right turn lane on SW Tualatin-Sherwood Road at SW Boones Ferry Road
  - 43 Extend the southbound left turn pocket on SW Boones Ferry Road at SW Tualatin-Sherwood Road
  - 44 Move guardrail on southbound off ramp to improve sight distance
  - 45 Northbound I-5 on-ramp: reduce pedestrian island, add an additional lane
  - 46 Add signage at the northbound off ramp to discourage traffic getting off and then back onto I-5
  - 47 Redesign SW Nyberg Street and Fred Meyer intersection and improve pedestrian crossing, add striping and a pedestrian island
  - 48 Add a dedicated right turn lane on southbound SW Teton Avenue and SW Tualatin-Sherwood Road
  - 49 Add a right turn lane from westbound SW Tualatin-Sherwood Road to northbound SW 124<sup>th</sup> Avenue
  - 50 Improve lane signage west of the Nyberg interchange to indicate lanes passing through the interchange area
  - 51 Add signal\* at SW 65<sup>th</sup> Avenue and SW Sagert Street

Note: All locations are approximate

\* Traffic signals must meet warrants



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## Access Management

Access management is important to maintain traffic flow and ensure safety on the City's arterial street network, including SW Tualatin-Sherwood Road, Oregon Highway 99W (OR 99W), and other high-traffic routes. Limiting the number of points where traffic can enter and exit reduces potential conflict points, improves roadway performance, and reduces the need for capacity expansion. The City manages access through Chapter 75 of the Tualatin Development Code (TDC); that chapter details where access is permitted on arterial and collector roads within the City. Tualatin must coordinate with Washington and Clackamas Counties and ODOT to manage access on roads the City does not own, including SW Tualatin-Sherwood Road, SW Cipole Road, SW 65<sup>th</sup> Avenue, SW Borland Road, and sections of SW Boones Ferry Road.

Access management policies are:

- ◆ **Access Management Policy 1:** No new driveways or streets on arterial roadways within the City, except where noted in the TDC, Chapter 75, usually when no alternative access is available
- ◆ **Access Management Policy 2:** Where a property abuts an arterial and another roadway, the access for the property shall be located on the other roadway, not the arterial
- ◆ **Access Management Policy 3:** Adhere to intersection spacing included in Chapter 75 of the TDC
- ◆ **Access Management Policy 4:** Limit driveways to right-in, right-out (where appropriate) through raised medians or other barriers to restrict left turns
- ◆ **Access Management Policy 5:** Look for opportunities to create joint accesses for multiple properties, where possible, to reduce the number of driveways on arterials
- ◆ **Access Management Policy 6:** No new single-family home, duplex or triplex driveways on major collector roadways within the City, unless no alternative access is available
- ◆ **Access Management Policy 7:** On collector roadways, residential, commercial and industrial driveways where the frontage is greater or equal to 70 feet are permitted. Minimum spacing at 100 feet. Uses with less than 50 feet of frontage shall use a common (joint) access where available

Chapter 75 of the TDC, most recently updated in 2012, has specific access standards for each arterial road within Tualatin. It provides recommendations for future changes on specific roads, as well as potential solutions for access issues. Generally, all new intersections with arterials must have a minimum spacing of 0.5 mile. On Washington County roads, the access spacing on arterials is 600 feet from any intersection or other access. The City Engineer is responsible for reviewing all requests for access to arterial streets, and will be consistent with County and ODOT standards on facilities owned by those agencies. Exceptions to these standards may be allowed, but only under special circumstances and with conditions.

## Traffic Operations Standards

This section includes a discussion of standards included in the OHP, ODOT's *Highway Design Manual* (HDM), and the TPR and City documents for local roadways. Based on the preferred system for operational analysis, there are four intersections that do not meet jurisdictional standards after mitigation strategies are included. These intersections that experience operational constraints are in the SW Lower Boones Ferry Road/I-5 interchange area, and are due to the additional motor vehicle trips associated with the widening of SW Boones Ferry Road from SW Martinazzi Avenue to SW Lower Boones Ferry Road. The results of the traffic operations for the 2035 PM peak with the preferred system are shown in Table 10.

# Exhibit 9 to Ordinance No. 1418-19

The first mitigation strategies explored transportation system management techniques (maximizing operations at intersections through signal timing adjustments and/or phasing adjustments). If system management techniques did not achieve acceptable jurisdictional operations, localized capacity improvements were explored (for example, a new turn pocket). Generally these improvements allowed for adequate signal operations under a mitigated scenario.

TABLE 10  
2035 PM Peak Hour Preferred System Intersection Operations

Intersection	Jurisdiction	Minimum Standard	Preferred System
<b>Signalized Intersections</b>			
SW 124th Ave/Hwy 99W	ODOT	0.99	D 0.97
SW 124th Ave/SW Tualatin Rd	Tualatin	D	C 0.88
SW 124th Ave/SW Herman Rd	Tualatin	D	C 0.77
SW 124th Ave/SW Tualatin-Sherwood Rd	Washington County	0.99	C 0.92
SW Avery St/SW Tualatin-Sherwood Rd	Washington County	0.99	D 0.98
SW Teton Ave/SW Tualatin-Sherwood Rd	Washington County	0.99	E 0.92
SW 90th Ave/SW Tualatin-Sherwood Rd	Washington County	0.99	C 0.80
SW Boones Ferry Rd/SW Tualatin-Sherwood Rd	Washington County	0.99	E <b>1.00</b>
SW Martinazzi Ave/SW Tualatin-Sherwood Rd	Washington County	0.99	F <b>1.08</b>
I-5 SB Ramps/SW Nyberg Rd	ODOT	0.99	D 0.86
I-5 NB Ramps/SW Nyberg Rd	ODOT	0.99	C 0.85
SW 65th Ave/SW Borland Rd	Washington County	0.99	D 0.99
SW Teton Ave/SW Herman Rd	Tualatin	D	C 0.67
SW Tualatin Rd/SW Herman Rd	Tualatin	D	B 0.77
SW 90th Ave/SW Tualatin Rd	Tualatin	D	C 0.94
SW Tualatin Rd/SW Boones Ferry Rd	Washington County	0.99	C 0.89
SW Martinazzi Ave/SW Boones Ferry Rd	Tualatin	D	E <b>1.08</b>
SW Boones Ferry Rd/SW Lower Boones Ferry Rd	ODOT	0.99	D <b>1.02</b>
SW 72nd Ave/SW Lower Boones Ferry Rd/SW Bridgeport Rd	Washington County	0.99	D 0.89
I-5 SB Ramps/SW Lower Boones Ferry Rd	ODOT	0.99	D 0.98
I-5 NB Ramps/SW Lower Boones Ferry Rd	ODOT	0.99	D 0.96
SW Boones Ferry Rd/SW Avery St	Washington County	0.99	D 0.94
SW Boones Ferry Rd/SW Sagert St	Washington County	0.99	D 0.93
SW Boones Ferry Rd/SW Ibach St	Washington County	0.99	D 0.98
SW 105th Ave/SW Avery St <sup>16</sup>	Tualatin	E	C 0.94
SW Martinazzi Ave/SW Sagert St <sup>17</sup>	Tualatin	E	D 0.92

<sup>16</sup> Operations evaluated with minor street stop control.

TABLE 10  
2035 PM Peak Hour Preferred System Intersection Operations

Intersection	Jurisdiction	Minimum Standard	Preferred System	
SW 65 <sup>th</sup> Ave & SW Nyberg Rd	Washington County	0.99	C	0.92
<b>Unsignalized Intersections</b>				
SW Martinazzi Ave & SW Avery St*	Tualatin	E	D	0.83
SW Teton Ave & SW Avery St*	Tualatin	E	B**	0.62**
SW 65th Ave & SW Sagert St* <sup>18</sup>	Washington County	0.99	D**	0.97**
SW Teton Ave & SW Tualatin Rd	Tualatin	E	B**	0.70**

\* LOS and V/C reported for the highest delay movement

\*\* Evaluated as a traffic signal. Assumes construction of traffic signal

There were some intersections located in the downtown core area that were not able to meet jurisdictional standards without the implementation of significant capacity and/or roadway widening improvements. These types of major infrastructure improvements were deemed to be too impactful to the downtown core and were not included in the final preferred system improvements. The downtown Tualatin area is designated a Town Center by Metro, and using that designation, Town Centers are allowed to not meet jurisdictional standards. Alternate standards for Town Centers in the RTP are based on a two-hour peak hour. The standard v/c for the first peak hour is 1.1, and for the second peak hour is 0.99. These intersections meet the RTP standards, and there is no need for additional alternate mobility standards.

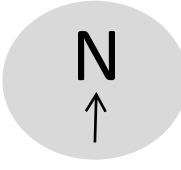
<sup>17</sup> Operations evaluated with minor street stop control. HCM Methodology does not account for a three-lane approach for an all way stop (as exists for the southbound approach.) To estimate LOS and V/C for the intersection the three lanes (one dedicated to each movement) are combined into two: through-right and through-left lanes. Because of this approximation, actual performance may be slightly better than reported above.

<sup>18</sup> HCM Methodology does not account for a three-lane approach for an all way stop (as exists for the southbound approach.) To estimate LOS and V/C for the intersection the dedicated southbound left turn lane and through lane are combined, due to the relatively small volume on the left turn movement. Because of this approximation, actual performance may be slightly better than reported above.

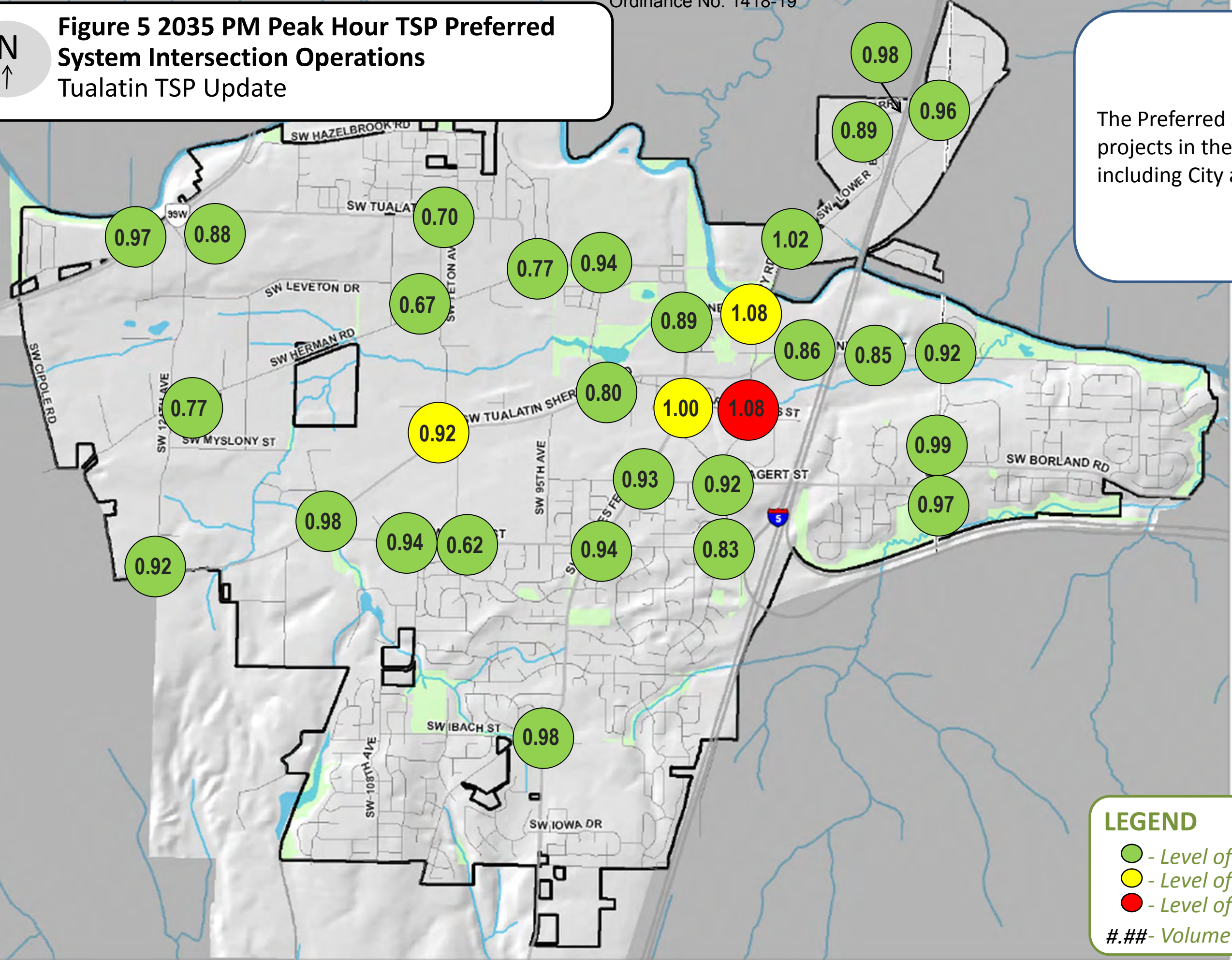
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**Figure 5 2035 PM Peak Hour TSP Preferred System Intersection Operations**  
Tualatin TSP Update



The Preferred System includes all projects in the Street Modal Plan including City and regional projects.



**LEGEND**

- - Level of Service A through D
- - Level of Service E
- - Level of Service F

###- Volume to Capacity Ratio

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## 3 Transit Modal Plan

This chapter describes the City of Tualatin's public transit modal plan. Public transit in Tualatin is envisioned to be multi-faceted by including local and express bus service, commuter rail, potential high capacity transit, and local transit shuttle services. In addition, the community's vision for public transit includes improvements in the quality of transit service, as well as land uses that better complement and encourage use of transit in downtown Tualatin. This section provides a brief overview of existing conditions and needs for public transit, provides a list of policies relating to transit that will guide the City's implementation of this plan, and provides a list of key projects identified by the community that would improve public transit. This chapter concludes by providing cost estimates for each project and a description of each project's relative priority.



*Tualatin WES Station*

## Existing Conditions for Public Transit

### Transit Service

Public transit in Tualatin currently consists of TriMet bus lines, one South Metro Area Regional Transit district (SMART) bus line, Westside Express Service (WES) commuter rail, LIFT paratransit service, and the Tualatin Shuttle.

Five TriMet bus lines currently serve Tualatin:

- ◆ Line 36 (South Shore) connecting Lake Oswego to Tualatin and downtown Portland
- ◆ Line 37 (Lake Grove) connecting Lake Oswego to Tualatin
- ◆ Line 38 (Boones Ferry Road) connecting Tualatin to Portland City center
- ◆ Line 76 (Beaverton/Tualatin) connecting Beaverton and Tualatin
- ◆ Line 96 (Tualatin/I-5) express route from Tualatin to downtown Portland via I-5

WES commuter rail service connects Beaverton to Wilsonville via Tualatin. LIFT paratransit service is available for qualified persons with disabilities within Tualatin and the greater Portland metropolitan region. SMART serves Tualatin with its bus line No. 2X service, connecting Wilsonville to the Barbur Transit Center. The Tualatin Shuttle operates on weekdays in the morning and afternoon rush hours, connecting passengers from TriMet bus stops, WES, and downtown Portland to businesses in Tualatin.

### Park-and-Rides

There are four park-and-ride lots within the City of Tualatin, all of which are served by TriMet:

- ◆ The Tualatin Park-and-Ride is the largest park-and-ride lot within the City of Tualatin. It is located at SW 72nd Avenue and SW Bridgeport Road in the northern part of the City, north of the Tualatin River and downtown. It has 466 total vehicle spaces and is open all days. It is a major transfer station with five separate bus lines stopping at this location.



- ◆ The Mohawk Park-and-Ride is located at SW Mohawk Street and SW Martinazzi Avenue about 0.5 miles south of the Tualatin Commons and downtown Tualatin. It has 232 total vehicle spaces and is open all days. Two bus lines stop at this park and ride, providing an opportunity to transfer.
- ◆ The Tualatin South Park-and-Ride is the newest park-and-ride in the City. It is located at 18955 SW Boones Ferry Road just west of the Tualatin Commons and downtown. It is open all days and provides bike parking with lockers and covered racks. It has 147 total vehicle spaces. This park and ride is the only transfer station between the WES commuter rail and a bus line.
- ◆ The Boones Ferry Community Church Park-and-Ride is the smallest park-and-ride in the City of Tualatin and is located at 20500 SW Boones Ferry Road. It is open Monday through Friday only, and provides 20 vehicle spaces. This park and ride only serves one bus line, and is not a transfer station.



Bus stop for TriMet line Nos. 76 and 96

More information on existing transit service, transit amenities, fares, and ridership is provided in Appendix B, Existing Conditions and Deficiencies.

## Summary of Limitations and Needs for Transit

It is likely that most residents of Tualatin do not currently rely solely on transit service to meet their transportation needs. One reason may be because most residents do not live within walking distance (0.25 mile) of a transit stop, and because transit is not provided at frequent intervals during all hours of the day. In addition, only 8 percent of households in the city of Tualatin do not have access to a vehicle.<sup>19</sup> According to the *Conceptual Linking Tualatin Plan*, over 11,000 workers and over 5,000 households (over half of the people living and working in the city) lack regular transit service within a quarter mile of where they live or work.<sup>20</sup>

TriMet does not provide transit service within all areas of the City or on all major corridors. No transit service is provided on SW Tualatin-Sherwood Road or SW Tualatin Road, and many residents in the western portion of the City live more than a mile from the nearest transit line. Many residents who do live near a bus line are not served by transit at regular intervals during the day. Because of the limitations of service during off-peak hours, noncommuting trips may be more difficult to complete using transit in Tualatin. Community feedback indicated the following specific needs for transit:

- ◆ Service connecting the west side of Tualatin to the downtown core
- ◆ Park-and-rides in the west and south areas of Tualatin
- ◆ Extended service hours, including weekend service
- ◆ More direct connections to places other than downtown Portland

Additional needs for transit stops include direct and safe access to transit stops and bicyclist and pedestrian amenities at stops, especially where transit riders are able to transfer lines or modes.

<sup>19</sup> U.S. Census Bureau, 2009-2011 American Community Survey, Table B08201

<sup>20</sup> *Conceptual Linking Tualatin Plan Draft*, 2012.

## Transit Policies

The City of Tualatin's policies on public transit are as follows:

- ◆ **Transit Policy 1:** Partner with TriMet to jointly develop and implement a strategy to improve existing transit service in Tualatin.
- ◆ **Transit Policy 2:** Partner with the Tualatin Chamber of Commerce to support grant requests that would expand the Tualatin Shuttle services.
- ◆ **Transit Policy 3:** Partner with TriMet, Metro, and neighboring communities to plan the development of high-capacity transit in the Southwest Corridor, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 4:** Partner with TriMet, Metro, and neighboring communities to plan development of high-capacity transit connecting Tualatin and Oregon City, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 5:** Coordinate with ODOT and neighboring communities on conversations related to Oregon Passenger Rail between Portland and Eugene.
- ◆ **Transit Policy 6:** Develop and improve pedestrian and bicycle connections and access to transit stops.
- ◆ **Transit Policy 7:** Encourage higher-density development near high-capacity transit service.
- ◆ **Transit Policy 8:** Metro in the RTP calls for increased WES service frequency. The City will coordinate with TriMet, Metro, and ODOT to explore service frequency improvements and the possible inclusion of a second WES station in south Tualatin.

In addition to the transit policies included here, there is also a bicycle and pedestrian policy applicable to transit:

- ◆ **Bicycle and Pedestrian Policy 7:** Implement bicycle and pedestrian projects to provide pedestrian and bicycle access to transit and essential destinations for all mobility levels, including direct, comfortable, and safe pedestrian and bicycle routes
- ◆ **Bicycle and Pedestrian Policy 8:** Ensure that there are bicycle and pedestrian facilities at transit stations

## Regional Coordination

The City of Tualatin will participate fully in the development of regional transit projects through partnering with other agencies. Regional projects currently under development include the following:

- ◆ **Southwest Corridor Project.** The purpose of the Southwest Corridor project is to extend high-capacity transit from downtown Portland into the southwest part of the region. Doing so will help to fulfill the vision of the Metro *High Capacity Transit System Plan*. The City of Tualatin is partnering with Metro and TriMet to bring regional high-capacity transit to Tualatin and neighboring communities.
- ◆ **Linking Tualatin Project.** The purpose of the Linking Tualatin project is to better link people to the places they need to go via transit, particularly linking employees to their jobs, and creating linkages between Tualatin and the rest of the region. It addresses one of the community's biggest concerns, which is the lack of east-west transit connections. The Linking Tualatin Plan presents the community's vision, developed through working groups and an intensive workshop, of land use and transportation options for the city's major employment areas intended to improve local and regional transit service. These options include suggested changes to future land uses, bicycle and pedestrian connections, road connections, and transit facilities to make Tualatin more "transit ready." It is a work in progress, and will continue to be reviewed by the community and refined through early 2013 to incorporate property owner and employer input and address future high capacity transit options being studied in the Southwest Corridor Project. The project goal is to complete the planning process by June 2013.

The community's vision for "transit ready places" in the Linking Tualatin Plan includes potential transit and other transportation improvements to increase access to and use of transit. Public and private projects focus on improved bicycle and pedestrian connections and road crossings, new local street connections, and new transit services or facilities. Some public projects are unique to the Linking Tualatin Plan and will be studied further through that planning process. These projects include:

1. Bridgeport Village Area: **Provide a new pedestrian crossing** on SW Lower Boones Ferry Road at entrance to the south lot of the Tualatin Park-and-Ride.
2. Bridgeport Village Area: **Provide new local street connections** north of the proposed Bridgeport Apartments development, west, and north of the Grand Hotel.
3. Downtown Area: **Improve pedestrian crossing** on SW Boones Ferry Road at SW Nyberg Street near the WES station.
4. Meridian Park/Nyberg Woods Area: **Provide a new pedestrian crossing** on SW 65<sup>th</sup> Avenue near the north entrance to Meridian Park Hospital.
5. Leveton Area: **Provide a new pedestrian crossing** on SW Herman Road west of SW 108<sup>th</sup> Avenue to access a future bus stop and improve bicycle/pedestrian connectivity.
6. Teton Area: **Provide a new WES stop** near SW Tualatin-Sherwood Road, west of the intersection of SW Avery Street and SW 105<sup>th</sup> Avenue.
7. Teton Area: **Improve pedestrian crossing** at the SW Teton Avenue and SW Tualatin-Sherwood Road intersection.
8. Southwest Industrial Area: **Consider providing parkway treatment** along SW Tualatin-Sherwood Road between SW 124<sup>th</sup> Avenue and SW Avery Street.
9. Pacific Financial/SW 124<sup>th</sup> Avenue Area: **Provide new trails** parallel to OR 99W between SW Hazelbrook Road and the north side of the Tualatin River to connect with the Tualatin River Greenway Trail.
10. Pacific Financial/SW 124<sup>th</sup> Avenue Area: **Connect the Tualatin River Greenway trail** under the OR 99W bridge on both side of the river.

Other public projects in the Linking Tualatin Plan are included in the Transit Modal Plan of this Transportation System Plan. The focus of these projects is on providing east-west connectivity between OR 99W and downtown Tualatin via local bus transit, anchored by park-and-ride facilities in west, east and south Tualatin, and a transit hub at the downtown Tualatin WES station. These projects are shown in Figure 4 and more detail is provided later in this section.

- ◆ **Oregon Passenger Rail.** The purpose of the Oregon Passenger Rail project is to improve passenger rail service between Portland and Eugene. Along the way, the rail service is expected to serve the south Metro area via an alignment either east or west of the Willamette River. The City of Tualatin intends to coordinate with ODOT to help determine an appropriate corridor that would improve intercity passenger rail service in Oregon.
- ◆ **WES Extension.** TriMet and ODOT may consider the feasibility of extending WES commuter rail from Wilsonville to Salem. The City of Tualatin is supportive of the WES extension and intends to partner with ODOT and TriMet in facilitating this project.

## Transit Projects

The following proposed projects represent the community's desires for future improvements to transit service. Figure 4 depicts the projects geographically. These projects can be grouped into the following categories: fixed-route bus service, shuttle service, WES, and park-and-rides.

## Expansions of Fixed-route Bus Transit Service

- 1. Provide transit service on SW Herman Road.** SW Herman Road connects to several centers of employment. Bus transit service along SW Herman Road would allow workers to travel more easily from the center of Tualatin to their work sites.
- 2. Provide transit service on SW 124<sup>th</sup> Avenue.** SW 124<sup>th</sup> Avenue is a key north-south connection on the west side of Tualatin, connecting OR 99W with SW Tualatin-Sherwood Road. Adding transit service on SW 124<sup>th</sup> Avenue would improve access to the frequent transit service already provided on OR 99W.
- 3. Provide transit service on SW Avery Street.** SW Avery Street connects SW Tualatin-Sherwood Road to the City's central residential areas. Providing bus transit service along SW Avery Street would provide an important connection to residential areas in the central part of Tualatin and provide an opportunity to connect with the existing transit service on SW Boones Ferry Road.
- 4. Provide transit service on SW Tualatin Road between downtown and OR 99W.** SW Tualatin Road is an important connection to both residential areas in northwest Tualatin and to employment between SW Tualatin Road and SW Herman Road.
- 5. Provide transit service on Tualatin-Sherwood Road.** Tualatin-Sherwood Road is Tualatin's major east-west roadway, connecting it to 99W and Sherwood to the west and to Boones Ferry Road and I-5 on the east. It serves the greatest number of people in Tualatin and major activity centers including the WES station, retail shopping, and businesses are located along it. Transit service along Tualatin-Sherwood Road would provide an alternative to driving for Tualatin's residents as well as its employees and visitors.
- 6. Extend transit service to the east in Tualatin.** The area of Tualatin east of I-5 is served only by TriMet's No. 76 bus line, which extends to Meridian Park Hospital at SW 65th Avenue and SW Borland Road. East of the hospital are several residential developments, as well as the Rolling Hills Community Church, which houses the Tualatin Food Pantry, and two schools.
- 7. Extend service hours for transit.** Most of the bus service provided in Tualatin operates primarily during commuting hours on weekdays. WES also operates only on weekdays during peak hours. TriMet's line No. 76 operates with limited frequency on Saturday and Sunday. Extending service hours for transit lines would allow citizens to use transit as a viable transportation option for more of their needs.
- 8. Explore a shuttle or trolley service between Bridgeport Village and the Tualatin Commons area, especially on weekends.** Both Bridgeport Village and the Tualatin commons near the City-owned parking lots are destinations for local and regional residents. Providing a shuttle service between the two areas would potentially reduce traffic in central Tualatin and would help foster activity in downtown Tualatin. Residents would be able to park at the Commons and take the Shuttle into Bridgeport Village.
- 9. Expand the Tualatin Shuttle and Consider a Deviated Fixed Route.** The Tualatin Shuttle currently operates during a.m. and p.m. peak hours only. There are two vehicles, a larger van and a smaller van. Both currently operate on a demand-responsive basis and do not have fixed routes. The City should partner with the Chamber of Commerce to explore a deviated fixed route for the larger van that would serve as a city-wide transit circulator serving existing and future major employment markets in Tualatin. The route would connect to the Tualatin Park and Ride and travel south via SW Lower Boones Ferry Road and SW Boones Ferry Road. It would then connect three major employment districts in the city in this order:
  - ✓ **Southwest and near west of downtown Tualatin** via SW Boones Ferry Road, SW Avery Street, and SW Teton Ave
  - ✓ **West Tualatin** via SW Tualatin-Sherwood Road, SW 124<sup>th</sup> Ave, and SW Herman Road

- ✓ **Northwest Tualatin** via SW Cipole Road, OR 99W, and SW 115<sup>th</sup> and SW 118<sup>th</sup> Aves
  - The route would complete by returning east on SW Herman Road and SW Tualatin Road.
  - In the future, the route could be extended to include a fourth major employment district as demand is created with future development:
- ✓ **East Tualatin** via SW Nyberg Street, SW 65<sup>th</sup> Ave, and SW Sagert Street

The smaller van that currently operates as the Tualatin Chamber of Commerce Shuttle would continue to be run on a demand-responsive basis and would serve key residential areas throughout the city. In addition, expanding the service hours of the Tualatin Chamber of Commerce Shuttle would allow more employees to use it. Funding for these service expansions should be sought, and used for the following purposes, in order of priority:

- ✓ Additional van for the afternoon peak
- ✓ Broader service hours (still within an AM and PM peak period)
- ✓ Provision of mid-day service

## WES

- 10. Make the WES station a central focus of downtown and the main transit center.** The WES station is located in central Tualatin and three actions would make it more of a central focus of downtown: (1) Transit-oriented development that over time would refocus activity towards the train station; (2) Improving pedestrian activity and connectivity to both these future transit-oriented uses but also to existing uses, including Haggen's and development east of Boones Ferry Road and south of Tualatin-Sherwood Road; and (3) Add local transit connections to the WES station over time, including the Routes 96 and the 38, as well as potential future fixed-route service.

## Expansions of the Park-and-Ride System

- 11. Improve transit service on OR 99W and look for potential shared use park-and-ride locations in west Tualatin.** There are few park-and-ride options on or near OR 99W for Tualatin residents. The closest are in Sherwood (shared use with Regal cinemas) to the south or Tigard to the north (shared use with Christ the King Lutheran Church). Further, the Route 12 discontinued service in 2012 to Sherwood, terminating at the Tigard Transit Center to the north. The one route along OR 99W through Tualatin is the Route 94 which does not stop between Sherwood and Tigard. This limits the ability of Tualatin residents to access transit along OR 99W. Add a transit stop in the vicinity of Tualatin Road for the 94 and future fixed route transit, and look for potential shared use park-and-ride locations in this vicinity that would serve Tualatin residents.



*Mohawk Park-and-Ride*

- 12. Look for potential, shared use park-and-ride locations in south Tualatin.** Bus line No. 96 travels through south Tualatin via SW Boones Ferry Road. However, there is no park-and-ride currently serving this area south of the Boones Ferry Community Church Park-and-Ride. Adding a park-and-ride in the south part of Tualatin or south of Tualatin near the terminus of bus No. 96 would improve access to transit for residents of that area.

**13. Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible.** The streets modal plan describes a preferred cross section on SW Boones Ferry Road that retains one travel lane in each direction with a center-turn lane, bicycle lanes and sidewalks throughout. This cross section was selected over a wider, five-lane cross section for reasons of neighborhood livability, however it means that buses traveling on SW Boones Ferry Road can create congestion by blocking the travel lane when stopping to pick up or drop off passengers. This project constructs bus pullouts where buses could pull out of the travel lane at existing stops.

## Cost Estimates and Prioritization

Table 11 provides cost estimates and priorities for each of these proposed transit projects.

TABLE 11  
Transit Project Cost Estimates and Prioritization

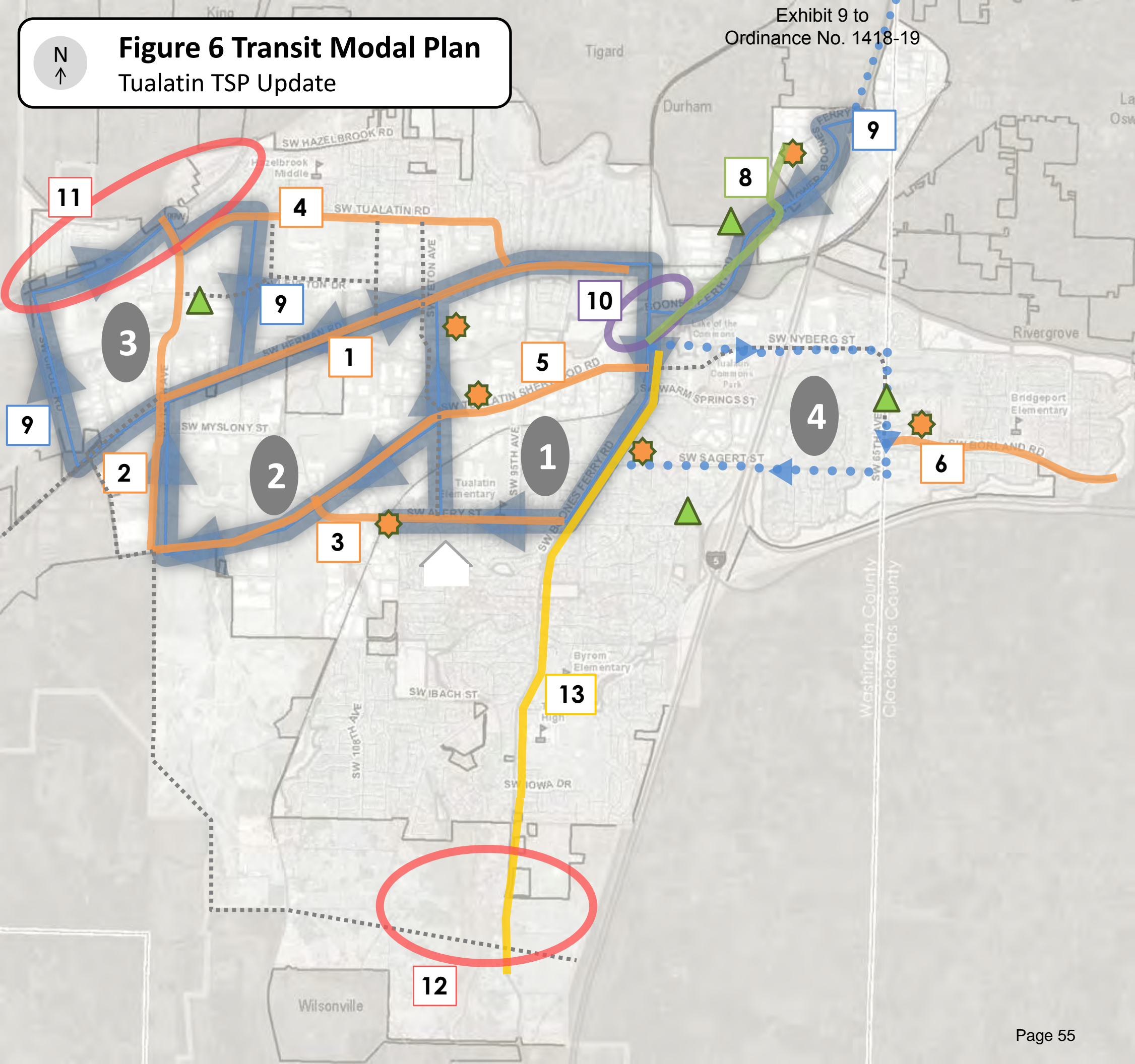
Project ID	Project Description	Cost Estimate		Champion	Funding Source	Priority*
		Capital	Operating			
T1	Provide transit service on SW Herman Road	\$466,000	\$168,000	TriMet, City	TriMet	Medium-term
T2	Provide transit service on SW 124 <sup>th</sup> Avenue	\$462,000	\$114,000	TriMet, City	TriMet	Medium-term
T3	Provide transit service on SW Avery Street	\$460,000	\$97,000	TriMet, City	TriMet	Medium-term
T4	Provide transit service on SW Tualatin Road between downtown and OR 99W	\$471,000	\$184,000	TriMet, City	TriMet	Short-term
T5	Provide transit service on SW Tualatin-Sherwood Road	\$473,000	\$218,000	TriMet, City	TriMet	Medium-term
T6	Extend transit service to east Tualatin	\$466,000	\$97,000	TriMet, City	TriMet	Medium-term
T7	Extend service hours for all transit, with a focus on the No. 96 bus line	N/A	\$1,083,000	TriMet, City	TriMet	Medium-term
T8	Trolley service between Bridgeport Village and the Tualatin Commons	\$50,000	\$308,000	Chamber of Commerce, City, Metro	Fares, Chamber of Commerce	Medium-term
T9	Expand the Tualatin Shuttle for industrial and manufacturing workers during the day	N/A	\$58,000	Chamber of Commerce, City, Metro	Chamber of Commerce, Metro (JARC)	Short-term
T10	Make the WES station a central focus of downtown and the main transit center; improve pedestrian connectivity, transit-oriented development opportunities, and local transit connections	N/A	N/A	City	TriMet, City	Long-term
T11	Look for potential shared use park-and-ride locations in west Tualatin	N/A	\$51,000	City, TriMet	TriMet, City	Medium-term
T12	Look for potential shared use park-and-ride locations in south Tualatin	N/A	\$51,000	City, TriMet	TriMet, City	Medium-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more  
JARC – Jobs Access Reverse Commute

Exhibit 9 to  
Ordinance No. 1418-19

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**Figure 6 Transit Modal Plan**  
Tualatin TSP Update



**Expansions of Fixed-Route Bus Transit Service**

- 1 Provide bus transit service on Herman Rd
- 2 Provide bus transit service on 124<sup>th</sup> St
- 3 Provide bus transit service on Avery St
- 4 Provide bus transit service on Tualatin Rd between downtown Tualatin and 99W
- 5 Provide transit service on Tualatin-Sherwood Rd
- 6 Extend bus service further east in Tualatin
- 7 Throughout – quality of service improvements (not shown on map)

**Expansions of the Shuttle Service**

- 8 Provide a trolley service between Bridgeport Village and Commons area
- 9 Create an on-call shuttle for industrial & manufacturing workers during the day:

- Partial fixed route for Van 1
- Potential future route as demand grows
- Employment centers served by shuttle (existing, potential)
- Residential centers served by shuttle
- Directional for partial fixed routes

Note: Shuttle Van 2 would retain a flexible, on-call route connecting residential areas with employment

**WES**

- 10 Make the WES station a central focus of downtown and the main transit center. Improve pedestrian connectivity, transit-oriented development opportunities, and local transit connections

**Park-and-ride System Expansion**

- 11 Look for potential park-and-ride locations in west Tualatin
- 12 Look for potential park-and-ride locations south of Bridgeport Village (Wilsonville area)

**Bus Pull-outs**

- Note: this project is also included on the Roadway improvements figure
- 13 Add bus pullouts on SW Boones Ferry Road at existing bus stops where possible

**Additional Transit Route Recommendations from Linking Tualatin**



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## 4 Pedestrian, Bicycle, and Multi-Use Path Modal Plan

This chapter describes the pedestrian and bicycle improvement projects to comfortably and safely accommodate bicyclists and pedestrians within the City. These projects include multi-use paths, specific bicycle and pedestrian improvements, and street upgrades. There is a stand-alone bicycle and pedestrian plan in Appendix H.

### Existing Conditions for Bicyclists and Pedestrians

#### Existing On-Street Bicycle Facilities

Tualatin streets provide a variety of bicycle facilities, including bike lanes, shared roadways, and multi-use paths. There are a few facility gaps for both bicyclists and pedestrians throughout the City, generally on roadways that are planned for urban upgrades.

The bicycle network in Tualatin consists of on-street bike lanes ranging in width from 4 to 6 feet. There are buffered bike lanes<sup>21</sup> along SW Tualatin-Sherwood Road between Sherwood and SW Teton Avenue. Additionally, there are a number of shared roadway facilities, usually on lower volume streets within and around residential neighborhoods.

Traffic counts collected in October 2011 did not reflect a high degree of bicycle usage. The intersections with the most bicyclists were located along SW Tualatin-Sherwood Road in the core of downtown Tualatin, near SW Martinazzi Avenue and SW Boones Ferry Road.

There appears to be adequate bicycle parking at transit centers and park-and-rides to accommodate the bicycle demand. The TDC includes language requiring developments that are zoned multi-family, commercial, or industrial to provide for bicycle parking when developing land.

#### Existing Pedestrian Facilities

Pedestrian facilities include sidewalks, multi-use paths, crosswalks, and pedestrian signals. The most prevalent pedestrian facility in the City is the sidewalk. All City street standards include a sidewalk requirement, with a minimum width of 5 feet. Most of the collector and arterial streets in Tualatin have sidewalks, and many neighborhoods and local streets include pedestrian sidewalks. A few locations throughout the City lack sidewalks—mainly areas with narrow roadways, some older neighborhoods, and sections on larger roads, especially towards the City limits where the roadway character transitions from urban to rural.



*Example of a bike lane on SW Martinazzi Avenue*



*Concrete path in Tualatin Community Park*

<sup>21</sup> Buffered bike lanes are bike lanes with extra striping allowing for a buffer between the travel lane and the bike lane. The striping provides extra separation between vehicles and bicyclists.

There are a number of high-pedestrian-use areas, including near Tualatin High School at SW Boones Ferry Road and SW Ibach Street, and at two intersections near the Tualatin Commons: (1) SW Martinazzi Avenue and SW Boones Ferry Road and (2) SW Martinazzi Avenue and SW Tualatin-Sherwood Road.

## Existing Multi-use Paths

The City has a number of multi-use paths<sup>22</sup>, including paths that run through City-owned parks and identified greenways and extend into residential areas. Multi-use paths in Tualatin are built from a variety of materials, including pavement, concrete, gravel, or—in the case of the Tualatin River greenway boardwalk—wood. Most multi-use path users walk or bicycle along the paths for recreation or exercise<sup>23</sup>; some use them for commuting or running errands. The City has a comprehensive planned multi-use path network, though about only half of the multi-use path system has been built.

## Summary of Limitations and Needs for Bicycle and Pedestrian Facilities

### Bicycle Facility Needs

Existing bicycle facilities in Tualatin have a few gaps and challenging connections:

- ◆ Difficult left-turn maneuvers
- ◆ Constrained environment
- ◆ Difficult areas with low bike visibility
- ◆ Bike lanes outside of turn lanes
- ◆ Obstacles within the bike lanes
- ◆ Gaps in the network



*Unsignalized crosswalk on SW 108th Avenue*

In addition to these needs, there are a number of high-crash locations. Most crashes result in an injury to the bicyclist, and most occur on a dry roadway surface in daylight conditions. High-crash locations include SW Boones Ferry Road and SW Tualatin-Sherwood Road, as well as the SW Nyberg Road interchange ramps at I-5.

### Pedestrian Facility Needs

The community and the existing conditions report identified a number of pedestrian facility needs:

- ◆ Fill sidewalk gaps on arterials and collector streets
  - Sections of SW Herman Road
  - Sections of SW Grahams Ferry Road
  - Sections of SW Boones Ferry Road
  - SW Blake Street between SW 105<sup>th</sup> and SW 108<sup>th</sup> Avenues

<sup>22</sup> A multi-use path is a shared-use trail or other path, physically separated from motorized vehicular traffic by an open space or barrier, either within a roadway right-of-way or within an independent right-of-way, and usable for transportation purposes. Shared use paths may be used by pedestrians, bicyclists, skaters, equestrians, and other nonmotorized users. Definition from FHWA: [www.fhwa.dot.gov/environment/bicycle\\_pedestrian/guidance/design\\_guidance/freeways.cfm](http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_guidance/freeways.cfm)

<sup>23</sup> According to the Intertwine Trail Use Snapshot: An Analysis of National Bicycle and Pedestrian Documentation Data from 2008 to 2010 (available at [http://library.oregonmetro.gov/files/intertwine\\_trail\\_use\\_snapshot\\_2008-2010.pdf](http://library.oregonmetro.gov/files/intertwine_trail_use_snapshot_2008-2010.pdf), last accessed December 26, 2012), page 181, only 20 percent of bicyclists use the Tualatin River Greenway multi-use path to commute to work or school. This was the only multi-use trail in Tualatin for which these usage numbers were available.

## 5 Freight Plan

Efficient truck movement plays a critical role in the economic well-being and development of Tualatin. Trucks must be able to access commercial, industrial, manufacturing, distribution, and other employment areas both in Tualatin and connecting to the regional system. Future commercial/industrial uses are expected to be located consistent with the land uses identified in the Comprehensive Plan, which matches the current zoning designations, as codified in the TDC.

The freight network described in this plan and illustrated in Figure 6 is largely consistent with the functional classification plan, which strives to connect industrial and manufacturing uses to the regional and state transportation network via a series of major and minor arterial roadways. The movement of raw materials and finished products via designated truck routes provides for efficient movement of goods while maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system. Federally and state designated truck routes, part of the National Highway System (NHS), have been identified on I-5 and OR 99W. Metro identifies “road connectors” in the RTP freight network on SW 124<sup>th</sup> Avenue, SW Tualatin-Sherwood Road, SW Lower Boones Ferry Road, and SW Boones Ferry Road. The City of Tualatin designates additional truck routes on roadway facilities that connect commercial/industrial districts within the City to major arterials and, ultimately, to OR 99W, I-5, and I-205. The following facilities are currently identified as City of Tualatin truck routes:

- ◆ I-5 (north to south City limits)
- ◆ I-205 (east to west City Limits)
- ◆ OR 99W (west to north City limits)
- ◆ SW Tualatin-Sherwood Road (west City limits to the Nyberg Street Interchange)
- ◆ SW 124<sup>th</sup> Avenue (OR 99W to SW Tualatin-Sherwood Road)
- ◆ SW Boones Ferry Road (south City Limits to SW Lower Boones Ferry Road)
- ◆ SW Lower Boones Ferry Road (SW Boones Ferry Road to the northeast City limits)
- ◆ SW Herman Road (SW 90<sup>th</sup> Avenue to SW Cipole Road)
- ◆ SW 108<sup>th</sup> Avenue (SW Tualatin Road to SW Herman Road)
- ◆ SW Teton Avenue (SW Tualatin Road to SW Avery Street)
- ◆ SW Cipole Road (OR 99W to SW Tualatin-Sherwood Road)
- ◆ SW Avery Street (SW Tualatin-Sherwood Road to SW 95<sup>th</sup> Avenue)
- ◆ SW Leveton Drive (SW 124<sup>th</sup> Avenue to SW 108<sup>th</sup> Avenue)
- ◆ SW 105<sup>th</sup> Avenue (SW Avery Street to SW Moratoc Drive)
- ◆ [Basalt Creek Parkway \(within City limits\)](#)

One existing truck route (SW Tualatin Road – SW 124<sup>th</sup> Avenue to SW Teton Avenue) was removed as a recommendation from the truck network based on discussions with the team, City Staff, the TTF and policy makers feedback. This change is consistent with the low volume of trucks currently using the road.

Updated truck route designations have been identified for existing roadways to match major arterial and minor arterial functional classifications. In addition, new roadway (or roadway extension) projects are recognized as truck routes when they provide connections to future commercial/industrial land uses. New truck route designations will include the following:

- ◆ SW 124<sup>th</sup> Avenue Extension (SW Tualatin-Sherwood Road to south City limits)
- ◆ SW 65<sup>th</sup> Avenue
- ◆ SW Bridgeport Road
- ◆ SW Borland Road

## Bicycle and Pedestrian Projects

The following projects were developed by the project team in concert with the community, Working Groups, TPARK, and Transportation Task Force to improve the facilities and networks for bicyclists and pedestrians. These projects can be grouped into the following categories: bicycle and pedestrian projects, multi-use path projects, urban upgrades. Figure 5 shows the projects geographically, and Table 12 lists the projects, cost estimates, champion, potential funding source, and priority for each project. Figure 5 shows all bicycle and pedestrian projects geographically.

Bicycle and pedestrian specific urban upgrades (sidewalk gaps, adding bicycle lanes and sidewalks) are included in section 2 Street System Modal Plan (Tables 4 and 5). They are shown on the bicycle and pedestrian modal plan map but the tables are not in this section.

TABLE 12  
**Bicycle and Pedestrian Project Cost Estimate and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
BP1	Provide wayfinding signs for Safe Routes to School	\$73,000	City, School District	Bike/Ped Funds	Short-term
BP2	Add a colored bicycle lane on SW Bridgeport Road and SW 72 <sup>nd</sup> Avenue near Bridgeport Village to make the bicycle lane more visible	\$10,000	City, Washington County	TDT, Bike/Ped funds, Washington County MSTIP	Medium/Long-term
BP3	Add a crosswalk at Tualatin View Apartments on SW Boones Ferry Road north of the Tualatin River	\$59,000 <sup>†</sup>	City, ODOT	Bike/Ped Funds	Medium-term
BP4	Add new signs and re-stripe crosswalk at SW Siletz Drive and SW Boones Ferry Road	\$24,000	City	Bike/Ped Funds	Short-term
BP5	Add dedicated bike lane through the intersection of SW Avery Street and SW Boones Ferry Road	\$117,000	City	Bike/Ped funds, Travel Options	Short-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more

<sup>†</sup> This cost estimate is based on the conceptual layout from a 2008 study and does not include railroad crossing or signal upgrades. Estimate may increase based on ODOT rail requirements for additional study.

MSTIP – Major Streets Transportation Improvement Program

TDT – Transportation Development Tax

## Multi-Use Path Projects

Multi-use paths are paths set back from a roadway that are reserved exclusively for bicyclists and pedestrians. The majority of TSP recommendations are multi-use paths, as they provide the greatest potential for safe and enjoyable travel to and from homes, businesses, and services throughout the community.

City standards for multi-use paths are 12 feet with a minimum of 1 foot shoulders. All cost assumptions include this width.

Table 13 presents cost estimates and priorities for these projects.

# Exhibit 9 to Ordinance No. 1418-19

Tualatin TSP February 2013

Pedestrian, Bicycle, and Multi-Use Path Modal Plan

**TABLE 13  
Multi-Use Path Project Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
BP6	Upgrade bridge surface along the path behind the Haggens shopping center to make it less slippery for pedestrians	\$100,000	City	Parks SDC, Bike/Ped funds	Short-term
BP7	Build multi-use paths from the previously adopted Tualatin Pedestrian, Bikeway, and Greenway Plans	\$24,445,000 <sup>24</sup>	City	Parks SDC or bond, Bike/Ped funds, Travel Options, ODOT Bike/Ped grants	Long-term
	Tualatin River Greenway from west UGB to east UGB	\$6,641,000			
	Connections to the Tualatin River Greenway	\$1,810,000			
	I-5 Path: Bridgeport Village to SW Nyberg Street to SW Sagert Street to SW Avery Street, and SW 80 <sup>th</sup> Avenue to SW Blake Street to SW Norwood Road	\$3,245,000			
	Connections to the I-5 Path: SW Martinazzi Avenue to I-5 path	\$209,000			
	Saum Creek Greenway: SW Sagert Street to SW Delaware Circle to SW 65 <sup>th</sup> Avenue to Tualatin River	\$2,135,000			
	Norwood Road Path: SW Boones Ferry Road to I-5	\$3,757,000			
	Connections to the Saum Creek Greenway: SW Sagert Street to Saum Creek Greenway	\$30,000			
	Hedges Creek Greenway Connections: SW Myslony to SW Tualatin-Sherwood Road to SW 105 <sup>th</sup> Avenue	\$199,000			
	Helenius Greenway Trail Porous Concrete Trail Aggregate (Gravel) Surface Trail	\$236,000 \$179,000			
BP8	Build the section of the Tualatin River Greenway from SW Boones Ferry Road along the Tualatin River, extend to existing Tualatin River Greenway east of I-5	\$2,135,000 <sup>25</sup>	City	Parks SDC or bond, Bike/Ped funds, Travel Options	Short-term
BP9	Fill gaps in the multi-use path as part of the Tualatin River Greenway on the east side of the City	\$123,000 <sup>26</sup>	City	Parks SDC or bond, Bike/Ped funds, Travel Options	Long-term

<sup>24</sup> Cost estimates for all BP7 projects are from the *Tualatin Bikeway Plan* 1993. Estimates grown to 2012 dollars.

<sup>25</sup> From the *Tualatin Bikeway Plan* 1993. Estimate grown to 2012 dollars.

<sup>26</sup> From the *Tualatin Bikeway Plan* 1993. Estimate grown to 2012 dollars.

TABLE 13  
**Multi-Use Path Project Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
BP10	Add trail on the east side of SW 105 <sup>th</sup> Avenue, SW Blake Street, and SW 108 <sup>th</sup> Avenue through Ibach Park to accommodate bicyclists and pedestrians	\$810,000	City, Ibach CIO	Parks SDC or bond, Bike/Ped funds, Travel Options	Medium-term
BP11	Add a multi-use path undercrossing of I-5 near Fred Meyer as part of the Nyberg Creek Greenway—connect to planned and existing multi-use paths	\$1,947,000 <sup>27</sup>	City	Bike/Ped funds, Travel Options, ODOT Bike/Ped grants	Medium-term
BP12	Not Used				

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more  
 CIO – Citizen Involvement Organization  
 ODOT – Oregon Department of Transportation  
 SDC – System Development Charges

## Regional Coordination

A number of bicycle and pedestrian projects will require coordination with regional agencies such as Washington and Clackamas Counties, Metro, or ODOT. The City of Tualatin will participate fully in the development of regional multi-use trail projects through partnering with neighboring cities and lead agencies. Regional projects currently under development include intersection and bike lane projects on facilities owned by Washington or Clackamas Counties, or ODOT these projects are included in Tables 14 and 15.

<sup>27</sup> From Metro's *Regional Transportation Plan (RTP)* 2007. Estimate grown to 2012 dollars.



## Regional Bicycle and Pedestrian Projects

TABLE 14

**Regional Bicycle and Pedestrian Project Cost Estimates and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
BP13	Add a colored bike lane through Nyberg Interchange to make the bicycle lane more visible and distinct from travel lanes	\$24,000	City, ODOT	Bike/Ped funds, Travel Options	Short-term
BP14	Add skip striping for the bicycle lane across the I-5 southbound off-ramp on the west end of the interchange	\$2,000	City, ODOT	Bike/Ped funds, Travel Options	Short-term
BP15	Redesign bike lane on the east side of the Nyberg interchange by modifying where bicyclists cross the northbound on ramps and creating a 90 degree angle	\$62,000	City, ODOT	Bike/Ped funds, Travel Options	Medium-term
BP16	Improve the condition of bicycle and pedestrian railroad crossing panels on SW Boones Ferry Road and SW Lower Boones Ferry Road by adding new panels	\$310,000	City, ODOT Rail, Portland and Western Railroad	STIP: TE, Bike/Ped funds	Medium-term

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more  
STIP – Statewide Transportation Improvement Program  
TE – Transportation Enhancement



## Regional Multi-Use Path Projects

TABLE 15

**Regional Multi-Use Path Project Cost Estimate and Prioritization**

Project ID	Project Description	Cost Estimate	Champion	Funding Source	Priority*
BP17	Build pedestrian and bicycle bridges over the Tualatin River: North of SW Cipole Road in conjunction with the Westside Trail Near SW 108 <sup>th</sup> Avenue	\$2,434,000 <sup>28</sup> \$2,434,000 <sup>29</sup>	City, Metro	Parks SDC or bond, Bike/Ped funds, Travel Options	Long-term
BP18	Not Used				

\* Short term = within 5 years, medium term = 5–10 years, long-term = 10 years or more  
SDC – System Development Charges

<sup>28</sup> From Metro's *Regional Transportation Plan (RTP)* 2007. Estimate grown to 2012 dollars.

<sup>29</sup> From Metro's *Regional Transportation Plan (RTP)* 2007. Estimate grown to 2012 dollars.

<sup>30</sup> Not used.

<sup>31</sup> Not used.

**Figure 7 Bicycle and Pedestrian Element**  
Tualatin TSP Update

**Exhibit 9 to Ordinance No. 1418-19**

**City Safety Improvements**

- 1 Add wayfinding signs for Safe Routes to School at all public schools
- 2 Add colored bike lanes on Bridgeport Road near Bridgeport Village
- 3 Improve visibility and illumination at crosswalk at Siletz Dr & Boones Ferry Rd

**Bicycle and Pedestrian Facilities**

- 4 Add a crosswalk at Tualatin View Apartments on SW Boones Ferry Rd
- 5 Add a dedicated bike lane through intersection at Avery St & Boones Ferry Rd

**Multi-Use Trails**

- 6 Upgrade bridge surface along the path behind the Haggan shopping center
- 7 Build multi-use paths from the previously adopted Tualatin Pedestrian, Bikeway, and Greenway Plans (indicated by - - - -)
- 8 Build trail along Tualatin River from the Community Park, extend to Tualatin River Greenway
- 9 Fill gaps in the multi-use path as part of the Tualatin River Greenway
- 10 Add a trail on the east side of SW 105<sup>th</sup> Avenue, SW Blake Street, and SW 108<sup>th</sup> Avenue through Ibach Park to accommodate bicyclists and pedestrians
- 11 Add I-5 multi-use undercrossing - connect to existing multi-use paths
- 12 Not Used

**Regional Bicycle & Pedestrian Projects**

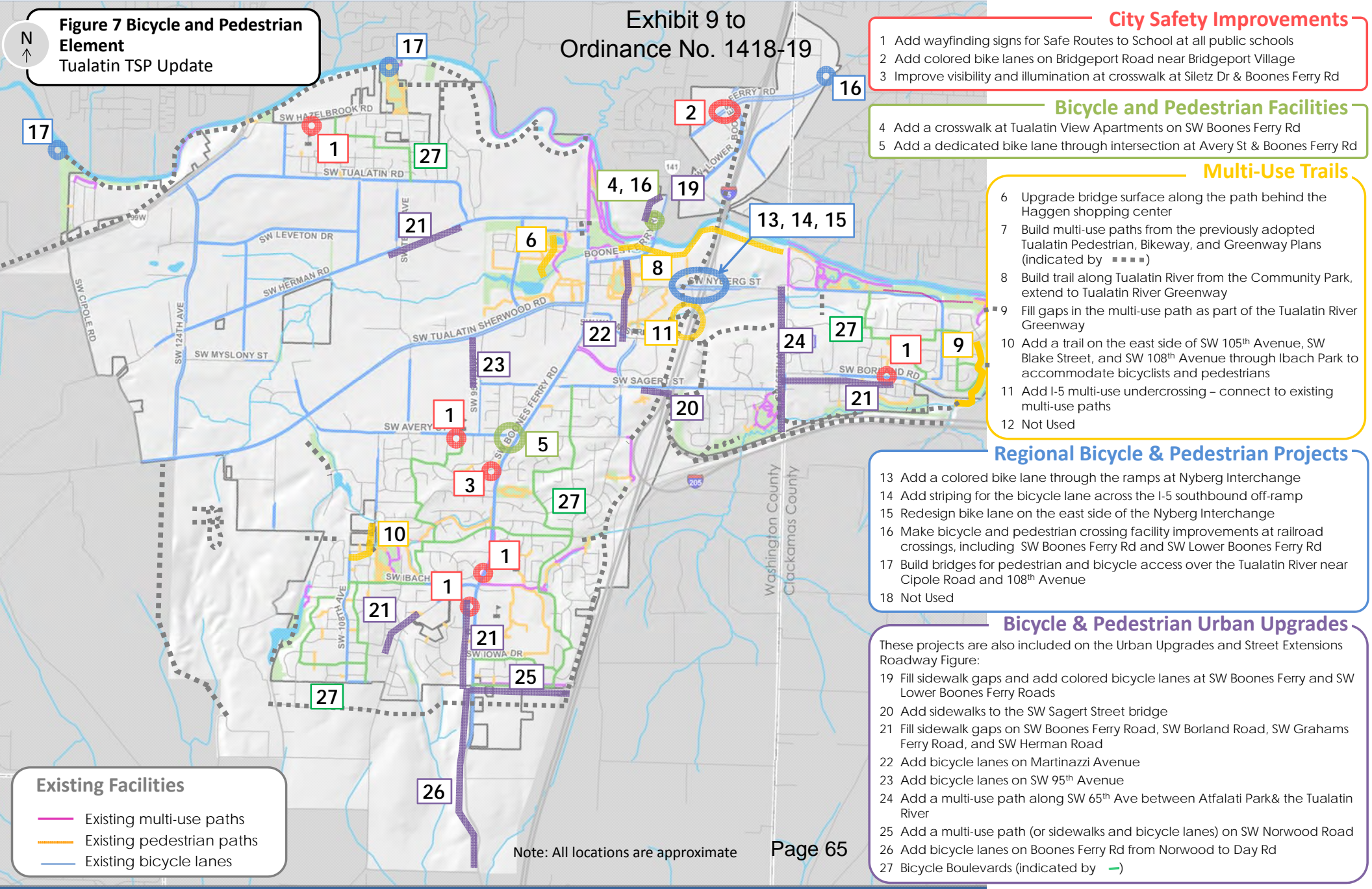
- 13 Add a colored bike lane through the ramps at Nyberg Interchange
- 14 Add striping for the bicycle lane across the I-5 southbound off-ramp
- 15 Redesign bike lane on the east side of the Nyberg Interchange
- 16 Make bicycle and pedestrian crossing facility improvements at railroad crossings, including SW Boones Ferry Rd and SW Lower Boones Ferry Rd
- 17 Build bridges for pedestrian and bicycle access over the Tualatin River near Cipole Road and 108<sup>th</sup> Avenue
- 18 Not Used

**Bicycle & Pedestrian Urban Upgrades**

- These projects are also included on the Urban Upgrades and Street Extensions Roadway Figure:
- 19 Fill sidewalk gaps and add colored bicycle lanes at SW Boones Ferry and SW Lower Boones Ferry Roads
  - 20 Add sidewalks to the SW Sagert Street bridge
  - 21 Fill sidewalk gaps on SW Boones Ferry Road, SW Borland Road, SW Grahams Ferry Road, and SW Herman Road
  - 22 Add bicycle lanes on Martinazzi Avenue
  - 23 Add bicycle lanes on SW 95<sup>th</sup> Avenue
  - 24 Add a multi-use path along SW 65<sup>th</sup> Ave between Atfalati Park & the Tualatin River
  - 25 Add a multi-use path (or sidewalks and bicycle lanes) on SW Norwood Road
  - 26 Add bicycle lanes on Boones Ferry Rd from Norwood to Day Rd
  - 27 Bicycle Boulevards (indicated by →)

**Existing Facilities**

- Existing multi-use paths
- Existing pedestrian paths
- Existing bicycle lanes



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## Bicycle Boulevards

Currently, there are no existing bicycle boulevards in the City, though the city of Portland<sup>32</sup>, the City of Tigard, and Washington County have bicycle boulevard policies and design standards.

Bicycle boulevards are roadways that use a variety of design treatments to reduce vehicle speeds so that motorists and bicyclists generally travel at the same speed, to create a safer and more-comfortable environment for all users. Bicycle boulevards may include a variety of applications ranging from minor street signing enhancements (such as shared lane markings) to larger scale projects (for example, bike-only access at intersections, traffic diverters). Boulevards also incorporate treatments to facilitate safe and convenient crossings where bicyclists must traverse major streets. Traffic controls along a boulevard may assign priority to through cyclists while encouraging through vehicle traffic to use alternate parallel routes.

There are five different types of treatments for bicycle boulevards; the lowest cost and least impactful are wayfinding and warning signs, and shared lane markings and directional markings. Other types of treatments with higher capital investment include adding medians/islands and bicycle signals, curb extensions, and mini traffic circles, and restricting and diverting traffic at intersections. The basic bicycle boulevard uses the lower cost elements such as signage and lane markings, and is recommended as the first step to creating and maintaining bicycle boulevards in the City.

Bicycle boulevards work best in well-connected street grids, where riders can follow intuitive and reasonably direct routes. Boulevards also work best when higher-order parallel streets exist to serve through vehicle traffic. Hilly areas and twisting locations where speed or visibility can create safety issues should be avoided. Bicycle boulevards are generally located on streets with lower traffic volumes and vehicle speeds, such as Minor Collectors or Local Streets passing through residential neighborhoods. Typically a bicycle boulevard would be located on a street where vehicles travel less than 30 miles per hour and average daily traffic volume is less than 3,000 vehicles (in both directions). Additionally, the recommended bicycle boulevards for the City include consideration of topography—where possible, areas with steep hills were not recommended for bicycle boulevards.

Proposed bicycle boulevards in Tualatin are shown on Figure 7. These are all low volume, low speed streets that connect neighborhoods with roadways and trails where bicycle infrastructure investments have been made. As a short-term action, the City should consider signing these roadways as bicycle routes, and monitor usage on an annual basis. As bicycle usage increases, and bicyclists and drivers become more used to sharing travel lanes, further investments could be considered as described in the paragraphs above to enhance safety for bicyclists.

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<sup>32</sup> The City of Portland refers to its bicycle boulevards as “Neighborhood Greenways”

Exhibit 9 to  
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## 5 Freight Plan

Efficient truck movement plays a critical role in the economic well-being and development of Tualatin. Trucks must be able to access commercial, industrial, manufacturing, distribution, and other employment areas both in Tualatin and connecting to the regional system. Future commercial/industrial uses are expected to be located consistent with the land uses identified in the Comprehensive Plan, which matches the current zoning designations, as codified in the TDC.

The freight network described in this plan and illustrated in Figure 6 is largely consistent with the functional classification plan, which strives to connect industrial and manufacturing uses to the regional and state transportation network via a series of major and minor arterial roadways. The movement of raw materials and finished products via designated truck routes provides for efficient movement of goods while maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system. Federally and state designated truck routes, part of the National Highway System (NHS), have been identified on I-5 and OR 99W. Metro identifies “road connectors” in the RTP freight network on SW 124<sup>th</sup> Avenue, SW Tualatin-Sherwood Road, SW Lower Boones Ferry Road, and SW Boones Ferry Road. The City of Tualatin designates additional truck routes on roadway facilities that connect commercial/industrial districts within the City to major arterials and, ultimately, to OR 99W, I-5, and I-205. The following facilities are currently identified as City of Tualatin truck routes:

- ◆ I-5 (north to south City limits)
- ◆ I-205 (east to west City Limits)
- ◆ OR 99W (west to north City limits)
- ◆ SW Tualatin-Sherwood Road (west City limits to the Nyberg Street Interchange)
- ◆ SW 124<sup>th</sup> Avenue (OR 99W to SW Tualatin-Sherwood Road)
- ◆ SW Boones Ferry Road (south City Limits to SW Lower Boones Ferry Road)
- ◆ SW Lower Boones Ferry Road (SW Boones Ferry Road to the northeast City limits)
- ◆ SW Herman Road (SW 90<sup>th</sup> Avenue to SW Cipole Road)
- ◆ SW 108<sup>th</sup> Avenue (SW Tualatin Road to SW Herman Road)
- ◆ SW Teton Avenue (SW Tualatin Road to SW Avery Street)
- ◆ SW Cipole Road (OR 99W to SW Tualatin-Sherwood Road)
- ◆ SW Avery Street (SW Tualatin-Sherwood Road to SW 95<sup>th</sup> Avenue)
- ◆ SW Leveton Drive (SW 124<sup>th</sup> Avenue to SW 108<sup>th</sup> Avenue)
- ◆ SW 105<sup>th</sup> Avenue (SW Avery Street to SW Moratoc Drive)

One existing truck route (SW Tualatin Road – SW 124<sup>th</sup> Avenue to SW Teton Avenue) was removed as a recommendation from the truck network based on discussions with the team, City Staff, the TTF and policy makers feedback. This change is consistent with the low volume of trucks currently using the road.

Updated truck route designations have been identified for existing roadways to match major arterial and minor arterial functional classifications. In addition, new roadway (or roadway extension) projects are recognized as truck routes when they provide connections to future commercial/industrial land uses. New truck route designations will include the following:

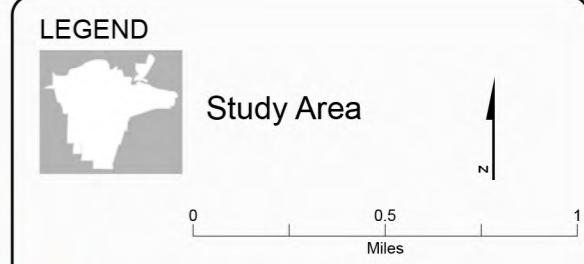
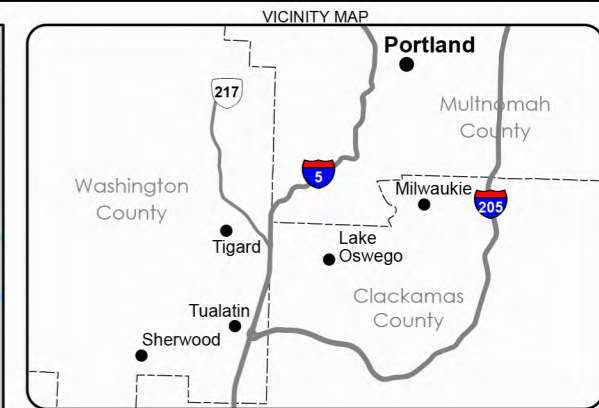
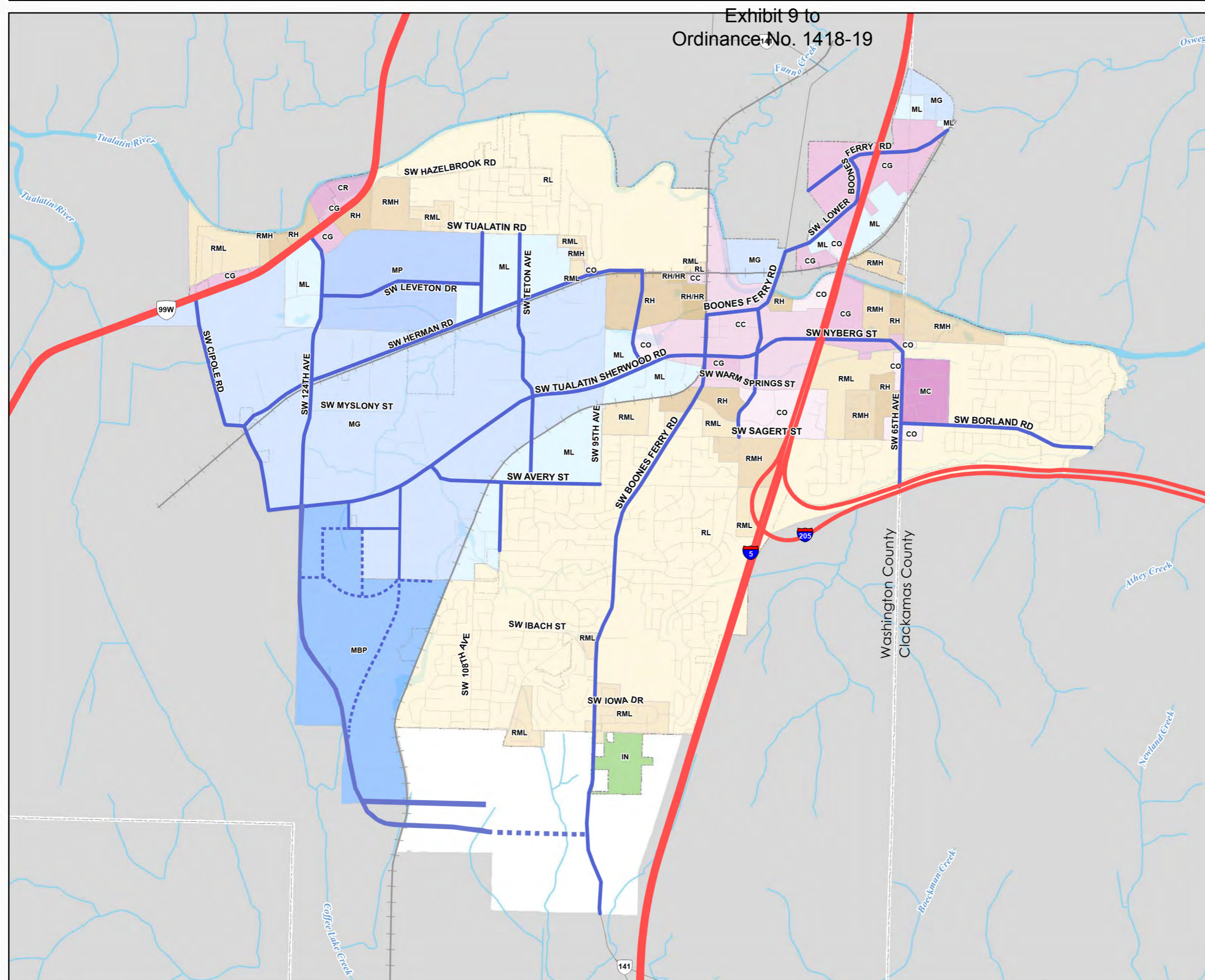
- ◆ SW 124<sup>th</sup> Avenue Extension (SW Tualatin-Sherwood Road to south City limits)
- ◆ SW 65<sup>th</sup> Avenue
- ◆ SW Bridgeport Road
- ◆ SW Borland Road

# Exhibit 9 to Ordinance No. 1418-19

- ◆ SW Martinazzi Avenue (SW Sagert Street to SW Boones Ferry Road)
- ◆ SW 90th Avenue
- ◆ SW Nyberg Street (SW 65<sup>th</sup> Avenue to SW Martinazzi Avenue)

The needs of the freight system are consistent with those identified in the Street System Plan for the truck routes listed above. Projects that address needs related to truck routes, either directly or by providing alternate routes that improve traffic operations along truck routes, serve the needs of the freight system. All new roadways should be built to current City design standards to meet the operational needs of trucks on designated truck routes. Existing geometric deficiencies are identified in Appendix B.

Exhibit 9 to  
Ordinance No. 1418-19



- Regional Transportation System  
State and Federal Truck Routes
- Local Freight Routes**
  - Existing Roadways
  - - - Future Roadways
- City Boundaries
- County Boundaries
- + Railroad
- Institutional**
- IN - Institutional
- Commercial**
- CO - Office
- CC - Central
- CG - General
- CR - Recreational
- MC - Medical
- Manufacturing**
- ML - Light
- MG - General
- MP - Park
- MBP - Business Park
- Residential**
- RL - Low Density
- RML - Medium Low Density
- RMH - Medium High Density
- RH - High Density
- RH/HR - High Density High Rise

**FIGURE 8**  
**Freight Routes**  
Street Element  
City of Tualatin Transportation System Plan



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## 6 Rail Plan

Portland and Western Railroad (PNWR) owns and operates two freight rail lines within the City. One track (running north-south) accommodates both freight and the WES commuter rail, and an east-west line runs along the south side of SW Herman Road. As of November 2012 the east-west line carries one train daily in each direction, and the north-south has two freight trains daily in addition to the WES trains described in the Transit section.

There are 13 gated public railroad crossings in Tualatin and a number of additional driveways or private roads that cross the railroad. The private crossings are stop controlled, but not signalized. Freight trains have the right of way at all intersections. The low number of trains does not present a large safety concern in the City, and recent Quiet Zone work done in conjunction with the north-south WES rail line opening added gates at all public crossings.

PNWR has no current plans to increase freight service through Tualatin. Although the east-west track runs adjacent to manufacturing areas, no rail sidings or other access to businesses are planned.

### Freight Rail Policies

- ◆ **Freight Policy 1:** Continue to coordinate with PNWR and TriMet to ensure that railroad crossings are safe and have few noise impacts on adjacent neighborhoods
- ◆ **Freight Policy 2:** Look for opportunities to shift goods shipments to rail to help reduce the demand for freight on Tualatin's roads.
- ◆ **Freight Policy 3:** Look for opportunities to create multi-modal hubs to take advantage of the freight rail lines

### Freight Rail Projects

Only one freight rail project was identified for the Tualatin TSP to support freight traffic within the City. The project would add a rail station with easy offload and access for industrial and manufacturing businesses in the west part of town. This project would need a high degree of coordination between PNWR and the City to ensure it is located appropriately for both the railroad and potential facility users.

### Passenger Rail Policies

The City of Tualatin's policies on public transit are described more fully in the Transit Modal Plan, but some policies apply to rail and are pulled from that section here. Policies that may relate to the existing heavy rail lines in Tualatin include:

- ◆ **Transit Policy 3:** Partner with TriMet, Metro, and neighboring communities to plan the development of high-capacity transit in the Southwest Corridor, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 4:** Partner with TriMet, Metro, and neighboring communities to plan development of high-capacity transit connecting Tualatin and Oregon City, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 5:** Coordinate with ODOT and neighboring communities on conversations related to Oregon Passenger Rail between Portland and Eugene.
- ◆ **Transit Policy 8:** Metro in the RTP calls for increased WES service frequency. The City will coordinate with TriMet, Metro, and ODOT to explore service frequency improvements and the possible inclusion of a second WES station in south Tualatin.

## Regional Coordination

The City of Tualatin will participate fully in the development of regional transit projects through partnering with lead agencies. Regional projects currently under development include the following:

- ◆ **The Southwest Corridor Project.** The purpose of the Southwest Corridor Project is to extend high-capacity transit from downtown Portland into the southwest part of the region. Doing so will help to fulfill the vision of the Metro *High Capacity Transit System Plan*. The City of Tualatin is partnering with Metro and TriMet to bring high-capacity regional transit to Tualatin and neighboring communities.
- ◆ **Oregon Passenger Rail.** The purpose of the Oregon Passenger Rail project is to improve intercity passenger rail service along the Oregon section of the Pacific Northwest high speed rail corridor between Portland and Eugene. Along the way, the rail service is expected to serve the south Metro area via an alignment either east or west of the Willamette River. The City of Tualatin intends to coordinate with ODOT and to explore an appropriate corridor that would best improve intercity passenger rail service in the Willamette Valley.
- ◆ **WES Extension.** TriMet and ODOT will study the feasibility of extending WES commuter rail from Wilsonville to Salem. The City of Tualatin is supportive of the WES extension and intends to partner with ODOT and TriMet in facilitating this project.
- ◆ **WES Service Enhancements.** Metro in the RTP calls for increased WES service frequency. The conceptual Linking Tualatin study recommended adding an additional WES station in the south part of Tualatin. The City will coordinate with TriMet, Metro, and ODOT to explore service frequency improvements and the possible inclusion of a second WES station in south Tualatin.

## 7 Water, Pipeline, and Air Plan

### Water

The Tualatin River is the only large waterway within the City of Tualatin. The river is not navigable from the Willamette River due to impassable areas and a diversion dam downstream. The river is used primarily for recreation and is open for canoeing and kayaking. Therefore, the TSP does not include any specific policies, programs, or projects for the Tualatin River as part of the transportation network. However, several projects are proposed in other sections of this chapter to increase access to the river for recreation purposes.

### Pipeline

A natural gas transmission pipeline and a gasoline pipeline cross through the City. There is no anticipated need to increase pipeline capacity or construct new pipelines through the City, and therefore no such improvements are proposed in the TSP.

### Air

There are no airports within the City of Tualatin, although several airports are located within 30 miles of the City: the Aurora State Airport, Hillsboro Municipal Airport, and Portland International Airport. These airports meet the commercial, freight, and business aviation needs of Tualatin residents. No plans are proposed to construct airport facilities within the City of Tualatin; existing airports are anticipated to continue serving the citizens of Tualatin adequately.

Exhibit 9 to  
Ordinance No. 1418-19

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## 8 Transportation Demand Management

The TPR requires all cities with populations greater than 25,000 people to develop a TDM Plan. The RTP also requires that TDM strategies be used to encourage alternative transportation modes and achieve higher vehicle occupancy targets. TDM measures are designed to change travel behavior in order to reduce the need for more road capacity and improve performance of the road system. Typical TDM projects include encouraging use of travel modes other than the auto, ride sharing, and measures to reduce the need for travel—such as telecommuting policies.

TDM policies and projects can be cost-effective ways to reduce congestion by encouraging the use of other modes, reducing the need for travel or reducing the number of vehicle-miles driven. The City of Tualatin can implement a range of TDM measures to manage travel demand, in conjunction with partner organizations in many cases. Providing bicycle, pedestrian, and transit infrastructure can be effective means to encourage drivers to switch to other modes. Many of the pedestrian, bicycle, and transit improvements proposed in other sections of the TSP can be considered TDM measures as they encourage use of travel modes other than the auto. In addition to these infrastructure projects, a number of strategies are applicable to Tualatin, as discussed in the following subsections.

### Transportation Demand Management Policies

The following policies support other modal plans in the TSP and help Tualatin meet its mode-share targets, as required by the RTP and presented in Table 16:

- ◆ **TDM Policy 1:** Support demand reduction strategies, such as ride sharing, preferential parking, and flextime programs<sup>33</sup>
- ◆ **TDM Policy 2:** Partner with the Tualatin Chamber of Commerce, the Westside Transportation Alliance, major employers, and business groups to implement TDM programs
- ◆ **TDM Policy 3:** Explore the use of new TDM strategies to realize more efficient use of the City's transportation system
- ◆ **TDM Policy 4:** Support Washington County's regional TDM programs and policies to reduce the number of single-occupancy vehicle (SOV) trips
- ◆ **TDM Policy 5:** Promote the use and expansion of the Tualatin Shuttle program

Metro in its RTP established modal targets for how residents in the region will make trips in 2040. These are separated out by regional designations. Tualatin has a number of designations within the City limits:

- ◆ **Town Center** – this designation is consistent with the Town Center Plan study area, centered on the Lake of the Commons and includes land south of the Tualatin River and west of I-5, including the Tualatin Community Park. The western boundary is SW 95<sup>th</sup> Avenue south to SW Tualatin-Sherwood Road, and then east near SW Warm Springs Street.
- ◆ **Corridors** – there are a number of corridors in Tualatin: SW Tualatin-Sherwood Road is a regional street, along with 99W, SW 124<sup>th</sup> Avenue, and SW Tualatin Road. SW Boones Ferry Road is a community street, and SW Tualatin-Sherwood Road/SW Nyberg Street in downtown are community boulevards. Regional arterials

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<sup>33</sup> Ride sharing is defined as carpools and vanpools that increase the number of occupants in a vehicle. Preferential parking is for carpools and vanpools, and is closer than regular parking to a building or office. It provides an incentive to carpool by providing designated parking closer to destinations. Flextime programs allow employees to work hours other than a typical 8 am- 5 pm workday, and can include four 10-hour days with Fridays off, a two-week rotation of nine 9-hour days with every other Friday off, etc.

include 99W, SW 124<sup>th</sup> Avenue, SW Boones Ferry Road, SW Tualatin-Sherwood Road, SW Herman Road, SW Nyberg Street, SW Sagert Street, SW Borland Road, and SW 65<sup>th</sup> Avenue.

- ◆ Employment Land – most of western Tualatin is employment land south of SW Tualatin Road and west of the railroad tracks.
- ◆ Parks and Natural Areas – Hedges Creek is designated a park and natural area, along with many of the other greenway areas including Nyberg Creek Greenway, Saum Creek, and other City parks.
- ◆ Neighborhoods – neighborhood areas include southern Tualatin near SW Boones Ferry Road, northern Tualatin north of SW Tualatin Road, and eastern Tualatin excluding the hospital area and the greenways and parks.

These designations have modal targets associated with them, as seen in Table 16 below, and the non-drive-alone modal target for Tualatin is 45-55 percent in the Town Center and Station Community, and 40-45 percent for the employment land, parks and natural areas, and neighborhoods.

TABLE 16  
**Metro Modal Targets**

2040 Regional Designation	Non-drive-alone Modal Target
Regional Centers	
Town Centers	
Main Streets	
Station Communities	<b>45–55%</b>
Corridors	
Passenger Intermodal Facilities	
Industrial Areas	
Freight Intermodal Facilities	
Employment Areas	<b>40–45%</b>
Inner Neighborhoods	
Outer Neighborhoods	

Source: Metro’s RTP

## TDM Programs

Constructing bicycle lanes, sidewalks, and other facilities greatly increases the ability of people to get around by walking and biking. These efforts are made even more effective when education and encouragement programs are developed. These programs help address barriers to walking and biking, such as where and how to ride safely.

### Individualized Marketing

Individualized marketing programs offer customized packets of information about transit, car/vanpool, bicycling, and walking options to target populations at events and through various venues. Such a program in Tualatin would build on and support both new and existing TDM strategies by providing a tailored framework that consisted of the following: (1) information about resources, such as transit maps and schedules, local walking and bicycling maps, safety information, discounts at local shops, and other locally available material; (2) encouragement events, such as employment fairs, guided walks and rides, guided transit trips, personalized trip planning assistance, and trainings; and (3) encouraging communications through social media, virtual or physical bulletin boards, and newsletters. Individualized marketing programs could be implemented by the City directly, or by a Transportation Management Association (TMA). A TMA is an independent entity dedicated to solving transportation problems in a particular geographic area through actively managing transportation demand and encouraging alternate travel modes. Currently, the Westside

Transportation Alliance provides TMA services to the Tualatin Chamber of Commerce, and the Cities of Hillsboro, Beaverton, and Tigard.

## **Bicycle and Pedestrian Education and Encouragement Programs**

Constructing bicycle lanes, sidewalks, and other facilities greatly increases the ability of people to get around by walking and biking. These efforts are made even more effective when education and encouragement programs are developed. These programs help address barriers to walking and biking, such as where and how to ride safely. It should be noted that all programs listed below can be implemented in coordination with an individualized marketing program, as described above.

### **Employer Bicycle and Pedestrian Programs**

Employers, especially larger employers, should implement a number of low-cost measures to encourage walking and biking to and from work. Example incentives include giving gift cards or discounts at local restaurants to those who choose to walk or bike. Parking “cash outs” are another incentive: If workers have free or subsidized parking, employers offer employees a choice to keep a parking space at work, or to accept a cash payment and give up the parking space.

### **Improve “End of Trip” Facilities**

Workers often cite a lack of secure bike storage areas and showering and changing facilities as reasons they do not bike to work. If providing these amenities is cost prohibitive, employers could direct employees to nearby gyms or community centers where these facilities already exist and subsidize membership to them.

### **Safe Routes to School Programs (SRTS)**

Nationally, the number of children walking and biking to school has declined greatly over the last several decades. SRTS programs currently existing in Tualatin. They are designed to educate parents and schoolchildren about safe walking and biking and encourage students to walk or bike to school. Typical measures include distributing safety information to parents and kids, prizes for kids who walk and bike to school, month-long walk-and-bike challenges, and bicycle rodeos. Bicycle and pedestrian infrastructure improvements, such as improving crosswalks or striping bike lanes, are usually done in conjunction with these efforts.

### **Community Bicycle Education, Encouragement, and Commuter Challenges**

Many cities in Oregon participate in sponsored commuter challenge events, such as the national bike to work day in May and the month-long bike commute challenge in September. The month-long event is a friendly competition among employers. Awards and local bike shop discounts are offered throughout the month. Participants log their daily travel by bike on a website, track others’ progress, and access free commuting resources.

### **Bicycle Route Maps**

One of the major reasons many people do not bike to their destinations is a lack of knowledge about where to safely ride. The Washington County Visitors Association currently produces a countywide cycling map that includes major routes in Tualatin. A link to this map should be placed prominently on the City of Tualatin’s webpage, and paper copies of the map made available at City Hall and other civic locations. However, the



Visitors Association's map does not include the portions of Tualatin that are north of the Tualatin River or east of I-5. The City should consider developing a comprehensive bicycle map for Tualatin that includes current and planned bicycle facilities. A locally produced map can be updated more frequently as bicycle infrastructure projects in the Pedestrian and Bicycle Plan are constructed.

## Transit Strategies

Transit projects in the Transit Plan can be supplemented with other programs that make using transit easier for residents and provide incentives for its use. It should be noted that all programs listed below are most effectively implemented in coordination with a TMA and individualized marketing programs as described above.

### Employee Shuttle Service

The Tualatin Chamber of Commerce operates a free shuttle service from TriMet bus stops, the WES station, and downtown Portland to employers within Tualatin. This free service enhances transit by bridging the final distance between transit stops and the work site, which can often be too far to walk or bike.

### Employer-Subsidized Transit Pass Programs

Transit passes increase ridership because they are simple and easier to use than single ticket purchases. However, annual transit passes can be prohibitively expensive (as of September 2012 the annual TriMet pass is \$1,100) and out of line with driving costs such as gasoline and parking where purchases are made on a more incremental basis (weekly, monthly). To encourage more transit ridership, and in coordination with implementation of transit service recommendations outlined in the Transit Modal Plan, employers could subsidize the cost of transit passes either: (a) directly through bearing some of the cost of the pass as an employer-provided benefit; (b) indirectly through being a pass-through purchasing the annual passes from TriMet and allowing employees to pay on a monthly basis; or (c) indirectly through taking advantage of pre-tax transportation fringe benefits under Title 26 section 132(f) of the US tax code. This program allows employers to offer a tax-free benefit to employees that commute to work by transit and allow employees to purchase transit passes on a pre-tax basis through payroll deduction.

## Other Strategies

### Rental or Car-share Services

The ability to make midday trips with personal vehicles is cited as an important reason that employees drive to work. By providing car-sharing or rental service, such as Zipcar ([www.zipcar.com](http://www.zipcar.com)) and Car2Go ([www.car2go.com](http://www.car2go.com)), workers can make short trips at low cost during the workday and leave their personal vehicles at home. Zipcar and Car2Go are not currently available in Tualatin. The City could partner with Metro to discuss expanding these services to the suburbs and for major employers to explore maintaining a small fleet of bicycles and/or vehicles for midday trips.

### Ride Sharing

Carpooling and vanpooling can be very cost effective by filling empty seats in vehicles that would otherwise be unoccupied. Ride-sharing strategies are most effective for trips with predictable schedules, like commuting or special events. Ride sharing is accomplished through ride matching, or matching commuters with carpools and vanpools that meet their travel needs. Matching is accomplished through websites like Oregon's "Drive Less. Connect" program ([www.drivelessconnect.com/](http://www.drivelessconnect.com/)) or through bulletin boards and employer-organized services.



### **Telecommuting and Flexible Work Schedules**

Telecommuting (working from home instead of traveling to the workplace every day) reduces the need for travel and can have beneficial effects on traffic congestion. Many employers in Tualatin have employees who travel to work from outside the City, and many Tualatin residents travel outside the City to go to work. Supporting telecommuting could reduce peak-hour congestion on roadways in Tualatin. Support for telecommuting includes providing information to employers within the City and providing resources for citizens who commute out of Tualatin.

Employers can also allow employees to adopt work schedules different from the typical 8 to 5 schedule, or allow employees to compress regularly scheduled hours into fewer workdays per week (four 10-hour shifts, for instance). Allowing work schedule flexibility shifts travel out of the peak morning and evening travel hours, reducing congestion.

### **Location-specific TDM Programs**

Throughout the TSP development a few programmatic ideas arose that were specific to locations within Tualatin. These programs are listed here, separate from the city-wide ideas, though implementation could be accomplished through many of the programs listed above.

#### **Encourage Off-peak Use of SW Herman and SW Tualatin-Sherwood Roads**

SW Tualatin-Sherwood Road is congested during peak hours, and freight vehicles use both SW Herman and SW Tualatin-Sherwood Roads to access regional transportation facilities (OR 99W and I-5). Policies encouraging drivers and freight haulers to use these routes outside of peak hours would help alleviate peak-hour congestion.

#### **Reduce Congestion near Tualatin High School**

Tualatin High School generates a significant number of trips just before the school day starts and when classes let out in the afternoon. Projects and policies that discourage the use of personal automobiles to get to and from the high school could be effective at reducing congestion in the vicinity of the school. SRTS projects, such as adding wayfinding signage for pedestrians and bicycles, encouraging cycling and walking, and improving the walking and cycling environment in the vicinity of the school can be very effective at encouraging students to use alternative modes of travel. A number of pedestrian and bicycle improvement projects are proposed near the high school; refer to the Pedestrian and Bicycle Plan earlier in this chapter for a complete list of projects.

#### **Provide Wayfinding Signs to Encourage Walking and Bicycling**

Providing wayfinding signage near popular destinations such as schools, commercial areas, parks, and city services allows residents to use non-motorized modes. Wayfinding signs will also allow users on multi-use paths to determine their location and how to get to various destinations. Providing wayfinding signs can improve user comfort with different modes and may encourage travelers to switch transportation modes as they become as comfortable with these modes as with driving.

### **Metro Transportation Demand Management Projects**

Metro's 2035 Regional Transportation System Management and Operations Plan (TSMO Plan) also includes TDM projects and policies within Tualatin. These relatively low-cost projects (Table 17) will be implemented by a variety of local and regional organizations and with a variety of funding sources.

Exhibit 9 to  
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TABLE 17

**Planned Metro TDM Projects in Tualatin**

Project or Policy	Description
Individualized Marketing for Tualatin Transit Center and adjacent neighborhoods	Implement outreach to targeted neighborhoods that encourages use of travel options through delivery of local travel options information and services to interested residents
Location-efficient Living	Support programs and strategies that promote location-efficient living strategies in industrial employment and residential areas west of I-5. The goal of location efficient living is to provide affordable housing near employment centers to reduce travel distances for employees. Location-efficient living strategies also market employment opportunities to nearby residents.
Transportation Management Associations	Support the activities of organizations, such as the Tualatin Chamber of Commerce, that help employees and/or residents increase use of non-single-occupant vehicle travel options

Source: Metro's TSMO Plan

## 9 Transportation System Management

Transportation System Management (TSM) measures are designed to increase the efficiency, safety, capacity, and level of service of the transportation system without physically increasing roadway capacity. Typical TSM projects include traffic light synchronization, traffic calming, travel information systems, access management, and parking management strategies. Many of the projects listed in the other modal plans—including the Transit, Pedestrian and Bicycle, and Access Management plans—qualify as TSM measures.

Many TSM tools can be implemented inexpensively to help make the existing system work more efficiently. A wide range of TSM strategies are applicable to Tualatin.

### Signal Timing and Optimization

Traffic congestion is caused in part by poorly timed traffic signals, especially on longer arterial corridors with many signalized intersections. The City will continue to review and update signal timing on streets in order to maximize signal efficiency. Many strategies can be implemented to improve coordination of signals and optimize signal timing. Advanced signal systems can detect vehicles approaching intersections, reducing the number of stops vehicles make and reducing delay. With good traffic data, signal timing can be adjusted throughout the day to reflect traffic patterns. Adaptive signal controls actively change signal timing based on real-time traffic information, further optimizing traffic flow.

Adding bicycle detector loops or sensor cameras are effective methods for optimizing signal timing for cyclists, who often must wait long periods before crossing an intersection if they are not detected by the signal system. Adding bike detection loops or sensor cameras would eliminate this problem, ensuring cyclists can get through major intersections without delay and without having to activate pedestrian crossing signals. ODOT recently put in a bike detection loop at the SW 72<sup>nd</sup> Avenue, SW Bridgeport Road, and SW Lower Boones Ferry Road intersection for the northbound bike lane.



*Example of a Bicycle Detector Loop*

### Real-time Traveler Information Systems

Real-time travel information on traffic congestion, roadway incidents, road hazards, weather conditions and construction delays can help drivers make better travel decisions. This information can be provided through electronic signs, or websites and applications available on computers and mobile devices, to help travelers avoid delay by changing their route, starting their trip at another time, or changing which mode they use to get to their destinations.

### Traffic Calming

Traffic-calming measures can improve neighborhood livability, slow traffic, and reduce undesirable cut-through traffic on local streets. Typical traffic-calming measures include speed humps, medians, street trees, narrower streets, traffic circles, and speed reader boards that display vehicle speeds to drivers. These strategies are effective at encouraging vehicle traffic to make their through trips on more appropriate collector and arterial

streets, and help calm traffic in neighborhoods where slow speeds and low traffic volumes are desirable. Table 18 summarizes common traffic-calming strategies.

TABLE 18  
**Potential Traffic-Calming Strategies**

Traffic-calming Strategy	Goal	Description
Speed Tables	Speed reduction	Speed tables are flat-topped speed humps constructed from asphalt, brick, or other materials. They allow higher speed travel than speed bumps. Speed tables are effective at reducing vehicle speeds, and are most applicable on residential streets or other streets where a smooth ride is needed for larger vehicles.
Roundabouts and Traffic Circles	Speed reduction, reduce through traffic	These force drivers to slow at intersections and may encourage through traffic to use other routes. They are typically constructed of concrete, brick or other materials and often have center landscaping that additionally improves street aesthetics.
Chicanes, Curb Extensions	Speed reduction, improve walking environment	Chicanes are bulb-outs that physically narrow the roadway. Chicanes create S-shaped curves that force drivers to slow and can also be designed so that drivers have to yield to oncoming traffic. Curb extensions at intersections physically narrow the roadway and reduce vehicle speed, but they also reduce intersection crossing distance for pedestrians.
Median Barriers	Reduce through traffic	Median barriers prevent vehicle traffic from turning into or out of streets in a certain direction, reducing through traffic.
Road Diets	Speed reduction, reduce through traffic, improve walking & biking environment	Road diets reduce the number of automobile travel lanes, freeing road space for bicycle lanes, sidewalks, paths, or landscaping. A typical road diet may reduce a four-lane road to three lanes (two travel lanes and a center turn lane) and add bicycle lanes or parking.
Street Trees	Speed reduction, improve walking & biking environment	Street trees visually narrow streets, forcing drivers to slow down. Trees placed between sidewalks and the street improves street aesthetics and provides a buffer between pedestrians and traffic.
Pavement Treatments	Speed reduction	Pavement treatments include colored and textured paving materials, rumble strips and other pavement markings. These treatments provide visual and auditory cues to drivers that they should be more alert, causing drivers to slow. Typical application includes paving a residential intersection with bricks, or adding rumble strips to an intersection approach.
Tighten Corner Radii	Improve walking and biking environment, speed reduction	Large intersection corner radii allow vehicles to make higher speed turns, increasing risk for pedestrians. Reducing curb radii forces traffic to slow when making turns and reduces crossing distance for pedestrians.
Roadway Striping	Speed reduction	Adding roadway striping, especially on unstriped residential streets, can visually narrow the street and causes drivers to slow down. Roadway edge lines, striped medians, etc., can all help achieve speed reductions at relatively low cost.

Source: Metro's *Transportation System Management and Operations (TSMO) Plan*

Metro's *Transportation System Management and Operations (TSMO) Plan* includes projects on regionally significant routes within Tualatin. It also includes arterial corridor management strategies and other improvements to facilities within Tualatin (Table 19). Most of these projects are currently underway or are planned to start within the next 5 to 10 years and will be funded through a combination of regional and local sources.

# Exhibit 9 to Ordinance No. 1418-19

Tualatin TSP February 2013

Transportation System Management

**TABLE 19  
Planned Metro TSMO Projects in Tualatin**

Facility Name	TSM Strategy	Description
SW Boones Ferry Road, SW Upper Boones Ferry Road, SW 65 <sup>th</sup> Avenue, and SW Borland Road	Arterial Corridor Management	Improve arterial corridor operations by expanding traveler information and upgrading traffic signal equipment and timings. Install upgraded traffic signal controllers, establish communications to the central traffic signal system, provide arterial detection (including bicycle detection where appropriate), and routinely update signal timings. Provide real-time and forecasted traveler information, including current roadway conditions and weather conditions, on arterial roadways.
OR 99W, from SW 124 <sup>th</sup> Avenue to SW Tualatin-Sherwood Road	Real-time Traveler Information	Provide real-time and forecasted traveler information on arterial roadways, including current roadway conditions, congestion information, travel times, incident information, construction work zones, current weather conditions, and other events that may affect traffic conditions.
SW Tualatin-Sherwood Road	Arterial Corridor Management with Adaptive Signal Timing	Signal systems that automatically adapt to current roadway conditions, in addition to arterial corridor management strategies listed above.

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## 10 Parking Plan

The City owns several public parking lots in downtown Tualatin to support denser development in the City's core area. A separate taxing district has been created to support ongoing maintenance and operations of these parking lots. The city completed a study in 2011 which identified that the existing parking supply is sufficient to meet the parking demand in downtown Tualatin.

The RTPF requires parking policies and a parking plan in a TSP or other planning document. The current TDC includes parking minimums and is compliant with this requirement.



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## Chapter 3. Implementation

Implementation of TSP projects will depend on funding and community priorities. There are a variety of funding sources available at the City, County, Region, and State level, and each project table includes recommendations for applicable funding sources. Additionally, the relative importance of TSP projects are identified in the project tables, based on community goals, the magnitude of the deficiency or issue that the project addresses, and the ability to secure funding, conduct engineering, and build a project. Appendix E provides a detailed description of transportation funding and improvement costs for all of the TSP's recommendations.

### Funding Sources

#### Established Funding Sources for Future Projects

A variety of established federal, state and local funding sources are available to fund future transportation projects in the Tualatin TSP, depending on the eligibility requirements.

#### Federal Funding Sources

Federal funding currently accounts for approximately 20 percent of total funding for transportation projects in Oregon. Allocation of federal funds is managed through Metro, Tualatin's Metropolitan Planning Organization (MPO). Metro generally programs federal funding for regional and local projects that affect the state transportation system, though some funds are made available directly for local projects. All projects utilizing federal funds must be programmed through Metro's 20-year RTP and the Metropolitan Transportation Improvement Program (MTIP), as well as the STIP.

Most federal funding is available through the federal surface transportation program, supported by tax revenue to the Highway Trust Fund.

#### ***Federal Highway Trust Fund (HTF)***

Revenues to the HTF are comprised of motor vehicle fuel taxes, sales taxes on heavy trucks and trailers, tire taxes, and annual heavy truck use fees. The fund is split into two accounts – the highway account and transit account. Funds are appropriated to individual states on an annual basis. The 2005 legislation for the federal surface transportation program (Safe, Accountable, Flexible and Efficient Transportation Equity Act – A Legacy for Users, referred to as SAFETEA-LU) was replaced with Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), effective October 1<sup>st</sup>, 2012. This new 2-year program keeps total federal funding at the SAFETEA-LU rate, consolidates the 90 current programs under SAFETEA-LU into 30, eliminates transportation earmarks, and increases funding for the Transportation Infrastructure Finance and Innovation Program (TIFIA). The TIFIA program provides loans to finance transportation projects of regional or national significance, and seeks to leverage federal transportation dollars with local funds and private investment. Tualatin may be eligible to receive funding under the expanded TIFIA program.

Most federal funds must be matched with state or local funds; the current matching ratio for most projects is 10.27 percent.

#### ***Federal Transit Administration grants***

The Federal Transit Administration (FTA) manages a number of grants available to transit agencies nationwide. The City of Tualatin could work with TriMet to fund transit projects serving the City.

### ***Transit Expansion and Livable Communities Grants***

Approximately \$2.4 billion in funds was appropriated for this program in the current budget year (2012). The goal of this initiative from the FTA is to advocate for and support projects and programs that improve the link between public transit and communities. Several formula and competitive grant programs are available through this initiative. Policy goals include better integrating transportation and land use planning, fostering multimodal systems, providing transportation options and improving access, reducing emissions, and increasing public participation in transportation decision-making. Tualatin and TriMet may be eligible for grant funding under this program.

### ***Transportation for Elderly Persons and Persons with Disabilities (MAP-21 §20009, former SAFETEA-LU §5310)***

This formula grant program is managed by the state, with funds provided for capital projects that enhance the accessibility of older adults and those with disabilities.

### ***Job Access Reserve Commute (JARC) program (MAP-21 §20010, former SAFETEA-LU §5316)***

Activities funded by the JARC program (formerly Section 5316 of SAFETEA-LU) have been preserved in MAP-21. The JARC program was established to address the transportation needs of welfare recipients and other low-income persons seeking to obtain or maintain employment. This program helps provide mobility to those whose work hours may fall outside traditional transit service hours and service areas. Under MAP-21, JARC activities have been integrated into the urban and rural formula grant programs. Financial assistance will be available for capital, planning and operations projects. In addition to local government and transit operators, private non-profits are eligible to receive funds. In 2012, as in past years, the Chamber of Commerce received JARC monies that funded the Tualatin Shuttle service. The Chamber of Commerce is an ongoing recipient of JARC funds, and annually re completes for funds.

TriMet is the current recipient of all JARC funds which are distributed to regional agencies through a competitive application process. Under MAP-21, the competitive application requirement has been removed. TriMet is currently developing its new JARC program in response to MAP-21; it is presently unclear how much funding will be available, or how agencies will apply for funding from the program. Approximately \$600,000 has been available regionally under the program in recent funding cycles.

## **Other Federal Sources**

### ***Section 319 Non-Point Source Implementation Grants***

Transportation projects that integrate stormwater treatment may be eligible to receive federal funding through Section 319 grants. This program, administered by the Oregon Department of Environmental Quality (DEQ), provides federal funds to address non-point pollution, including stormwater improvement projects. Funding is very competitive, with less than \$500,000 available statewide in the most recent grant cycle. Projects that could be eligible for funding include applications of pervious pavements, stormwater detention and retention, and other low impact stormwater development tactics. Funds can be used for all or a portion of a project, but require a minimum 40 percent match. The Tualatin River and several of its tributaries are on the Clean Water Act 303(d) list for a number of pollutants, and projects within the river basin may be attractive for funding.

## **State Funding Sources**

State funds are distributed via the Oregon Transportation Commission (OTC). The State Highway Fund is the most significant source of funding for the programs described below. To be eligible for funding, projects must be programmed through the STIP.

### ***State Highway Fund***

State Highway Fund Revenues are received from a combination of fuel taxes, vehicle registration and title fees, driver's license fees, the truck weight-mile tax and federal monies. Fund revenues may only be used for construction and maintenance of state and local highways, bridges, and roadside rest areas. State law (ORS 366.514) specifies that a reasonable amount of highway funds must be spent on walkways and bikeways, and that in any given fiscal year, a minimum of 1 percent of State Highway Funds must be spent on these projects by funding recipients. However, cities and counties receiving may allocate these funds to a reserve fund, which they must expend within a period not to exceed 10 years. All funds must be expended on projects within road, street, or highway rights-of-way.

State Highway Funds are appropriated by the OTC on an annual basis. Sixty percent of fund revenues are kept at the state level, 24 percent is distributed to counties based on the number of vehicles registered in each county, and 16 percent is distributed to cities based on population.

### ***Statewide Transportation Improvement Program (STIP)***

The STIP is the 4-year capital improvement program for the state of Oregon. It provides a schedule and identifies funding for projects throughout the state. Projects included in the STIP are generally "regionally significant" and have been given a high priority through planning efforts and by the relevant area commission on transportation (ACT) or MPO. For Tualatin, the relevant MPO is Metro.

All regionally significant state and local projects, as well as all federally-funded projects and programs, must be included in the STIP. The 2010-2013 STIP includes projects totaling \$1.25 billion and covers the period from October 2009 to the end of September 2013. The 2012-2015 STIP was recently approved. About 80 percent of projects are expected to use federal funds. Federal funding levels projected for the 2010-2013 and draft 2012-2015 STIP are assumed to be at the same annual level distributed under SAFETEA-LU from 2005 to 2009.

ODOT has started the planning process for the 2015-2018 STIP. The STIP will be reorganized into two broad categories: "Fix-it" and "Enhance" that encompass the previous funding categories detailed in the 2012-2015 STIP. "Fix-it" projects are those that fix or preserve the current transportation system; "Enhance" projects are those that enhance, expand or improve the transportation system. The main purpose of this reorganization is to allow maximum flexibility to fund projects that reflect community and state values, rather than those that fit best into prescriptive programs.

#### **"Fix-it" activities will include:**

- ◆ Bicycle and pedestrian facilities on state routes only
- ◆ Bridges (state owned)
- ◆ Culverts
- ◆ High Risk Rural Roads
- ◆ Illumination, signs and signals
- ◆ Landslides and Rockfalls
- ◆ Operations (includes ITS)
- ◆ Pavement Preservation
- ◆ Rail-Highway Crossings
- ◆ Safety

- ◆ Salmon (Fish Passage)
- ◆ Site Mitigation and Repair
- ◆ Stormwater Retrofit
- ◆ Transportation Demand Management (part of Operations)
- ◆ Work zone Safety (Project specific)

**“Enhance” activities will include:**

- ◆ Bicycle and/or Pedestrian facilities on or off the highway right-of-way
- ◆ Development STIP (D-STIP) projects (development work for projects that will not be ready for construction or implementation within the four years of the STIP)
- ◆ Modernization (projects that add capacity to the system, in accordance with ORS 366.507)
- ◆ Most projects previously eligible for Transportation Enhancement funds
- ◆ Projects eligible for Flex Funds (the Flexible Funds program funded Bicycle, Pedestrian, Transit and Transportation Demand Management (TDM) projects, plans, programs, and services)
- ◆ Protective Right-of-Way purchases
- ◆ Public Transportation (capital projects only, not operations)
- ◆ Safe Routes to School (infrastructure projects)
- ◆ Scenic Byways (construction projects)
- ◆ Transportation Alternatives (new with MAP-21, the federal transportation authorization)
- ◆ Transportation Demand Management

Under this new STIP organization, there will be one application for all projects eligible under the “Enhance” program. Communities will apply for the “Enhance” projects that best serve their community and ODOT will determine the appropriate funding mechanism. “Fix-it” projects will be selected through a collaborative process between ODOT and MPOs. This new organization is primarily intended to increase funding flexibility and does not represent a fundamental change in the type of projects that will be funded through the STIP. The current “Enhance” application process for the 2015-2018 STIP will close at the end of November, 2012.

- **ConnectOregon:** *ConnectOregon* funds are lottery-backed bonds distributed to air, marine, rail, transit and other multimodal projects statewide. No less than 10 percent of *ConnectOregon* IV funds must be distributed to each of the five regions of the state, provided that there are qualified projects in the region. The objective is to improve the connections between the highway system and other modes of transportation.

***Oregon Parks and Recreation Local Government Grants***

The Oregon Parks and Recreation Department (OPRD) administers this program using Oregon Lottery revenues. These grants can fund acquisition, development and major rehabilitation of public outdoor parks and recreation facilities. OPRD has distributed \$4 million annually under this program through a competitive grant process. A match of at least 20 percent is required.

### ***Oregon Transportation Infrastructure Bank (OTIB)***

The OTIB is a statewide revolving loan fund available to local governments for many transportation infrastructure improvements, including highway, transit and non-motorized projects. Most funds made available through this program are federal, and roads must be functionally classified as a major collector or higher to be eligible for loan funding.

### ***Oregon Parks and Recreation Department: Recreational Trails Grant<sup>34</sup>***

These grants from the Oregon Parks and Recreation Department provide funding for recreational trail projects to build new recreation trails, including trail bridges and installing wayfinding signs, restoring existing trails, developing and rehabilitating trailhead facilities, and acquiring land and permanent easements for trails. Cities are eligible to apply, and must provide at least a 20 percent match of total project cost. Recent grants (2011) ranged from \$10,000 to \$130,000.

### ***Oregon Immediate Opportunity Fund***

The Oregon immediate opportunity fund supports primary economic development in Oregon through construction and improvements of streets and roads. Funds are discretionary and may only be used when other sources of financial support are unavailable or insufficient. The objectives of the Opportunity Fund are providing street or road improvements to influence the location, relocation, or retention of a firm in Oregon, providing procedures and funds for the OTC to respond quickly to economic development opportunities, and providing criteria and procedures for the Oregon Economic and Community Development Department (OECDD), other agencies, local government and the private sector to work with ODOT in providing road improvements needed to ensure specific job development opportunities for Oregon, or to revitalize business or industrial centers.

## **Regional Funding Sources**

Metro coordinates two transportation grant programs relevant to Tualatin. As the regional government and MPO, Metro is responsible for distributing federal monies in a variety of programs.

### ***Flexible Funds***

Metro manages the allocation of regional federal flexible funds. These funds come from two federal funding sources: the Surface Transportation program (STP) and the Congestion Mitigation/Air Quality program (CMAQ). These funds can be spent on a wide variety of projects. In the most recent funding round, \$24 million was made available to Metro jurisdictions for various projects, including transit oriented development, high capacity transit, transportation system management, and regional planning projects. Funding is allocated through a competitive process.

### ***Regional Travel Options grants***

Metro also manages this federal grant source, distributing over \$500,000 to several projects in the Metro region in the most recent round of funding. Projects are selected through a competitive process. Projects that improve air quality, address community health, reduce auto traffic or create more opportunities for walking and biking are all eligible for funding.

### ***Nature in Neighborhoods Grants***

Metro provides funds to communities to add vegetation and natural features in neighborhoods. Funds for Nature in Neighborhoods come from the voter-approved 2007 natural areas bond measure. Projects awarded grants

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<sup>34</sup> From [www.oregon.gov/oprd/GRANTS/Pages/index.aspx](http://www.oregon.gov/oprd/GRANTS/Pages/index.aspx)

involve the community, foster diverse partnerships and innovate, leading to bigger social and economic benefits, from jobs and economic development to livable neighborhoods and clean air. Metro has awarded \$6.6 million to 23 projects. Up to \$2.25 million is available annually, with \$15 million available through the life of the program.

### County Funding Sources

#### ***Washington County Gas Tax***

Tualatin receives approximately \$90,000 per year currently in county gas tax revenue. These funds can be spent on a wide variety of transportation projects, though are currently only spent on construction and maintenance of City streets.

#### ***Washington County Major Streets Transportation Improvement Program (MSTIP)***

Washington County's MSTIP program provides funding for major transportation improvements on roads throughout the county. The program is funded through property taxes with approximately \$35 million available each year. MSTIP has funded a wide variety of projects, including expansion of Highway 26, Intelligent Transportation System (ITS) and signal upgrades to Tualatin-Sherwood Road and numerous bicycle and pedestrian improvements. Only roads classified in the Washington County Functional Classification system are eligible for funding from MSTIP. Roads that would be eligible under this program include Tualatin-Sherwood Road, Boones Ferry Road, Nyberg Road, 65<sup>th</sup> Avenue, Sagert Street, and several others. Tualatin does not have any projects identified for funding in the current 5 year MSTIP program (MSTIP 3d), but several projects just outside the city, including the extension of 124<sup>th</sup> Avenue south to Tonquin Road, are funded. The city can continue to pursue funding for major improvements on these streets through this dedicated funding source.

#### ***Washington County Minor Betterment Program***

Washington County administers the Minor Betterment Program (MBP), funded by an allocation from the County Road Fund (County Gas Tax). The Program funds small-scale interim improvements beyond routine maintenance but not large enough to be programmed as capital improvements. MBP projects are site-specific enhancements to the county's transportation system, projects are typically interim and intended to supplement routine maintenance and capital improvements. Eligible projects need to be on a county road, improve or resolve a specific situation, and address safety, capacity, environmental and/or connectivity issues. In fiscal year 2013/14 the County is funding sidewalk completing along SW Grahams Ferry Road with this funding source.

### Local Funding Sources

Major local funding sources include general fund revenues, road utility fees, system development charges, and the City's share of State Highway Fund revenue.

### **Road Utility Fees**

This fee is assessed to all residential and non-residential properties in the city of Tualatin to fund upkeep of the City's road system. Approximately \$650,000 in fee revenue was forecast for FY 2011. These revenues are made available exclusively for road maintenance. These fees represent a significant source of funding for maintenance of existing roads. Per city code (TMC 3-4), these funds may be spent on pavement rehabilitation, sidewalk maintenance, landscaping enhancements, replacing street trees and street lighting.

### **Transportation Development Taxes (TDT)**

Transportation Development Taxes (TDT) are one-time fees on new development that compensate for the increased traffic associated with new development, and are system development charges or impact fees for transportation. The City has authorized the collection of transportation system development charges since 1991. The former county-managed Transportation Impact Fee (TIF) program has been replaced with the Transportation Development Tax (TDT), approved by voters in 2008. TDTs cannot be expended on transportation operations or maintenance projects, and may be used exclusively for capital improvement projects. These taxes are payable to the City when a building or other development permit is issued. The outlook for TDT revenue is very uncertain, given limited development during the current economic downturn.

### **Potential Other Funding Sources for Future Projects**

The following funding sources and strategies may be available to the City in addition to the established programs listed above.

#### **Department of Energy: Energy Efficiency and Conservation Block Grants (EECBG)**

This program was initially funded through the American Recovery and Reinvestment Act of 2009. The current funding authorization expired in April 2012. Future funding for this program is currently uncertain. The program provided formula grants to states and competitive grants for projects that reduce fossil fuel emissions, reduce total energy use of eligible grantees, and improve energy efficiency of transportation and other sectors. Tualatin may be eligible for competitive grants if this program is funded in future federal budgets.

#### **Local Improvement Districts (LID)**

LIDs are created by property owners within a district of a city to raise revenues for constructing improvements within the district boundaries. LIDs may be used to assess property owners for improvements that benefit properties and are secured by property liens. Property owners typically enter into LIDs because of the economic or personal advantages of the improvements. The City would work with property owners to acquire financing at lower interest rates than under typical financing methods. The formation of LIDs is governed by state law and local jurisdictional development codes. LID revenues can only be used on capital projects. LID revenues can be combined with other revenue sources to fully fund projects.

#### **Transit Utility Fee**

A number of jurisdictions in Oregon have implemented transportation utility fees that fund road system maintenance, transportation improvements, and transit service. The city of Corvallis, Oregon recently enacted a Transit Utility Fee in 2011 to support transit operations. These fees are typically collected on monthly residential and business utility bills and assessed on a per-housing unit basis, with businesses and industry charged rates based on the type of business or number of employees. A modest monthly transit utility fee could fund capital improvements and transit operations in Tualatin. Fee revenue can also be used to support or improve existing transit services in Tualatin, like the Tualatin Chamber of Commerce Shuttle service. A transit utility fee would provide dedicated and reliable funding for transit projects identified in the Transit Plan.



### Urban Renewal Areas

The City of Tualatin has successfully implemented two urban renewal areas over the past 25 years in the central area and Leveton. Both Urban renewal areas have expired and are no longer collecting revenue. Urban Renewal Areas (URA) remain an option for the City in the future whereby tax increment financing (TIF) can be used for a variety of improvements within the URA. With TIF, the county assessor “freezes” the assessed value of properties within the URA and the property taxes collected above those that were collected when the property values were frozen are used to pay for improvements within the URA. This financing method assumes that property values within the urban renewal area will increase over time. URA designations are primarily used as an economic development tool, but may be useful for targeting areas in the City with serious improvement needs.

### Revenue and General Obligation Bonds

Bonding allows municipal and county government to finance construction projects by borrowing money and paying it back over time, with interest. Financing requires smaller regular payments over time compared to paying the full cost at once, but financing increases the total cost of the project by adding interest. General Obligation Bonds are often used to pay for construction of large capital improvements and must be approved by a vote of the public. These bonds add the cost of the improvement to property taxes over a period of time. Tualatin could consider issuing a General Obligation Bond to pay for significant transportation improvement projects identified within the City.

### Parking Fees

The City does not currently charge for parking, but does charge an annual fee to business owners in the “core area parking district” that funds parking maintenance in the immediate core area. Income generated by charging parking fees could be used to implement a variety of transportation projects. The collection system would require purchase of parking meter infrastructure, careful study of where to install meters, and analysis of the appropriate fee amount to charge drivers.

### Prioritization

Prioritization of projects within this TSP is separated into three categories: short-term, medium-term, and long-term. Short term projects are expected to be built within 0-5 years, while medium-term are 5-10 years, and long-term projects are expected to be built in the 10-20 year time frame. Prioritization is determined based on a combination of the most important projects to implement first, the ease of implementation, and the potential cost – some projects will take a number of years to identify and secure funding. Some projects will also need regional coordination and support, which may take time to secure an agreement. Prioritization is an estimate: long-term projects may be implemented sooner than 10-20 years due to funding becoming available, a high degree of community support or other factors. The suggested priority for projects in this TSP is a general guide, and not a required timeframe.

### Fiscally Constrained TSP Project List

Based on an analysis of existing and likely future funding sources, the Project Team assumed the City of Tualatin will have around \$16 million in funds for transportation over the next 20 years. All projects currently labeled short and medium-term projects fall within this constrained list, with the exception of upgrading SW Myslony Street (R5). The fiscally constrained list represents the likely projects that the City will be able to fund before the next TSP update. The long-term priorities (and the project on SW Myslony Street) that are more expensive and complex are the preferred transportation system in Tualatin, and the City will need to look for additional funding such as grants and potential borrowing strategies to implement these projects. These projects will also likely require a suite of funding strategies to implement.

## Policy and Code Language

In preparing implementation measures for the TSP, the project team evaluated the City's TSP and development code for compliance with the TPR and the RTFP. These state and regional regulations are intended to increase the amount of coordination between public agencies, protect transportation investments, support efficient urban development, and promote the use of modes other than single-occupancy vehicles. The project team found that the TSP and development code were largely in compliance with the TPR and RTFP, but that some updates to policy and code would be needed for full compliance. The evaluation findings are included in the TSP as Appendix F.

There were limited compliance issues and needed amendments identified through the process of evaluating the City's development code against TPR and RTFP requirements. The proposed code amendments represent refinements to the code, and in most cases they are minor or administrative. The following represent the types of amendments proposed to implement the TSP and comply with state and regional regulations:

- ◆ Supporting more communication between the City and transportation-related agencies on applications for architectural review and proposed plan amendments
- ◆ Extending requirements for short and direct pedestrian and bicycle routes to general multi-family housing, commercial, industrial, public, and semi-public development
- ◆ Treating long and wide driveways more like streets in terms of lining up and connecting with other streets
- ◆ Setting up conditions when crossings on transit streets need to be provided
- ◆ Allowing on-street parking to count toward off-street parking requirements
- ◆ Differentiating existing bicycle parking requirements into long-term and short-term bicycle parking
- ◆ Permitting on-street freight loading under certain conditions

These proposed amendments will be carried through the hearings and adoption process concurrently with the TSP document itself. Language for proposed code changes can be requested from City Staff.

## Tualatin TSP Policies

The following TSP policies were included in each of the modal plans, and repeated here for quick reference.

### Functional Classification

- ◆ **Functional Classification Policy 1:** Major and minor arterials will comprise the main backbone of the freight system, ensuring that freight trucks are able to easily move within, in, and out of the City
- ◆ **Functional Classification Policy 2:** Continue to construct existing and future roadways to standard when possible for the applicable functional classification to serve transportation needs within the City

## Roadway

- ◆ **Roadway Policy 1:** Implement design standards that provide clarity to developers while maintaining flexibility for environmental constraints.
- ◆ **Roadway Policy 2:** Ensure that street designs accommodate all anticipated users including transit, freight, bicyclists and pedestrians, and those with limited mobility.
- ◆ **Roadway Policy 3:** Work with Metro and adjacent jurisdictions when extending roads or multi-use paths from Tualatin to a neighboring City.

## Access Management

- ◆ **Access Management Policy 1:** No new driveways or streets on arterial roadways within the City, except where noted in the TDC, Chapter 75, usually when no alternative access is available
- ◆ **Access Management Policy 2:** Where a property abuts an arterial and another roadway, the access for the property shall be located on the other roadway, not the arterial
- ◆ **Access Management Policy 3:** Adhere to intersection spacing included in Chapter 75 of the TDC
- ◆ **Access Management Policy 4:** Limit driveways to right-in, right-out (where appropriate) through raised medians or other barriers to restrict left turns
- ◆ **Access Management Policy 5:** Look for opportunities to create joint accesses for multiple properties, where possible, to reduce the number of driveways on arterials
- ◆ **Access Management Policy 6:** No new single-family home, duplex or triplex driveways on major collector roadways within the City, unless no alternative access is available
- ◆ **Access Management Policy 7:** On collector roadways, residential, commercial and industrial driveways where the frontage is greater or equal to 70 feet are permitted. Minimum spacing at 100 feet. Uses with less than 50 feet of frontage shall use a common (joint) access where available

## Transit

- ◆ **Transit Policy 1:** Partner with TriMet to jointly develop and implement a strategy to improve existing transit service in Tualatin.
- ◆ **Transit Policy 2:** Partner with the Tualatin Chamber of Commerce to support grant requests that would expand the Tualatin Shuttle services.
- ◆ **Transit Policy 3:** Partner with TriMet, Metro, and neighboring communities to plan the development of high-capacity transit in the Southwest Corridor, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 4:** Partner with TriMet, Metro, and neighboring communities to plan development of high-capacity transit connecting Tualatin and Oregon City, as adopted in the Metro High Capacity Transit System Plan.
- ◆ **Transit Policy 5:** Coordinate with ODOT and neighboring communities on conversations related to Oregon Passenger Rail between Portland and Eugene.

- ◆ **Transit Policy 6:** Develop and improve pedestrian and bicycle connections and access to transit stops.
- ◆ **Transit Policy 7:** Encourage higher-densities near high-capacity transit service.
- ◆ **Transit Policy 8:** Metro in the RTP calls for increased WES service frequency. The City will coordinate with TriMet, Metro, and ODOT to explore service frequency improvements and the possible inclusion of a second WES station in south Tualatin.

## Bicycle and Pedestrian

- ◆ **Bicycle and Pedestrian Policy 1:** Support Safe Routes to Schools (SRTS) for all Tualatin schools
- ◆ **Bicycle and Pedestrian Policy 2:** Work with partner agencies to support and build trails
- ◆ **Bicycle and Pedestrian Policy 3:** Allow wider sidewalks downtown for strolling and outdoor cafes
- ◆ **Bicycle and Pedestrian Policy 4:** Add benches along multi-use paths for walkers throughout the City (especially in the downtown core)
- ◆ **Bicycle and Pedestrian Policy 5:** Develop and implement a toolbox, consistent with Washington County, for mid-block pedestrian crossings
- ◆ **Bicycle and Pedestrian Policy 6:** Implement bicycle and pedestrian projects to help the City achieve the regional non-single-occupancy vehicle modal targets in Table 16 (earlier in this chapter; its source is the RTFP)
- ◆ **Bicycle and Pedestrian Policy 7:** Implement bicycle and pedestrian projects to provide pedestrian and bicycle access to transit and essential destinations for all mobility levels, including direct, comfortable, and safe pedestrian and bicycle routes
- ◆ **Bicycle and Pedestrian Policy 8:** Ensure that there are bicycle and pedestrian facilities at transit stations
- ◆ **Bicycle and Pedestrian Policy 9:** Create on- and off-street bicycle and pedestrian facilities connecting residential, commercial, industrial, and public facilities such as parks, the library, and school
- ◆ **Bicycle and Pedestrian Policy 10:** Create obvious and easy to use connections between on- and off-street bicycle and pedestrian facilities, and integrate off-street paths with on-street facilities

## Freight

- ◆ **Freight Policy 1:** Continue to coordinate with PNWR and TriMet to ensure that railroad crossings are safe and have few noise impacts on adjacent neighborhoods
- ◆ **Freight Policy 2:** Look for opportunities to shift goods shipments to rail to help reduce the demand for freight on Tualatin's roads.
- ◆ **Freight Policy 3:** Look for opportunities to create multi-modal hubs to take advantage of the freight rail lines

## Transportation Demand Management

- ◆ **TDM Policy 1:** Support demand reduction strategies, such as ride sharing, preferential parking, and flextime programs
- ◆ **TDM Policy 2:** Partner with the Chamber of Commerce, the Westside Transportation Alliance, major employers, and business groups to implement TDM programs
- ◆ **TDM Policy 3:** Explore the use of new TDM strategies to realize more efficient use of the City's transportation system

# Exhibit 9 to Ordinance No. 1418-19

- ◆ **TDM Policy 4:** Support Washington County's regional TDM programs and policies to reduce the number of single-occupancy vehicle (SOV) trips
- ◆ **TDM Policy 5:** Promote the use and expansion of the Tualatin Shuttle program

## Performance Measures

Metro's *Regional Transportation Plan* requires the following performance measures in a City's TSP: safety, vehicle miles traveled per capita, freight reliability, congestion, and walking, bicycling and transit mode shares to evaluate and monitor performance of the TSP. The Table below includes the measure categories, the specific performance measures for the Tualatin TSP, the applicable system deficiencies, and the associated TSP projects that help address the deficiencies, and thus, help meet the performance measures.

Category	Metro's 2035 Performance Metrics	Tualatin TSP Performance Measure	Tualatin System Deficiencies	Tualatin TSP projects that address the deficiencies
Safety	By 2035, reduce the number of pedestrian, bicyclist, and motor vehicle occupant fatalities plus serious injuries each by 50% compared to 2005.	<p>Reduce fatalities for drivers, walkers, and bikers from existing conditions</p> <p>Address known deficiencies and high-accident areas as high-priority projects</p> <p>Reduce the number of County and State SPIS sites within the City.</p>	<p>The three high crash locations in Tualatin are Tualatin-Sherwood Road/Boones Ferry, Tualatin-Sherwood Road/Martinazzi, and SW Nyberg Street/I-5 Southbound ramps.</p> <p>The first two of these roads are also on the Washington County's SPIS list along with the Lower Boones Ferry and Bridgeport intersection. ODOT's nearby SPIS locations are limited to I-5 and OR 99W.</p>	<p>Projects at the Nyberg interchange and I-5 will improve safety for bicyclists and pedestrians. The suite of intersection upgrades at Tualatin-Sherwood Road/Boones Ferry and Tualatin-Sherwood Road/Martinazzi will address both congestion and safety. Completing the multi-use path network and bicycle improvements near Lower Boones Ferry and Bridgeport will reduce conflicts between vehicles and bicyclists and improve safety for all users.</p>

# Exhibit 9 to Ordinance No. 1418-19

Category	Metro's 2035 Performance Metrics	Tualatin TSP Performance Measure	Tualatin System Deficiencies	Tualatin TSP projects that address the deficiencies
Congestion	By 2035, reduce vehicle hours of delay (VHD) per person by 10 percent compared to 2005	<p>On Washington County and ODOT owned roads the v/c is less than or equal to 0.99</p> <p>On City roads, LOS D or E depending on the road</p> <p>In downtown Tualatin (a Metro designated Town Center) – 2-hour peak hour standards:</p> <ul style="list-style-type: none"> <li>• First peak hour the v/c is less than or equal to 1.1</li> <li>• Second peak hour the v/c is less than or equal to 0.99</li> </ul>	Analysis shows two intersections not meeting standards (SW Teton Ave/SW Tualatin Road, and SW Martinazzi Ave/SW Sagert) which increased to 11 intersections in the future conditions analysis	<p>Roadway capacity and intersection optimization projects improve traffic flow and help maintain future congestion within the existing standards. Additionally, the TDM/TSM programs, increased transit, and more complete bicycle and pedestrian network will help reduce vehicle demand on roads within Tualatin.</p> <p>The preferred system of transportation improvements meets the relevant requirements for Town Centers.</p>

Exhibit 9 to  
Ordinance No. 1418-19

Tualatin TSP February 2013

Policy and Code Language

Category	Metro's 2035 Performance Metrics	Tualatin TSP Performance Measure	Tualatin System Deficiencies	Tualatin TSP projects that address the deficiencies
Freight Reliability	By 2035, reduce vehicle hours of delay truck trip by 10 percent compared to 2005	Reduce vehicle delay for truck trips on identified truck routes  Improve reliability for truck trips on identified truck routes	A number of freight routes within the City experience delay currently, including the roads around the downtown core (SW Tualatin-Sherwood Road, SW Boones Ferry Road, and SW Martinazzi Avenue). Travel times during the afternoon peak hour are not predictable, and delay can vary from day to day, increasing transportation costs for businesses that rely on shipping.	Optimizing signal timing on regional roadways, encouraging off-peak travel on both SW Herman Road, and SW Tualatin-Sherwood Road help reduce truck delay. Capacity projects on Tualatin-Sherwood Road, sections of Avery, Teton, Herman, Myslony, and others, as well as turn lane, intersection configurations, and coordinated signals at specific locations help reduce vehicle hours of delay.



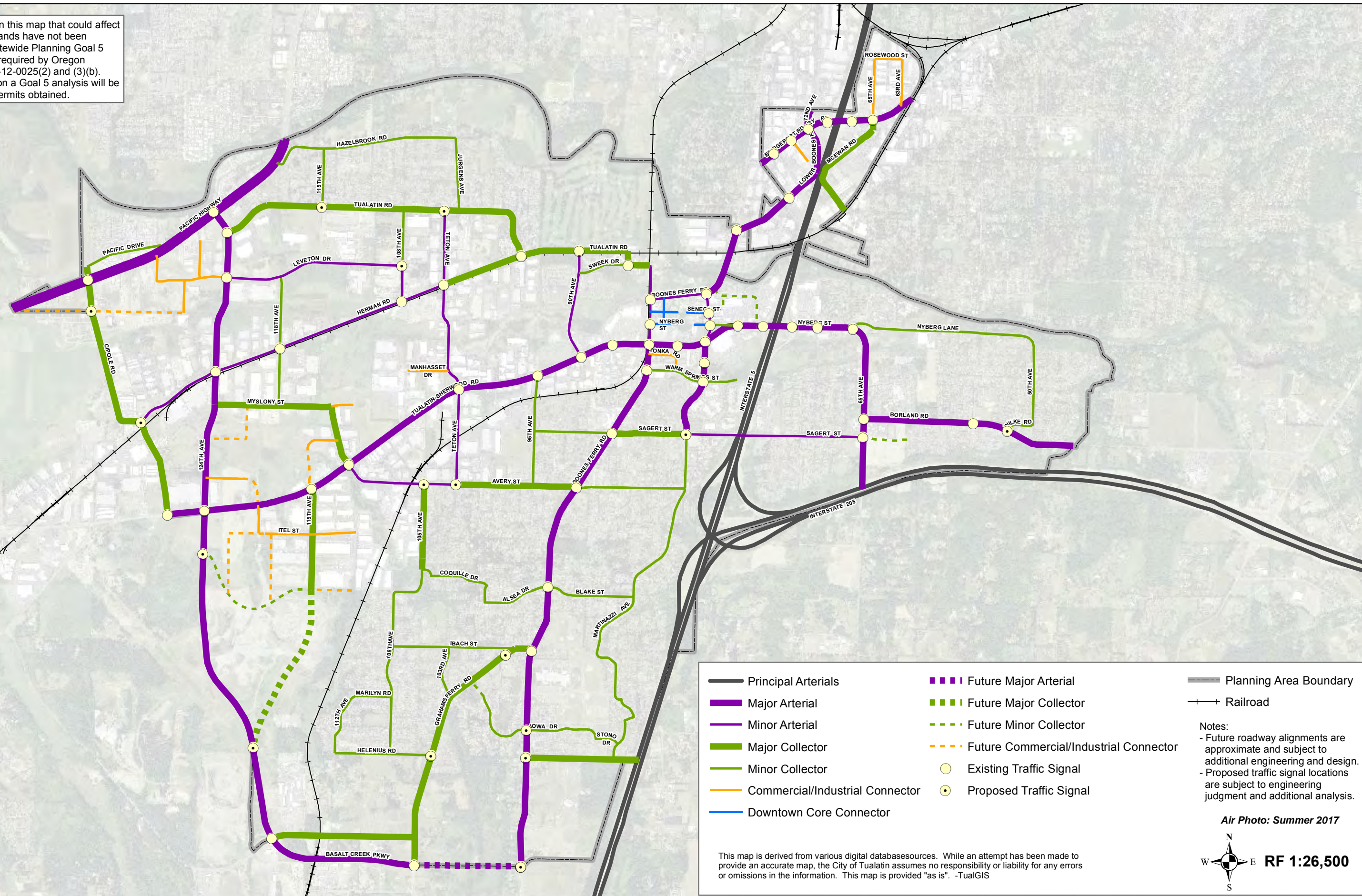
# Exhibit 9 to Ordinance No. 1418-19

Category	Metro's 2035 Performance Metrics	Tualatin TSP Performance Measure	Tualatin System Deficiencies	Tualatin TSP projects that address the deficiencies
Walking, Biking, Transit, and Non-SOV	<p>By 2035, triple walking, biking, and transit mode share compared to 2005.</p> <p>Town Center mode share is 45-55% non-drive alone modal target for Downtown Tualatin and 40-45 percent for other areas of the City.</p>	<p>Implement policies and projects to move towards the regional non-SOV mode share for the appropriate areas in the City</p> <p>Work toward achieving the Metro non-SOV mode share targets of 45 to 55 percent for Downtown Tualatin and 40 to 45 percent for other areas of the City.</p>	<p>There are a number of gaps in the sidewalk, bike lane, and multi-use path network in Tualatin. There are also few wayfinding signs to direct pedestrians and bicyclists to the existing multi-use paths. Current mode share for those traveling to work who live in Tualatin is 77.6 percent drive to work alone, 7.4 percent carpool, 4.2 percent take transit, 2.9 percent walk, and 0.4 percent bicycle.</p>	<p>The TDM/TSM programs, increased transit, and more complete bicycle and pedestrian network will help increase the percentage of residents in Tualatin who walk, bicycle, take transit, and carpool in the downtown core and other areas of the City.</p>
Climate Change	<p>By 2035 reduce transportation related carbon dioxide emissions by 40 percent below 1990 levels</p>	<p>Strive to reduce VMT per capita by 10 percent compared to 2010</p>	<p>There are more jobs in Tualatin than there are workers to fill those jobs in the City, additionally, 75 percent of residents in Tualatin work outside of the City, which increases VMT per capita.</p>	<p>The TDM/TSM programs, increased transit, and more complete bicycle and pedestrian network will help decrease per capita VMT and the associated transportation-related emissions to meet this performance measure.</p>

The projects and policies included in the Tualatin TSP meaningfully contribute towards Metro achieving its performance metrics by addressing safety concerns, reducing congestion, improving freight reliability, and providing non-driving options that help affect mode split and VMT per capita. Combined with other metropolitan area cities Tualatin's TSP will help Metro reach its 2035 Performance Targets.

# Figure 11-1: Functional Classification and Traffic Signal Plan


The projects embodied in this map that could affect rivers, streams and wetlands have not been analyzed in terms of Statewide Planning Goal 5 (Natural Resources) as required by Oregon Administrative Rule 660-12-0025(2) and (3)(b). Thus, prior to construction a Goal 5 analysis will be completed and proper permits obtained.



— Principal Arterial	■ Future Major Arterial	— Planning Area Boundary
■ Major Arterial	■ Future Major Collector	—+— Railroad
■ Minor Arterial	--- Future Minor Collector	
■ Major Collector	- - - Future Commercial/Industrial Connector	
■ Minor Collector	● Existing Traffic Signal	
■ Commercial/Industrial Connector	○ Proposed Traffic Signal	
■ Downtown Core Connector		

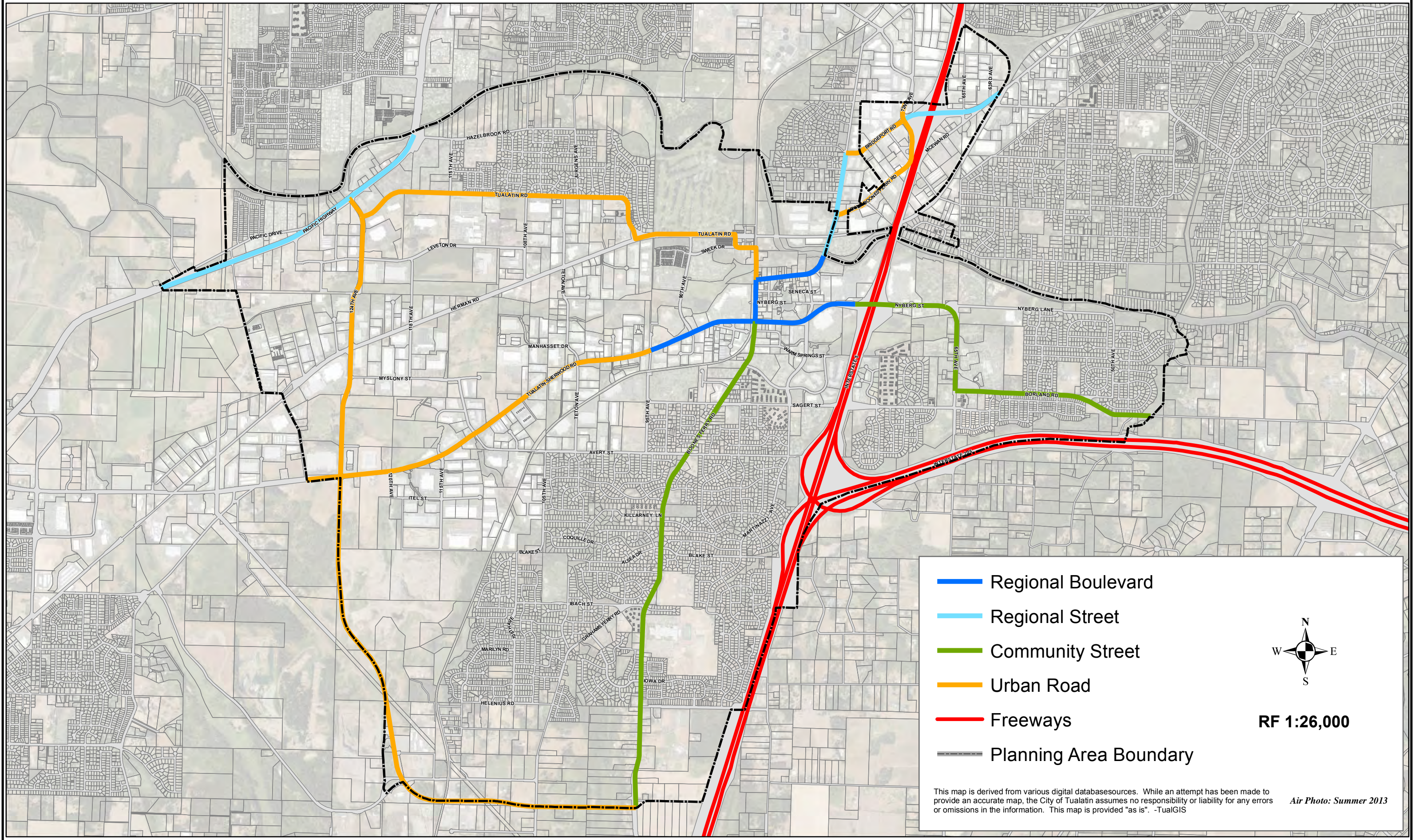
Notes:  
- Future roadway alignments are approximate and subject to additional engineering and design.  
- Proposed traffic signal locations are subject to engineering judgment and additional analysis.

**Air Photo: Summer 2017**

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This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS

**Figure 11-2: Metro Regional Street Design System**



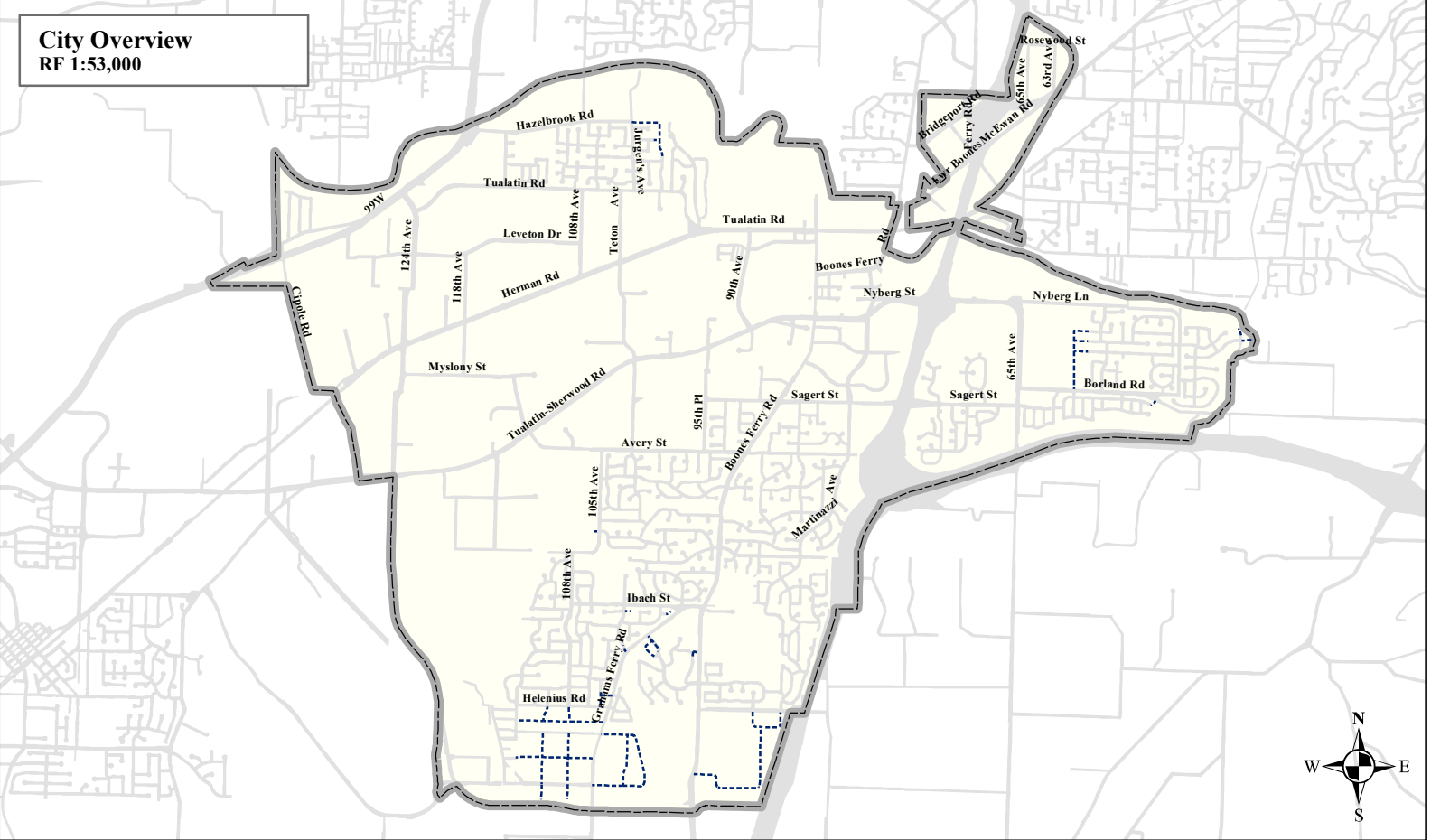
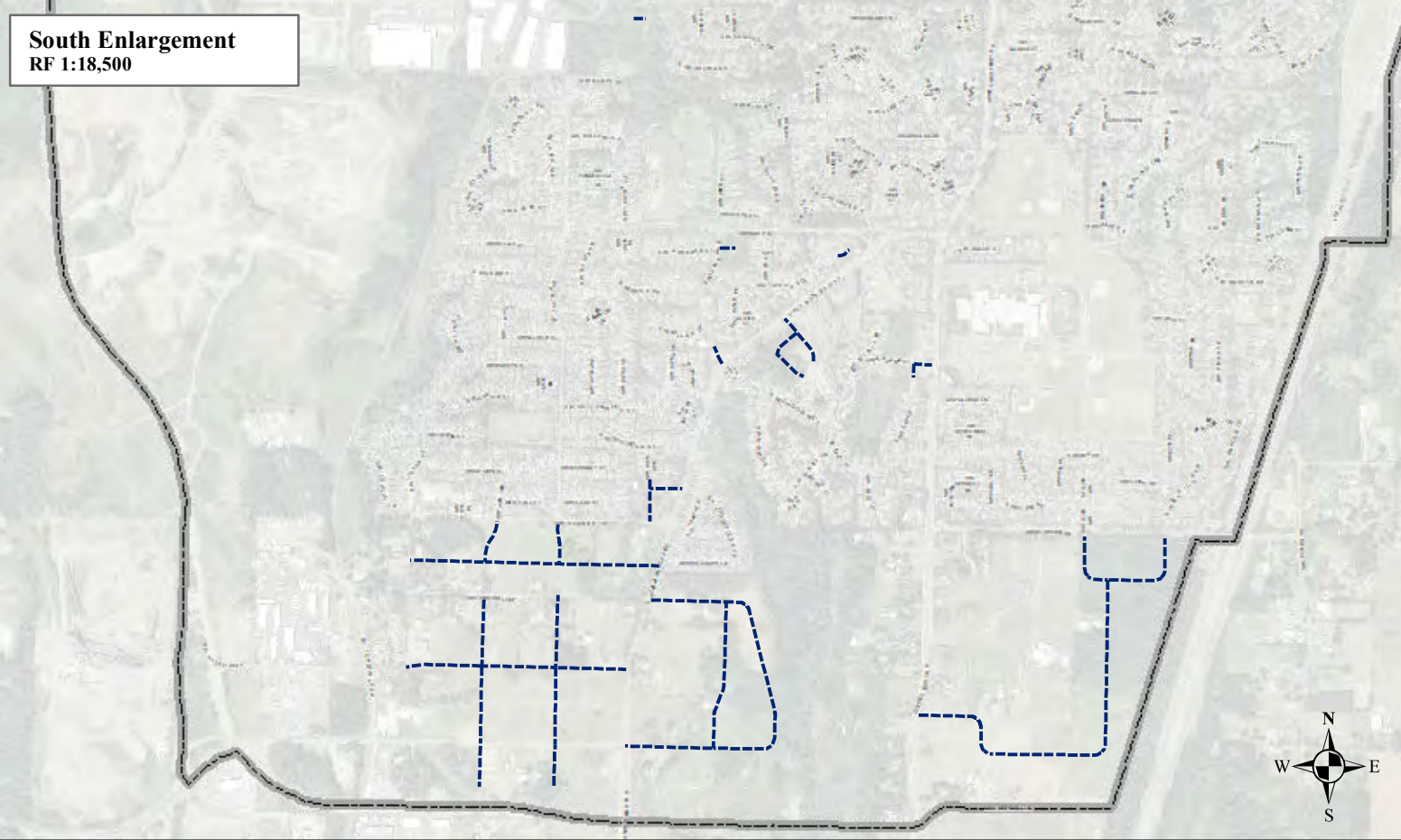
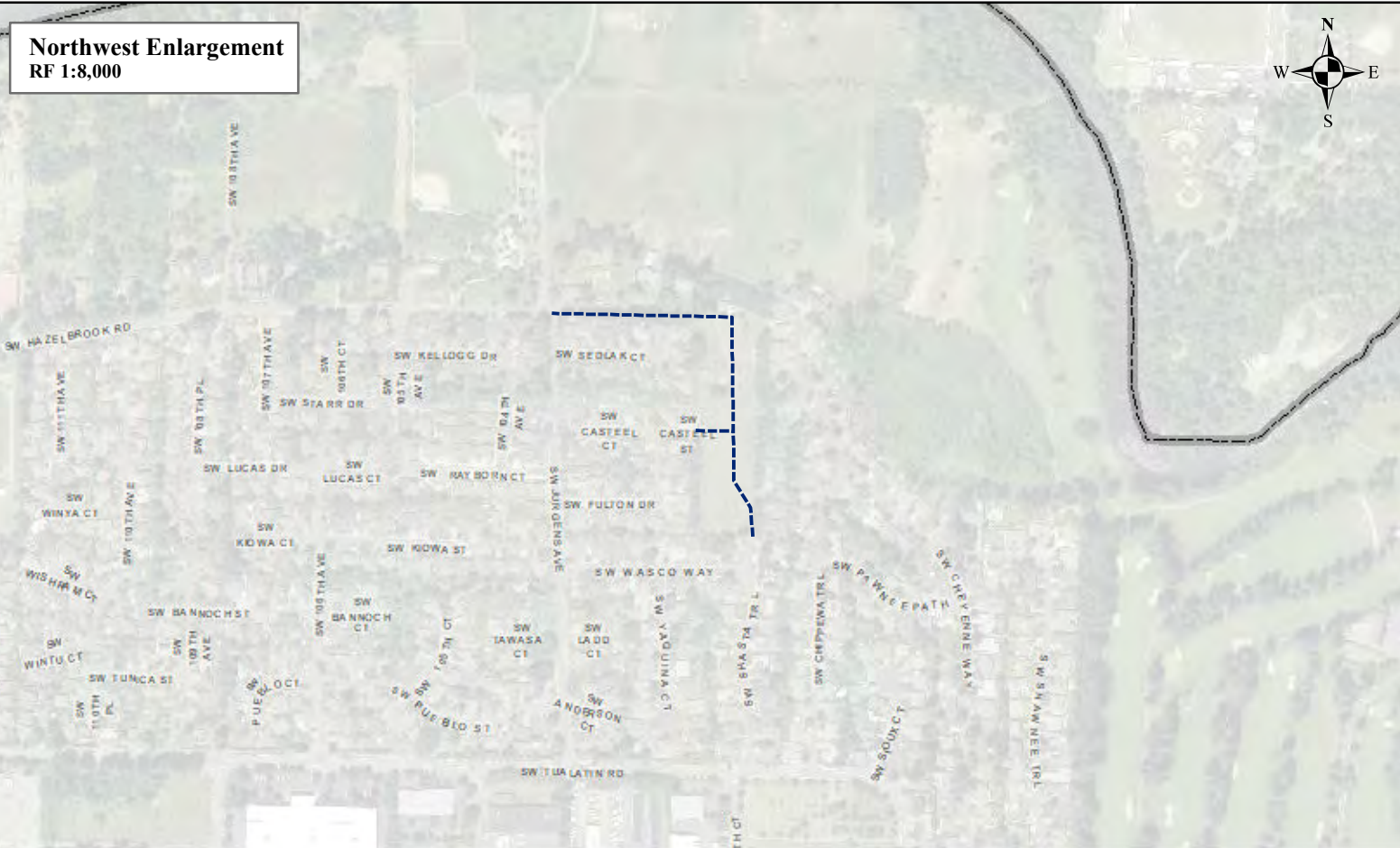
# Figure 11-3: Local Street Plan

----- Local Street Connection  
----- Planning Area Boundary

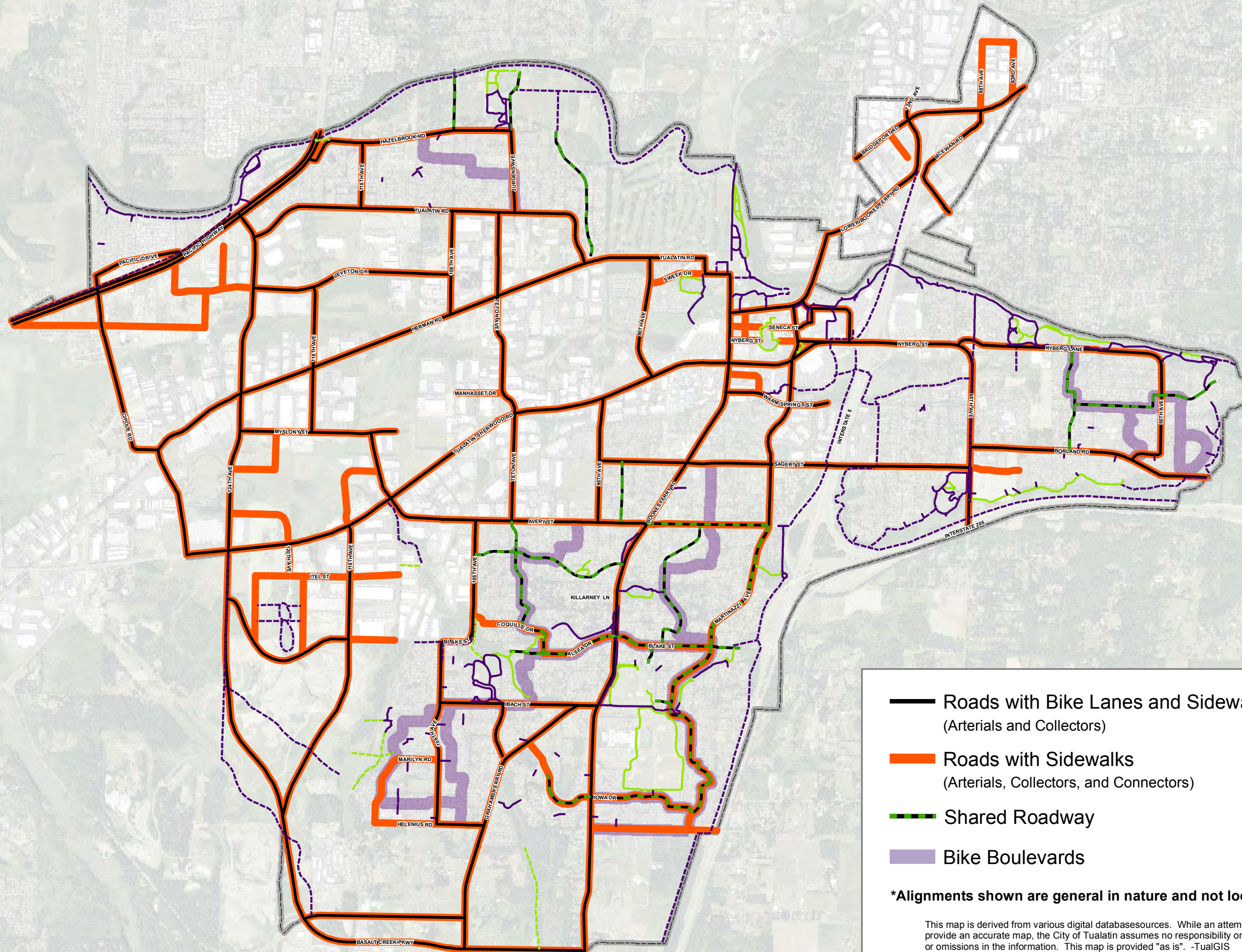
Air Photo: Summer 2017

Note:  
Future roadway alignments are approximate and subject to additional engineering and design.

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**Figure 11-4: Bicycle and Pedestrian Plan**



- |   |  |
|---|--|
|  Roads with Bike Lanes and Sidewalks<br>(Arterials and Collectors) |  Multi-Use Path           |
|  Roads with Sidewalks<br>(Arterials, Collectors, and Connectors)   |  Planned Multi-Use Path*  |
|  Shared Roadway  |  Pedestrian Path          |
|  Bike Boulevards   |  Planned Pedestrian Path* |
|   |  Planning Area Boundary   |

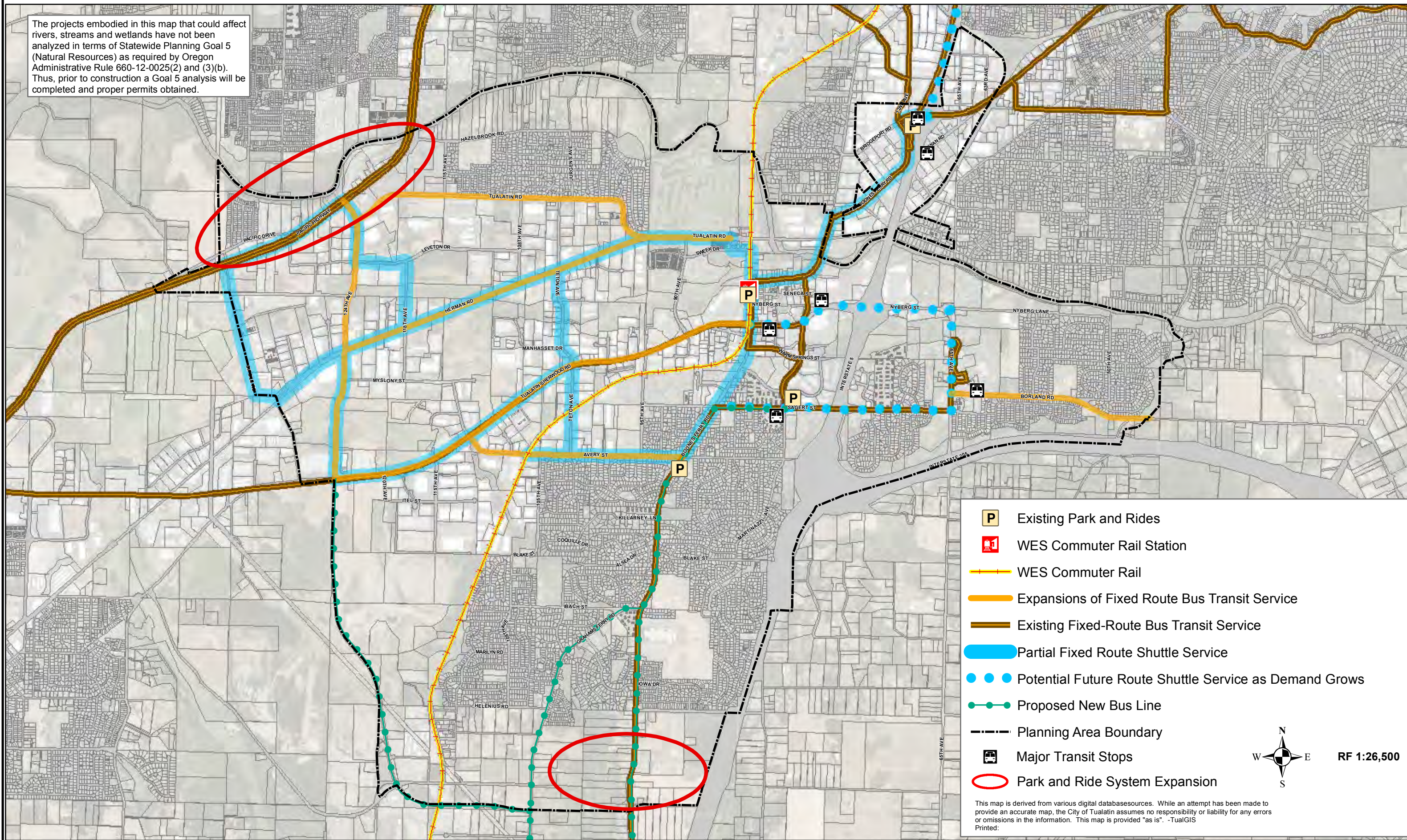
**\*Alignments shown are general in nature and not location specific.**












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Printed: 2/27/2019

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**Figure 11-5: Tualatin Transit Plan**

The projects embodied in this map that could affect rivers, streams and wetlands have not been analyzed in terms of Statewide Planning Goal 5 (Natural Resources) as required by Oregon Administrative Rule 660-12-0025(2) and (3)(b). Thus, prior to construction a Goal 5 analysis will be completed and proper permits obtained.

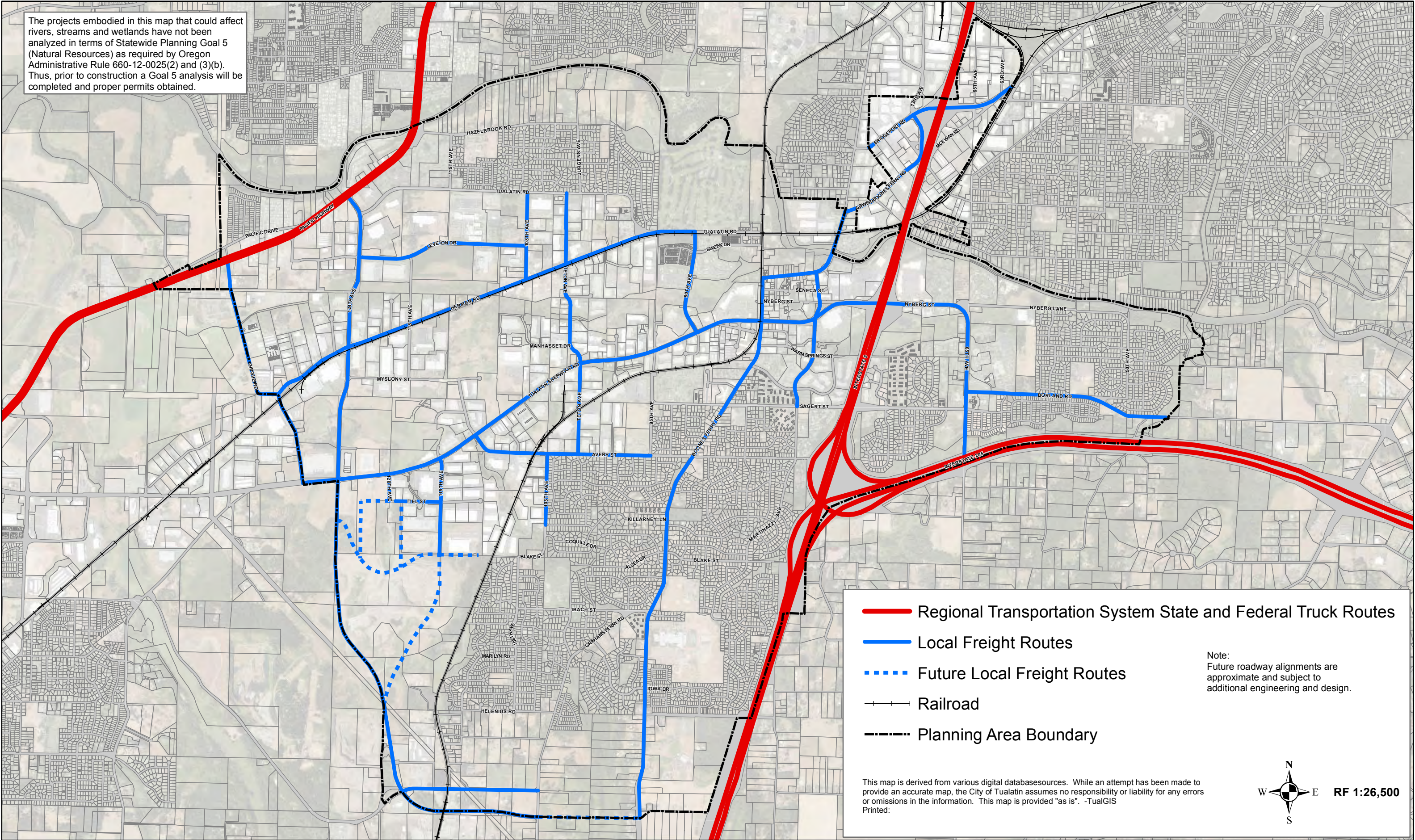







-  Existing Park and Rides
-  WES Commuter Rail Station
-  WES Commuter Rail
-  Expansions of Fixed Route Bus Transit Service
-  Existing Fixed-Route Bus Transit Service
-  Partial Fixed Route Shuttle Service
-  Potential Future Route Shuttle Service as Demand Grows
-  Proposed New Bus Line
-  Planning Area Boundary
-  Major Transit Stops
-  Park and Ride System Expansion

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS  
Printed:

**Figure 11-6: Freight Routes**


The projects embodied in this map that could affect rivers, streams and wetlands have not been analyzed in terms of Statewide Planning Goal 5 (Natural Resources) as required by Oregon Administrative Rule 660-12-0025(2) and (3)(b). Thus, prior to construction a Goal 5 analysis will be completed and proper permits obtained.



-  Regional Transportation System State and Federal Truck Routes
-  Local Freight Routes
-  Future Local Freight Routes
-  Railroad
-  Planning Area Boundary

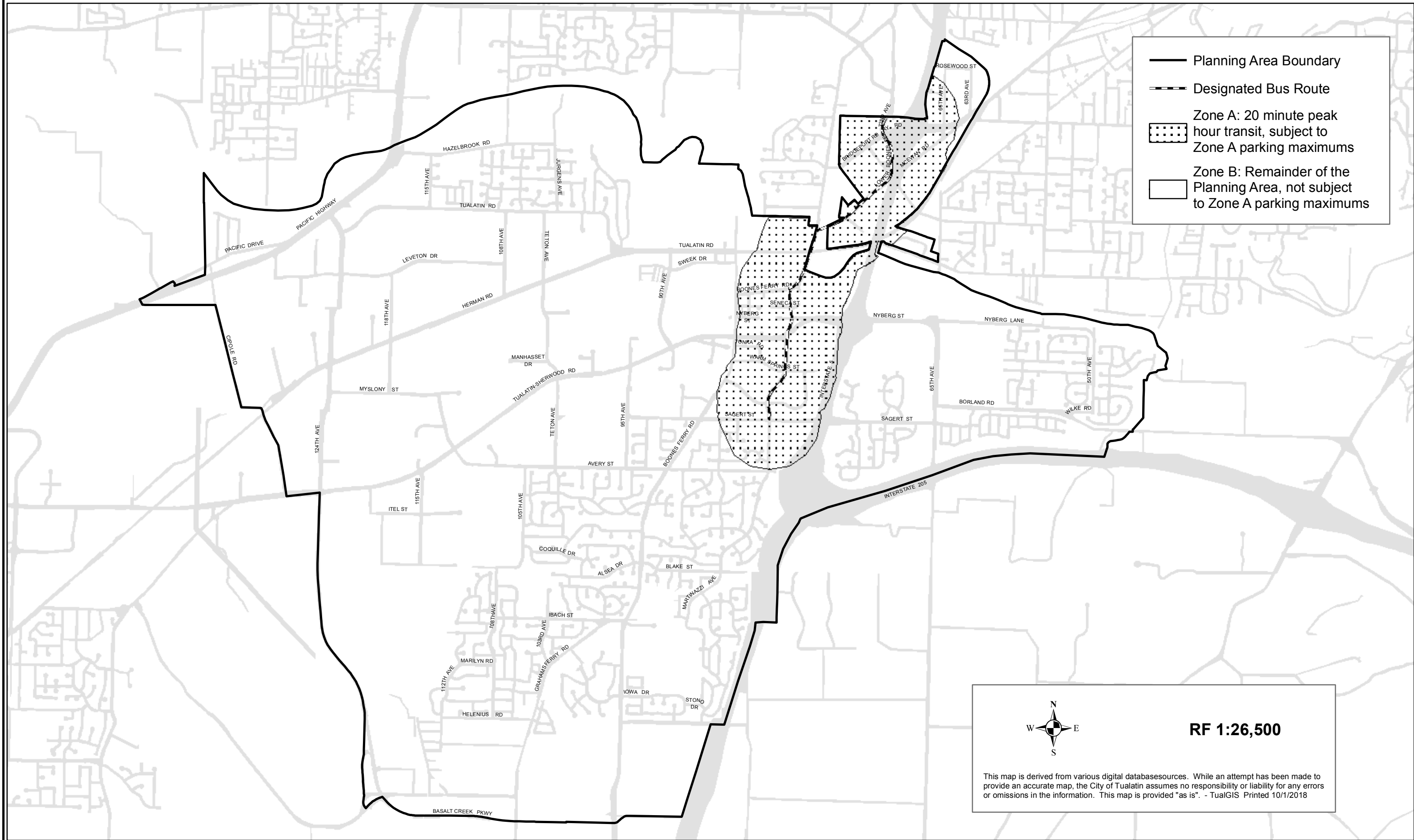
Note:  
Future roadway alignments are approximate and subject to additional engineering and design.

This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS  
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# Figure 73-3: Parking Maximum Map

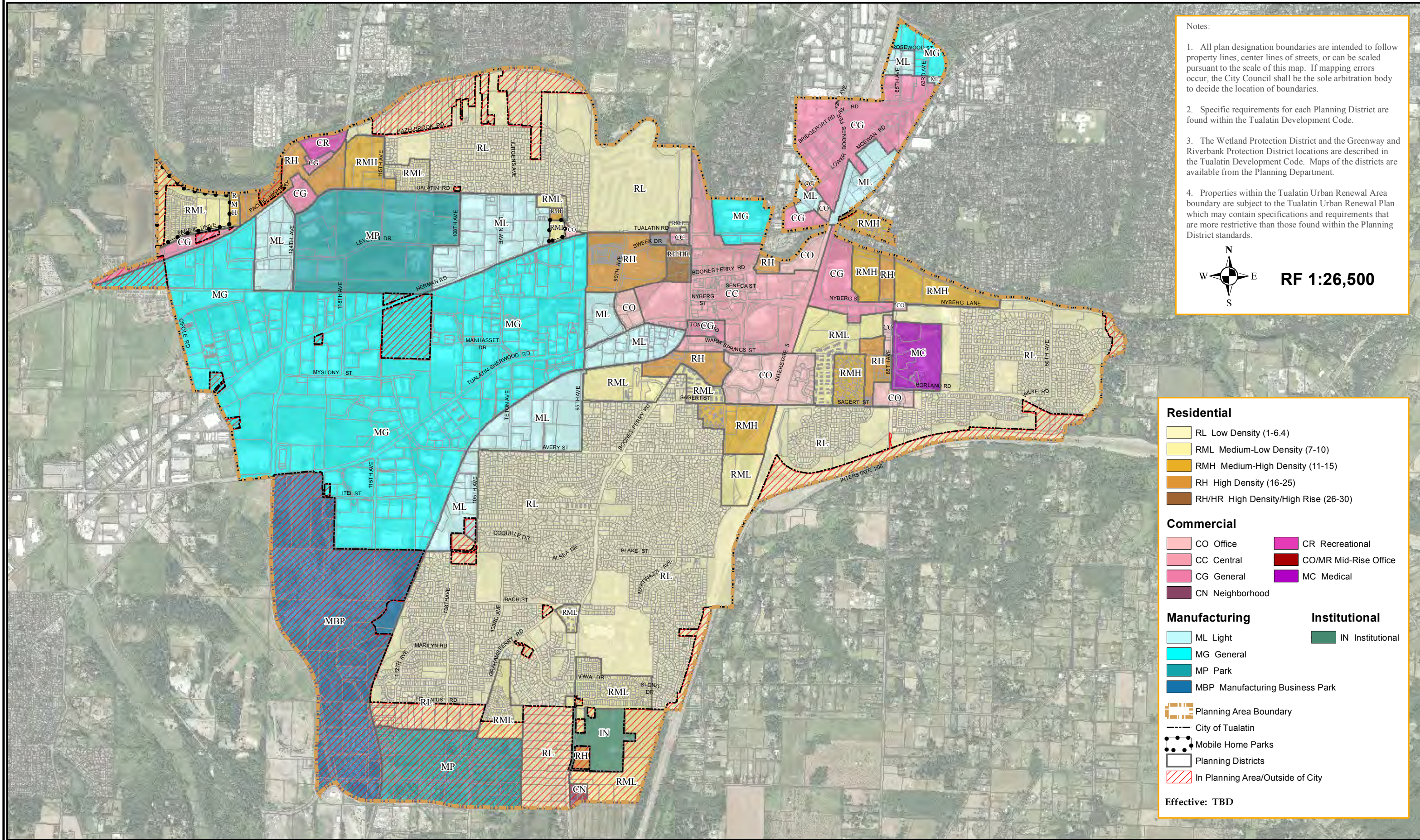


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# Map 9-1 Community Plan Map



Notes:

1. All plan designation boundaries are intended to follow property lines, center lines of streets, or can be scaled pursuant to the scale of this map. If mapping errors occur, the City Council shall be the sole arbitration body to decide the location of boundaries.
2. Specific requirements for each Planning District are found within the Tualatin Development Code.
3. The Wetland Protection District and the Greenway and Riverbank Protection District locations are described in the Tualatin Development Code. Maps of the districts are available from the Planning Department.
4. Properties within the Tualatin Urban Renewal Area boundary are subject to the Tualatin Urban Renewal Plan which may contain specifications and requirements that are more restrictive than those found within the Planning District standards.



**Residential**

- RL Low Density (1-6.4)
- RML Medium-Low Density (7-10)
- RMH Medium-High Density (11-15)
- RH High Density (16-25)
- RH/HR High Density/High Rise (26-30)

**Commercial**

- CO Office
- CC Central
- CG General
- CN Neighborhood
- CR Recreational
- CO/MR Mid-Rise Office
- MC Medical

**Manufacturing**

- ML Light
- MG General
- MP Park
- MBP Manufacturing Business Park

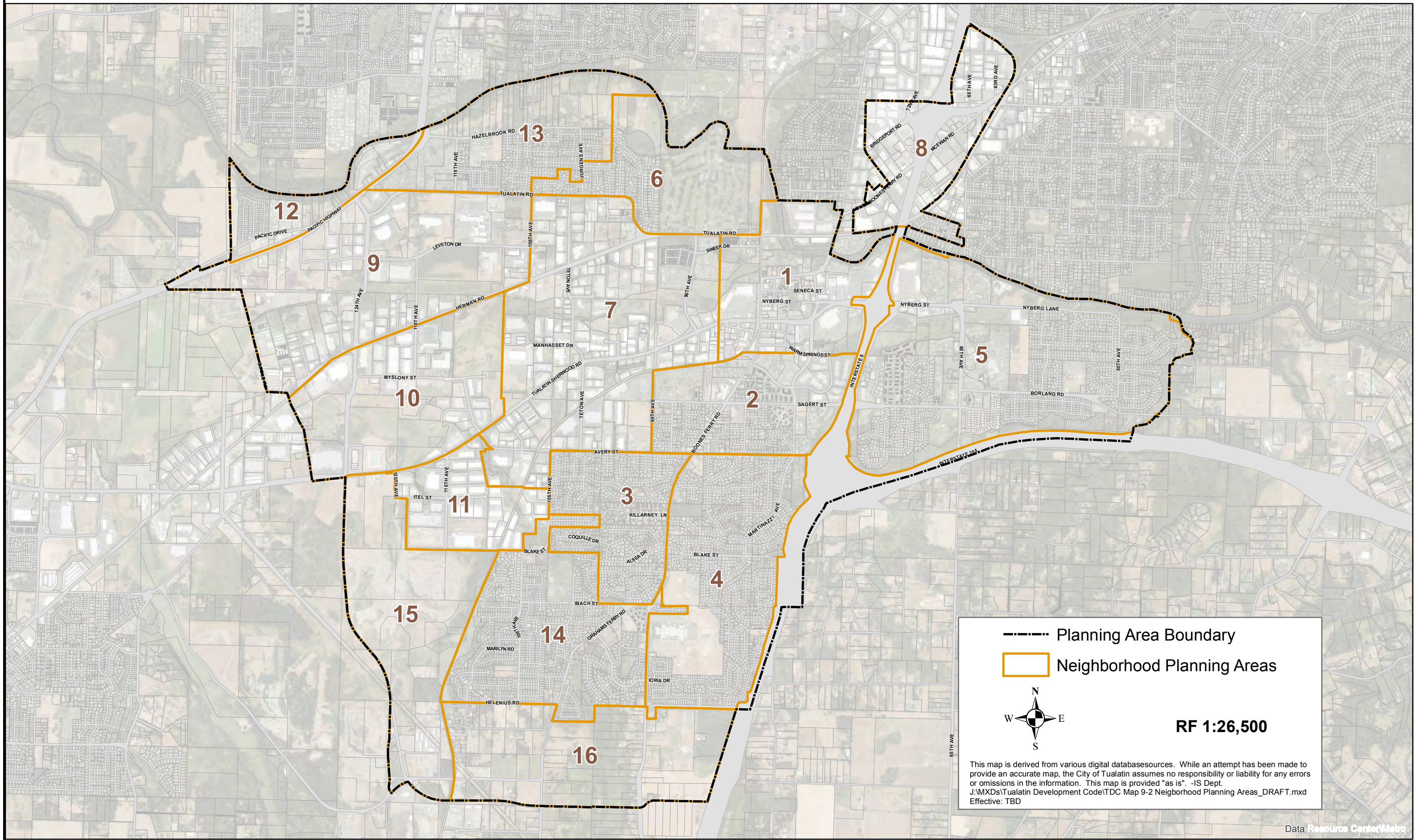
**Institutional**

- IN Institutional

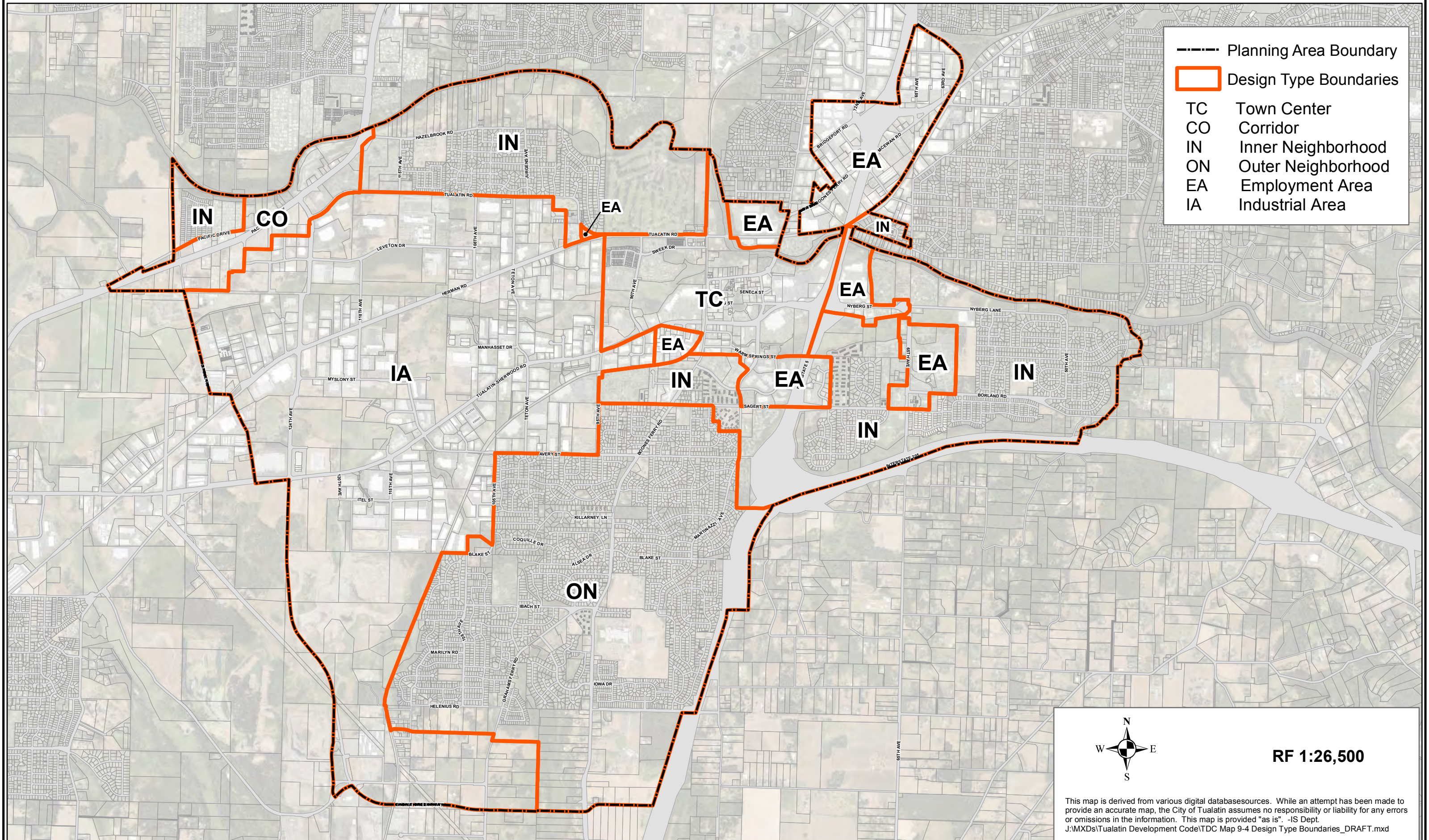
Planning Area Boundary  
 City of Tualatin  
 Mobile Home Parks  
 Planning Districts  
 In Planning Area/Outside of City

Effective: TBD

# Map 9-2: Neighborhood Planning Areas



# Map 9-4: Design Type Boundaries



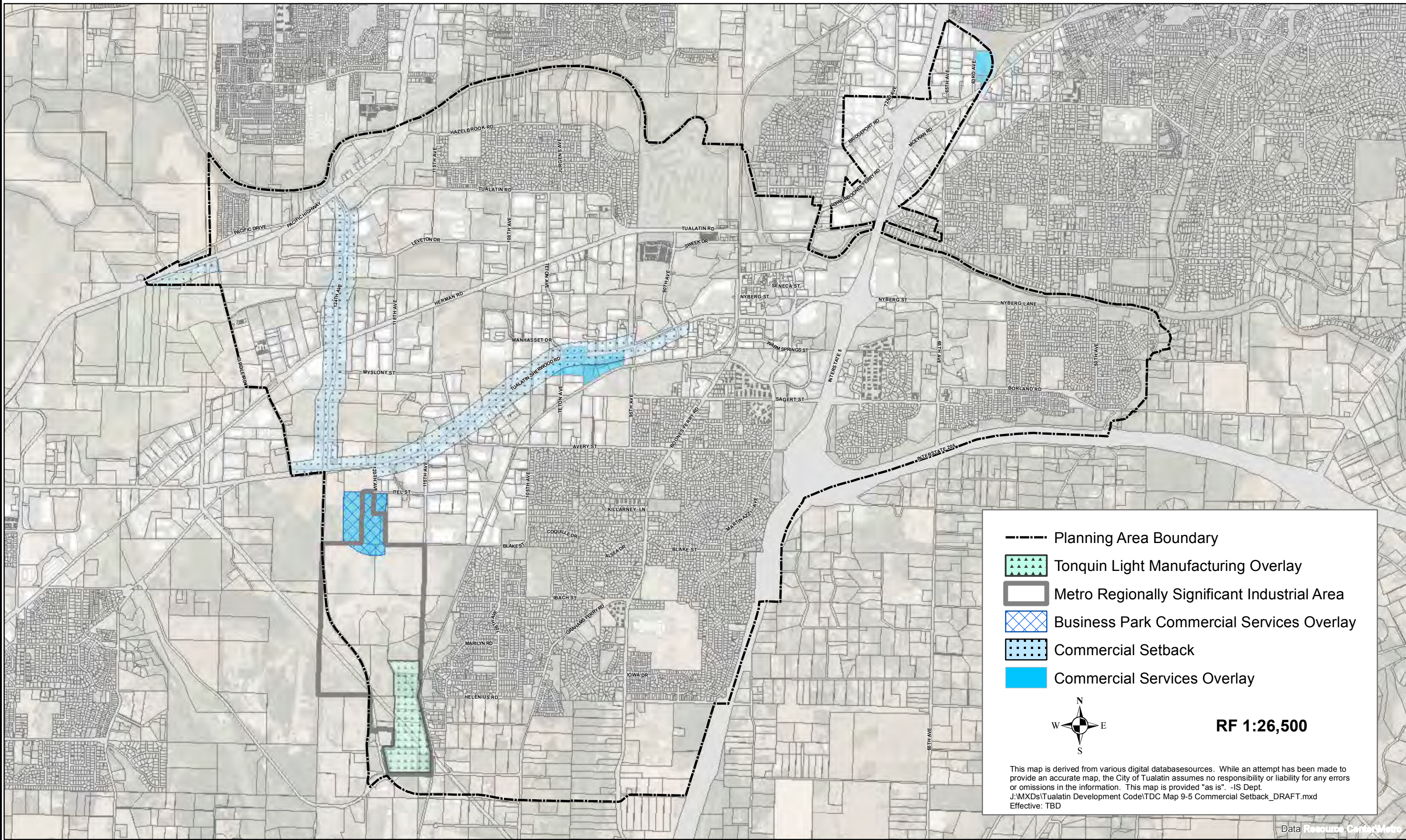
	Planning Area Boundary
	Design Type Boundaries
TC	Town Center
CO	Corridor
IN	Inner Neighborhood
ON	Outer Neighborhood
EA	Employment Area
IA	Industrial Area



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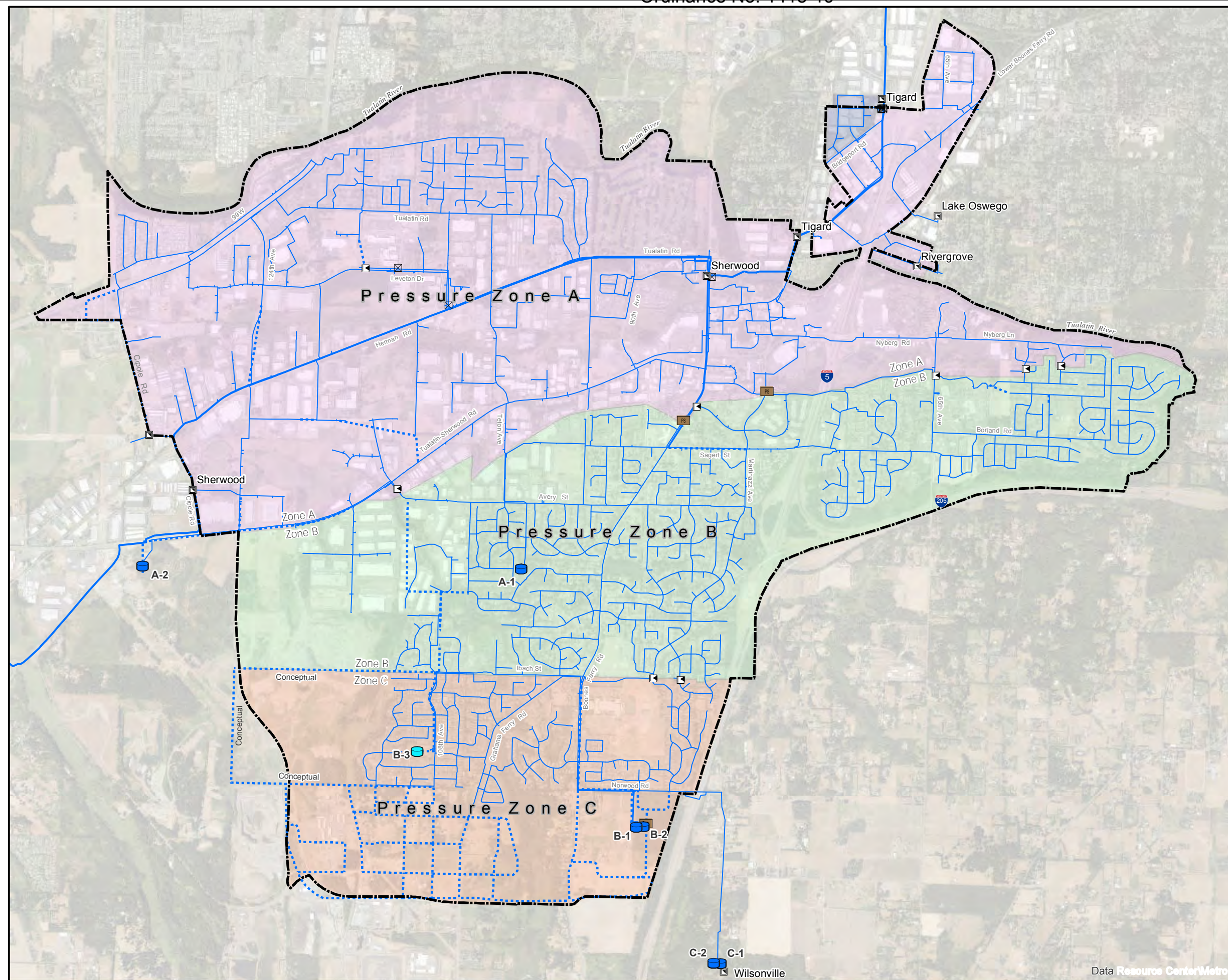
This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -IS Dept.  
J:\MXDs\Tualatin Development Code\TDC Map 9-4 Design Type Boundaries\_DRAFT.mxd

# Map 9-5: Special Commercial Setback & Commercial Services Overlay





City of Tualatin  
Water System Master Plan  
Map 12-1










- Pump Stations
- Pressure Reducing Valve
- Pressure Reducing-Sustaining Valve
- Existing Reservoirs
- Future Reservoirs
- Water System Interties
- Transmission Lines
- Distribution System
- Future System Improvements
- A-Level
- B-Level
- C-Level
- Bridgeport
- Planning Area Boundary



RF 1:26,500

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-  Gravity Pipe
-  Force Main
-  Lift Station
-  Conceptual Gravity Pipe
-  Conceptual Force Main
-  Conceptual Lift Station
-  Planning Area Boundary

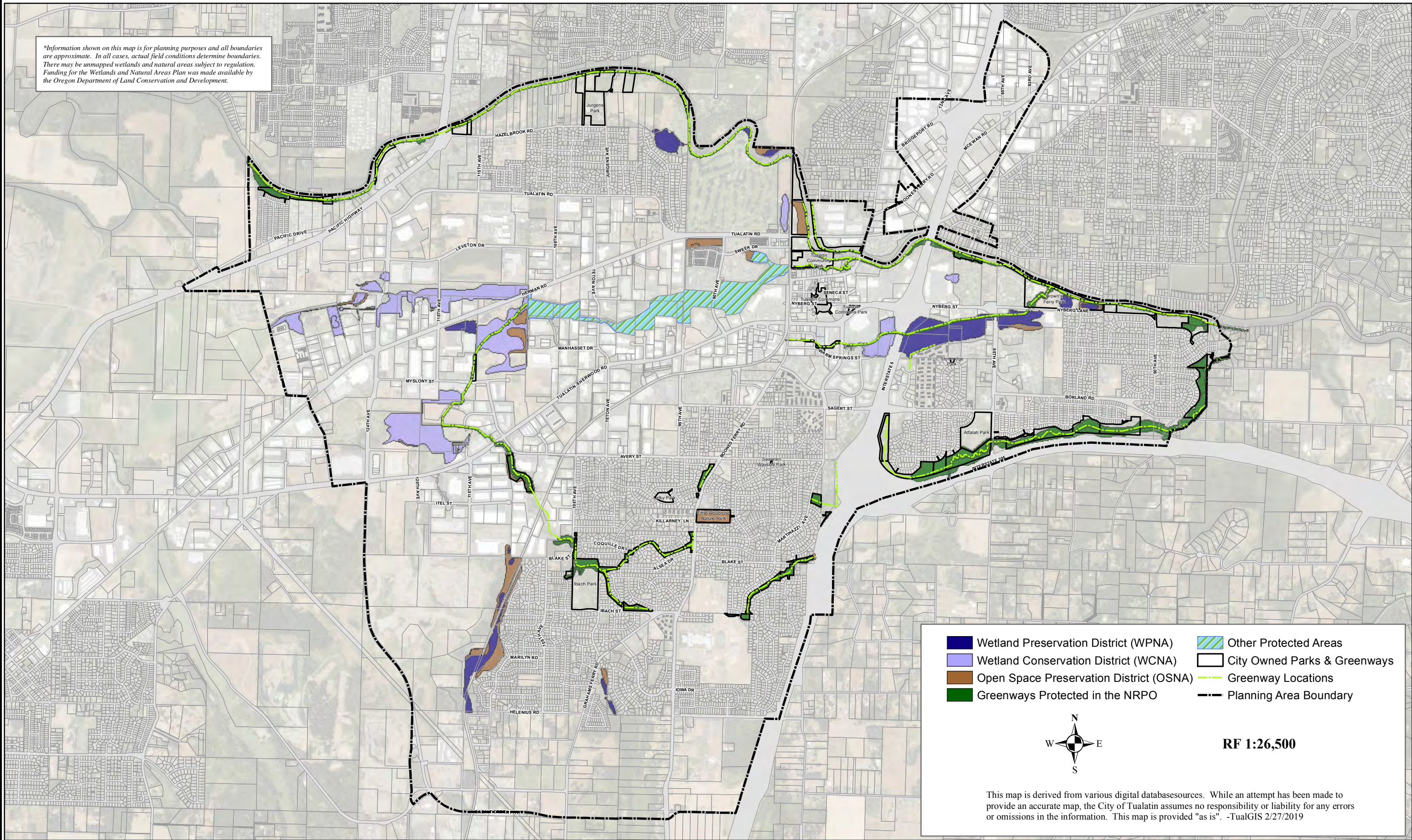


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This map is derived from various digital database sources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -IS Dept. Effective: TBD

# Map 72-1: Natural Resources Protection Overlay District (NRPO) and Greenway Locations

\*Information shown on this map is for planning purposes and all boundaries are approximate. In all cases, actual field conditions determine boundaries. There may be unmapped wetlands and natural areas subject to regulation. Funding for the Wetlands and Natural Areas Plan was made available by the Oregon Department of Land Conservation and Development.



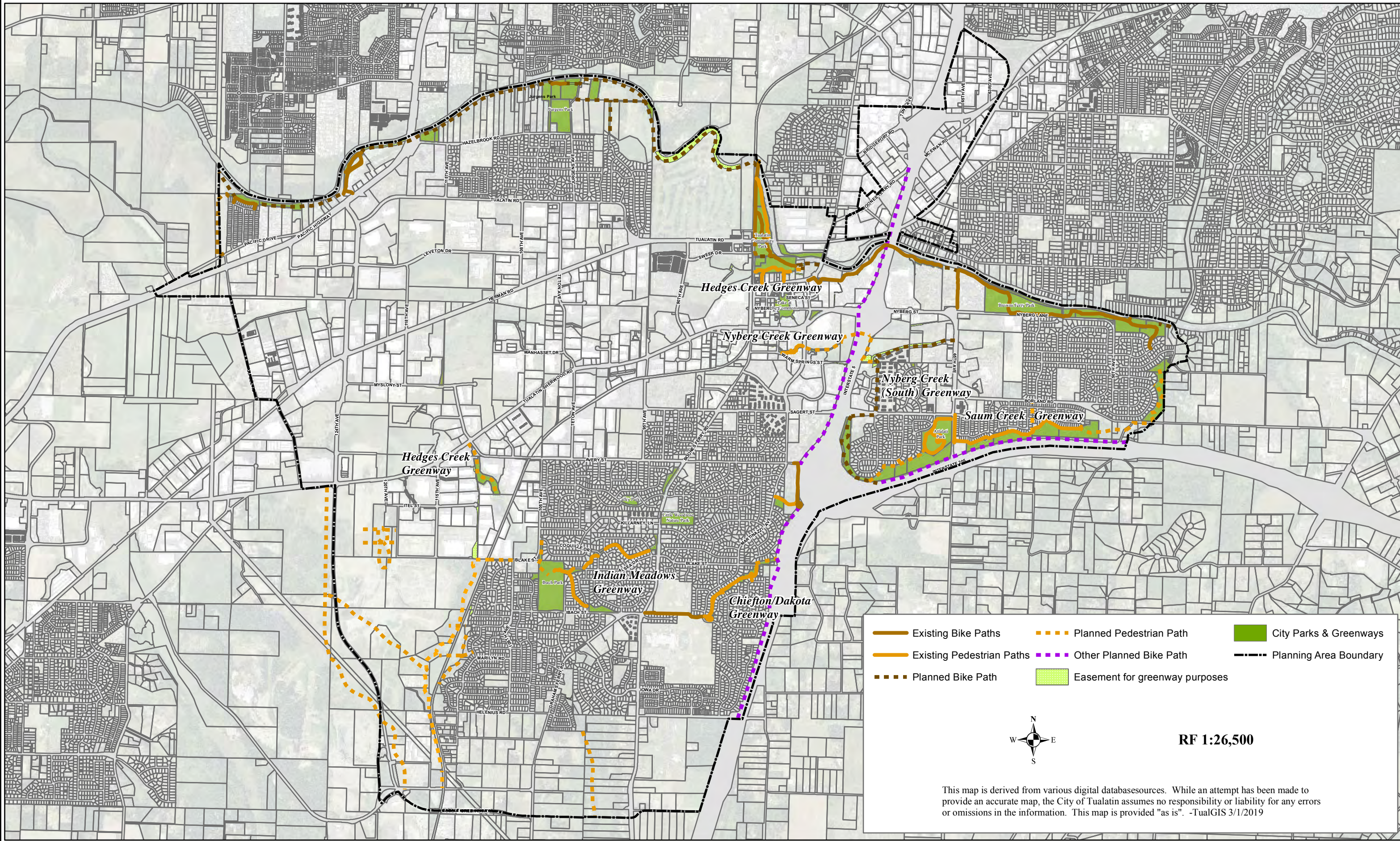
Wetland Preservation District (WPNA)	Other Protected Areas
Wetland Conservation District (WCNA)	City Owned Parks & Greenways
Open Space Preservation District (OSNA)	Greenway Locations
Greenways Protected in the NRPO	Planning Area Boundary











RF 1:26,500

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**Map 72-2: Greenway Development Plan** Pedestrian and Bike Path Locations



-  Existing Bike Paths
-  Existing Pedestrian Paths
-  Planned Pedestrian Path
-  Planned Bike Path
-  Other Planned Bike Path
-  Easement for greenway purposes
-  City Parks & Greenways
-  Planning Area Boundary

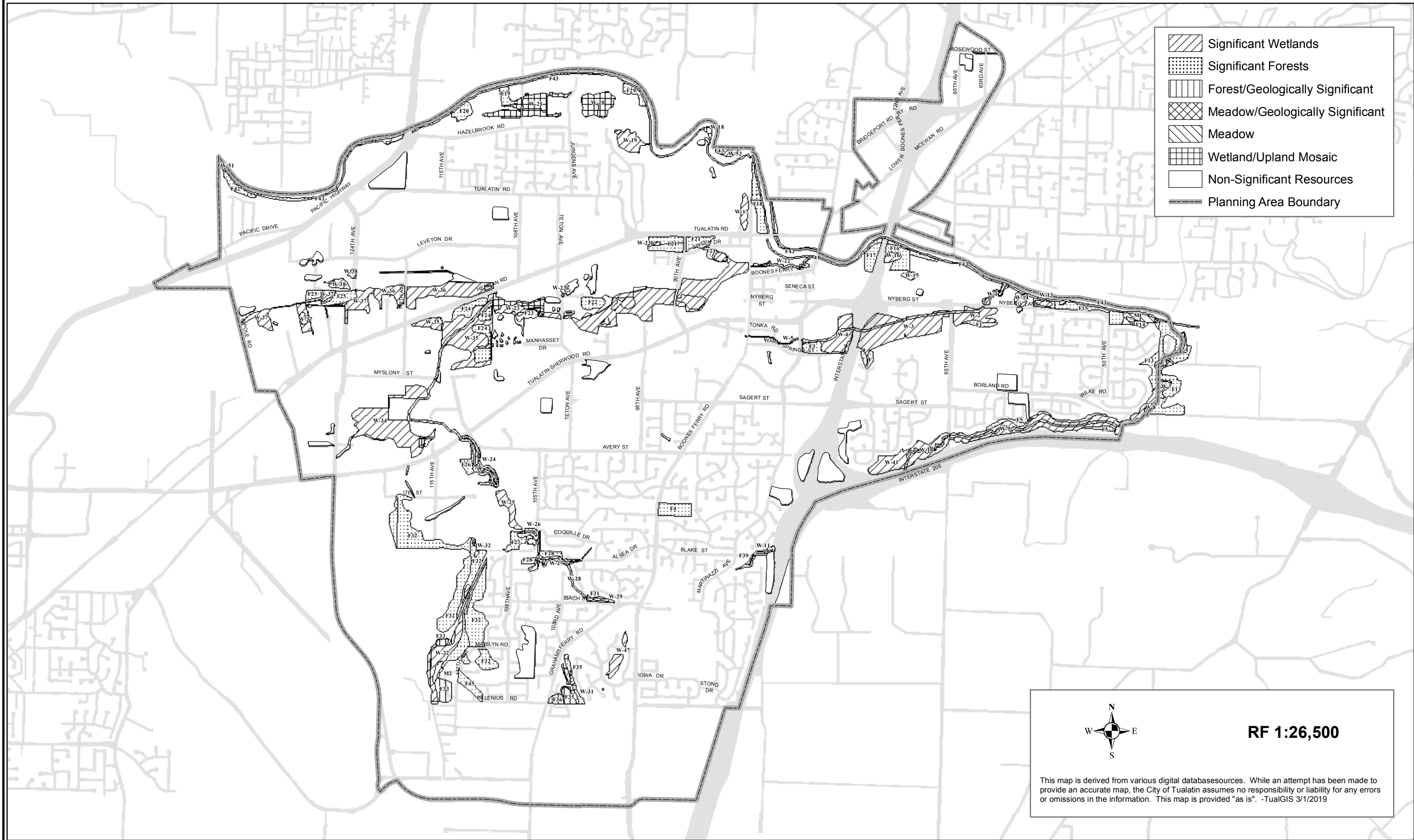


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This map is derived from various digital databasesources. While an attempt has been made to provide an accurate map, the City of Tualatin assumes no responsibility or liability for any errors or omissions in the information. This map is provided "as is". -TualGIS 3/1/2019



# Map 72-3: Significant Natural Resources

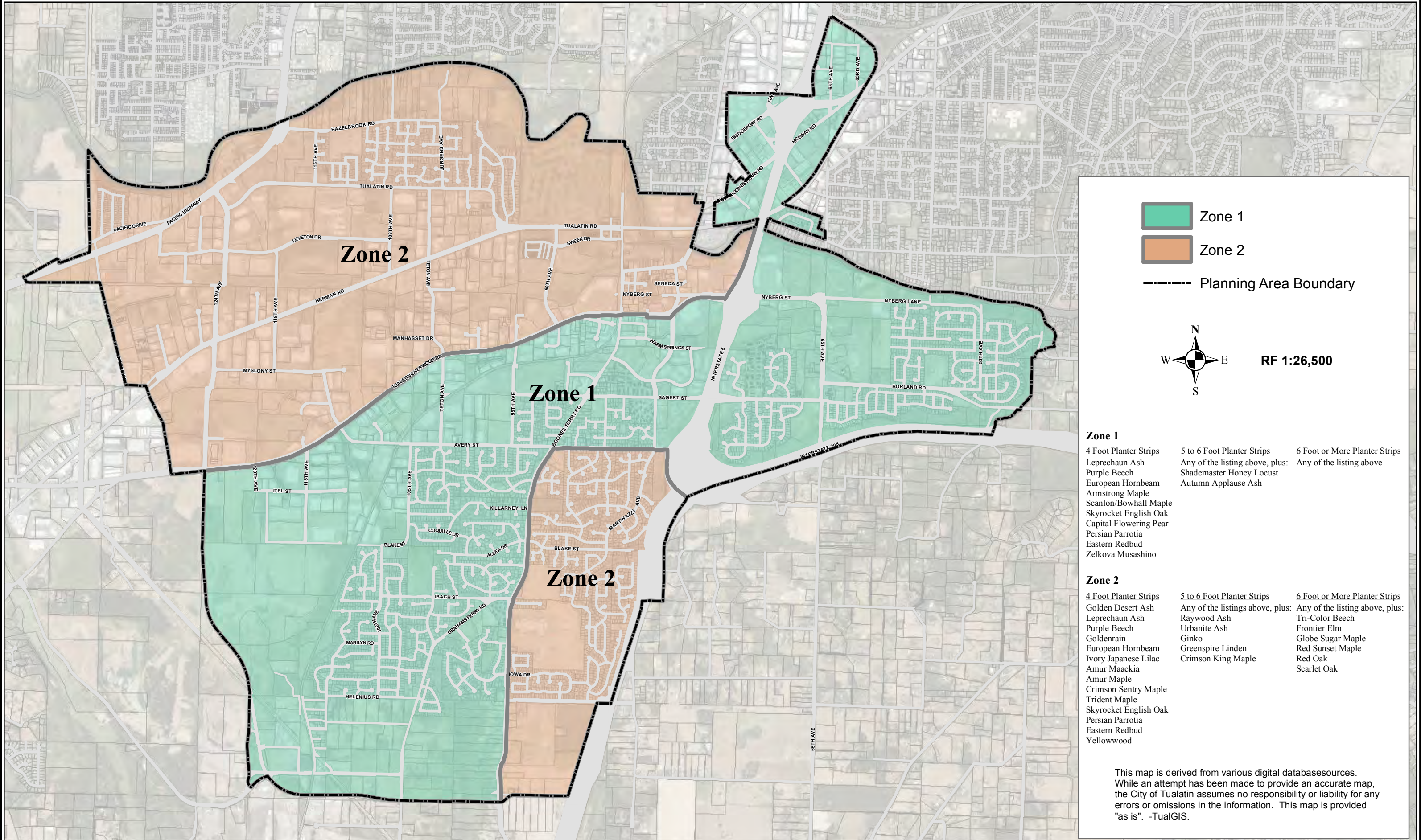


- Significant Wetlands
- Significant Forests
- Forest/Geologically Significant
- Meadow/Geologically Significant
- Meadow
- Wetland/Upland Mosaic
- Non-Significant Resources
- Planning Area Boundary

RF 1:26,500

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# Map 74-1: Street Tree Plantings



Zone 1  
 Zone 2  
 Planning Area Boundary

**RF 1:26,500**

<b>Zone 1</b>		
<u>4 Foot Planter Strips</u>	<u>5 to 6 Foot Planter Strips</u>	<u>6 Foot or More Planter Strips</u>
Leprechaun Ash	Any of the listing above, plus:	Any of the listing above
Purple Beech	Shademaster Honey Locust	
European Hornbeam	Autumn Applause Ash	
Armstrong Maple		
Scanlon/Bowhall Maple		
Skyrocket English Oak		
Capital Flowering Pear		
Persian Parrotia		
Eastern Redbud		
Zelkova Musashino		
<b>Zone 2</b>		
<u>4 Foot Planter Strips</u>	<u>5 to 6 Foot Planter Strips</u>	<u>6 Foot or More Planter Strips</u>
Golden Desert Ash	Any of the listings above, plus:	Any of the listing above, plus:
Leprechaun Ash	Raywood Ash	Tri-Color Beech
Purple Beech	Urbanite Ash	Frontier Elm
Goldenrain	Ginko	Globe Sugar Maple
European Hornbeam	Greenspire Linden	Red Sunset Maple
Ivory Japanese Lilac	Crimson King Maple	Red Oak
Amur Maackia		Scarlet Oak
Amur Maple		
Crimson Sentry Maple		
Trident Maple		
Skyrocket English Oak		
Persian Parrotia		
Eastern Redbud		
Yellowwood		

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# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Kelsey Lewis, Management Analyst II  
Jeff Fuchs, Public Works Director

**DATE:** 04/08/2019

**SUBJECT:** Consideration of **Resolution No. 5431-19** Adopting the 2020-2029 Capital Improvement Plan (CIP)

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### **ISSUE BEFORE THE COUNCIL:**

Review and consider adoption of the 2020-2029 Capital Improvement Plan.

### **RECOMMENDATION:**

Staff recommends that Council adopt the 2020-2029 Capital Improvement Plan.

### **EXECUTIVE SUMMARY:**

The Capital Improvement Plan (CIP) prioritizes funding for projects, including development of new infrastructure, improvements to existing infrastructure, writing master plans, and purchasing new vehicles and technology.

The CIP promotes efficient use of the City's limited financial resources and assists in coordinating public capital projects and private development projects. The planning process provides a valuable means of coordinating the timing of transportation and utility projects to take advantage of shared mobilization (construction activities) and prevent disturbing new facilities to build another project shortly after.

CIP projects are grouped in five major categories: Facilities & Equipment, Parks & Recreation, Technology, Transportation, and Utilities. Each project identifies whether it addresses health and safety concerns, supports Council goals, meets a regulatory requirement, considers service delivery needs, includes outside funding or partnerships, or implements a Master Plan.

The CIP process evolves and is refined each year. This year's CIP format includes an extended CIP showing Years 6 through 10 (FY 24/25 through FY 28/29) for transportation and utility projects, full-page maps for most projects, and projected revenue available in the General Fund, transportation and utility funds.

### **FINANCIAL IMPLICATIONS:**

The CIP is used to help plan for funding projects with a long range perspective. It is also the beginning of planning for capital projects in the next budget year. It is not a budget; however, and adopting this plan does not have any immediate financial implications.

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**Attachments:**    [Resolution 5431-19](#)

RESOLUTION NO. 5431-19

A RESOLUTION ADOPTING THE CITY OF TUALATIN 2020-2029 CAPITAL IMPROVEMENT PLAN

WHEREAS, the City of Tualatin wishes to plan ahead for large expenditures to benefit the community, take advantage of grant funding opportunities, and coordinate projects for the most efficient and least disruptive development of city infrastructure; and

WHEREAS, the City's Capital Improvement Plan (CIP) prioritizes funding for projects, including development of new infrastructure, improvements to existing infrastructure, writing master plans and purchasing new vehicles and technology; and

WHEREAS, the City intends to use this Plan to comply with ORS 223.309 identifying capital improvements financed by system development charges;

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

**Section 1.** The City Council adopts the City of Tualatin 2020-2029 Capital Improvement Plan, which is attached as Exhibit A and incorporated by reference.

**Section 2.** This resolution is effective upon adoption.

Adopted by the City Council this 8<sup>th</sup> day of April, 2018.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

APPROVED AS TO FORM

ATTEST:

BY \_\_\_\_\_  
City Attorney

BY \_\_\_\_\_  
City Recorder



Exhibit A

# City of Tualatin



## Capital Improvement Plan 2019/20-2028/29

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## LEADERSHIP & REVIEW TEAM

### CITY COUNCIL

Frank Bubenik	Mayor
Joelle Davis	Council President
Bridget Brooks	Councilor
Nancy Grimes	Councilor
Robert Kellogg	Councilor
Paul Morrison	Councilor
Maria Reyes	Councilor

### CITY MANAGER

Sherilyn Lombos

### EXECUTIVE MANAGEMENT TEAM

Sean Brady	City Attorney
Jeff Fuchs	Public Works Director
Ross Hoover	Parks & Recreation Director
Don Hudson	Assistant City Manager/Finance Director
Aquilla Hurd-Ravich	Community Development Director
Bates Russell	Information Services Director
Stacy Ruthrauff	Human Resources Director
Bill Steele	Police Chief
Jerianne Thompson	Library Director
Tanya Williams	Deputy City Manager

### CIP PROJECT MANAGER

Kelsey Lewis	Management Analyst II
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### CIP REVIEW TEAM & CONTRIBUTORS

Frank Butler	Network Administrator
Sarah Jesudason	Library Public Services Supervisor
Terrance Leahy	Water Manager
Kim McMillan	City Engineer
Nicole Morris	Deputy City Recorder
Rich Mueller	Parks & Recreation Manager
Bert Olheiser	Street/Sewer/Storm Manager
Greg Pickering	Police Captain
Garet Prior	Management Analyst II
Clayton Reynolds	Maintenance Services Manager
Tom Scott	GIS Technician
Tom Steiger	Parks Maintenance Manager



## EXECUTIVE SUMMARY

### Tualatin Capital Improvement Plan FY 2019/2020 –FY 2028/2029

The City of Tualatin’s Capital Improvement Plan (CIP) establishes, prioritizes, and plans funding for projects to improve existing and develop new infrastructure and facilities. This plan promotes efficient use of the City’s limited financial resources, reduces costs, and assists in the coordination of public and private development.

The City’s CIP is a five-year roadmap which identifies the major expenditures beyond routine annual operating expenses in all categories, and a ten-year roadmap for transportation and utilities. While the CIP serves as a long range plan, it is reviewed and revised annually. Priorities may be changed due to funding opportunities or circumstances that cause a more rapid deterioration of an asset.

As a basic tool for documenting anticipated capital projects, it includes “unfunded” projects in which needs have been identified, but specific solutions and funding have not necessarily been determined.

### THE CIP PROCESS

The CIP is the result of an ongoing infrastructure planning process. Planning for the ten-year CIP period for transportation and utilities provides the flexibility to take advantage of opportunities for capital investments. The 2020-2029 CIP is developed through agreement with adopted policies and master plans, the public, professional staff, and elected and appointed City officials. The Draft CIP is reviewed by City Advisory Committees, and then presented to the City Council. The projects listed in the 2019/2020 fiscal year become the basis for preparation of the City’s budget for that year.

### CIP REVIEW TEAM

The CIP Review Team is responsible annually for reviewing General Fund-funded capital project proposals and providing recommendations to the City Manager. This team is comprised of staff from most City departments. This team analyzes the financial impact of the CIP as well as the City’s ability to process, design, and ultimately maintain projects. The review team meets periodically in the fall of each year to evaluate the progress of projects and examine future needs of the City.

The overall goal of the CIP Review Team is to develop CIP recommendations that:

- preserve the past, by investing in the continued maintenance of City assets and infrastructure;
- protect the present with improvements to City facilities and infrastructure; and
- plan for the future.

### CATEGORIES

Projects generally fit within the five primary categories identified below:

- **Utilities** – projects involving water, storm, and sewer infrastructure.
- **Transportation** – projects affecting streets, bike lanes, pedestrian crossings, paths, trails, and rail.
- **Facilities and Equipment** – projects involving buildings, structures, equipment, and vehicles that the City owns and manages.
- **Parks and Recreation** – projects affecting parks and open spaces, including parks facilities.
- **Technology** — projects involving hardware, software, or infrastructure that improves and/or supports technology.

## Exhibit A

### CIP CRITERIA

There are always more project requests than can be funded in the ten-year CIP period, so the CIP Review Team considers many factors. The criteria used in the ranking process include, but are not limited to:

**Addressing health and safety concerns** – enhancing, improving, or protecting overall health and safety of the City's residents;

**Supporting Council goals** - supporting the goals established by the City Council, meeting city-wide long-term goals, and meeting the Tualatin Community Plan;

**Meeting a regulatory or mandated requirement** – proposed projects satisfy regulatory or mandated requirements;

**Considering service delivery needs** – the potential for projects to improve service delivery, including coordination with other projects to minimize financial or development impacts to maintain and enhance the efficiency of providing services in Tualatin;

**Including outside funding and partnerships** - outside funding has been identified, committed to, or may be obtained through other revenue sources or partnerships;

**Implementing a Master Plan** - maintenance and development of existing or new facilities and infrastructure is identified in one of the City's Master Plans, enabling the City to continue to deliver essential services to residents.

### CAPITAL IMPROVEMENT POLICIES

#### Time Period

This working CIP document is designed to forecast capital needs for the next ten fiscal years. The plan will be produced every year prior to the annual budget process. The plan is arranged in two five-year sections.

Looking at the City's capital projects in terms of revenue over the next ten years also allows the City to be more strategic in matching large capital projects with competitive grant opportunities that require significant advance planning and coordination to accomplish. Examples are projects with federal funding, or those projects so large they are likely to need financing.

#### Definition of a Capital Expense

The CIP will include those items in excess of \$10,000 with an expected useful life of more than one year. Smaller projects (less than \$10,000) may be combined into one project and therefore defined as a capital expense. Items such as minor equipment and routine expenses will continue to be accounted for in the City's annual budget and will not be included in the capital improvement plan.

#### Operating Budget Impact

The operating impact of proposed capital projects, such as personnel and operating expenses, will be considered in preparing the annual operating budget as the CIP project approaches construction.

#### Types of Financing

The nature and amount of the project generally determine financing options as do projected revenue resources. The following financial instruments could be used:

- Outside funding, including grants, federal, state, and county funds, and donations
- Development fees
- Utility fund revenues
- General fund revenues
- Debt secured by a restricted revenue source
- General obligation debt

# Exhibit A

## PROJECT LISTS AND DETAILS

Summary lists of projects by category and by funding source are provided for quick reference. Projects in this five year CIP total approximately \$56 million. Roughly \$12 million of the funded projects are utility projects and \$37 million in transportation projects have been identified.

Detailed project sheets are grouped by category and sorted by fiscal year for all funded projects included in the CIP. Project sheets are designed to explain the need for the project, type of project, the criteria met, funding sources, and provide cost information including potential on-going costs.

Appendix A includes an extended CIP showing FY 24/25- 28/29 for utilities and transportation projects.

Appendix B identifies \$424 million in unfunded projects to highlight the City's needs beyond available funding. Cost estimates have been developed for each project based on preliminary project descriptions. Estimates are in today's dollars; future year projections have been adjusted for inflation using an annual inflation estimate of 3.25% compounded annually for year of construction.

### Total Project Cost by Category

	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24	Grand Total
<b>Facilities &amp; Equipment</b>	923,000	1,611,000	858,000	923,000	438,000	<b>4,753,000</b>
<b>Parks &amp; Recreation</b>	207,000	1,516,000			34,000	<b>1,757,000</b>
<b>Technology</b>	16,000	305,000		40,000		<b>361,000</b>
<b>Transportation</b>	8,884,000	9,737,000	12,049,000	5,869,000	780,000	<b>37,319,000</b>
<b>Utilities</b>	1,836,000	3,302,000	2,657,000	1,836,000	1,901,000	<b>11,563,000</b>
<b>Grand Total</b>	<b>11,866,000</b>	<b>16,471,000</b>	<b>15,564,000</b>	<b>8,668,000</b>	<b>3,153,000</b>	<b>55,722,000</b>

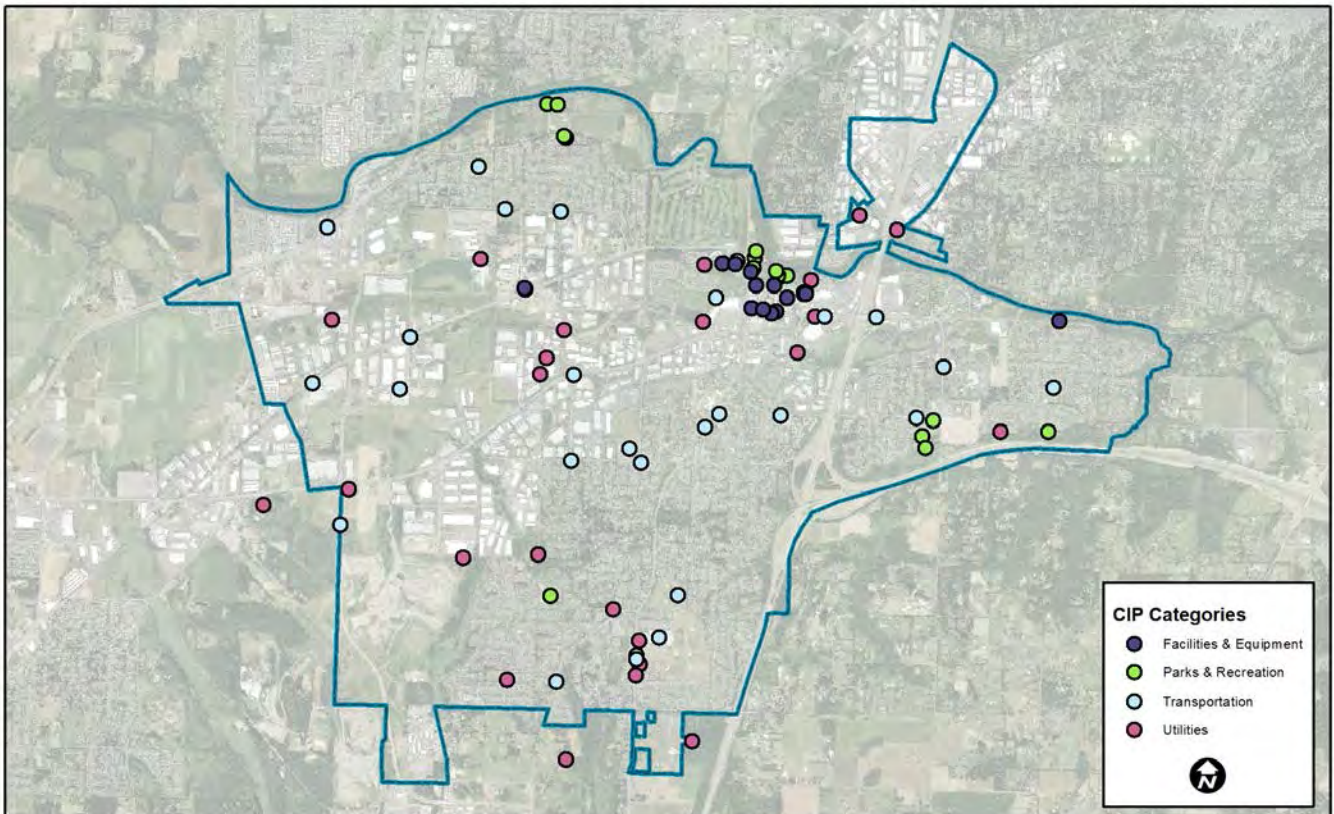


Exhibit A

## PROJECT SUMMARY BY CATEGORY

<b>Facilities &amp; Equipment</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Brown's Ferry C. Center: Deck Replacement		31,000			
Brown's Ferry C. Center: HVAC Unit Replacement			13,000		
Core Area Parking Maintenance: Blue Lot Slurry Seal		13,000			
Core Area Parking Maintenance: Red & Yellow Lots Slurry Seal				13,000	
Core Area Parking Maintenance: White Lot Slurry Seal			32,000		
Core Area Parking: ADA Project- Blue Lot			85,000		
Core Area Parking: ADA Project- Red Lot				38,000	
Juanita Pohl Center: Parking Lot Repair		64,000			
Juanita Pohl Center: Roof Replacement			138,000		
Library & City Offices: Carpet Replacement				106,000	
Library & City Offices: HVAC Unit Replacement				32,000	61,000
Library Classroom/Makerspace		485,000			
Library Furnishing Replacement	25,000			57,000	
Operations: Building A Carpet Replacement				23,000	
Operations: Building A HVAC Unit Replacement		16,000	13,000	14,000	
Operations: Public Lot Slurry Seal		59,000			
Parks & Rec. Admin. Building: ADA Improvements			181,000		
Parks & Rec. Admin. Building: Roof Replacement		53,000			
Police Station: HVAC Unit Replacement		61,000	19,000		15,000
Tualatin Heritage Center: Carpet Replacement			14,000		
Tualatin Heritage Center: HVAC Replacement				16,000	
Van Raden Comm Center: Window Replacement		43,000			
Vehicles	898,000	786,000	363,000	624,000	362,000
<b>Facilities &amp; Equipment Total</b>	<b>923,000</b>	<b>1,611,000</b>	<b>858,000</b>	<b>923,000</b>	<b>438,000</b>

Exhibit A

## PROJECT SUMMARY BY CATEGORY

<b>Parks &amp; Recreation</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Atfalati Park: Playground Renovation		213,000			
Atfalati Park: Tennis Court Reconstruction		213,000			
Community Park: Field Lighting Retrofit		245,000			
Community Park: Parking Lot North Drive Aisle		98,000			
Community Park: Skate Park Recognition Plaques		18,000			
Ibach & Atfalati Parks: Parking Lot Repair					34,000
Jurgens Park: Playground Improvements		219,000			
Jurgens Park: Renovate Planter Boxes		25,000			
Jurgens Park: Site Plan Update for Westside Addition		69,000			
Saum Creek Greenway Renovation @ Venetia Subdivision		229,000			
Tualatin Commons Bench Replacement		43,000			
Tualatin Commons Fountain Improvements	207,000				
Tualatin River Greenway- Green Lot to Community Park		144,000			
<b>Parks &amp; Recreation Total</b>	<b>207,000</b>	<b>1,516,000</b>	<b>0</b>	<b>0</b>	<b>34,000</b>

<b>Technology</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Battery Backup Replacement	16,000				
Computer Server Replacement		91,000			
Library Public Technology Replacement				40,000	
Network Switch & Wireless/WAP Replacement		187,000			
SelfCheck Machine Replacement		27,000			
<b>Technology Total</b>	<b>16,000</b>	<b>305,000</b>	<b>0</b>	<b>40,000</b>	<b>0</b>

Exhibit A

**PROJECT SUMMARY BY CATEGORY**

<b>Transportation</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
65th Ave and Hospital: Midblock Crossing			248,000		
95th Ave & Avery St Intersection: Road & Sidewalk		961,000			
118th Ave & Herman Rd Intersection: Add NB Turnlane			605,000		
124th Ave & Future Blake St Signal				852,000	
*Avery St at Boones Ferry: Add Bike Lanes on East Leg (BP5)			133,000		
Blake Street Concept Study: 115th to 124th		100,000			
Boones Ferry Rd & Alabama St: Crossing	320,000				
Boones Ferry Road Sidewalk In-fill (R12) & Bike Lanes	1,664,000				
Garden Corner Curves (105th Ave/Blake St/108th Ave) (R7)	1,239,000	2,108,000			
Grahams Ferry and Dogwood St: Midblock Crossing		241,000			
Hedges Creek Pedestrian Bridge: Upgrade surface (BP6)			114,000		
Herman Rd, 124th Ave to Cipole Rd Improvements (R1)					780,000
*Herman Rd: Widening Tualatin to Teton Rd (R3)	725,000			4,601,000	
Hwy 99W: Pony Ridge to 124th Ave Sidewalks	576,000				
Martinazzi Ave at Sagert St: New Traffic Signal (R35)	2,485,000				
*Martinazzi Ave, Warm Springs to Boones Ferry Rd: Concept Study (R14)				59,000	
Myslony St: 124th to 112th incl. traffic signal @ 124th (R5)			3,255,000		
*Nyberg Street and I-5 Interchange: Bike Lane Improvements (BP13)			27,000		
Sagert St, 72nd to Wampanoag: Pedestrian Connectivity	111,000				
*School Wayfinding Signs (BP1)			83,000		
Transportation System Plan: Mid-term Update	200,000				
Tualatin Rd and Teton Ave: New Traffic Signal (R33)	767,000				
Tualatin Rd: Add Traffic Signs (R38)			23,000		
Tualatin Rd: Sweek Dr. to Community Park Pedestrian Improvements				357,000	
Tual-Sher Rd, Teton to Cipole: Widen to 5 lanes (R20) (County)		5,504,000	6,686,000		
Tual-Sher Rd: Martinazzi Ave to I-5	797,000	823,000	875,000		
<b>Transportation Total</b>	<b>8,884,000</b>	<b>9,737,000</b>	<b>12,049,000</b>	<b>5,869,000</b>	<b>780,000</b>

\* These projects rely on outside funding and will only proceed if funding is secured.

Exhibit A

**PROJECT SUMMARY BY CATEGORY**

<b>Utilities</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
<b>Sewer</b>					
65th Ave/Nyberg Trunk Repair	207,000				
105th Ave Sewer Upsizing	50,000				
North Martinazzi Trunk: Chelan St to Seminole Trail		662,000			
North Martinazzi Trunk: Seminole Trail to Sagert St				705,000	
Teton Trunk: Manhasset Dr to Spokane Ct				94,000	390,000
Tonquin Loop Sewer				688,000	
<b>Sewer Total</b>	<b>257,000</b>	<b>662,000</b>	<b>0</b>	<b>1,487,000</b>	<b>390,000</b>
<b>Storm</b>					
89th Ave Water Quality Retrofit					300,000
Grahams Ferry Rd and Ibach St: Upgrade Stormwater Outfall				235,000	
Nyberg Creek at Martinazzi Ave Assessment	200,000				
Sequoia Ridge Water Quality Facility	107,000				
Sweek Dr/Emery Zidell Pond B		110,000			
<b>Storm Total</b>	<b>307,000</b>	<b>110,000</b>	<b>0</b>	<b>235,000</b>	<b>300,000</b>
<b>Water</b>					
ASR Well Rehabilitation			373,000		
B Level Pump Station (PS-1)		1,046,000			
Blake Street to 115th Avenue: Install 12" Water Pipe	427,000				
Boones Ferry Rd: Fire Hydrants (P-5)				114,000	
Childs Rd, Crossing I-5: Replace AC Pipe (P-1 (1))					1,211,000
Leveton Dr: Complete Loop System for Fire Flow (P-4)			170,000		
Norwood Rd Tanks: New Water Line to Tanks (P-8)			1,148,000		
SCADA System Improvements (M-1)	186,000				
Tual-Sher Rd Waterline to B Level		164,000	636,000		
Water Reservoirs: A1 Exterior/Interior Coating Replacement		720,000			
Water Reservoirs: A2 Interior Coating Replacement			330,000		
Water Reservoirs: B2 Exterior Coating Replacement	659,000				
Water Reservoirs: B2 Interior Coating Replacement		600,000			
<b>Water Total</b>	<b>1,272,000</b>	<b>2,530,000</b>	<b>2,657,000</b>	<b>114,000</b>	<b>1,211,000</b>
<b>Utilities Total</b>	<b>1,836,000</b>	<b>3,302,000</b>	<b>2,657,000</b>	<b>1,836,000</b>	<b>1,901,000</b>

Exhibit A

**PROJECT SUMMARY BY FUNDING SOURCE**

<b>Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>	<b>Grand Total</b>
<b>Building</b>	37,000			43,000		80,000
<b>Core Area Parking</b>		13,000	117,000	51,000		181,000
<b>General Fund</b>	450,000	3,318,000	653,000	786,000	390,000	5,597,000
<b>Leveton Tax Increment</b>						0
<b>Park SDC</b>						0
<b>Road Operating/Gas Tax</b>	230,000	119,000	181,000	83,000		613,000
<b>Sewer</b>	517,000					517,000
<b>Sewer SDC</b>	50,000	662,000		860,000	390,000	1,962,000
<b>Storm Drain</b>	617,000	110,000		235,000		962,000
<b>Storm SDC</b>					300,000	300,000
<b>Transp. Dev. Tax</b>	1,864,000				780,000	2,644,000
<b>Transp. Project</b>	5,984,000	4,133,000	4,983,000	1,209,000		16,309,000
<b>Water</b>	1,090,000	1,566,000	2,093,000	73,000	857,000	5,679,000
<b>Water SDC</b>	221,000	1,046,000	608,000	41,000	436,000	2,352,000
<b>Outside Funded (Grants, Donations, etc.)</b>	806,000	5,504,000	6,929,000	5,287,000		18,526,000
<b>Grand Total</b>	<b>11,866,000</b>	<b>16,471,000</b>	<b>15,564,000</b>	<b>8,668,000</b>	<b>3,153,000</b>	<b>55,722,000</b>



Exhibit A

**PROJECT SUMMARY BY FUNDING SOURCE**

<b>General Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Atfalati Park: Playground Renovation		213,000			
Atfalati Park: Tennis Court Reconstruction		213,000			
Battery Backup Replacement	16,000				
Brown's Ferry C. Center: Deck Replacement		31,000			
Brown's Ferry C. Center: HVAC Unit Replacement			13,000		
Community Park: Field Lighting Retrofit		245,000			
Community Park: Parking Lot North Drive Aisle		98,000			
Community Park: Skate Park Recognition Plaques		18,000			
Computer Server Replacement		91,000			
Ibach & Atfalati Parks: Parking Lot Repair					34,000
Juanita Pohl Center: Parking Lot Repair		64,000			
Juanita Pohl Center: Roof Replacement			138,000		
Jurgens Park: Playground Improvements		219,000			
Jurgens Park: Renovate Planter Boxes		25,000			
Jurgens Park: Site Plan Update for Westside Addition		69,000			
Library & City Offices: Carpet Replacement				106,000	
Library & City Offices: HVAC Unit Replacement				32,000	61,000
Library Classroom/Makerspace		485,000			
Library Furnishing Replacement	25,000			57,000	
Library Public Technology Replacement				40,000	
Network Switch & Wireless/WAP Replacement		187,000			
Operations: Building A Carpet Replacement				23,000	
Operations: Building A HVAC Unit Replacement		16,000	13,000	14,000	
Operations: Public Lot Slurry Seal		59,000			
Parks & Rec. Admin. Building: ADA Improvements			181,000		
Parks & Rec. Admin. Building: Roof Replacement		53,000			
Police Station: HVAC Unit Replacement		61,000	19,000		15,000
Saum Creek Greenway Renovation @ Venetia Subdivision		229,000			
SelfCheck Machine Replacement		27,000			
Tualatin Commons Bench Replacement		43,000			
Tualatin Commons Fountain Improvements	207,000				
Tualatin Heritage Center: Carpet Replacement			14,000		
Tualatin Heritage Center: HVAC Replacement				16,000	
Tualatin River Greenway- Green Lot to Community Park		144,000			
Van Raden Comm Center: Window Replacement		43,000			
Vehicles	202,000	685,000	275,000	498,000	280,000
<b>General Fund Total</b>	<b>450,000</b>	<b>3,318,000</b>	<b>653,000</b>	<b>786,000</b>	<b>390,000</b>
<b>Projected Revenue Available for Projects</b>	<b>450,000</b>	<b>450,000</b>	<b>450,000</b>	<b>450,000</b>	<b>450,000</b>

Exhibit A

## PROJECT SUMMARY BY FUNDING SOURCE

<b>Building Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Vehicles	37,000			43,000	
<b>Building Total</b>	<b>37,000</b>			<b>43,000</b>	

<b>Core Area Parking</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Core Area Parking Maintenance: Blue Lot Slurry Seal		13,000			
Core Area Parking Maintenance: Red & Yellow Lots Slurry Seal				13,000	
Core Area Parking Maintenance: White Lot Slurry Seal			32,000		
Core Area Parking: ADA Project- Blue Lot			85,000		
Core Area Parking: ADA Project- Red Lot				38,000	
<b>Core Area Parking Total</b>		<b>13,000</b>	<b>117,000</b>	<b>51,000</b>	

<b>Leveton Projects Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
None					
<b>Leveton Projects Total</b>					

<b>Park Development Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
None					
<b>Park Development Total</b>					

<b>Road Operating/Gas Tax</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Blake Street Concept Study: 115th to 124th		100,000			
Hedges Creek Pedestrian Bridge: Upgrade surface (BP6)			114,000		
Herman Rd: Widening Tualatin to Teton Rd (R3)	30,000				
Transportation System Plan: Mid-term Update	200,000				
Tualatin Rd: Add Traffic Signs (R38)			23,000		
Vehicles		19,000	44,000	83,000	
<b>Road Operating/Gas Tax</b>	<b>230,000</b>	<b>119,000</b>	<b>181,000</b>	<b>83,000</b>	
<b>Projected Revenue Available for Projects</b>	<b>1,166,000</b>	<b>826,000</b>	<b>971,000</b>	<b>787,000</b>	<b>626,000</b>

<b>Sewer Operating Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
65th Ave/Nyberg Trunk Repair	207,000				
Vehicles	310,000				
<b>Sewer Total</b>	<b>517,000</b>				
<b>Projected Revenue Available for Projects</b>	<b>2,117,000</b>	<b>1,384,000</b>	<b>1,129,000</b>	<b>877,000</b>	<b>275,000</b>

Exhibit A

## PROJECT SUMMARY BY FUNDING SOURCE

<b>Sewer SDC Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
105th Ave Sewer Upsizing	50,000				
North Martinazzi Trunk: Chelan St to Seminole Trail		662,000			
North Martinazzi Trunk: Seminole Trail to Sagert St				705,000	
Teton Trunk: Manhasset Dr to Spokane Ct				94,000	390,000
Tonquin Loop Sewer				61,000	
<b>Sewer SDC Total</b>	<b>50,000</b>	<b>662,000</b>		<b>860,000</b>	<b>390,000</b>
<b>Projected Revenue Available for Projects</b>	<b>3,792,000</b>	<b>3,993,000</b>	<b>3,582,000</b>	<b>3,833,000</b>	<b>3,224,000</b>

<b>Storm Drain Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Grahams Ferry Rd and Ibach St: Upgrade Stormwater Outfall				235,000	
Nyberg Creek at Martinazzi Ave Assessment	200,000				
Sequoia Ridge Water Quality Facility	107,000				
Sweek Dr/Emery Zidell Pond B		110,000			
Vehicles	310,000				
<b>Storm Drain Total</b>	<b>617,000</b>	<b>110,000</b>		<b>235,000</b>	
<b>Projected Revenue Available for Projects</b>	<b>385,500</b>	<b>3,929,000</b>	<b>4,721,000</b>	<b>5,615,000</b>	<b>6,269,000</b>

<b>Storm SDC Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
89th Ave Water Quality Retrofit					300,000
<b>Storm SDC Total</b>					<b>300,000</b>
<b>Projected Revenue Available for Projects</b>	<b>427,000</b>	<b>465,000</b>	<b>503,000</b>	<b>541,000</b>	<b>579,000</b>

<b>Transportation Development Tax</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Herman Rd, 124th Ave to Cipole Rd Improvements (R1)					780,000
Martinazzi Ave at Sagert St: New Traffic Signal (R35) (75%)	1,864,000				
<b>Transp. Dev. Tax Total</b>	<b>1,864,000</b>				<b>780,000</b>
<b>Projected Revenue Available for Projects</b>	<b>8,009,000</b>	<b>6,463,000</b>	<b>6,781,000</b>	<b>7,099,000</b>	<b>7,417,000</b>

## PROJECT SUMMARY BY FUNDING SOURCE

<b>Transportation Project (Bond) Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
65th Ave and Hospital: Midblock Crossing			248,000		
95th Ave & Avery St Intersection: Road & Sidewalk		961,000			
118th Ave & Herman Rd Intersection: Add NB Turnlane			605,000		
124th Ave & Future Blake St Signal				852,000	
Boones Ferry Rd & Alabama St: Crossing	320,000				
Boones Ferry Road Sidewalk In-fill (R12) & Bike Lanes	1,664,000				
Garden Corner Curves (105th Ave/Blake St/108th Ave) (R7)	1,239,000	2,108,000			
Grahams Ferry and Dogwood St: Midblock Crossing		241,000			
Hwy 99W: Pony Ridge to 124th Ave Sidewalks	576,000				
Martinazzi Ave at Sagert St: New Traffic Signal (R35) (25%)	621,000				
Myslony St: 124th to 112th incl. traffic signal @ 124th (R5)			3,255,000		
Tualatin Rd and Teton Ave: New Traffic Signal (R33)	767,000				
Tualatin Rd: Sweek Dr. to Community Park Pedestrian Improvements				357,000	
Tual-Sher Rd: Martinazzi Ave to I-5	797,000	823,000	875,000		
<b>Transportation Project (Bond) Total</b>	<b>5,984,000</b>	<b>4,133,000</b>	<b>4,983,000</b>	<b>1,209,000</b>	
<b>Projected Revenue Available for Projects</b>	<b>21,383,000</b>	<b>14,724,000</b>	<b>9,916,000</b>	<b>4,258,000</b>	<b>2,374,000</b>



Exhibit A

**PROJECT SUMMARY BY FUNDING SOURCE**

<b>Water Operating Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
ASR Well Rehabilitation			239,000		
Blake Street to 115th Avenue: Install 12" Water Pipe	273,000				
Boones Ferry Rd: Fire Hydrants (P-5)				73,000	
Childs Rd, Crossing I-5: Replace AC Pipe (P-1 (1))					775,000
Leveton Dr: Complete Loop System for Fire Flow (P-4)			109,000		
Norwood Rd Tanks: New Water Line to Tanks (P-8)			735,000		
SCADA System Improvements (M-1)	119,000				
Tual-Sher Rd Waterline to B Level		164,000	636,000		
Vehicles	39,000	82,000	44,000		82,000
Water Reservoirs: A1 Exterior/Interior Coating Replacement		720,000			
Water Reservoirs: A2 Interior Coating Replacement			330,000		
Water Reservoirs: B2 Exterior Coating Replacement	659,000				
Water Reservoirs: B2 Interior Coating Replacement		600,000			
<b>Water Total</b>	<b>1,090,000</b>	<b>1,566,000</b>	<b>2,093,000</b>	<b>73,000</b>	<b>857,000</b>
<b>Projected Revenue Available for Projects</b>	<b>5,787,000</b>	<b>5,228,000</b>	<b>4,175,000</b>	<b>2,792,000</b>	<b>3,854,000</b>

<b>Water SDC Fund</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
ASR Well Rehabilitation			134,000		
B Level Pump Station (PS-1)		1,046,000			
Blake Street to 115th Avenue: Install 12" Water Pipe	154,000				
Boones Ferry Rd: Fire Hydrants (P-5)				41,000	
Childs Rd, Crossing I-5: Replace AC Pipe (P-1 (1))					436,000
Leveton Dr: Complete Loop System for Fire Flow (P-4)			61,000		
Norwood Rd Tanks: New Water Line to Tanks (P-8)			413,000		
SCADA System Improvements (M-1)	67,000				
<b>Water SDC Total</b>	<b>221,000</b>	<b>1,046,000</b>	<b>608,000</b>	<b>41,000</b>	<b>436,000</b>
<b>Projected Revenue Available for Projects</b>	<b>1,370,000</b>	<b>1,441,000</b>	<b>698,000</b>	<b>393,000</b>	<b>655,000</b>

<b>Outside Funded</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
*Avery St at Boones Ferry: Add Bike Lanes on East Leg (BP5)			133,000		
*Herman Rd: Widening Tualatin to Teton Rd (R3)	695,000			4,601,000	
*Martinazzi Ave, Warm Springs to Boones Ferry: Concept Study (R14)				59,000	
*Nyberg Street and I-5 Interchange: Bike Lane Improvements (BP13)			27,000		
Sagert St, 72nd to Wampanoag: Pedestrian Connectivity	111,000				
*School Wayfinding Signs (BP1)			83,000		
Tonquin Loop Sewer (Clean Water Services)				627,000	
Tual-Sher Rd, Teton to Cipole: Widen to 5 lanes (R20) (County)		5,504,000	6,686,000		
<b>Outside Funded Total</b>	<b>806,000</b>	<b>5,504,000</b>	<b>6,929,000</b>	<b>5,287,000</b>	

\* These projects rely on outside funding and will only proceed if funding is secured.

## Exhibit A

# FACILITIES & EQUIPMENT

This section of the CIP includes all buildings and structures the City owns and manages with the exception of structures located in City parks or open spaces, such as accessory buildings and restrooms. Parks related facilities are included in the Parks & Recreation section of the CIP.

Equipment and Fleet needs are also captured in this category.

### FUNDING SOURCES:

General Fund

Special Revenue Funds: Water, Sewer, Street Core Area Parking District Fund

### IN THIS CATEGORY ARE:

Projects necessary to avoid equipment failure or potential property damage and to maintain the current level of services.

Facilities & Equipment	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24
Brown's Ferry C. Center: Deck Replacement		31,000			
Brown's Ferry C. Center: HVAC Unit Replacement			13,000		
Core Area Parking Maintenance: Blue Lot Slurry Seal		13,000			
Core Area Parking Maintenance: Red & Yellow Lots Slurry Seal				13,000	
Core Area Parking Maintenance: White Lot Slurry Seal			32,000		
Core Area Parking: ADA Project- Blue Lot			85,000		
Core Area Parking: ADA Project- Red Lot				38,000	
Juanita Pohl Center: Parking Lot Repair		64,000			
Juanita Pohl Center: Roof Replacement			138,000		
Library & City Offices: Carpet Replacement				106,000	
Library & City Offices: HVAC Unit Replacement				32,000	61,000
Library Classroom/Makerspace		485,000			
Library Furnishing Replacement	25,000			57,000	
Operations: Building A Carpet Replacement				23,000	
Operations: Building A HVAC Unit Replacement		16,000	13,000	14,000	
Operations: Public Lot Slurry Seal		59,000			
Parks & Rec. Admin. Building: ADA Improvements			181,000		
Parks & Rec. Admin. Building: Roof Replacement		53,000			
Police Station: HVAC Unit Replacement		61,000	19,000		15,000
Tualatin Heritage Center: Carpet Replacement			14,000		
Tualatin Heritage Center: HVAC Replacement				16,000	
Van Raden Comm Center: Window Replacement		43,000			
Vehicles	898,000	786,000	363,000	624,000	362,000
<b>Facilities &amp; Equipment Total</b>	<b>923,000</b>	<b>1,611,000</b>	<b>858,000</b>	<b>923,000</b>	<b>438,000</b>

## Exhibit A

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Exhibit A

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**Browns Ferry Community Center: Deck Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$29,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Project consists of refurbishing the entrance area deck of the Browns Ferry Community Center. The support structure for the decks are aging and will need to be replaced in accordance with building codes.

**PROJECT SCOPE:**

Consult with design team, permit, and hire a contractor to install the deck.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 20/21	\$31,000
TOTAL:	\$31,000



Exhibit A

Browns Ferry Community Center: Deck Replacement

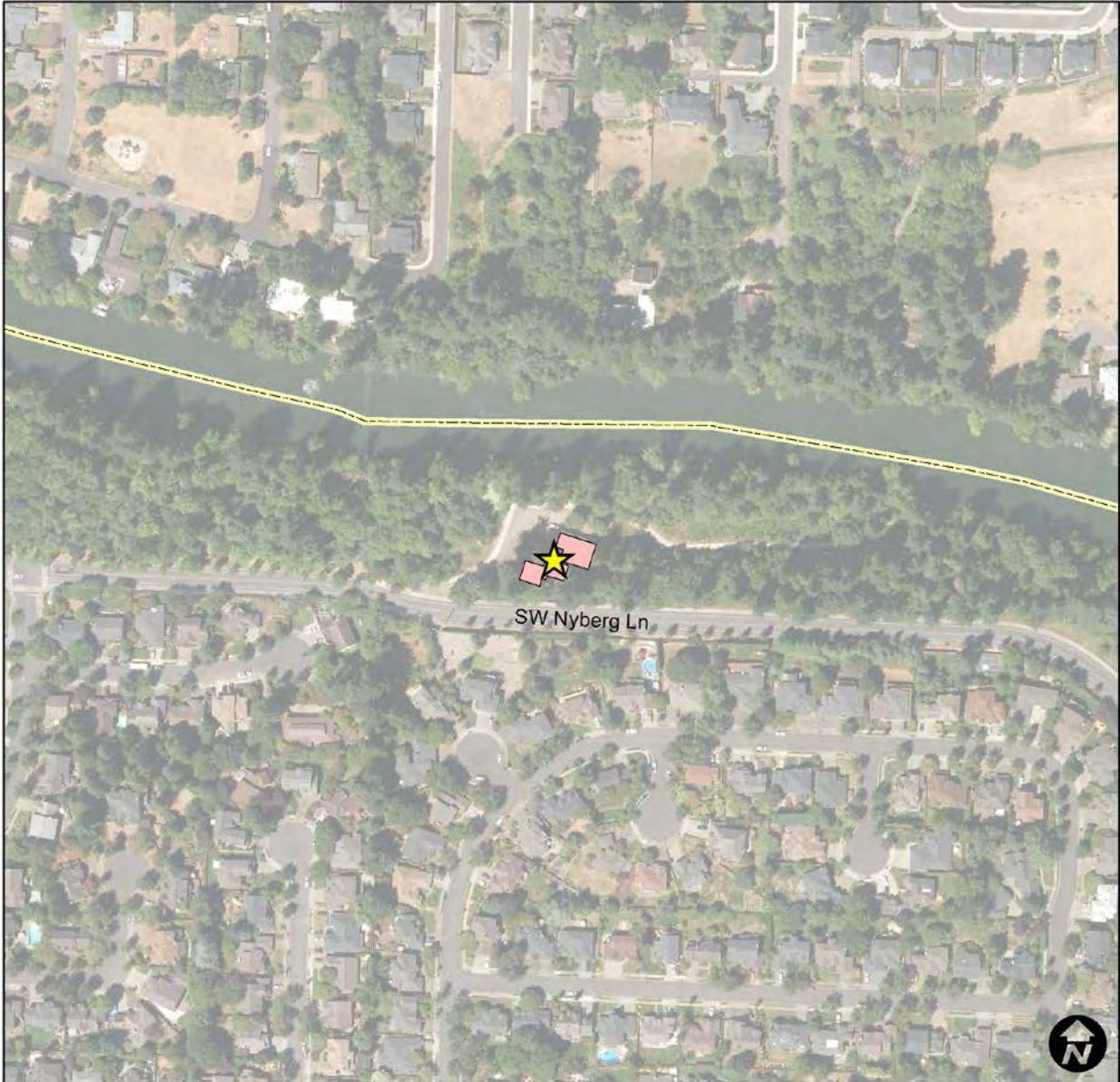


Exhibit A

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**Brown's Ferry Community Center: HVAC Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$13,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The recommended life expectancy of this HVAC unit is 17-18 years. This is a planned replacement to avoid failure which would require a costly and inconvenient emergency replacement. The condition of the unit is reviewed annually to determine if programmed replacement date is appropriate or can be extended.

**PROJECT SCOPE:**

Using procurement process to determine suitable contractor for purchase and installation of HVAC unit.

**HISTORY:**

HVAC unit will be 18 years old.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 21/22	\$13,000
TOTAL:	\$13,000

Exhibit A

Brown's Ferry Community Center: HVAC Replacement

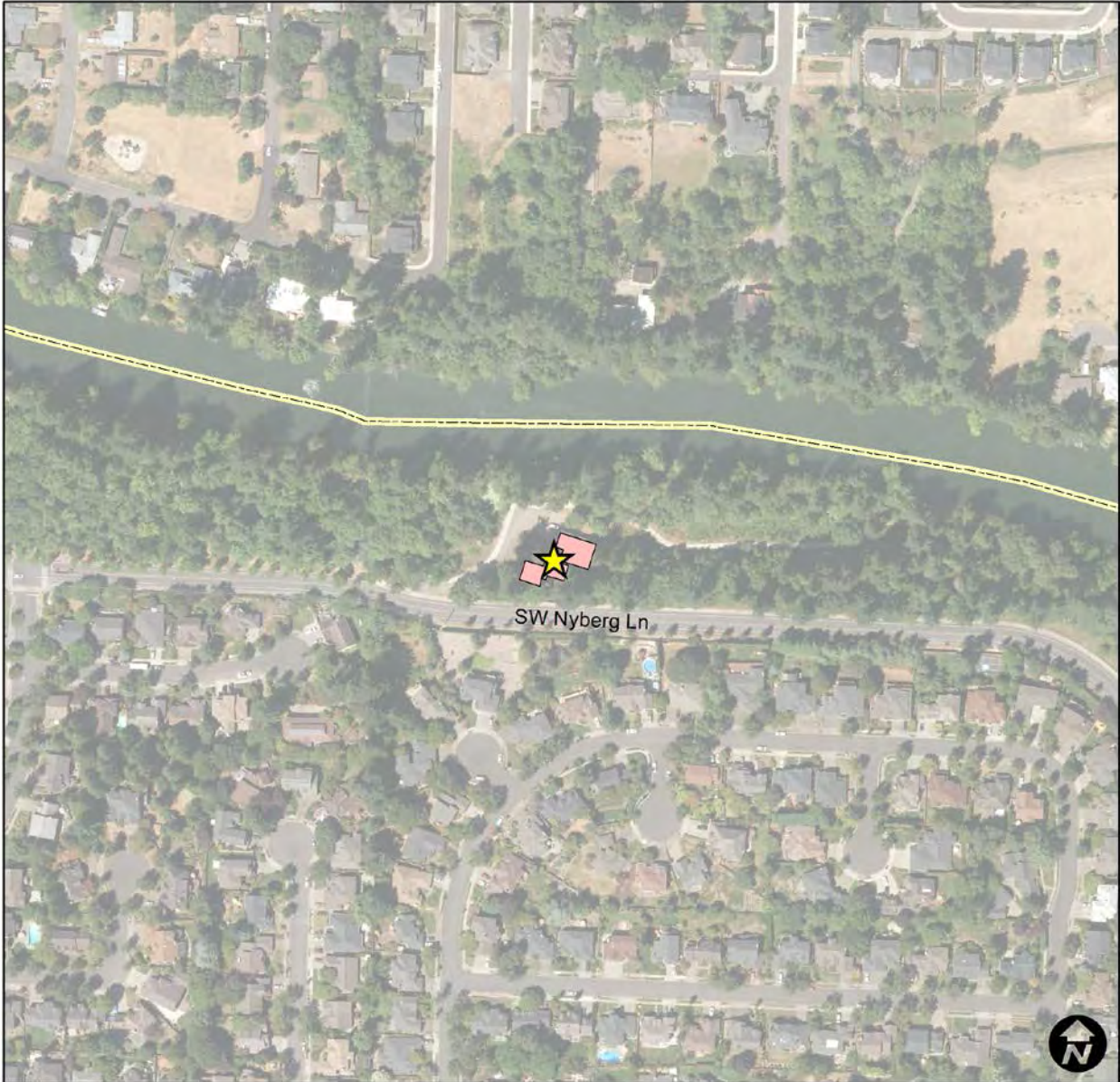


Exhibit A

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**Core Area Parking Lots: Slurry Seal**

---

**DEPARTMENT:** Fleet, Facilities & IS  
**CATEGORY:** Facilities & Equipment  
**TOTAL COST:** \$58,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Project includes cleaning the Green, White, and Blue Lot parking surfaces, making small surface repairs, applying Type II Slurry- seal, and re-striping. This programmed maintenance will prolong the pavement life and prevent expensive costs of excavation and repaving. It is a recommended maintenance practice to slurry seal the lots every seven to eight years depending on original application and usage. Each of these proposed lots will be seven to eight years since last completed when due.

**PROJECT SCOPE:**

Clean, repair, slurry seal and re-stripe these parking lot surfaces.

**HISTORY:**

At scheduled slurry seal date, the sealant on each of these proposed lots will be at least seven years old.

**FUNDING PARTNERSHIPS:**

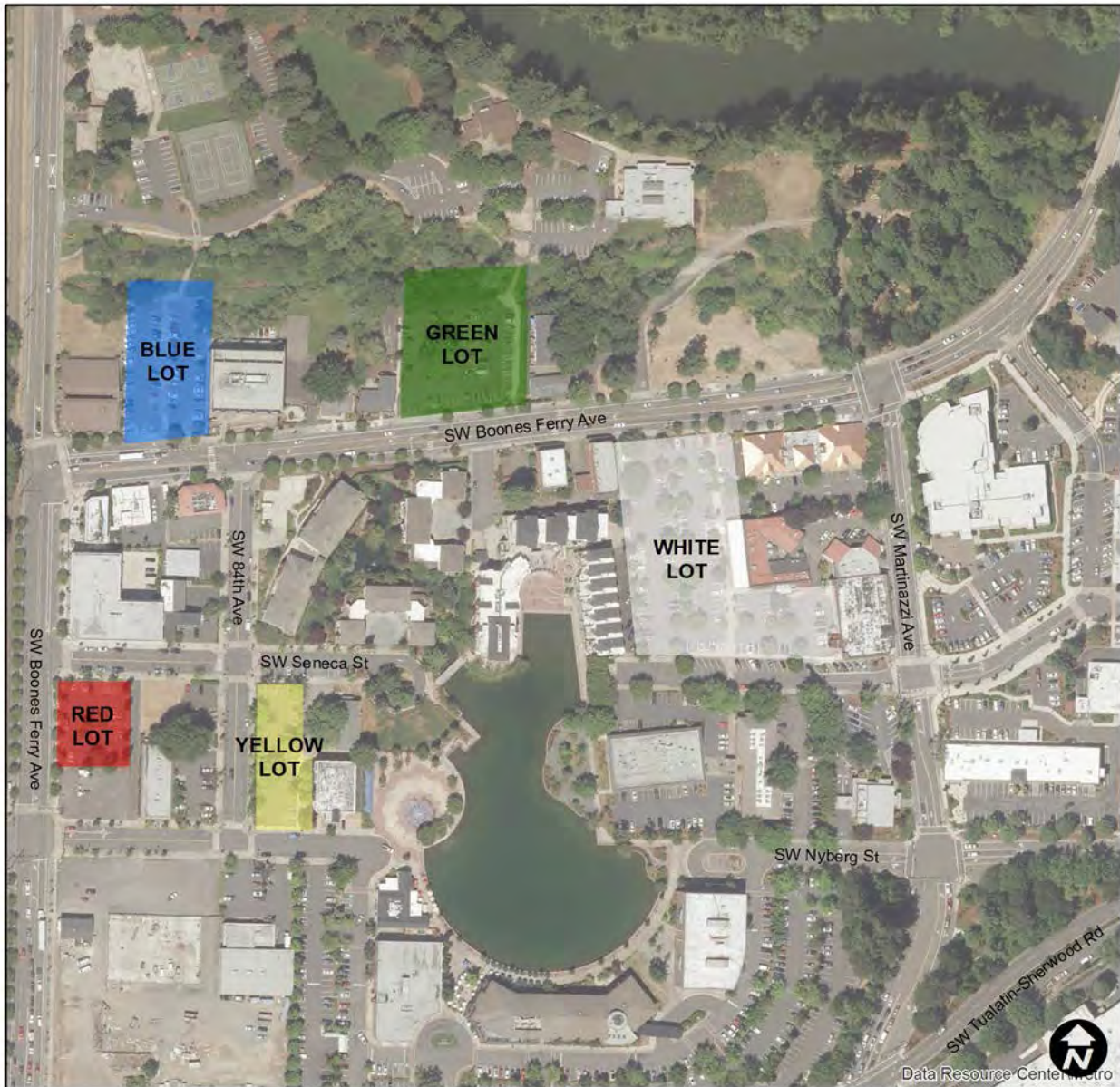
N/A

**FUNDING SOURCES FOR THIS PROJECT:**

		<b>YEAR</b>	<b>AMOUNT</b>
Core Area Parking Fund	Blue	FY 20/21	\$13,000
Core Area Parking Fund	White	FY 21/22	\$32,000
Core Area Parking Fund	Yellow & Red Lot	FY 22/23	\$13,000
		<b>TOTAL:</b>	<u>\$58,000</u>

Exhibit A

Core Area Parking Lots: Slurry Seal



# Exhibit A

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## Core Area Parking: ADA Upgrades

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$123,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Design and construct proper ramps, walkways and markings in these parking lots to meet the Americans with Disabilities Act.

**PROJECT SCOPE:**

Each parking lot will be its own project and may have several stages in order to fully meet ADA requirements. The focus is correct design solution, using procurement process to select a contractor to correct or install proper ramps, walkways, and markings.

**HISTORY:**

Changes in the ADA code requirements and concerns about ADA parking resulted in OTAK Engineering being hired to review all Core Area lots, make recommendations and cost estimates as to the best way to meet ADA access. The focus is establishing priorities, usage (parking lot surveys) and location in determining the timing of ADA improvements being made.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	YEAR	AMOUNT
Core Area Parking Fund		
Blue Lot	FY 21/22	\$85,000
Red Lot	FY 22/23	\$38,000
	TOTAL:	<u>\$123,000</u>

# Exhibit A

## Core Area Parking: ADA Upgrades



Exhibit A

---

**Juanita Pohl Center: Parking Lot Repair**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$64,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTIONS:**

Project consists of basic repairs and full depth patch and overlay of the Pohl Center’s parking lot. As the parking lot continues to deteriorate, future repair costs increase.

**PROJECT SCOPE:**

Full depth patch and overlay.

**HISTORY:**

The lower parking lot was constructed in 1981 when the Juanita Pohl Center was originally built. The upper parking lot was constructed prior to construction of the Center.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 20/21	<u>\$64,000</u>
TOTAL:	\$64,000



Exhibit A

Juanita Pohl Center: Parking Lot Repair



Exhibit A

---

**Juanita Pohl Center: Roof Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$138,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The Pohl Center flat design roof will be removed completely and replaced with a new thermal plastic overlay. Current building codes do not allow another roof layer to be added without removal of the existing materials. As the target replacement date approaches each year, the roof will be evaluated and timing adjusted as necessary. The current roof will be 19 years old by target replacement date. Extending replacement date increases the probability of future property damage and adds to future replacement costs.

**PROJECT SCOPE:**

Completely tear off of old roof materials and replace with a new thermal plastic overlay.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 21/22	\$138,000
TOTAL:	\$138,000

Exhibit A

Juanita Pohl Center: Roof Replacement



Exhibit A

---

**Library and City Offices: Carpet Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS  
**CATEGORY:** Facilities & Equipment  
**TOTAL COST:** \$106,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** FY 22/23

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Replace carpet with new carpet tiles, each year as target date approaches each are will be evaluated to determine actual replacement date.

**PROJECT SCOPE:**

Following procurement rules a supplier and installer will be selected to provide services.

**HISTORY:**

The carpet will be 15 years old by the target date.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 22/23	<u>\$106,000</u>
TOTAL:	\$106,000

Exhibit A

Library and City Offices: Carpet Replacement

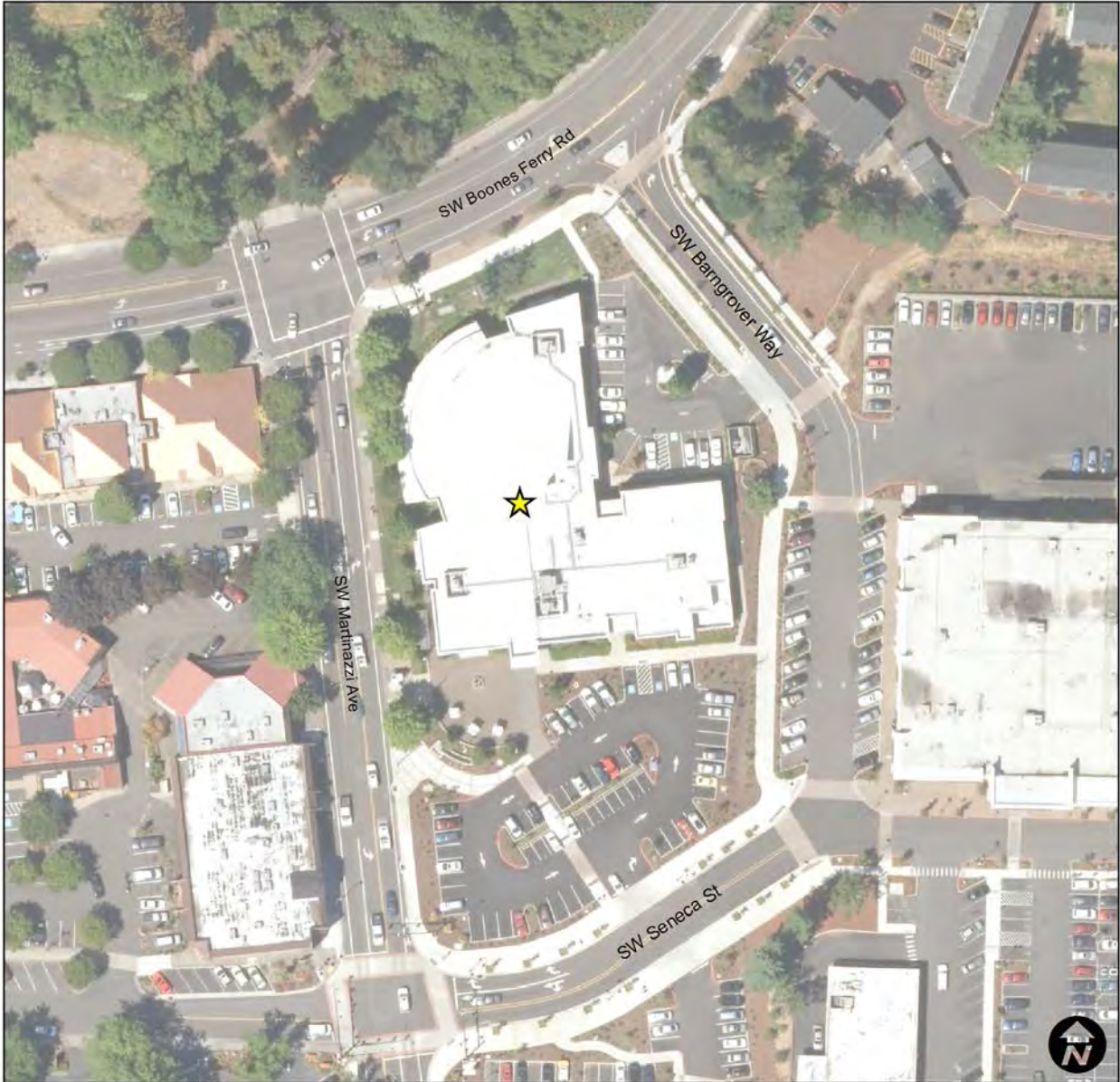


Exhibit A

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**Library and City Offices: HVAC Unit Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** Various

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The recommended life expectancy of each HVAC unit is 17-18 years. This is a planned replacement to avoid failure which would require a costly and inconvenient emergency replacement. The condition of each unit is reviewed annually which will determine if the programmed replacement is appropriate or can be extended.

**PROJECT SCOPE:**

Following procurement rules to select supplier/installer to provide services for removal and installation of a new unit.

**HISTORY:**

Each of the HVAC units will be at least 18 years old.

**FUNDING PARTNERSHIPS:**

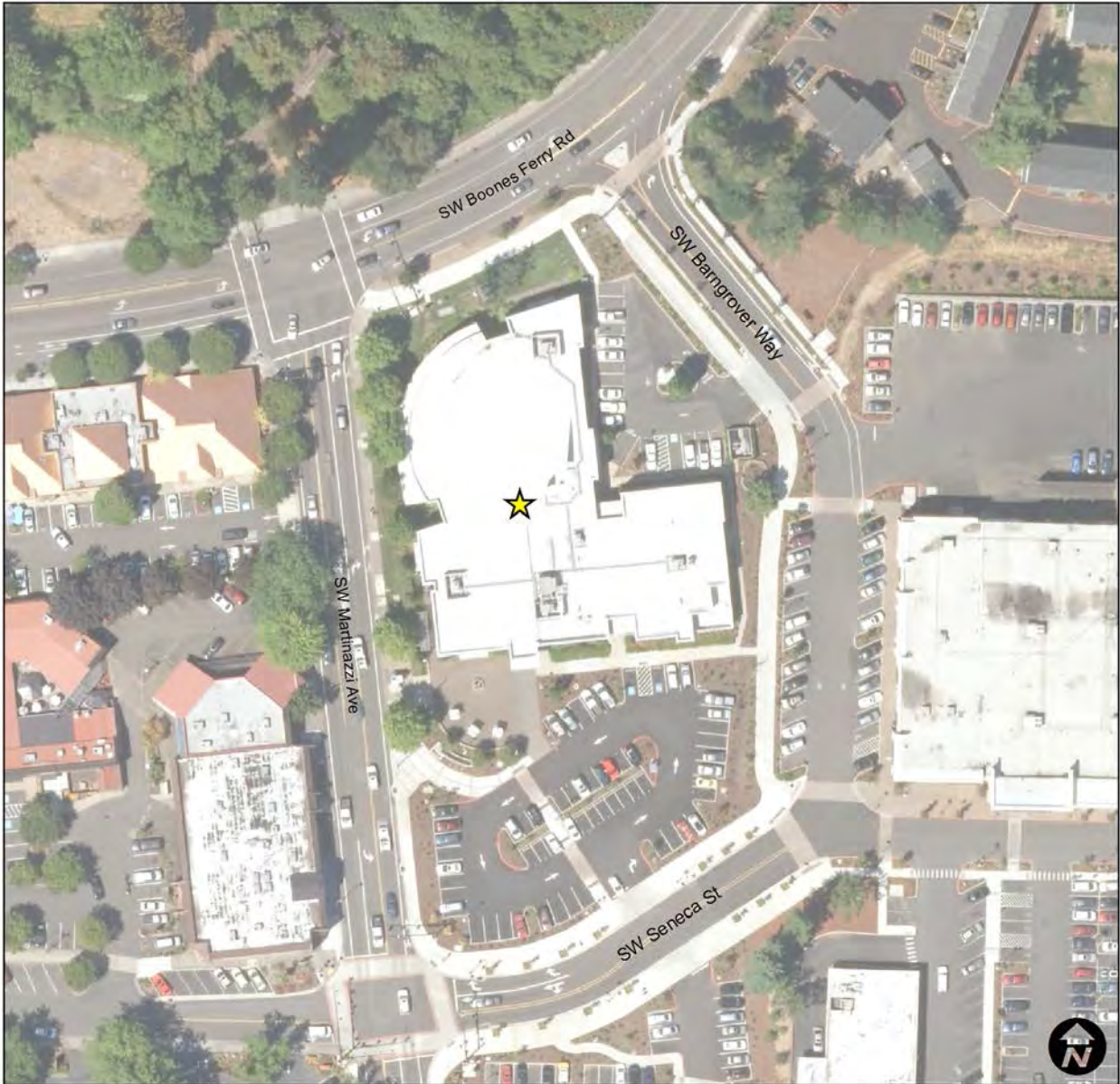
N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
General Fund: Building Maintenance	FY 22/23	\$32,000
General Fund: Building Maintenance	FY 23/24	\$61,000

Exhibit A

Library and City Offices: HVAC Unit Replacement



## Exhibit A

### Library Classroom/Makerspace

<b>DEPARTMENT:</b>	Library	<b>CONCEPT SCHEDULE:</b>	FY18/19
<b>CATEGORY:</b>	Facilities & Equipment	<b>DESIGN SCHEDULE:</b>	FY20/21
<b>TOTAL COST:</b>	\$455,000	<b>CONSTRUCTION SCHEDULE:</b>	FY20/21

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Library Strategic Plan (2016)

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$\_\_7000/yr\_\_     No

**DESCRIPTION:**

The library facility recently reached its 10<sup>th</sup> anniversary, and renovations are needed to help the Library meet service demands, influenced by changing library utilization and community needs. The 21st Century library is a destination, featuring inviting, comfortable spaces tailored to user needs. This project consists of building a flexible, multipurpose glass-walled program room (capacity 20-30 people) to host makerspace programs, technology classes, and other collaborative activities for all age groups. The project supports these Council goals: a diverse and inclusive community where everyone has equal access to opportunities in order to thrive and enjoy a high quality of life; and a connected, informed, and engaged community.

**PROJECT SCOPE:**

The scope of this project includes: hiring an architectural firm to develop the schematic design, hiring a construction manager / general contractor to oversee the project, construction of the flexible-use room, purchase of furnishings, relocation and/or removal of shelving, and relocation of public computers. The project would take approximately 1 year to complete.

**HISTORY:**

The current library facility was constructed in 2007-08. Since then, library utilization has changed, with decreased demand for some collection areas, increased demand for programs, and increased demand for flexible spaces. Program growth is constrained by available spaces: a 10-person meeting room, the Community Room (appx 70 seated, 140 standing), and the Teen Room (age restricted). During 2015-17, the Library assisted community partners in implementing a mobile makerspace. This project identified a community desire for physical space in which maker activities, technology, and other hands-on learning could occur. SRG Partnership was hired in 2018 to complete a conceptual study for this project.

**FUNDING PARTNERSHIPS:**

This project would be supported through donations and fundraising from the Tualatin Library Foundation. The Library would also pursue grants to help fund the project.

\*\* Ongoing costs for periodic equipment replacement; no increased personnel costs.

**FUNDING SOURCES FOR THIS PROJECT:**

	YEAR	AMOUNT
General Fund: Library	FY 20/21	\$485,000
	TOTAL:	\$485,000



Exhibit A

Library Classroom/Makerspace



## Exhibit A

### Library Furnishing Replacement

<b>DEPARTMENT:</b>	Library	<b>CONCEPT SCHEDULE:</b>	FY 16/17
<b>CATEGORY:</b>	Facilities & Equipment	<b>DESIGN SCHEDULE:</b>	FY 17/18
<b>TOTAL COST:</b>	\$154,000	<b>CONSTRUCTION SCHEDULE:</b>	N/A

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Library Strategic Plan

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The Library is a community gathering space, offering areas for programs, leisure reading, studying, and working with mobile devices. Comfortable seating creates an inviting atmosphere, encouraging repeat use. Work areas (including tables and chairs) support both individual and collaborative groups. To keep the Library inviting and welcoming, Library furnishings should be periodically replaced or repaired because of normal wear and tear, as well as to address changing usage of the Library. In particular, the children and young adult areas need updating to ensure those areas remain innovative and foster exploration and interaction.

**PROJECT SCOPE:**

A consultant was hired in FY16/17 to assess current Library furnishings for public use and layout regarding adequacy to meet service priorities identified in the Library strategic plan. Based on consultant recommendations, a furniture replacement schedule was produced, identifying priorities for furnishings to be repaired, reupholstered, or replaced.

Phase 3 (FY 19/20) will include replacing chairs and furnishings in the children’s area, replacing Community Room curtain, refinishing table edges, and repairing wood-back chairs.

Phase 4 (FY 22-23) will include replacing Community Room nesting chairs and some furnishings.

Phase 5 (FY 27-28) will include replacing tables and all wood-back reading chairs.

**HISTORY:**

Library furnishings were purchases in FY07/08 when the new library opened. Furniture has been periodically cleaned with minor repairs as needed. In FY 17/18 furnishings in the Teen Room were replaced and reupholstered as Phase 1. Phase 2 is underway in FY 18/19 and includes reupholstering and refinishing several chairs throughout the library.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	YEAR	AMOUNT
General Fund: Library    Phase 3	FY 19/20	\$25,000
General Fund: Library    Phase 4	FY 22/23	\$57,000
General Fund: Library    Phase 5	FY 27/28	\$72,000
	TOTAL:	\$154,000

Exhibit A

Library Furnishing Replacement



Exhibit A

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**Operations: Building A Carpet Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$23,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement
- Health & Safety     Service Delivery Need
- Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

Replace carpet with new carpet tiles, each year as target date approaches each area will be evaluated to determine actual replacement date.

**PROJECT SCOPE:**

Following procurement rules a supplier and installer will be selected to provide services.

**HISTORY:**

The carpet will be 17 years old by target date.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 22/23	\$23,000
TOTAL:	<u>\$23,000</u>

Exhibit A

Operations: Building A Carpet Replacement

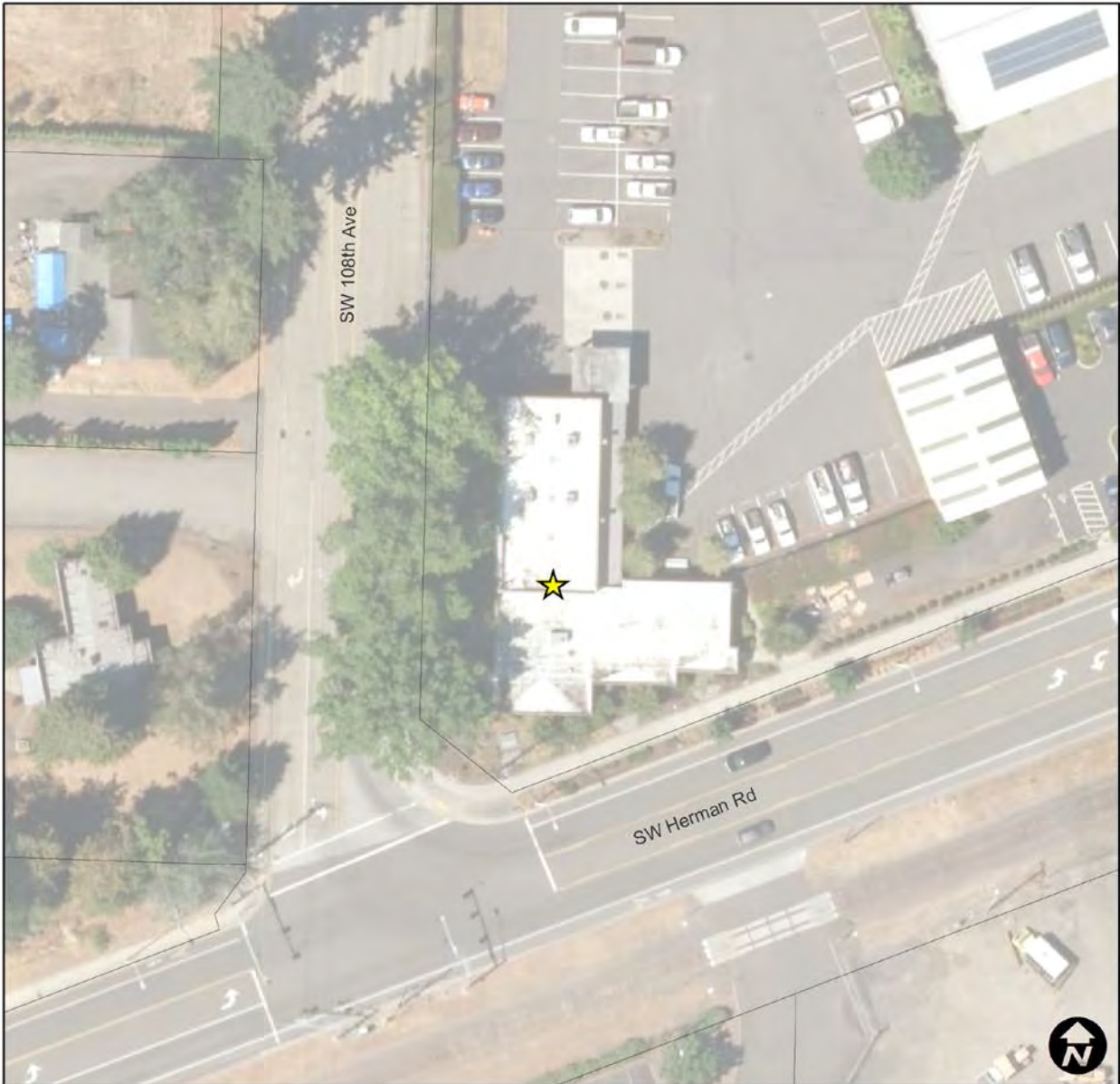


Exhibit A

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**Operations: Building A HVAC Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** Various

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Recommended life expectancy of these HVAC units is 17-18 years. This is a planned replacement prior to failure which would require an inconvenient emergency replacement. The condition of each unit is reviewed annually to determine if programmed replacement date is appropriate or can be extended.

**PROJECT SCOPE:**

Follow procurement process to select supplier/installer providing services for removal and install of new unit.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
General Fund: Building Maintenance	FY 20/21	\$16,000
General Fund: Building Maintenance	FY 21/22	\$13,000
General Fund: Building Maintenance	FY 22/23	\$14,000

Exhibit A

Operations: Building A HVAC Replacement

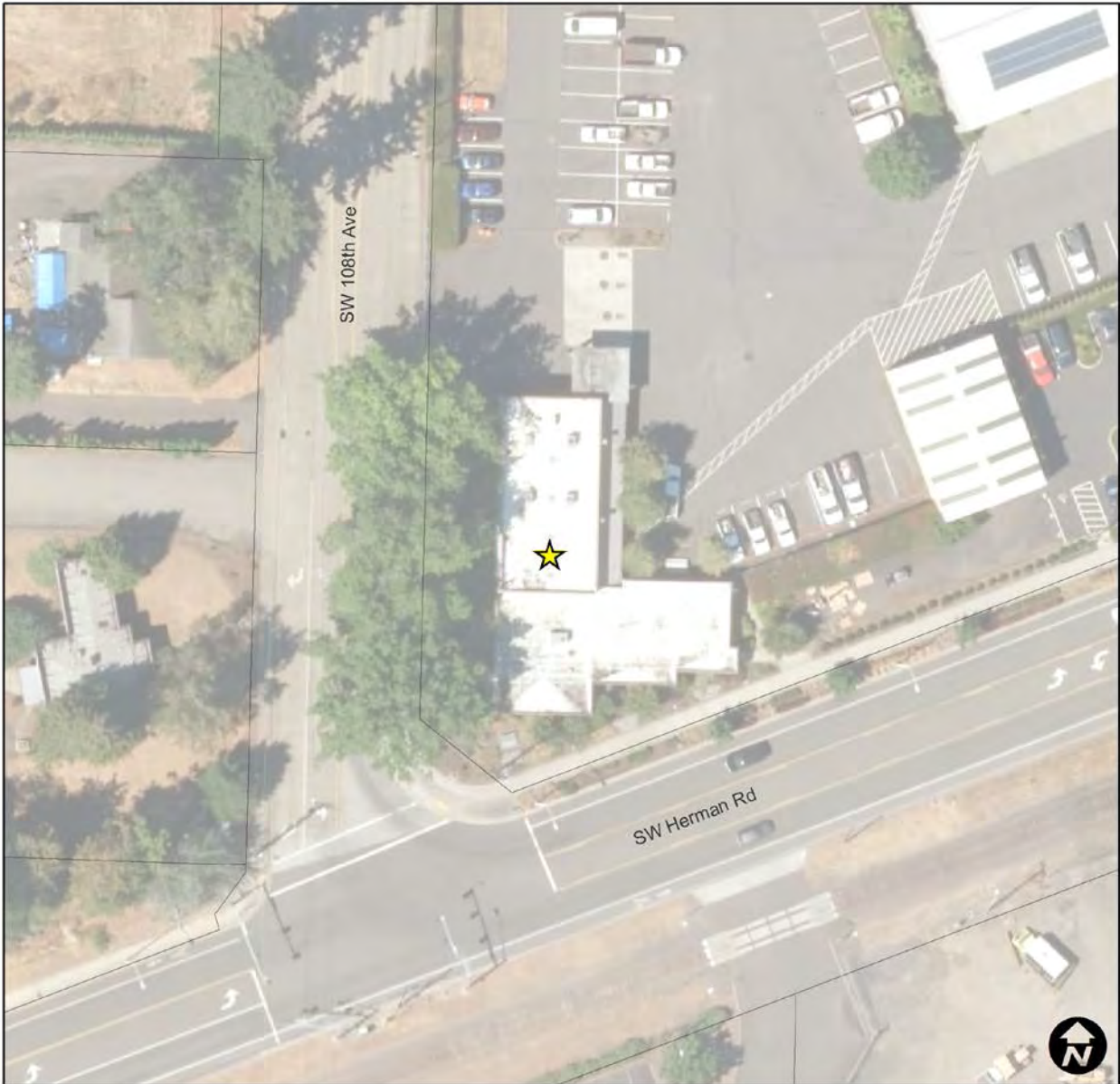


Exhibit A

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**Operations: Public Parking Lot Slurry Seal**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$59,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Apply approximately 12,000 yards of Type II slurry seal mix to the Operations public parking lot adjacent to Herman Road, filling imperfections and extending the life of the pavement.

**PROJECT SCOPE:**

A contractor will be selected through the public procurement process to complete application.

**HISTORY:**

The public parking lot was built in 2009. There was a problem with soft rock in the mix creating small pockets in asphalt, resulting in funds being allocated for the cost of this project from the supplier.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 20/21	\$59,000
TOTAL:	<u>\$59,000</u>



Exhibit A

Operations: Public Parking Lot Slurry Seal



Exhibit A

---

**Parks & Rec. Admin. Building: ADA Improvements**

---

**DEPARTMENT:** Fleet, Facilities & IS  
**CATEGORY:** Facilities & Equipment  
**TOTAL COST:** \$181,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** FY 21/22  
**CONSTRUCTION SCHEDULE:** FY 21/22

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: ADA Transition Plan (2018)

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

These improvements include ADA ramp, restroom, and other building deficiencies. The need for this project was identified in the ADA Transition Plan adopted by City Council in 2018 listing numbers of improvements for the building to meet ADA requirements.

**PROJECT SCOPE:**

Consult with a design team, permit, and hire a contractor to install the ramp and other ADA requirements.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 21/22	<u>\$181,000</u>
TOTAL:	\$181,000

Exhibit A

Parks & Rec. Admin. Building: ADA Improvements



Exhibit A

---

**Park & Rec. Administration Building: Roof Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** N/A

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** N/A

**TOTAL COST:** \$50,000

**CONSTRUCTION SCHEDULE:** N/A

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Project consists of replacing the Parks and Recreation Administration building's roof.

**PROJECT SCOPE:**

Hire a contractor to replace roof.

**HISTORY:**

The current roof will be 21 years old by the target replacement date.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 20/21	<u>\$ 53,000</u>
TOTAL:	\$53,000

# Exhibit A

## Park & Rec. Administration Building: Roof Replacement



Exhibit A

---

**Police Station: HVAC Unit Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS  
**CATEGORY:** Facilities & Equipment  
**TOTAL COST:** Various

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The HVAC system at the police station was installed when the building was completed in 2000. At the replacement date, the HVAC units will be 17 years old and nearing the end of their useful life. This is a planned replacement prior to failure which would require inconvenient emergency down time. The condition of the ten individual units will be reviewed and evaluated annually prior to this scheduled replacement to ensure the units are functioning properly and to determine if each will continue to function until the replacement date.

**PROJECT SCOPE:**

Replace ten HVAC units.

**HISTORY:**

Units were installed in 2000.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
General Fund: Building Maintenance	FY 20/21	\$61,000
General Fund: Building Maintenance	FY 21/22	\$19,000
General Fund: Building Maintenance	FY 23/24	\$15,000

Exhibit A

Police Station: HVAC Unit Replacement



Exhibit A

---

**Tualatin Heritage Center: Carpet Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$14,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Replace carpet with new carpet tiles, each year as target date approaches each are will be evaluated to determine actual replacement date.

**PROJECT SCOPE:**

Following procurement rules a supplier and installer will be selected to provide services.

**HISTORY:**

The carpet will be 17 years old by the target date.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 21/22	\$14,000
TOTAL:	\$14,000



Exhibit A

Tualatin Heritage Center: Carpet Replacement



Exhibit A

---

**Tualatin Heritage Center: HVAC Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$16,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This is a planned replacement prior to failure which would require an inconvenient emergency replacement. The condition of each unit is reviewed annually to determine if programmed replacement date is appropriate or can be extended.

**PROJECT SCOPE:**

Follow procurement process to select supplier/installer providing services for removal and install of new unit.

**HISTORY:**

The recommended life expectancy of an HVAC unit is 17-18 years. Each of the units will be 18 years old on target date.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 22/23	\$16,000
TOTAL:	\$16,000

Exhibit A

Tualatin Heritage Center: HVAC Replacement



Exhibit A

---

**Van Raden Community Center: Window Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$43,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project consists of replacing all existing windows in the Van Raden Center with new double pane, more energy efficient, tempered glass windows. The windows will continue to be inefficient energy-wise and additional maintenance and painting repair costs will occur if not replaced. There is also a lot of dry rot around the casing and part of the reasoning for the increased replacement costs.

**PROJECT SCOPE:**

Remove windows, repair dry rot, replace windows following the City's purchasing policies.

**HISTORY:**

While several windows were replaced in the mid 80's many of the windows are from the original construction (1947) or from the addition in 1951. The single pane windows will be replaced with energy efficient windows.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 20/21	\$43,000
TOTAL:	\$43,000

Exhibit A

Van Raden Community Center: Window Replacement



# Exhibit A

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## Vehicle Replacement: Building Division

---

**DEPARTMENT:** Community Development

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** Various

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

As part of the replacement cycle, vehicles are scheduled to be replaced at the end of useful life of the vehicle. Mileage and maintenance costs of each vehicle are reviewed prior to replacement. Those with minimal maintenance requirements are transferred to the vehicle pool or reassigned.

**PROJECT SCOPE:**

Review and evaluate each vehicle annually to determine most cost effective date of replacement.

**HISTORY:**

Vehicles are used to perform building inspections on a daily basis.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

			<b>AMOUNT</b>
Building Fund	Chevrolet Colorado (0904)	FY 19/20	\$37,000
Building Fund	Ford Transit Van (1504)	FY 22/23	\$43,000

Exhibit A

---

**Vehicle Replacement: Information Services, Fleet, Facilities**

---

**DEPARTMENT:** Fleet, Facilities & IS  
**CATEGORY:** Facilities & Equipment  
**TOTAL COST:** Various

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

As part of the replacement cycle, vehicles are scheduled to be replaced after a minimum of ten years of service. Mileage and maintenance costs of each vehicle are reviewed prior to replacement. Those with minimal maintenance requirements are transferred to the vehicle pool or reassigned.

**PROJECT SCOPE:**

Purchase replacement vehicles following procurement policies.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

		<b>YEAR</b>	<b>AMOUNT</b>
General Fund: Building Maintenance	Chevrolet 2500 Pickup (0604)	FY 20/21	\$59,000
General Fund: Building Maintenance	Ford F350 1 Ton Utility Van (0503)	FY 20/21	\$59,000





# Exhibit A

**Vehicle Replacement: Police**

<b>DEPARTMENT:</b>	Police	<b>CONCEPT SCHEDULE:</b>	
<b>CATEGORY:</b>	Facilities & Equipment	<b>DESIGN SCHEDULE:</b>	
<b>TOTAL COST:</b>	Various	<b>CONSTRUCTION SCHEDULE:</b>	

<b>RANKING CRITERIA MET:</b>	<b>PROJECT TYPE:</b>	<b>NEW ONGOING COSTS?</b>
<input type="checkbox"/> Council Goal <input type="checkbox"/> Regulatory Requirement	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Yes \$ _____ <input checked="" type="checkbox"/> No
<input type="checkbox"/> Health & Safety <input checked="" type="checkbox"/> Service Delivery Need	<input checked="" type="checkbox"/> Replacement	
<input type="checkbox"/> Master Plan: _____	<input type="checkbox"/> New/Expansion	

**DESCRIPTION:**  
 First line patrol vehicles average 20,000 miles each year. As part of the replacement cycle, the vehicles below are scheduled to be replaced after a minimum of five years of service. Mileage and maintenance costs of each vehicle are reviewed prior to replacement. Those with minimal maintenance requirements are transferred to the vehicle pool or reassigned.

**PROJECT SCOPE:**  
 Review and evaluate each vehicle annually to determine most cost effective date of replacement.

**HISTORY:**  
 N/A

**FUNDING PARTNERSHIPS:**  
 N/A

<b>FUNDING SOURCES FOR THIS PROJECT:</b>			<b>AMOUNT</b>
General Fund: Police	Patrol-Ford Explorer (1303)	FY 19/20	\$55,000
General Fund: Police	Patrol-Ford Explorer (1304)	FY 19/20	\$55,000
General Fund: Police	Patrol-Ford Explorer (1305)	FY 19/20	\$55,000
General Fund: Police	Chevrolet Malibu Hybrid (0907)	FY 20/21	\$39,000
General Fund: Police	Dodge Caravan (0806)	FY 20/21	\$39,000
General Fund: Police	Ford Explorer (1203)	FY 20/21	\$39,000
General Fund: Police	Patrol- Ford Explorer (1402)	FY 20/21	\$59,000
General Fund: Police	Patrol- Ford Explorer (1403)	FY 20/21	\$59,000
General Fund: Police	Patrol- Ford Explorer (1404)	FY 20/21	\$59,000
General Fund: Police	Honda Motorcycle (1405)	FY 20/21	\$38,000
General Fund: Police	Chevrolet Colorado (0903)	FY 21/22	\$40,000
General Fund: Police	Patrol- Ford Explorer (1501)	FY 21/22	\$61,000
General Fund: Police	Patrol- Ford Explorer (1502)	FY 21/22	\$61,000
General Fund: Police	Ford Escape (1103)	FY 22/23	\$42,000
General Fund: Police	Patrol- Ford Explorer (1602)	FY 22/23	\$63,000
General Fund: Police	Patrol- Ford Explorer (1603)	FY 22/23	\$63,000
General Fund: Police	Patrol (Dog)- Chevrolet Tahoe (1604)	FY 22/23	\$74,000
General Fund: Police	Patrol- Ford Explorer (1701)	FY 22/23	\$63,000
General Fund: Police	Ford Explorer (1702)	FY 23/24	\$77,000
General Fund: Police	Ford F150 (1704)	FY 23/24	\$42,000

## Exhibit A

### Vehicle Replacement: Public Works

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Facilities & Equipment

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** Various

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

As part of the replacement cycle, vehicles are scheduled to be replaced after a minimum of ten years of service. Mileage and maintenance costs of each vehicle are reviewed prior to replacement. Those with minimal maintenance requirements are transferred to the vehicle pool or reassigned.

**PROJECT SCOPE:**

Purchase replacement vehicles following procurement policies.

**HISTORY:**

Vehicles are scheduled to be replaced after a minimum of ten years of service. Each of these vehicles will exceed the 10 year minimum at their scheduled replacement date.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

			<b>AMOUNT</b>
Water Operating Fund	Ford Ranger (0504)	FY 19/20	\$39,000
General Fund: Engineering	Ford Ranger (0407)	FY 20/21	\$40,000
Water Operating Fund	Ford F350 Utility W/ Crane (1001)	FY 20/21	\$63,000
General Fund: Engineering	Ford Escape Hybrid (1007)	FY 21/22	\$45,000
Water Operating Fund	Ford Ranger (0601)	FY 21/22	\$44,000
Road Operating/Gas Tax Fund	Ford Ranger (0701)	FY 21/22	\$44,000
General Fund: PW Administration	Dodge Durango (0702)	FY 22/23	\$52,000
Road Operating/Gas Tax Fund	Ford F350 Utility W/ Crane (1306)	FY 22/23	\$70,000
Water Operating Fund	Ford F350 Utility Truck (1506)	FY 23/24	\$82,000

Exhibit A

---

**Vehicle Replacement: Recreation**

---

**DEPARTMENT:** Parks & Recreation  
**CATEGORY:** Facilities & Equipment  
**TOTAL COST:** Various

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

As part of the replacement cycle, vehicles are scheduled to be replaced after a minimum of ten years of service. Mileage and maintenance costs of each vehicle are reviewed prior to replacement.

**PROJECT SCOPE:**

Purchase replacement vehicles following procurement policies.

**HISTORY:**

Vehicles are scheduled to be replaced after a minimum of ten years of service. Each of these vehicles will exceed the 10 year minimum at their scheduled replacement date.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

		<b>YEAR</b>	<b>AMOUNT</b>
General Fund: Recreation	12 Passenger ADA 2 Step Van (new)	FY 20/21	\$68,000
General Fund: Recreation	Chevrolet 15 Passenger Van (1106)	FY 22/23	\$41,000

## Exhibit A

### Vehicle Replacement: Shared Heavy Equipment

<b>DEPARTMENT:</b>	Public Works	<b>CONCEPT SCHEDULE:</b> _____
<b>CATEGORY:</b>	Facilities & Equipment	<b>DESIGN SCHEDULE:</b> _____
<b>TOTAL COST:</b>	Various	<b>CONSTRUCTION SCHEDULE:</b> _____

<b>RANKING CRITERIA MET:</b>	<b>PROJECT TYPE:</b>	<b>NEW ONGOING COSTS?</b>
<input type="checkbox"/> Council Goal <input type="checkbox"/> Regulatory Requirement	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Yes \$ _____ <input checked="" type="checkbox"/> No
<input type="checkbox"/> Health & Safety <input checked="" type="checkbox"/> Service Delivery Need	<input checked="" type="checkbox"/> Replacement	
<input type="checkbox"/> Master Plan: _____	<input type="checkbox"/> New/Expansion	

**DESCRIPTION:**

The Camel Jet-Vacuum Truck is the equipment used to clean the manholes and lines in the storm and sewer system. It is important the vehicle remains in reliable condition to meet the annual cleaning requirements set by Clean Water Services. The truck will be over 15 years old and anticipated to have over 11,000 hours of run time.

The current 1998 1 Ton Flat Bed Dump truck will be 23 years old by replacement date. It will be replaced with a second hook truck which will be more versatile to utilize the different attachments we currently own. It would also haul a larger payload. The truck will be evaluated each year as the proposed replacement date approaches. If it is determined that the truck is still effective, the replacement date will be extended.

**PROJECT SCOPE:**

Purchase replacement vehicles following procurement policies.

**HISTORY:**

Vehicles are replaced after a minimum of ten years of service. Each of these vehicles will exceed the 10 year minimum at their scheduled replacement date.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

			<b>AMOUNT</b>
Sewer Operating Fund (50%)	Camel 200 Jet/Vac Truck (0402)	FY 19/20	\$310,000
Storm Drain Fund (50%)	Camel 200 Jet/Vac Truck (0402)	FY 19/20	\$310,000
General Fund: Park Maintenance (25%)	Dodge 1 Ton Flatbed Dump (9807)	FY 20/21	\$19,000
General Fund: Building Maintenance (25%)	Dodge 1 Ton Flatbed Dump (9807)	FY 20/21	\$19,000
Road Operating/Gas Tax Fund (25%)	Dodge 1 Ton Flatbed Dump (9807)	FY 20/21	\$19,000
Water Operating Fund (25%)	Dodge 1 Ton Flatbed Dump (9807)	FY 20/21	\$19,000
General Fund: Park Maintenance (75%)	Vermeer Chipper (1011)	FY 22/23	\$39,000
Road Operating/Gas Tax Fund (25%)	Vermeer Chipper (1011)	FY 22/23	\$13,000

## Exhibit A

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## **PARKS & RECREATION**

For the purposes of the Capital Improvement Plan (CIP), "Parks and Recreation" covers a broad range of essential parklands, facilities, community services including parks, trails, greenways, natural areas, indoor and outdoor recreational and cultural facilities, and recreation, arts and historic programs.

The CIP includes planning, land acquisition, site design and development, and restoration and renovation projects to maintain and enhance Tualatin's long-term investment in parks and recreation facilities essential to creating and supporting a high quality of life in Tualatin.

The City's continuing commitment to the park and recreation system is demonstrated by the investment in, and planning for parks and recreation facilities, while maintain existing infrastructure. The Parks and Recreation Master Plan has very recently been updated. This comprehensive update will help guide the City in future land acquisitions and development of parks and recreation areas and facilities, and next year's CIP will reflect the new master plan.

### **PARKS AND TRAILS**

Tualatin's parklands conserve and enhance natural resources while providing a variety of facilities for the community to enjoy. Parklands provide a place to be outside and experience nature, exercise on greenway and park paths, use kayak and canoe launches to access the Tualatin River, and play in active and passive park facilities. Parks provide places to recreate and socialize such as playgrounds, sports fields, courts, picnic shelters, community centers, and the dog park. In addition to replacing worn existing facilities, new programs and facilities are developed, that require improvements and operational resources.

### **PROGRAMS**

Tualatin's recreation programs and services are conducted at parklands, community centers, schools and community locations. A variety of vital programming in enrichment learning and physical activity are offered for all ages and abilities. Recreation programs and services strengthen the community by improving health, enhancing community development, providing learning opportunities, reducing crime, promoting tourism, and creating community connections and spirit. These programs collaborate with many other agencies, schools, businesses and nonprofit partners to maximize resources.

### **PLANNING**

Tualatin's park needs are diverse and change over time. The Parks and Recreation Master Plan is scheduled to be updated. This will be a system-wide plan that is expected to have extensive public involvement. The updated Master Plan will identify future Parks and Recreation land acquisition, development projects and programs.

### **FUNDING SOURCES**

Projects, development, and programs in the Parks and Recreation have a variety of funding sources including the City's General Fund, parks system development charges, bond measures, grants, donations, and partnerships.

### **ISSUES FACING PARKS AND RECREATION**

Securing capital and operating resources to adequately fund maintenance, facility renovation and restoration, land acquisition, development, and programming to provide an equitably distributed and utilized parks and recreation system is the challenge facing Parks and Recreation.

## Exhibit A

<b>Parks &amp; Recreation</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Atfalati Park: Playground Renovation		213,000			
Atfalati Park: Tennis Court Reconstruction		213,000			
Community Park: Field Lighting Retrofit		245,000			
Community Park: Parking Lot North Drive Aisle		98,000			
Community Park: Skate Park Recognition Plaques		18,000			
Ibach & Atfalati Parks: Parking Lot Repair					34,000
Jurgens Park: Playground Improvements		219,000			
Jurgens Park: Renovate Planter Boxes		25,000			
Jurgens Park: Site Plan Update for Westside Addition		69,000			
Saum Creek Greenway Renovation @ Venetia Subdivision		229,000			
Tualatin Commons Bench Replacement		43,000			
Tualatin Commons Fountain Improvements	207,000				
Tualatin River Greenway- Green Lot to Community Park		144,000			
<b>Parks &amp; Recreation Total</b>	<b>207,000</b>	<b>1,516,000</b>	<b>0</b>	<b>0</b>	<b>34,000</b>

Exhibit A

---

**Atfalati Park Playground Renovation**

---

**DEPARTMENT:** Parks & Recreation

**CONCEPT SCHEDULE:** 18/19

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** 20/21

**TOTAL COST:** \$213,000

**CONSTRUCTION SCHEDULE:** 20/21

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan:

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Renovate and replace Atfalati Park play equipment and safety surface. There are risk, safety and liability considerations for the project. Park Maintenance has extensive labor and equipment repair costs to keep this play area open to the public. We can no longer continue to patch this recreation facility, and need to replace the play structure and safety surface.

**PROJECT SCOPE:**

Remove old equipment, and install new play equipment and safety surfacing. Engage the neighborhood and community in a public engagement process to determine play features and equipment.

**HISTORY:**

The Atfalati Park play areas were constructed in 1992 and 1993. This project has strong neighborhood support and serves diverse community members.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

YEAR	AMOUNT
FY 20/21	\$213,000
TOTAL:	\$213,000



Exhibit A

Atfalati Park Playground Renovation



# Exhibit A

## Atfalati Park Tennis Court Reconstruction

<b>DEPARTMENT:</b>	Parks & Recreation	<b>CONCEPT SCHEDULE:</b>	18/19
<b>CATEGORY:</b>	Parks & Recreation	<b>DESIGN SCHEDULE:</b>	20/21
<b>TOTAL COST:</b>	\$213,000	<b>CONSTRUCTION SCHEDULE:</b>	20/21

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan:

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Atfalati Park tennis court are in need of replacement and improvement The surface pavement on the tennis courts and subsurface aggregate base is unstable and unusable. The asphalt colored surface of the tennis courts is cracked and unlevelled. This project proposes a complete renovation of the asphalt surface including roto-milling the asphalt in place and reusing it to improve the aggregate base, reinstalling asphalt, and re-color coating the courts for tennis and pickleball. Other improvements associated with the project would include new nets, posts, hardware and replacing the fabric fence materials.

**PROJECT SCOPE:**

This project includes a complete renovation of the asphalt surface including roto-milling the asphalt in place and reusing it to improve the aggregate base, reinstalling asphalt, and re-color coating the courts for tennis and pickleball. Consideration to multi use as a futsal court(s) may be considered during the public engagement phase of this project. Other improvements associated with the project would include new nets, posts, hardware, and replacing the fabric fence materials.

**HISTORY:**

Atfalati Park was built in 1993 and 1994.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

YEAR	AMOUNT
FY 20/21	\$213,000
<b>TOTAL:</b>	<b>\$213,000</b>

Exhibit A

Atfalati Park Tennis Court Reconstruction



Exhibit A

---

**Community Park: Field Lighting Retrofit**

---

**DEPARTMENT:** Parks & Recreation

**CONCEPT SCHEDULE:** 2018/19

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** 2020/21

**TOTAL COST:** \$245,000

**CONSTRUCTION SCHEDULE:** 2020/21

---

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan:

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Redesign and retrofit the field light fixtures at Tualatin Community Park with up-to-date, energy efficient LED lights, and poles. The current lights are not energy efficient and costly to operate. The existing system is requiring more frequent and costly maintenance to keep in operation.

**PROJECT SCOPE:**

Replacement of field light poles, light fixtures, and lighting electrical system.

**HISTORY:**

Light fixtures were installed during construction of the ball field in the 1970s. Replacement parts are obsolete and expensive.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

YEAR	AMOUNT
FY 20/21	\$245,000
TOTAL:	\$245,000

Exhibit A

Community Park: Field Lighting Retrofit



Exhibit A

---

**Community Park: Parking Lot North Drive Aisle**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$98,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project includes full depth patching of bad areas and overlay with new pavement in the drive aisle.

**PROJECT SCOPE:**

Remove pavement and rock, add fabric and rock providing firm base, and overlay with new asphalt.

**HISTORY:**

The roadways within Community Park were built in the early 1970s and the substructure is failing.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 20/21	\$98,000
TOTAL:	<u>\$98,000</u>

Exhibit A

Community Park: Parking Lot North Drive Aisle



Exhibit A

---

**Community Park Skate Park Recognition Plaques**

---

**DEPARTMENT:** Parks & Recreation

**CONCEPT SCHEDULE:** 2019/20

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** 2020/21

**TOTAL COST:** \$18,000

**CONSTRUCTION SCHEDULE:** 2020/21

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan:

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Install replacement recognition plaques on the wall of the skate park in Tualatin Community Park.

**PROJECT SCOPE:**

Install replacement recognition plaques on the wall of the skate park in Tualatin Community Park.

**HISTORY:**

In 1999, The skate park opened that was partial funded by donations and contributions. A donor wall had recognition plaques installed, but became unattached to the wall over time and need to be replaced.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

YEAR	AMOUNT
FY 20/21	\$18,000
TOTAL:	\$18,000



Exhibit A

Community Park Skate Park Recognition Plaques



Exhibit A

---

**Ibach & Atfalati Parks: Parking Lot Repair**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$34,000

**CONSTRUCTION SCHEDULE:** FY 23/24

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project includes full depth patching of bad areas and overlay with new pavement in the drive aisle. The scope of work consists of

**PROJECT SCOPE:**

Remove pavement and rock to native soil, adding fabric and rock providing firm base for new asphalt overlay.

**HISTORY:**

The parking lots were built in the early 1970s and the substructure is failing.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Building Maintenance

YEAR	AMOUNT
FY 23/24	<u>\$34,000</u>
TOTAL:	\$34,000

Exhibit A

Ibach & Atfalati Parks: Parking Lot Repair



Exhibit A

---

**Jurgens Park: Playground Improvements**

---

**DEPARTMENT:** Parks & Recreation

**CONCEPT SCHEDULE:** 2018/19

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** 2020/21

**TOTAL COST:** \$219,000

**CONSTRUCTION SCHEDULE:** 2020/21

---

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan:

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Jurgens Park play area surface is in need of replacement. The fall protection playground surface is worn and at the end of its life cycle. This surface is an important safety feature at the playground. There is no effective patches or fix alternatives and has safety and risk issue considerations.

**PROJECT SCOPE:**

Some play equipment replacement is needed and timing will need to coincide with the surface replacement.

**HISTORY:**

The play area at Jurgens Park was constructed in 2003.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

YEAR	AMOUNT
FY 20/21	\$219,000
TOTAL:	\$219,000

Exhibit A

Jurgens Park: Playground Improvements



Exhibit A

---

**Jurgens Park: Renovate Planter Boxes**

---

**DEPARTMENT:** Parks & Recreation

**CONCEPT SCHEDULE:** 2018/19

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** 2020/21

**TOTAL COST:** \$25,000

**CONSTRUCTION SCHEDULE:** 2020/21

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan:

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Renovate the failing park planter boxes in the center of the park near the play area.

**PROJECT SCOPE:**

Design, remove existing and construct new planter boxes.

**HISTORY:**

This area of Jurgens Parks was completed in 2003 with the restrooms and play area.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

YEAR	AMOUNT
FY 20/21	\$25,000
TOTAL:	\$25,000

Exhibit A

Jurgens Park: Renovate Planter Boxes



Exhibit A

---

**Jurgens Park: Site Plan Update for Westside Addition**

---

**DEPARTMENT:** Parks & Recreation

**CONCEPT SCHEDULE:** 2019/20

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** 2020/21

**TOTAL COST:** \$69,000

**CONSTRUCTION SCHEDULE:** 2020/21

---

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan:

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Create a site master plan to expand Jurgens Park to include the City owned property to the West and recently acquired property to the Northeast.

**PROJECT SCOPE:**

Recreate Jurgens Park site plan to include the Westside and Northeast property additions. Hire a park planning consultant to design park and facility improvements based on a community engagement process.

**HISTORY:**

The need for this project has been identified in feasibility studies and public opinion.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

<b>YEAR</b>	<b>AMOUNT</b>
FY 20/21	\$69,000
<b>TOTAL:</b>	<b>\$69,000</b>



Exhibit A

Jurgens Park: Site Plan Update for Westside Addition



# Exhibit A

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## Saum Creek Greenway Renovation at Venetia Subdivision

---

**DEPARTMENT:** Parks & Recreation

**CONCEPT SCHEDULE:** 2019/20

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** 2020/21

**TOTAL COST:** \$229,000

**CONSTRUCTION SCHEDULE:** 2020/21

---

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan:

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Improve and renovate the existing wood chip path along the Saum Creek Greenway Trail behind Venetia subdivision. The existing path is substandard and has accessibility issues. With the recently constructed trail section from 65<sup>th</sup> Avenue behind Sagert Farms and Sequoia Ridge, the trail section behind Venetia is in need improvement and upgrades, to meet current trail standards and accessibility.

**PROJECT SCOPE:**

A design build approach to renovating this trail section will maximize efficient use of funds.

**HISTORY:**

This section of the trail was built in 2003 prior to accessibility and trail standards. In 2018, construction of the Saum Creek Greenway Trail at Sagert Farms and Sequoia Ridge was completed. The new section of the trail is an accessible gravel surface.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

YEAR	AMOUNT
FY 20/21	\$229,000
TOTAL:	\$229,000

Exhibit A

Saum Creek Greenway Renovation at Venetia Subdivision



Exhibit A

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**Tualatin Commons Bench Replacement**

---

**DEPARTMENT:** Parks & Recreation

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$43,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan:

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

The site amenities including the wood benches at Commons lake public space are at the end of their expected life cycle.

**PROJECT SCOPE:**

Removal and replacement of 25 wood benches that are placed around the Lake of the Commons. The replacement benches will consist of steel or recycled plastic that is weather resistant and vandalism tolerant, which are less maintenance.

**HISTORY:**

These benches were installed in 1994 when the Lake of the Commons were developed. Ongoing maintenance of the benches have included a combination of staff and volunteers to clean and reapply weather-protecting sealants.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

YEAR	AMOUNT
FY 20/21	<u>\$43,000</u>
TOTAL:	\$43,000

Exhibit A

Tualatin Commons Bench Replacement



Exhibit A

---

**Tualatin Commons Fountain Improvements**

---

**DEPARTMENT:** Parks & Recreation  
**CATEGORY:** Parks & Recreation  
**TOTAL COST:** \$207,000

**CONCEPT SCHEDULE:** 2018/19  
**DESIGN SCHEDULE:** 2019/20  
**CONSTRUCTION SCHEDULE:** 2019/20

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan:

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The community serving Commons fountain was built in 1994. It is a very visible and high use recreation facility in the City that is in need of renovation and improvement. The decorative tile surfacing is failing and has safety, risk, and liability issues. Recent repairs and patches of the surface have revealed a deteriorating concrete subsurface. The plumbing and mechanical functions of the fountain are outdated, and not functioning to the level of the original design standards. There are also safety and risk considerations identified in the spray nozzles, drain covers, and screens that will be addressed during this project.

**PROJECT SCOPE:**

Construction drawings and project construction to renovate and improve the fountain at Tualatin Commons.

**HISTORY:**

The Tualatin Commons Fountain was built in 1994 and in need of improvement. The fountain is a local landmark seen and highly used by diverse community members and visitors. Currently a fountain consultant is assessing the condition of the fountain. Testing is scheduled to assist in determining the subsurface condition.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

YEAR	AMOUNT
FY 19/20	\$207,000
TOTAL:	\$207,000

Exhibit A

Tualatin Commons Fountain Improvements



Exhibit A

**Tualatin River Greenway- Green Lot to Community Park**

**DEPARTMENT:** Parks & Recreation

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Parks & Recreation

**DESIGN SCHEDULE:** 2020/21

**TOTAL COST:** \$144,000

**CONSTRUCTION SCHEDULE:** 2020/21

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan:

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Replace and improve a trail section in Tualatin Community Park from the Green Lot to the existing trail between the Pohl Center and Van Raden Center to the play area. The trail in this location of the park has accessibility challenges and a section is asphalt with tree root issues.

**PROJECT SCOPE:**

Design and construct an accessible trail connection to the Tualatin River Greenway Trail. Repair and improve the existing asphalt trail with concrete from the Pohl Center to the play area.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Parks Maintenance

YEAR	AMOUNT
FY 20/21	\$144,000
TOTAL:	<u>\$144,000</u>



Exhibit A

Tualatin River Greenway- Green Lot to Community Park



## Exhibit A

### TECHNOLOGY

Technology projects and expenses are designed to improve production of information, connections with customers, staff productivity, and automated processes.

As computer technology becomes more involved than just a typical personal computer and network and begins to integrate with other uses such as phones, hand held devices, and even automobiles, a larger portion of city resources will need to be dedicated to support these functions.

The Technology Category captures those expenses relating to city-wide hardware needs such as computers, servers, switches, fiber and regional connections. It also includes major software needs such as city-wide financial software, anti-virus, and desktop software. Support for web services, web development, and Geographical Information Services is also included.

Minor equipment, scheduled replacement of computers or equipment, and other routine expenses are not included in the capital improvement plan.

#### FUNDING SOURCES:

General Fund

#### ISSUES FACING TECHNOLOGY:

Forecasting what technology will be needed when trends and improvements are changing so rapidly.

<b>Technology</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
Battery Backup Replacement	16,000				
Computer Server Replacement		91,000			
Library Public Technology Replacement				40,000	
Network Switch & Wireless/WAP Replacement		187,000			
SelfCheck Machine Replacement		27,000			
<b>Technology Total</b>	<b>16,000</b>	<b>305,000</b>	<b>0</b>	<b>40,000</b>	<b>0</b>

Exhibit A

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**Battery Backup Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Technology

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$16,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This is a replacement schedule for all server and network battery backups.

**PROJECT SCOPE:**

Purchase replacement batteries and housings for all APC Uninterruptable Power Supply (UPS) server and network devices. These will be phased in as needed in various facilities across the City.

**HISTORY:**

All network and server equipment in the City has an appropriately sized battery backup in case of power failure. The batteries in these units and the units themselves need to be replaced on a scheduled basis to ensure efficiency and assurance.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Information Services

YEAR	AMOUNT
FY 19/20	<u>\$16,000</u>
TOTAL:	\$16,000

Exhibit A

---

**Computer Server Replacements**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Technology

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$91,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The City of Tualatin’s primary Virtual Machine (VM) Controller and Storage Area Network (SAN) house our applications, departmental shared drives, email, email archive, web apps, databases, phone system controller, and daily accessed data. These are replacement costs for all hardware needed to maintain operational functionality.

**PROJECT SCOPE:**

These funds are for hardware upgrades and replacement of existing hardware infrastructure.

**HISTORY:**

Our current business operations use software and stored data that resides on this equipment. For the foreseeable future we will be continuing to create more data and using more software. We will need to upgrade the hardware to maintain security and functionality.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Information Services

YEAR	AMOUNT
FY 20/21	\$ 91,000
TOTAL:	<u>\$ 91,000</u>

Exhibit A

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**Library Public Technology Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Technology

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$40,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The Library provides internet, productivity software (Microsoft Office, etc.), and printer access for public use on 28 computers (in separate areas for child, teen, and adult use), 20 Chromebooks, and 10 laptops. According to a WCCLS survey, this technology is used for education, social inclusion, employment, and civic engagement. In order to keep up with advances in technology, and the changing needs of a connected citizenry, the Library's public technology needs to be regularly replaced. Additionally, new software will be considered to support digital literacy training and the creation of digital content.

**PROJECT SCOPE:**

The Library and Information Services collaborate on a Technology Plan as part of the Library's current strategic planning process. Equipment purchased will be informed by that plan, including how many and what type of devices to offer and where they should be deployed within the Library.

**HISTORY:**

Current PCs were purchased in 2018, and laptops were purchased in 2018, with 5-year warranties. Information Services and WCCLS Long Range Service Plan recommend equipment upgrades or replacement on a 4-6 year cycle.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Library

YEAR	AMOUNT
FY 22/23	\$ 40,000
TOTAL:	\$ 40,000

Exhibit A

---

**Network Switch and Wireless/WAP Replacement**

---

**DEPARTMENT:** Fleet, Facilities & IS

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Technology

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$187,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Existing primary and secondary network switches are approaching 11 years old. A plan to replace existing devices needs to begin as they have a rough 10 year lifespan. Additionally, replacement of all City wireless access points and controller. This will provide better coverage, modern equipment and a more robust and simplified control along with better integration with the network infrastructure.

**PROJECT SCOPE:**

Funds will be used for the purchase of new network and wireless access devices. These complex and expensive devices need to be refreshed with modern versions that can leverage our soon to be, fiber network speeds.

Purchase 3 primary core switches, 7 secondary network switches, 15 Wireless Access Points (WAP), 3 expansion WAPs and central controller unit.

**HISTORY:**

Historically, the City has been able to leverage a grant from the MACC for funding to purchase the new network devices. Due to the competitive nature of the grants and the shortage of funds in the grant, we cannot guarantee being funded. The network switches manage the flow of data between servers, buildings and individual PCs.

Currently our wireless network consists of "open" Wi-Fi at all city locations for staff, and visitors. Our current WAPs will need to be replaced due to increasing failure and improvements in wireless technology. With a more robust system we can add functionality, increase security and match changing wireless modes.

**FUNDING PARTNERSHIPS:**

Possible MACC Grant

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Information Services

YEAR	AMOUNT
FY 20/21	\$ 187,000
TOTAL:	\$ 187,000

# Exhibit A

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## SelfCheck Machine Replacement

---

<b>DEPARTMENT:</b>	Library	<b>CONCEPT SCHEDULE:</b>	N/A
<b>CATEGORY:</b>	Technology	<b>DESIGN SCHEDULE:</b>	N/A
<b>TOTAL COST:</b>	\$27,000	<b>CONSTRUCTION SCHEDULE:</b>	FY 20/21

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The Library has 3 SelfCheck systems, which can be used by patrons for convenient self-service checkouts, fine payment, and account management. The SelfChecks offer an engaging user experience that also promotes library services and events. SelfChecks increase the Library's efficiency and are commonplace within public libraries. On average, 6,500 patrons use the SelfChecks each month.

**PROJECT SCOPE:**

This project includes complete replacement of the 3 SelfCheck systems, including new touchscreens and new integrated computers. The SelfChecks will be a desktop model and can be installed using our existing cabinets.

**HISTORY:**

The current SelfCheck systems were originally installed in 2007. The computers for the SelfChecks were replaced in 2012 and new monitors were installed in 2016.

**FUNDING PARTNERSHIPS:**

The library technology reserve could be used to support this project.

**FUNDING SOURCES FOR THIS PROJECT:**

General Fund: Library

YEAR	AMOUNT
FY 20/21	\$27,000
TOTAL:	\$27,000

## TRANSPORTATION

The City of Tualatin's transportation network includes 91 miles of streets (seventy-seven miles are maintained by the City, nine miles are maintained by Washington and Clackamas counties, and five miles are maintained by the State) and 48 traffic signals (the City owns twenty-two, eighteen are County-owned, and eight are State-owned). All signals within Tualatin are operated by Washington County or Oregon Department of Transportation.

Tualatin's right-of-way serves a multitude of transportation system users including pedestrians, bicycles, transit, automobiles, and freight. Projects included in the CIP include projects designed to improve the safety, capacity, and connectivity for all roadway users.

The transportation projects included in the CIP are generally identified in the 2014 Transportation System Plan (TSP). The TSP prioritized projects as short-term (one to five years), medium-term (five to ten years), and long term (more than 10 years). In addition to design and construction projects, there are also concept studies programmed into the CIP to evaluate possible projects and define scope for viable projects. The CIP plans for projects based on the TSP and anticipated funding.

### STREETS

Roadway projects improve the safety and capacity of Tualatin's street network. These projects include improvements for vehicles, bicycles, transit, and freight as well as sidewalk improvements for pedestrians. Street projects also include striping and signing projects to help make the transportation network easier and safer to use.

### INTERSECTIONS

These projects increase the carrying capacity and improve the safety by moving traffic more efficiently and safely through existing intersections. Safe pedestrian travel is also enhanced with these projects. Project features may include placement of traffic signals, re-channeling traffic, and/or creating protected left turn lanes.

### PATHWAYS/BIKEWAYS

Pedestrian and bicycle use is enhanced and encouraged through the development of pathway/bikeway projects. These projects help alleviate traffic congestion, air pollution, and contribute to a sense of community by providing an alternative mode of transportation.

### FUNDING SOURCES

The Road Operating/Gas Tax Fund receives its revenue from a share of the Washington County gasoline tax and a share of the State gasoline tax. The Washington County gasoline tax is a \$0.01/gallon tax on gas sold in the County; apportioned on a per capita basis. The State Highway Trust Fund consists of a gas tax, vehicle registration fees, and weighted mile taxes for heavy vehicles. It is projected to be apportioned to the City at a rate of \$57.61 per capita for FY 2017-18.

Per Oregon Revised Statute (ORS), 1% of State Gas Tax funds are set aside for footpath/bike trail projects; if these funds are not used annually, they may be held for up to ten years in a reserve fund.

The Road Utility Fee Fund is designed to fund maintenance of City streets, including repairing sidewalks, landscape enhancements along the rights-of-way, street tree replacement, and for operational costs of street lights. Revenue for this fund is generated through a monthly utility fee paid by residents and businesses.

The Transportation Development Tax Fund is supported by one-time fees levied against new development within Washington County. The fund pays for capital costs associated with roads and transit to serve new development.

### ISSUES FACING TRANSPORTATION

The Transportation System Plan, updated in 2014, identified many projects which have been prioritized and included in this CIP. There are more projects than funding currently available and forecast in future years.



## Exhibit A

<b>Transportation</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
65th Ave and Hospital: Midblock Crossing			248,000		
95th Ave & Avery St Intersection: Road & Sidewalk		961,000			
118th Ave & Herman Rd Intersection: Add NB Turnlane			605,000		
124th Ave & Future Blake St Signal				852,000	
*Avery St at Boones Ferry: Add Bike Lanes on East Leg (BP5)			133,000		
Blake Street Concept Study: 115th to 124th		100,000			
Boones Ferry Rd & Alabama St: Crossing	320,000				
Boones Ferry Road Sidewalk In-fill (R12) & Bike Lanes	1,664,000				
Garden Corner Curves (105th Ave/Blake St/108th Ave) (R7)	1,239,000	2,108,000			
Grahams Ferry and Dogwood St: Midblock Crossing		241,000			
Hedges Creek Pedestrian Bridge: Upgrade surface (BP6)			114,000		
Herman Rd, 124th Ave to Cipole Rd Improvements (R1)					780,000
*Herman Rd: Widening Tualatin to Teton Rd (R3)	725,000			4,601,000	
Hwy 99W: Pony Ridge to 124th Ave Sidewalks	576,000				
Martinazzi Ave at Sagert St: New Traffic Signal (R35)	2,485,000				
*Martinazzi Ave, Warm Springs to Boones Ferry Rd: Concept Study (R14)				59,000	
Myslony St: 124th to 112th incl. traffic signal @ 124th (R5)			3,255,000		
*Nyberg Street and I-5 Interchange: Bike Lane Improvements (BP13)			27,000		
Sagert St, 72nd to Wampanoag: Pedestrian Connectivity	111,000				
*School Wayfinding Signs (BP1)			83,000		
Transportation System Plan: Mid-term Update	200,000				
Tualatin Rd and Teton Ave: New Traffic Signal (R33)	767,000				
Tualatin Rd: Add Traffic Signs (R38)			23,000		
Tualatin Rd: Sweek Dr. to Community Park Pedestrian Improvements				357,000	
Tual-Sher Rd, Teton to Cipole: Widen to 5 lanes (R20) (County)		5,504,000	6,686,000		
Tual-Sher Rd: Martinazzi Ave to I-5	797,000	823,000	875,000		
<b>Transportation Total</b>	<b>8,884,000</b>	<b>9,737,000</b>	<b>12,049,000</b>	<b>5,869,000</b>	<b>780,000</b>

\* These projects rely on outside funding and will only proceed if funding is secured.

Exhibit A

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**65<sup>th</sup> Ave and Meridian Hospital: Mid-Block Crosswalk**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$248,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** FY 21/22  
**CONSTRUCTION SCHEDULE:** FY 21/22

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_500/year\_\_     No

**DESCRIPTION:** Install new marked enhanced crosswalk across 65<sup>th</sup> Ave next to Meridian Park Hospital

**PROJECT SCOPE:**  
Design and install new curb ramps and a new marked crosswalk across 65<sup>th</sup> Ave next to Meridian Park Hospital, with enhancements such as rectangular rapid flashing beacons (RRFBs) and/or a center island.

**HISTORY:**  
This project was nominated through the Tualatin Moving Forward process.

**FUNDING PARTNERSHIPS:**  
The Washington/Clackamas county line goes down the center of 65<sup>th</sup> Avenue. Washington County maintains the road by intergovernmental agreement. Both Counties will need to approve the design and construction.

**FUNDING SOURCES FOR THIS PROJECT:**  
Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 21/22	\$248,000
TOTAL:	\$248,000

Exhibit A

65<sup>th</sup> Ave and Meridian Hospital: Mid-Block Crosswalk



Exhibit A

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**95<sup>th</sup> Ave & Avery St Intersection: Road and Sidewalk**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$961,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:** Roadway and sidewalk improvements in the 95<sup>th</sup> Ave and Avery St (Tualatin Elementary School) area.

**PROJECT SCOPE:**

Design and construct roadway and/or sidewalk improvements to improve safety of pedestrians, particularly those walking to and from Tualatin Elementary School.

**HISTORY:**

This project was nominated through the Tualatin Moving Forward process.

**FUNDING PARTNERSHIPS:**

N/A

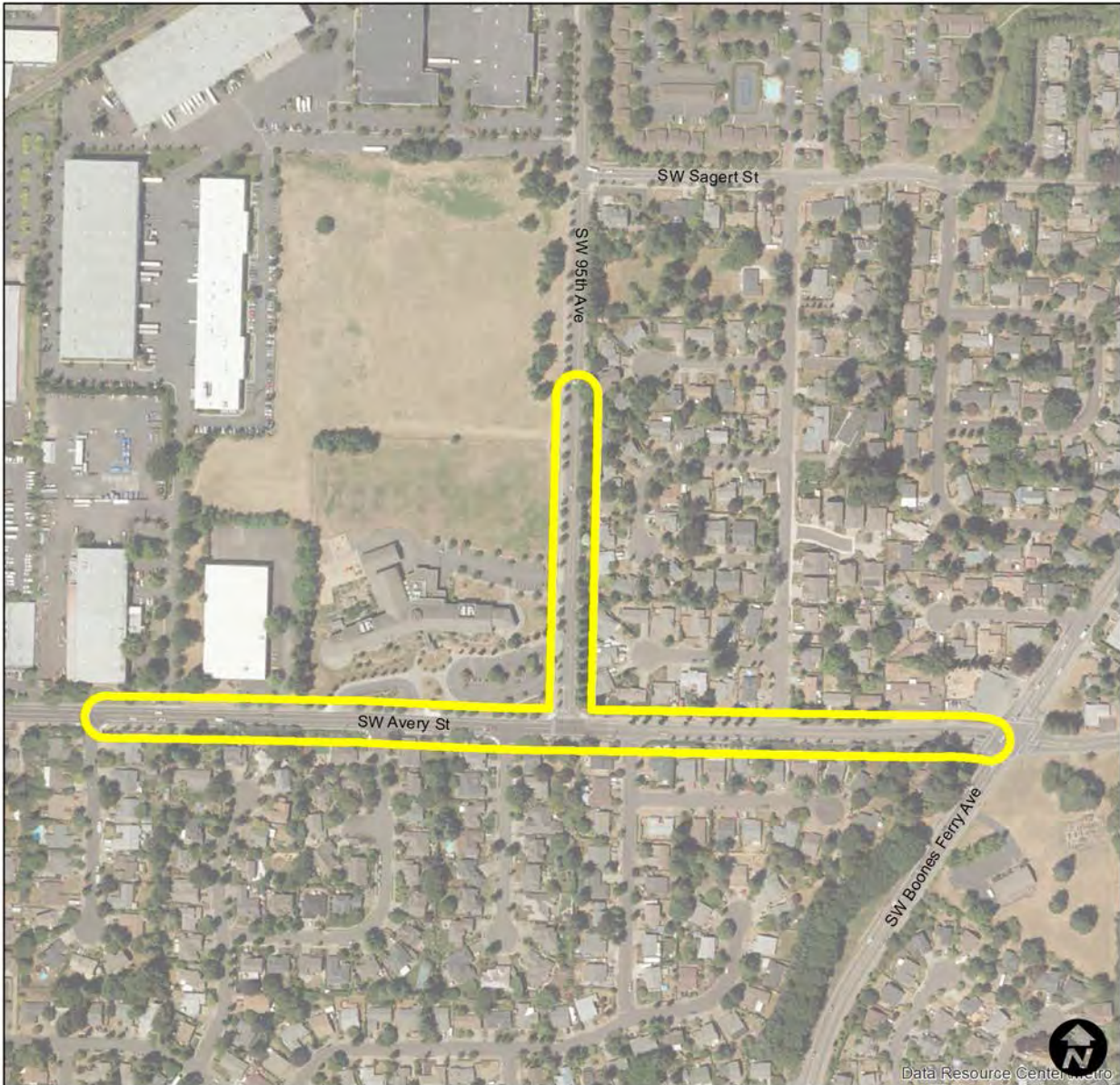
**FUNDING SOURCES FOR THIS PROJECT:**

Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 20/21	\$961,000
TOTAL:	\$961,000

Exhibit A

95<sup>th</sup> Ave & Avery St Intersection: Road and Sidewalk



# Exhibit A

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## 118<sup>th</sup> Ave & Herman Rd Intersection: Add Turn Lane

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** FY 20/21

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** FY 20/21 – 21/22

**TOTAL COST:** \$605,000

**CONSTRUCTION SCHEDULE:** FY 21/22 – 22/23

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Update intersection of 118<sup>th</sup> Avenue with Herman Road to add northbound turn lane.

**PROJECT SCOPE:**

Design and construct a project to widen the south leg of 118<sup>th</sup> Avenue at Herman Road to provide an additional turn lane. This would likely include widening an existing rail crossing and acquiring additional right-of-way.

**HISTORY:**

This project was nominated through the Tualatin Moving Forward process.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 21/22	<u>\$605,000</u>
TOTAL:	\$605,000

Exhibit A

118<sup>th</sup> Ave & Herman Rd Intersection: Add Turn Lane



Exhibit A

---

**124<sup>th</sup> Ave & Future Blake St Signal**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$852,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** FY 22/23  
**CONSTRUCTION SCHEDULE:** FY 22/23

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**  
Build traffic signal at the intersection of 124<sup>th</sup> Avenue at the future extension of Blake Street.

**PROJECT SCOPE:**  
Design and construct a new traffic signal at the new intersection of the recently-constructed 124<sup>th</sup> Ave with the future extension of Blake St along with or after the future Blake St construction.

**HISTORY:**  
This project was nominated through the Tualatin Moving Forward process.

**FUNDING PARTNERSHIPS:**  
Depending on the timing of this project, part or all of this project may be funded by private development.

**FUNDING SOURCES FOR THIS PROJECT:**  
Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 22/23	\$852,000
TOTAL:	<u>\$852,000</u>



Exhibit A

124<sup>th</sup> Ave & Future Blake St Signal



Exhibit A

---

**Avery Street at Boones Ferry Road: Add Bike Lanes on East Leg**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$133,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** FY 21/22  
**CONSTRUCTION SCHEDULE:** FY 21/22

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan (BP5)

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**  
Add bike lanes to the east leg of the intersection of Avery Street and Boones Ferry Road.

**PROJECT SCOPE:**  
Purchase right of way and widen east leg of intersection (on the north side of Avery Street) with Boones Ferry Road to accommodate new east and west bike lanes.

**HISTORY:**  
N/A

**FUNDING PARTNERSHIPS:**  
This project will need to be outside funded in order to proceed.

**FUNDING SOURCES FOR THIS PROJECT:**  
Outside Funded

YEAR	AMOUNT
FY 21/22	\$133,000
TOTAL:	\$133,000

Exhibit A

Avery Street at Boones Ferry Road: Add Bike Lanes on East Leg



Exhibit A

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**Blake Street Concept Study: 115<sup>th</sup> to 124<sup>th</sup>**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** FY 20/21

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$100,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Preliminary planning and conceptual design of the future Blake Street between 115<sup>th</sup> Ave and 124<sup>th</sup> Avenue.

**PROJECT SCOPE:**

The City may hire a consultant to lead this concept study, depending on available staff capacity.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Road Operating/Gas Tax Fund

YEAR	AMOUNT
FY 20/21	<u>\$100,000</u>
TOTAL:	\$100,000

Exhibit A

Blake Street Concept Study: 115<sup>th</sup> to 124<sup>th</sup>



# Exhibit A

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## Boones Ferry Rd & Alabama St: Crossing

---

**DEPARTMENT:** Public Works

**CATEGORY:** Transportation

**TOTAL COST:** \$320,000

**CONCEPT SCHEDULE:** \_\_\_\_\_

**DESIGN SCHEDULE:** FY 19/20

**CONSTRUCTION SCHEDULE:** FY 19/20

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$\_1,000/year\_\_\_     No

**DESCRIPTION:**

Install new marked enhanced crosswalk across Boones Ferry Rd at Alabama St (near Tualatin High School) and connecting sidewalk along Boones Ferry Rd.

**PROJECT SCOPE:**

Design and install a new marked crosswalk across Boones Ferry Road at its intersection with the Tualatin High School Driveway and the Alabama St path. The crosswalk would have enhancements such as a pedestrian signal and/or beacon and/or a center island. The project may also include connecting sidewalk along Boones Ferry Road.

**HISTORY:**

This project was nominated through the Tualatin Moving Forward process.

**FUNDING PARTNERSHIPS:**

There may be an opportunity to partner with Tigard-Tualatin School District, particularly for work on the District's property to complement this project.

**FUNDING SOURCES FOR THIS PROJECT:**

Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 19/20	<u>\$320,000</u>
TOTAL:	\$320,000

Exhibit A

Boones Ferry Rd & Alabama St: Crossing



Exhibit A

**Boones Ferry Sidewalk In-fill & Bike Lanes**

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:**

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** FY 19/20

**TOTAL COST:** \$1,664,000

**CONSTRUCTION SCHEDULE:** FY 19/20

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Transp. System Plan (R12)

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

Improve sidewalk and add bike lanes on the south end of Boones Ferry Road between Tualatin High School and city limits.

**PROJECT SCOPE:**

According to the Transportation System Plan (2014), there are sidewalk gaps at the south end of Boones Ferry Road approximately 400 feet north of Norwood Road on the west side and approximately 250 feet north of Norwood Road on the east side. Improvements include sidewalk, bike lanes, curb, drainage, minor roadway widening, retaining wall, and landscaping and illumination in the planter stripe. Additional right of way will be needed over the length of the project.

**HISTORY:**

This expanded project was discussed as part of the Tualatin Moving Forward bond program.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 19/20	\$1,664,000
TOTAL:	<u>\$1,664,000</u>



Exhibit A

Boones Ferry Sidewalk In-fill & Bike Lanes



## Exhibit A

### Garden Corner Curves: Upgrade 105<sup>th</sup>/Blake/108<sup>th</sup>

<b>DEPARTMENT:</b>	Public Works	<b>CONCEPT SCHEDULE:</b>	2017
<b>CATEGORY:</b>	Transportation	<b>DESIGN SCHEDULE:</b>	FY 18/19
<b>TOTAL COST:</b>	\$3,747,000	<b>CONSTRUCTION SCHEDULE:</b>	FY 19/20-20/21

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan R7

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ 500/yr \_\_\_\_\_     No

**DESCRIPTION:**

Upgrade SW 105<sup>th</sup> Avenue/ Blake Street/108<sup>th</sup> Avenue between Moratoc and Willow Streets to improve safety for vehicles, bicycles, and pedestrians.

**PROJECT SCOPE:**

New pedestrian and bicycle facilities. Identify factors that contribute to safety concerns and develop possible solutions. This includes design, right of way acquisition and construction.

**HISTORY:**

The City completed a concept study in 2017 in which the preferred alignment was chosen with extensive public involvement.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	YEAR	AMOUNT
Transportation Project (Bond) Fund	FY 18/19	\$400,000
Transportation Project (Bond) Fund	FY 19/20	\$1,239,000
Transportation Project (Bond) Fund	FY 20/21	\$2,108,000
	TOTAL:	\$3,747,000

Exhibit A

Garden Corner Curves: Upgrade 105<sup>th</sup>/Blake/108<sup>th</sup>



Exhibit A

---

**Grahams Ferry Rd and Dogwood St: Midblock Crossing**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$241,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** FY 20/21  
**CONSTRUCTION SCHEDULE:** FY 20/21

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_500/year \_\_\_\_\_     No

**DESCRIPTION:**  
Install new marked enhanced crosswalk across Grahams Ferry Rd at Dogwood St

**PROJECT SCOPE:**  
Design and install new curb ramps and a new marked crosswalk across Grahams Ferry Road at Dogwood St, with enhancements such as rectangular rapid flashing beacons (RRFBs) and/or a center island.

**HISTORY:**  
This project was nominated through the Tualatin Moving Forward process.

**FUNDING PARTNERSHIPS:**  
N/A

**FUNDING SOURCES FOR THIS PROJECT:**  
Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 20/21	\$241,000
TOTAL:	\$241,000

Exhibit A

Grahams Ferry Rd and Dogwood St: Midblock Crossing



Exhibit A

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**Hedges Creek Pedestrian Bridge: Upgrade Surface**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$114,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** FY 21/22  
**CONSTRUCTION SCHEDULE:** FY 21/22

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan BP6

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**  
Upgrade surface of Hedges Creek Pedestrian Bridge (behind Hedges Green Starbucks) to decrease slipping and increase pedestrian safety.

**PROJECT SCOPE:**  
Replace existing bridge deck, approximately 2,600 square feet.

**HISTORY:**  
The existing surface has issues with water and ice build-up and requires frequent maintenance.

**FUNDING PARTNERSHIPS:**  
N/A

**FUNDING SOURCES FOR THIS PROJECT:**  
Road Operating/Gas Tax Fund

YEAR	AMOUNT
FY 21/22	<u>\$114,000</u>
TOTAL:	\$114,000

Exhibit A

Hedges Creek Pedestrian Bridge: Upgrade Surface



Exhibit A

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**Herman Rd: 124<sup>th</sup> Ave to Cipole Rd Improvements**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$3,195,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** FY 23/24  
**CONSTRUCTION SCHEDULE:** FY 24/25

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan R1

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Upgrade Herman Road to urban standards from 124<sup>th</sup> Avenue to Cipole Road.

**PROJECT SCOPE:**

Design and construct a complete street improvement along Herman Road from 124<sup>th</sup> Avenue to Cipole Road, including adding a center turn lane, bike lanes, stormwater treatment and drainage system, and sidewalk.

**HISTORY:**

This project is identified in the 2014 Transportation System Plan.

**FUNDING PARTNERSHIPS:**

This project is eligible for TDT funding and included on the Washington County approved project list as Project #6023.

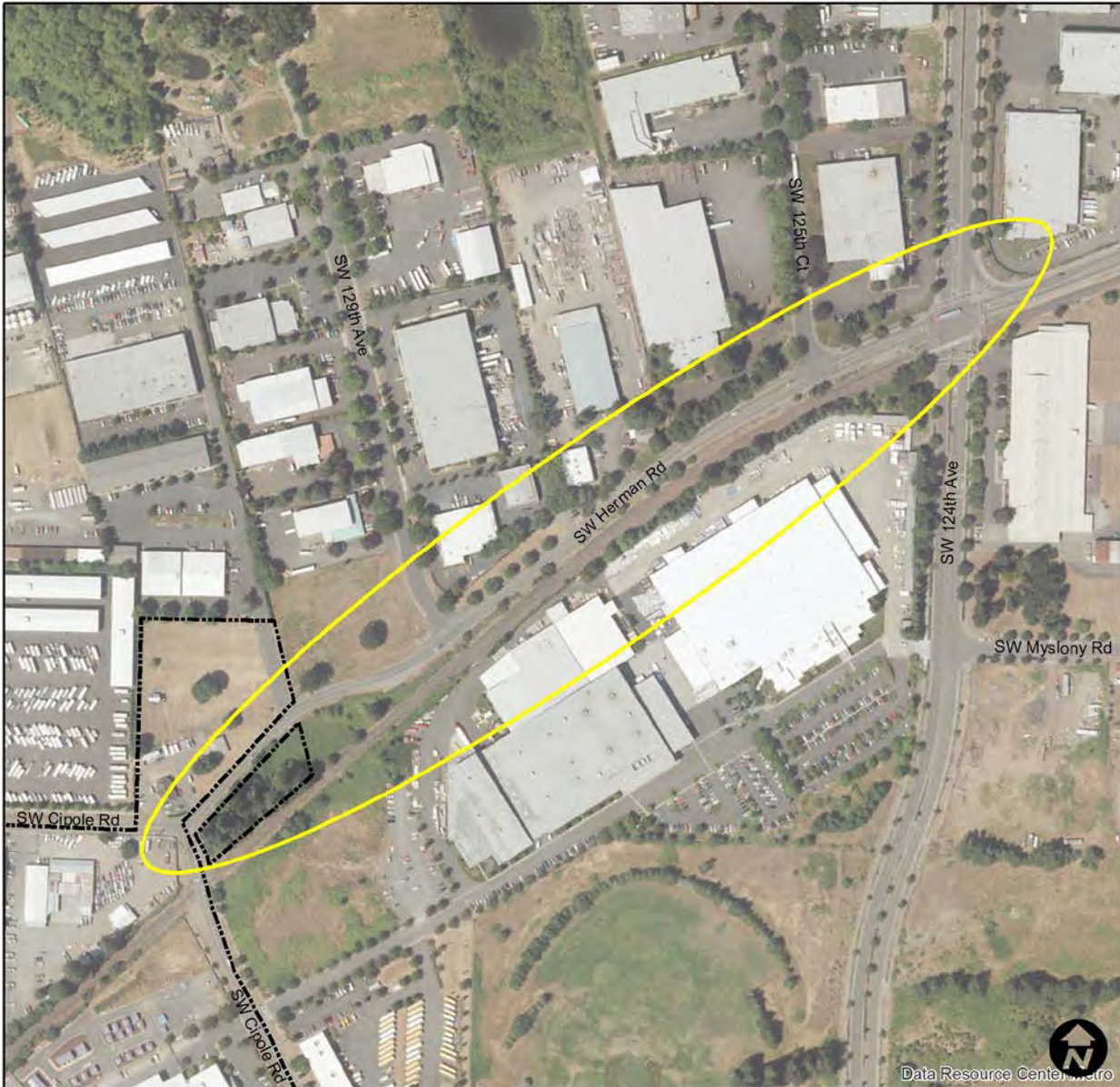
**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Transportation Development Tax Fund	FY 23/24	\$780,000
Transportation Development Tax Fund	FY 24/25	<u>\$2,415,000</u>
	<b>TOTAL:</b>	<b>\$3,195,000</b>



Exhibit A

Herman Rd: 124<sup>th</sup> Ave to Cipole Rd Improvements



## Exhibit A

### Herman Rd: Widen from Tualatin to Teton Rd

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:**

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** FY 19/20

**TOTAL COST:** \$5,326,000

**CONSTRUCTION SCHEDULE:** FY 22/23

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan (R3)

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Improve bike lanes, sidewalks, and transit stops along Herman Road between the employment district, neighborhoods, and downtown. Improve safety and mobility for all roadway users along Herman Road where currently, bicycles, pedestrians, automobiles, transit, and trucks share two 12-foot vehicle travel lanes because there are no bike lanes or sidewalks. Add buffered bike lanes and other Active Transportation components where there are existing sidewalks and bike lanes.

**PROJECT SCOPE:**

The total project cost includes project development, engineering, environmental permitting, right of way acquisition and construction.

**HISTORY:**

This project will enable pedestrians and bicyclist to travel in a safer environment than they currently do when sharing two 12-foot travel lanes with cars, trucks, and buses. Adding sidewalks and bike lanes where they do not currently exist and providing buffered bikes lanes along the rest of the corridor will provide a safer more comfortable environment.

**FUNDING PARTNERSHIPS:**

The City has been awarded a Regional Flexible Funds Allocation (RFFA) grant for the preliminary engineering of this project. This project is also eligible for Transportation Development Tax funding, included on the TDT approved list as Project #6022. Additional grant funding will be necessary to continue with construction in FY 22/23.

**FUNDING SOURCES FOR THIS PROJECT:**

RFFA (\$625,000) & MSTIP (\$70,000) Grants  
 Road Operating/ Gas Tax Fund (RFFA Grant Match)  
 Grant- Not Secured

YEAR	AMOUNT
FY 19/20	\$695,000
FY 19/20	\$30,000
FY 22/23	<u>\$4,601,000</u>
<b>TOTAL:</b>	<b>\$5,326,000</b>

Exhibit A

Herman Rd: Widen from Tualatin to Teton Rd



Exhibit A

---

**Hwy 99W: Pony Ridge to 124<sup>th</sup> Ave Sidewalk**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$576,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** FY 18/19  
**CONSTRUCTION SCHEDULE:** FY 19/20

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**  
New sidewalk or path along Highway 99W from the Pony Ridge neighborhood to 124<sup>th</sup> Avenue.

**PROJECT SCOPE:**  
Design and construct new sidewalk or path along the northwest side of Highway 99W provide a walking route from the Pony Ridge neighborhood to the signalized crosswalk at 124<sup>th</sup> Avenue.

**HISTORY:**  
This project was nominated through the Tualatin Moving Forward process.

**FUNDING PARTNERSHIPS:**  
N/A

**FUNDING SOURCES FOR THIS PROJECT:**  
Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 19/20	\$576,000
TOTAL:	\$576,000

Exhibit A

Hwy 99W: Pony Ridge to 124<sup>th</sup> Ave Sidewalk



Exhibit A

---

**Martinazzi Ave at Sagert St: New Traffic Signal**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$2,485,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan R35

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ 1,000/year     No

**DESCRIPTION:**

New traffic signal at the intersection of Martinazzi Avenue with Sagert Street.

**PROJECT SCOPE:**

Design and construct a new traffic signal at the intersection of Martinazzi Ave with Sagert St, along with sidewalk and bike lane improvements.

**HISTORY:**

This project was nominated through the Tualatin Moving Forward process. It is also included in the 2013 Transportation System Plan.

**FUNDING PARTNERSHIPS:**

Transportation Development Tax funds will leverage the Tualatin Moving Forward bond funds on this project.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Transportation Project (Bond) Fund	FY 19/20	\$621,000
Transportation Development Tax Fund	FY 19/20	<u>\$1,864,000</u>
	<b>TOTAL:</b>	<b>\$2,485,000</b>

Exhibit A

Martinazzi Ave at Sagert St: Signal



Exhibit A

---

**Martinazzi Ave, Warm Springs St to Boones Ferry Rd: Concept Study**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** FY 22/23

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$59,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan R14

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Prepare concept study to evaluate adding bike lanes on Martinazzi Avenue from Warm Springs Street to Boones Ferry Road.

**PROJECT SCOPE:**

Hire a consultant to evaluate, develop alternatives, prepare concept level cost estimates and identify funding sources.

**HISTORY:**

This project (as construction) was identified in the 2014 Transportation System Plan.

**FUNDING PARTNERSHIPS:**

Funding for this concept study, as well as design and construction, have not yet been identified.

**FUNDING SOURCES FOR THIS PROJECT:**

Outside Funded

YEAR	AMOUNT
FY 22/23	<u>\$59,000</u>
TOTAL:	\$59,000



Exhibit A

Martinazzi Ave, Warm Springs St to Boones Ferry Rd: Concept Study



## Exhibit A

### Myslony St: 124<sup>th</sup> to 112<sup>th</sup> including Traffic Signal at 124<sup>th</sup> Ave

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$3,255,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** FY 21/22  
**CONSTRUCTION SCHEDULE:** FY 21/22

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan R5

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ 1,000/year     No

**DESCRIPTION:**

Upgrade Myslony Street to urban standards from 112<sup>th</sup> Avenue to 124<sup>th</sup> Avenue, including a new traffic signal at 124<sup>th</sup> Avenue.

**PROJECT SCOPE:**

Design and construct a complete street improvement along Myslony Street from 112<sup>th</sup> Ave to 124<sup>th</sup> Avenue, with sidewalks, bike lanes, stormwater treatment and drainage system, and a new traffic signal at the intersection of Myslony Street with 124<sup>th</sup> Avenue.

**HISTORY:**

This project was nominated through the Tualatin Moving Forward process.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 21/22	<u>\$3,255,000</u>
TOTAL:	\$3,255,000

Exhibit A

Myslony St: 124<sup>th</sup> to 112<sup>th</sup> including Traffic Signal at 124<sup>th</sup> Ave

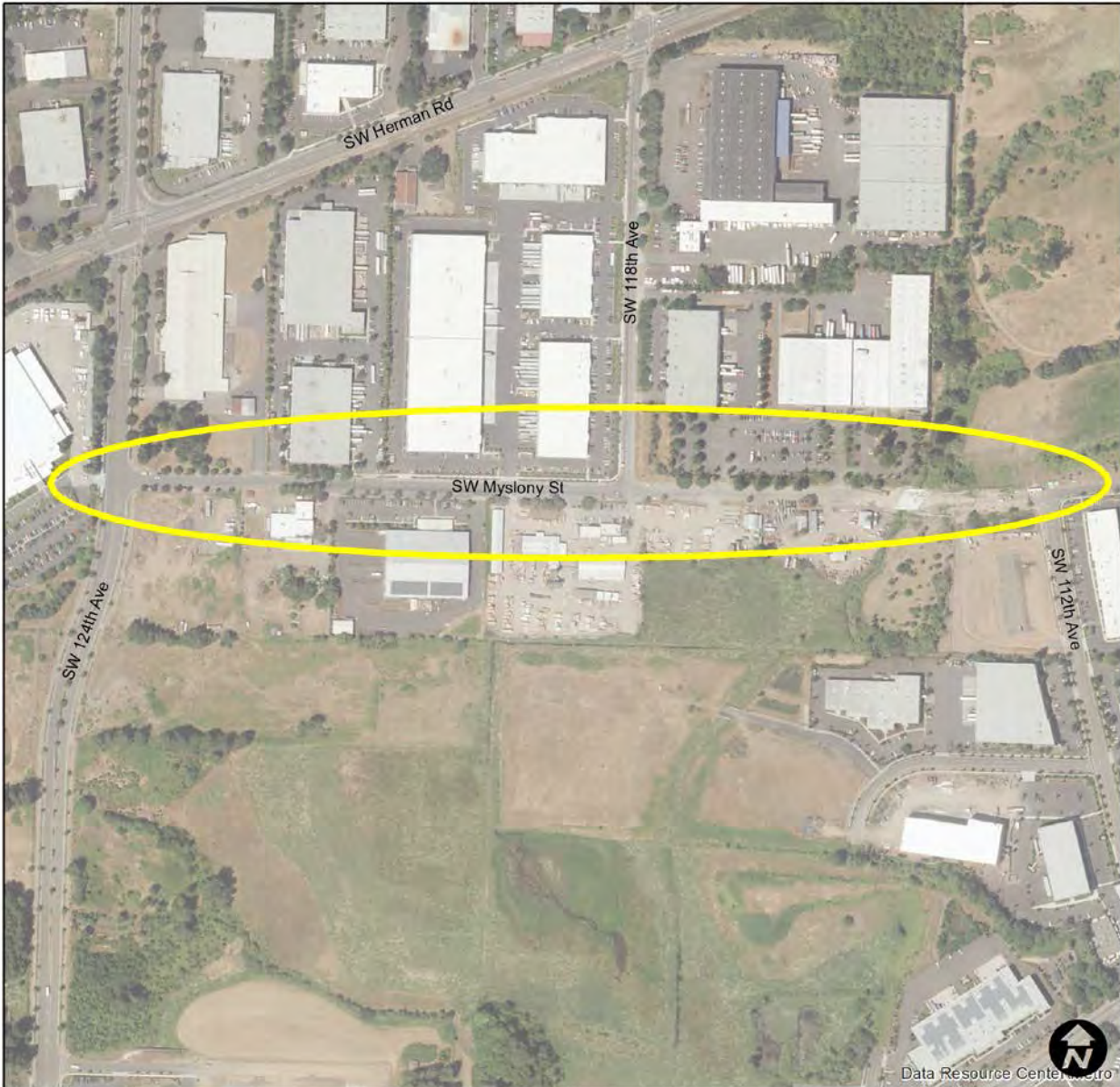


Exhibit A

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**Nyberg Street and I-5 Interchange: Bike Lane Improvements**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$27,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** FY 21/22

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan BP13

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**  
Upgrade bike lane pavement markings to improve visibility on the Nyberg Street Interchange.

**PROJECT SCOPE:**  
Evaluate American Association of State Highway and Transportation Officials (AASHTO) and National Association of City Transportation Officials (NACTO) options for upgrading bike lane markings. Coordinate alternatives with cycling community and the Oregon Dept. of Transportation (ODOT). Install new markings.

**HISTORY:**  
This project was identified as a short-term priority in the 2014 Transportation System Plan.

**FUNDING PARTNERSHIPS:**  
This project will require outside funding in order to proceed. Possible active transportation funding through Metro, ODOT, or others.

<b>FUNDING SOURCES FOR THIS PROJECT:</b>	<b>YEAR</b>	<b>AMOUNT</b>
Outside Funded/Grant	FY 21/22	<u>\$27,000</u>
	<b>TOTAL:</b>	<b>\$27,000</b>

**ON-GOING COSTS:**  
Methyl methacrylate (MMA) or thermoplastic striping will need to be refreshed or replaced on regular maintenance schedules.

Exhibit A

Nyberg Street and I-5 Interchange: Bike Lane Improvements



## Exhibit A

### Sagert Street, 72<sup>nd</sup> to Wampanoag Dr: Pedestrian Connectivity Project

<b>DEPARTMENT:</b>	Public Works	<b>CONCEPT SCHEDULE:</b> _____
<b>CATEGORY:</b>	Transportation	<b>DESIGN SCHEDULE:</b> _____
<b>TOTAL COST:</b>	\$361,000	<b>CONSTRUCTION SCHEDULE:</b> _____

<b>RANKING CRITERIA MET:</b>	<b>PROJECT TYPE:</b>	<b>NEW ONGOING COSTS?</b>
<input type="checkbox"/> Council Goal <input type="checkbox"/> Regulatory Requirement	<input type="checkbox"/> Maintenance	<input checked="" type="checkbox"/> Yes \$ <u>500/year</u> <input type="checkbox"/> No
<input type="checkbox"/> Health & Safety <input type="checkbox"/> Service Delivery Need	<input checked="" type="checkbox"/> Replacement	
<input type="checkbox"/> Master Plan: _____	<input checked="" type="checkbox"/> New/Expansion	

**DESCRIPTION:**

The project will improve sidewalks and curb ramps on the south side of Sagert Street between 72<sup>nd</sup> and Wampanoag Drive. A new crosswalk with RRFB will be installed at the intersection of Sagert Street and the Atfalati Park entrance. Residents will be connected to transit, parks, schools, and medical facilities.

This project will noticeably improve pedestrian access from 72<sup>nd</sup> Avenue to Wampanoag Drive by removing and replacing curb ramps and sidewalks to meet current accessibility standards and by adding a crosswalk. The new crosswalk will be added across Sagert Street at Atfalati Park and will include a pedestrian activated signal (Rapid Flashing Beacons). The sidewalk on the south side of Sagert Street will be removed and replaced from 72<sup>nd</sup> Avenue to Wampanoag Drive along with curb ramps to provide a much needed safe corridor for pedestrians and transit riders.

**PROJECT SCOPE:**

Hire a consultant to design and hire a contractor to construct these improvements. The pedestrian crossing and the sidewalk are being constructed separately.

**HISTORY:**

The project was identified by neighbors in the East Tualatin CIO area and added to the neighborhood solutions project list.

**FUNDING PARTNERSHIPS:**

The City was awarded \$211,000 in CDBG funds and \$50,000 of MSTIP Opportunity Funds. The crossing is paid for as a Tualatin Moving Forward bond project.

**FUNDING SOURCES FOR THIS PROJECT:**

	YEAR	AMOUNT
Transportation Project (Bond) Fund (Crossing Only)	FY 18/19	\$100,000
MSTIP Opportunity Grant	FY 18/19	\$50,000
Community Development Block Grant (CDBG)	FY 18/19	\$100,000
Community Development Block Grant (CDBG)	FY 19/20	\$111,000
	<b>TOTAL:</b>	<b>\$361,000</b>

Exhibit A

Sagert Street, 72<sup>nd</sup> to Wampanoag Dr: Pedestrian Connectivity Project



Exhibit A

---

**School Wayfinding Signs**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$83,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan BP1

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**  
Provide wayfinding signs for Safe Routes to Schools.

**PROJECT SCOPE:**  
Evaluate and install new wayfinding signs along routes to schools, assuming six signs per route, three routes per school for five schools in Tualatin.

**HISTORY:**  
This project was identified as a short-term priority in the 2014 Transportation System Plan.

**FUNDING PARTNERSHIPS:**  
There is potential for active transportation, Safe Routes to School or other outside funding.

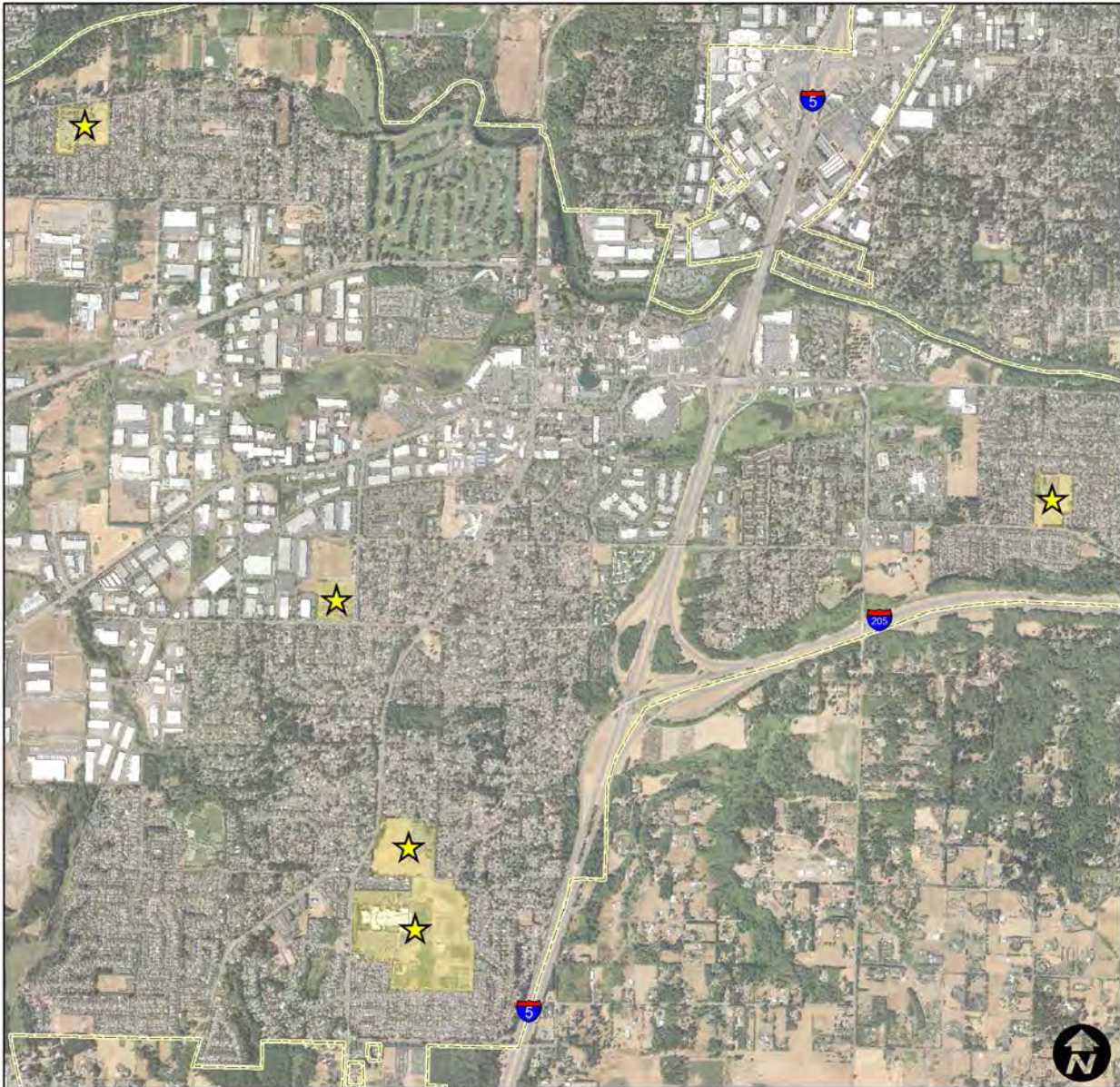
**FUNDING SOURCES FOR THIS PROJECT:**  
Outside Funded / Grant

YEAR	AMOUNT
FY 21/22	\$83,000
TOTAL:	\$83,000



Exhibit A

School Wayfinding Signs



# Exhibit A

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## Transportation System Plan: Mid-term Update

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$200,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Update the 2014 Transportation System Plan (TSP) based on community input and changing conditions.

**PROJECT SCOPE:**

Hire a consultant to evaluate traffic impacts, prepare concept level cost estimates and identify funding sources.

**HISTORY:**

The current TSP was adopted in 2014. Many grant funding opportunities are only available for projects included in a TSP, therefore it is important to update the TSP to reflect current community goals and service delivery needs.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Road Operating/Gas Tax Fund

YEAR	AMOUNT
FY 19/20	\$200,000
TOTAL:	\$200,000

## Exhibit A

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Exhibit A

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**Tualatin Rd and Teton Ave: New Traffic Signal**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$767,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Transp. System Plan R33

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ 1000/year
- No

**DESCRIPTION:**

Add a traffic signal at SW Tualatin Road and SW Teton Avenue.

**PROJECT SCOPE:**

Design and construct a new traffic signal.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

This project is eligible for 75% Transportation Development Tax (TDT) funding as approved on the Washington County TDT project list.

**FUNDING SOURCES FOR THIS PROJECT:**

Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 19/20	<u>\$767,000</u>
TOTAL:	\$767,000

**ON-GOING COSTS:**

Traffic signals are maintained and updated by Washington County. By intergovernmental agreement, the City pays Washington County each year to operate and maintain existing signals.

Exhibit A

Tualatin Rd and Teton Ave: New Traffic Signal



Exhibit A

---

**Tualatin Road: Add Traffic Signs**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$23,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Transp. System Plan R38

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

Add signs along Tualatin Road to designate route as local traffic only.

**PROJECT SCOPE:**

Evaluate, design, and install signs at each end of Tualatin Road and intermittently as needed.

**HISTORY:**

This project was identified in the 2014 Transportation System Plan.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Road Operating/Gas Tax Fund

YEAR	AMOUNT
FY 21/22	\$23,000
TOTAL:	\$23,000

# Exhibit A

## Tualatin Road: Add Traffic Signs

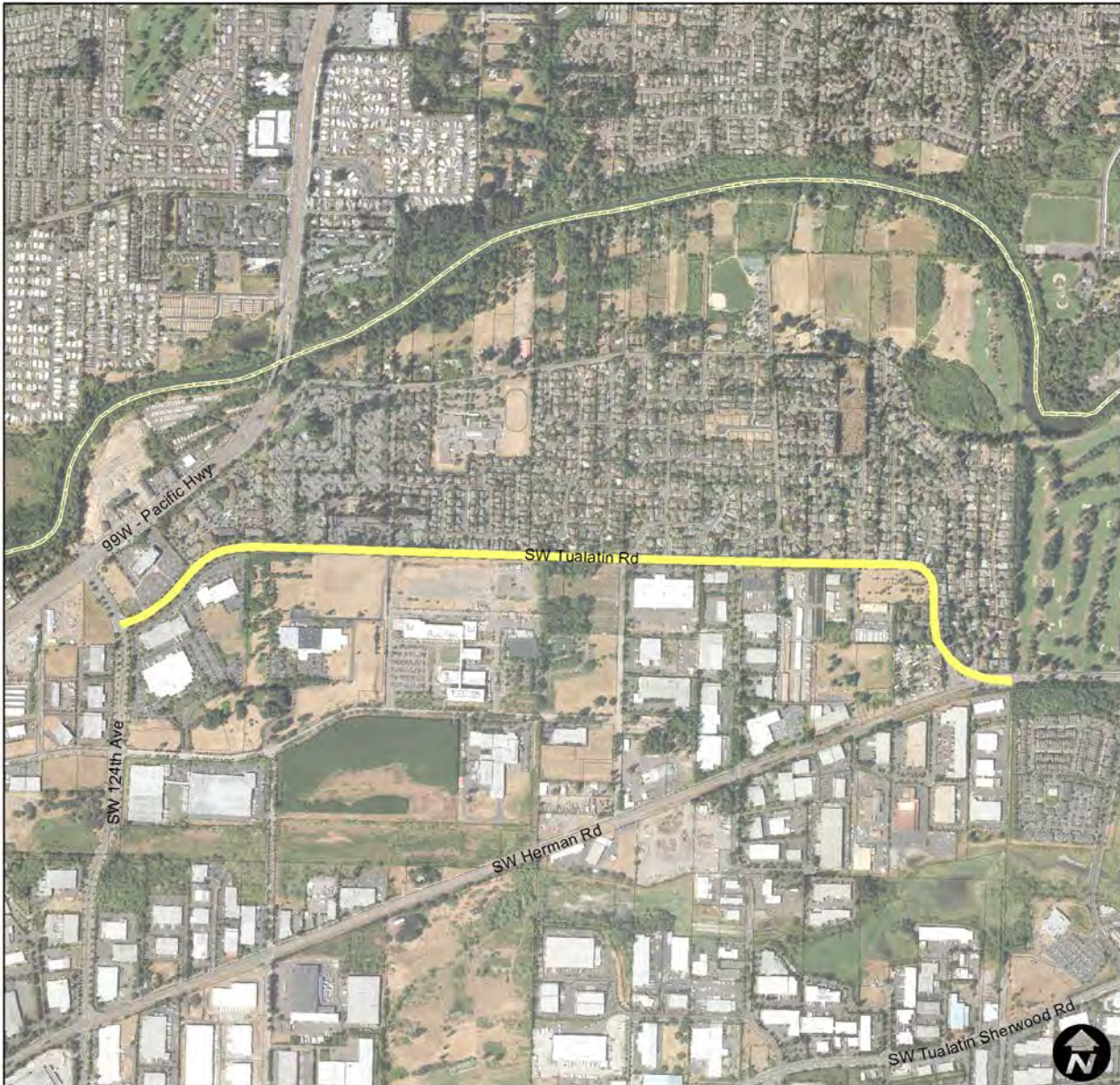


Exhibit A

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**Tualatin Rd: Sweek Dr to Community Park Pedestrian Improvements**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$357,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**  
Pedestrian improvements along and across Tualatin Rd between Sweek Drive and Tualatin Community Park.

**PROJECT SCOPE:**  
Design and construct pedestrian improvements such as wider sidewalks or pedestrian amenities along Tualatin Rd and crossing improvements to improve walking connections to Tualatin Community Park.

**HISTORY:**  
This project was nominated through the Tualatin Moving Forward process.

**FUNDING PARTNERSHIPS:**  
N/A

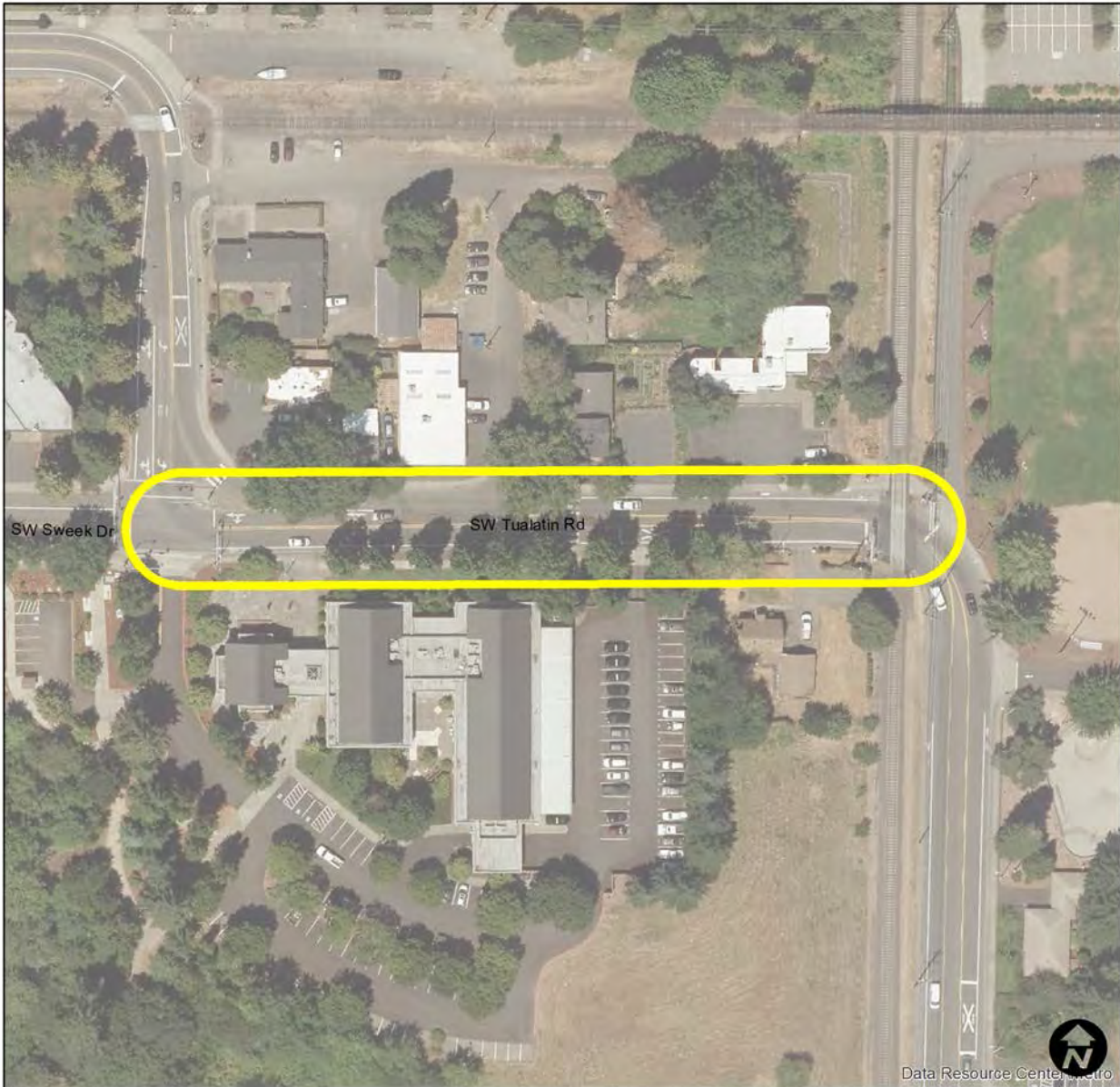
**FUNDING SOURCES FOR THIS PROJECT:**  
Transportation Project (Bond) Fund

YEAR	AMOUNT
FY 22/23	\$357,000
TOTAL:	<u>\$357,000</u>



Exhibit A

Tualatin Rd: Sweek Dr to Community Park Pedestrian Improvements



## Exhibit A

### Tualatin-Sherwood Rd: Teton Ave to Cipole Rd Widening

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:**

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** FY 19/20

**TOTAL COST:** \$12,190,000

**CONSTRUCTION SCHEDULE:** FY 20/21-21/22

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan R20

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This is a Washington County project to design and widen Tualatin-Sherwood Road from Teton Avenue to Cipole Road to five lanes.

**PROJECT SCOPE:**

Washington County will design and widen Tualatin-Sherwood Road between Teton Avenue and Cipole Road to five lanes.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

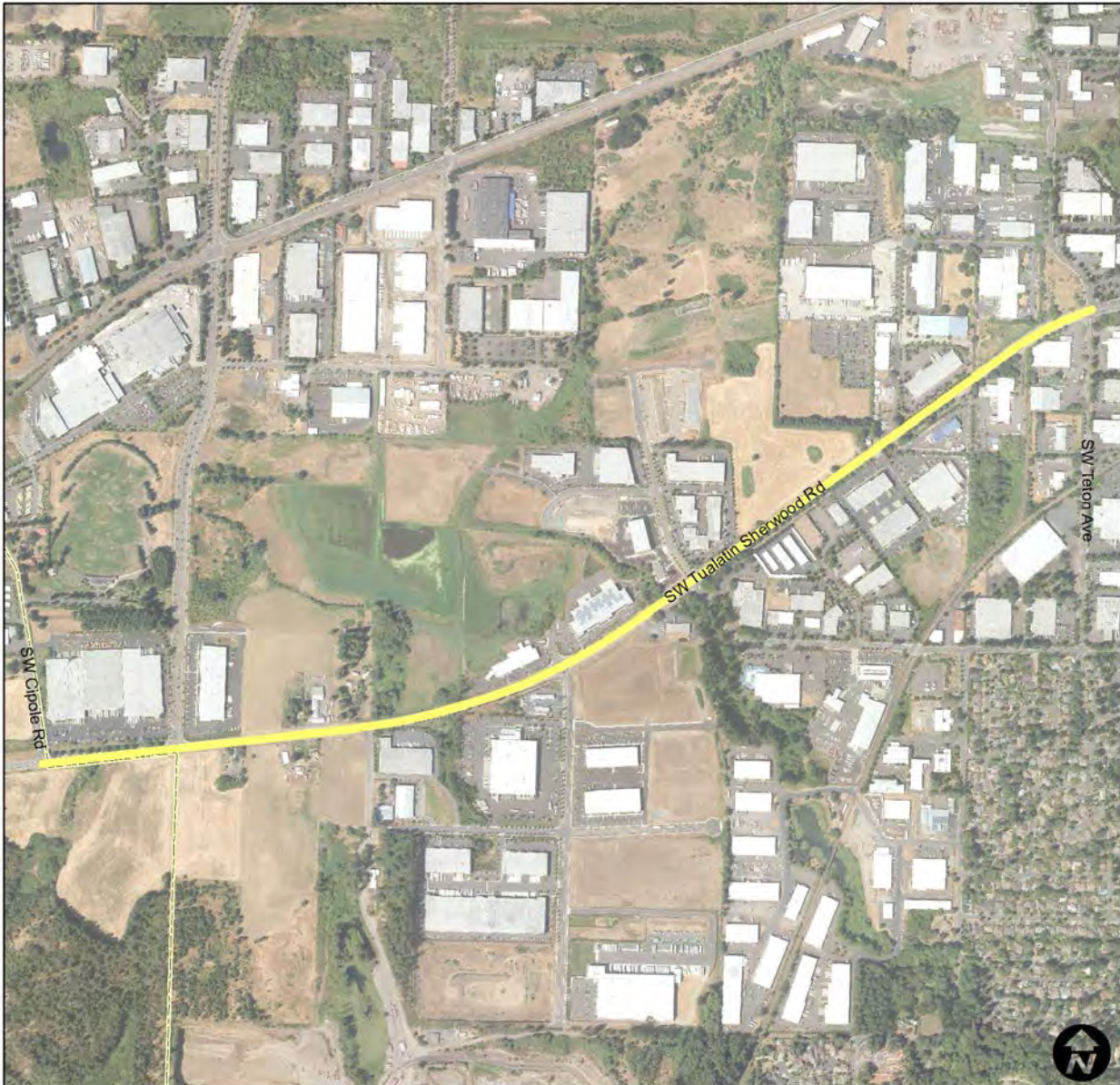
This project is managed and funded by Washington County MSTIP funding. It is included in this CIP because it is an improvement within City limits and it is identified in the Tualatin TSP.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Washington County MSTIP / Outside Funded	FY 20/21	\$5,504,000
Washington County MSTIP / Outside Funded	FY 21/22	\$6,686,000
	<b>TOTAL:</b>	\$12,190,000

Exhibit A

Tualatin-Sherwood Rd: Teton Ave to Cipole Rd Widening



## Exhibit A

### Tualatin-Sherwood Rd: Martinazzi Ave to Interstate 5

**DEPARTMENT:** Public Works  
**CATEGORY:** Transportation  
**TOTAL COST:** \$2,495,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** FY 19/20  
**CONSTRUCTION SCHEDULE:** FY 20/21-21/22

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Traffic flow, safety, and pedestrian improvements along Tualatin-Sherwood Road between Martinazzi Avenue and Interstate 5.

**PROJECT SCOPE:**

Design and construct traffic flow, safety, and pedestrian improvements such as an additional eastbound lane, intersection geometry revisions to improve signal traffic efficiency, and improvements for people walking along and across the roads.

**HISTORY:**

This project was nominated through the Tualatin Moving Forward process.

**FUNDING PARTNERSHIPS:**

As Tualatin-Sherwood Road is a County Road, the County would be involved in the design and construction of this project and could be a funding partner.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Transportation Project (Bond) Fund	FY 19/20	\$797,000
Transportation Project (Bond) Fund	FY 20/21	\$823,000
Transportation Project (Bond) Fund	FY 21/22	\$875,000
	<b>TOTAL:</b>	<b>\$2,495,000</b>

Exhibit A

Tualatin-Sherwood Rd: Martinazzi Ave to Interstate 5



## UTILITIES- SEWER

The City owns and operates a sanitary sewer collection system consisting of 96 miles of sewer pipes (eighty-eight miles are maintained by the City and eight miles are maintained by Clean Water Services (CWS). Over 6,400 sewer connections, hundreds of manholes, and ten lift stations are maintained by CWS.

Wastewater generated in Tualatin is treated at Clean Water Services’ Durham Creek Waste Water Treatment Plant.

### FUNDING SOURCES

Fees collected in the Sewer Operating Fund provide funding for, and are restricted to, maintenance and capital construction of the sewer distribution and collection systems.

Developers are required to pay a Sewer System Development Charge established by Clean Water Services to cover the costs associated with extending service to new and expanding developments. These funds can be used to construct capital improvements thus increasing the capacity of the system.

### ISSUES FACING UTILITIES

Aging parts of infrastructure— while Tualatin’s distribution system is relatively young, regular replacement and upgrades are needed to prevent disruption of services.

Regulatory requirements— as new or more stringent regulatory requirements are put into place, changes to the distribution and collection systems are necessary to stay in compliance.

Expansion to serve new development— new development requires new infrastructure be constructed to meet the increasing demands.

An update to the Sewer Master Plan is nearing completion in FY 18/19. Once it is completed, more information and/or projects will be added to this section.

Sewer	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24
65th Ave/Nyberg Trunk Repair	207,000				
105th Ave Sewer Upsizing	50,000				
North Martinazzi Trunk: Chelan St to Seminole Trail		662,000			
North Martinazzi Trunk: Seminole Trail to Sagert St				705,000	
Teton Trunk: Manhasset Dr to Spokane Ct				94,000	390,000
Tonquin Loop Sewer				688,000	
<b>Sewer Total</b>	<b>257,000</b>	<b>662,000</b>	<b>0</b>	<b>1,487,000</b>	<b>390,000</b>

## Exhibit A

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Exhibit A

**65<sup>th</sup> Ave/Nyberg Trunk Repair**

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$207,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement
- Health & Safety     Service Delivery Need
- Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

This is an 18 inch sanitary sewer trunk line that travels through the Nyberg Wetlands. This trunk line services the City from I-5 East. The recently developed Sagert Farms Subdivision and upcoming development on Nyberg Lane will also be serviced by this line.

**PROJECT SCOPE:**

Identify and construct needed repairs to this line.

**HISTORY:**

In 2011 the City experienced an SSO (sanitary sewer overflow) in the Nyberg wetlands due to the blockage of this 18 inch trunk line. Investigation revealed that a structural defect allowed a tree root to penetrate the line and collect FOG (fats-oil-and grease), resulting in the blockage. Since that time this line has been on a six-month Hot Spot Maintenance schedule.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Sewer Fund

YEAR	AMOUNT
FY 19/20	_____ \$207,000
TOTAL:	\$207,000



Exhibit A

65<sup>th</sup> Ave/Nyberg Trunk Repair

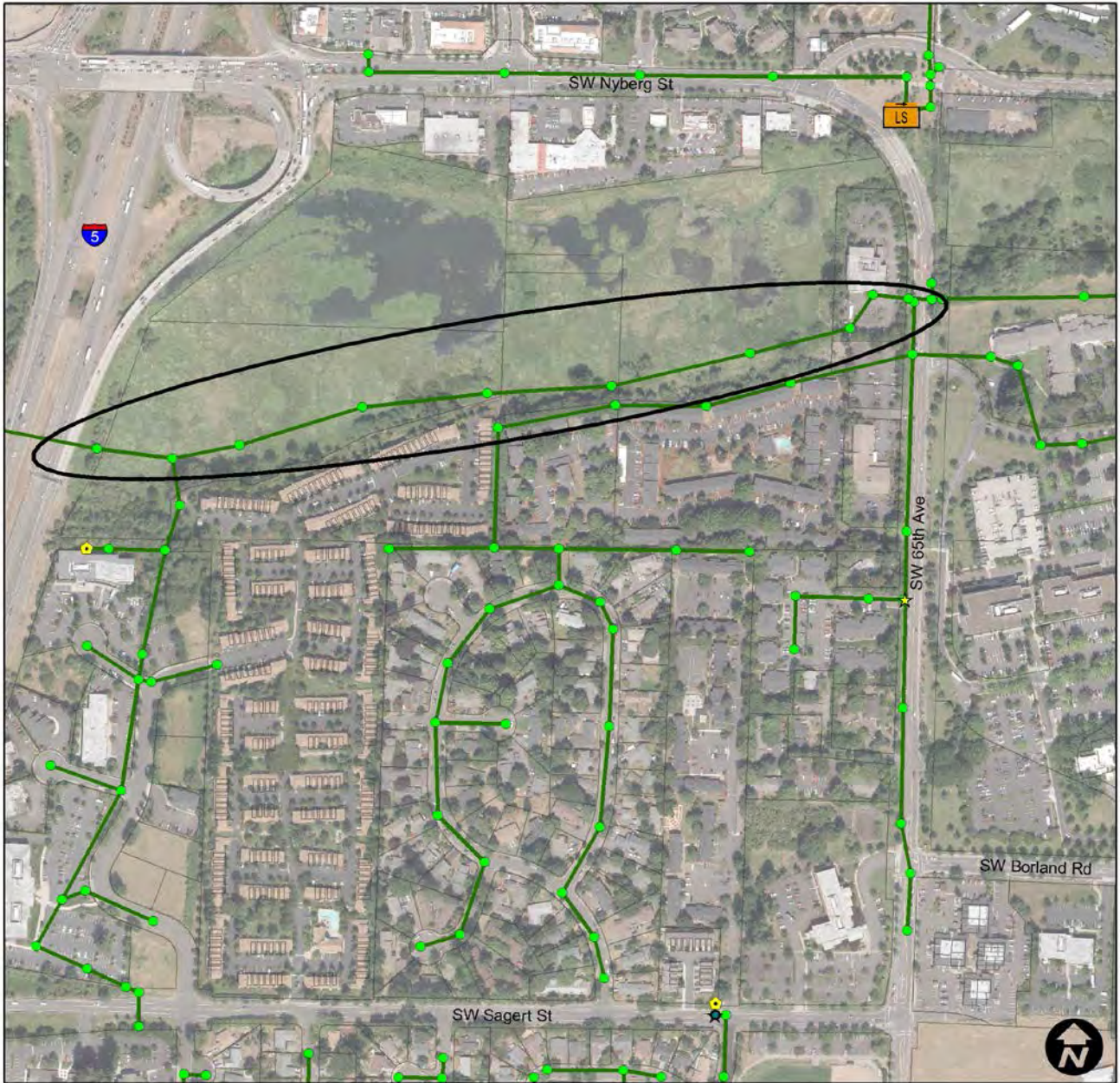


Exhibit A

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**105th Ave Sewer Upsizing**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Sewer  
**TOTAL COST:** \$50,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Sewer Master Plan (prelim.)

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

Replace existing sewer pipe with needed larger 15 inch sewer pipe.

**PROJECT SCOPE:**

Design and replace existing 12 inch sewer pipe with needed larger 15 inch sewer pipe while the area is under construction for the Garden Corner Curves project.

**HISTORY:**

This project is identified in the sanitary sewer master plan as part of the 103<sup>rd</sup> Avenue Sewer project. This is only part of the scoped project. The remaining portion will be completed when it is needed for additional capacity.

**FUNDING PARTNERSHIPS:**

Because this is an expansion of the pipe greater than 12 inches, Clean Water Services will reimburse the City for this cost.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Sewer SDC Fund	FY 19/20	\$50,000
	<b>TOTAL:</b>	<u>\$50,000</u>

# Exhibit A

## 105th Ave Sewer Upsizing



## Exhibit A

### North Martinazzi Trunk: Chelan St to Seminole Trail

<b>DEPARTMENT:</b>	Public Works	<b>CONCEPT SCHEDULE:</b> _____
<b>CATEGORY:</b>	Utilities- Sewer	<b>DESIGN SCHEDULE:</b> _____
<b>TOTAL COST:</b>	\$662,000	<b>CONSTRUCTION SCHEDULE:</b> _____

<b>RANKING CRITERIA MET:</b>	<b>PROJECT TYPE:</b>	<b>NEW ONGOING COSTS?</b>
<input type="checkbox"/> Council Goal <input type="checkbox"/> Regulatory Requirement	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Yes \$ _____ <input checked="" type="checkbox"/> No
<input type="checkbox"/> Health & Safety <input type="checkbox"/> Service Delivery Need	<input type="checkbox"/> Replacement	
<input checked="" type="checkbox"/> Master Plan: <u>Sewer Master Plan (prelim.)</u>	<input checked="" type="checkbox"/> New/Expansion	

**DESCRIPTION:**

This is the upstream phase of a two phase project to increase the diameter of the existing concrete trunk line to accommodate future flows (with or without Basalt Creek). This project is needed when flow at MH SSF 0464 (just south of Avery Street) exceeds 1,100 GPM, which will occur by 2023 with existing growth (no Basalt Creek Planning Area) or when Basalt Creek Planning Area is constructed and pump stations 1 and 6 reach full capacity. Pump stations 1 and 6 serve the northeast quadrant of Basalt Creek east of Boones Ferry Road and north of Greenhill Lane. This project is located under streets within public right of way.

**PROJECT SCOPE:**

Upsize existing 12-inch trunk line to 15 inches, approximate length 1,107 feet with manholes. Alignment begins on Martinazzi Avenue at Chelan Street at Manhole SSF-0462. The alignment continues in Martinazzi Avenue and then turns west under Seminole Trail to Manhole SSF-0557.

**HISTORY:**

This project is identified in the Sewer Master Plan nearing completion in FY 18/19.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	YEAR	AMOUNT
Sewer SDC Fund	FY 20/21	\$662,000
	TOTAL:	\$662,000

Exhibit A

North Martinazzi Trunk: Chelan St to Seminole Trail

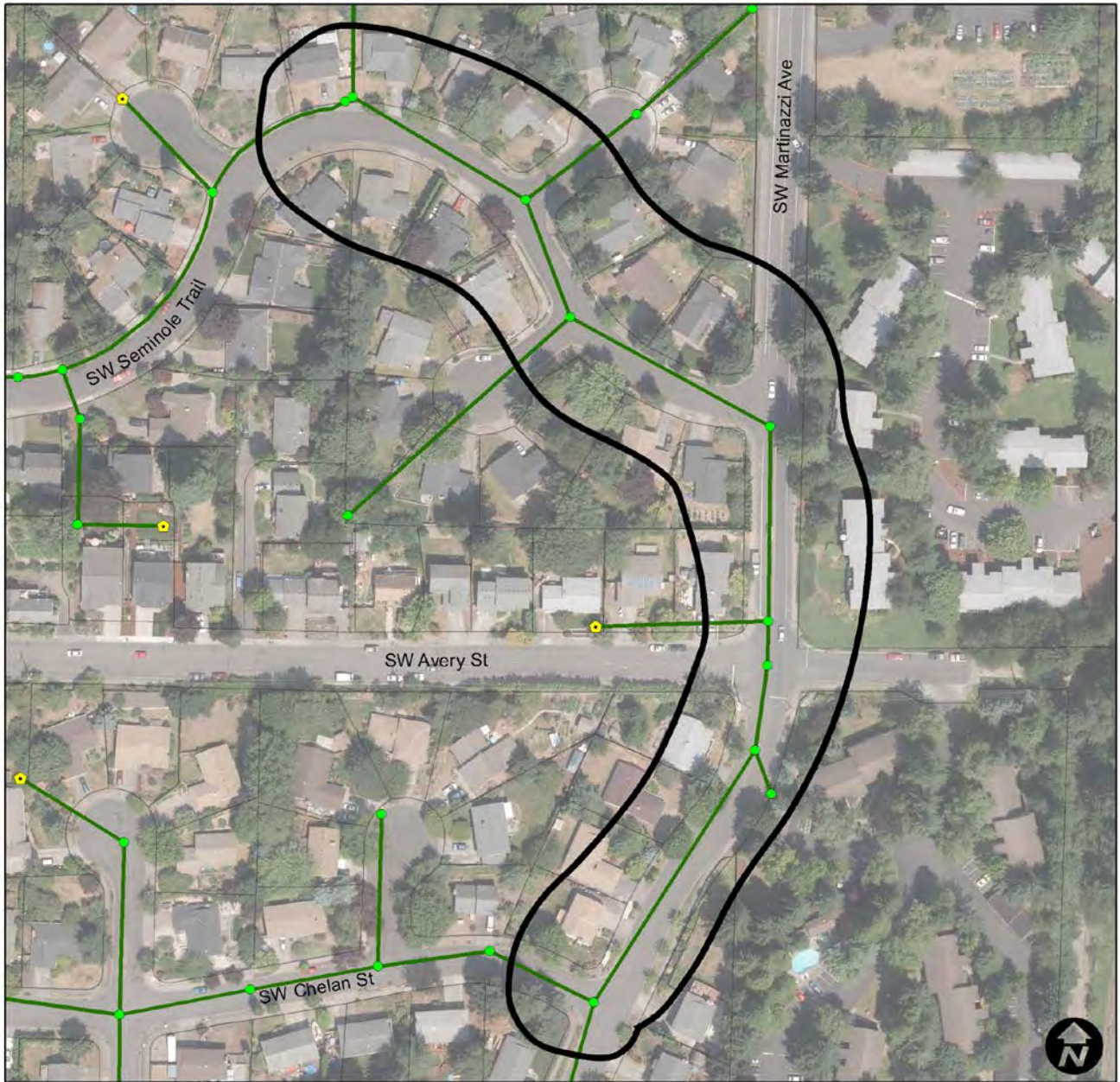


Exhibit A

**North Martinazzi Trunk: Seminole Trail to Sagert St**

<b>DEPARTMENT:</b>	Public Works	<b>CONCEPT SCHEDULE:</b>	_____
<b>CATEGORY:</b>	Utilities- Sewer	<b>DESIGN SCHEDULE:</b>	_____
<b>TOTAL COST:</b>	\$705,000	<b>CONSTRUCTION SCHEDULE:</b>	_____

<b>RANKING CRITERIA MET:</b>	<b>PROJECT TYPE:</b>	<b>NEW ONGOING COSTS?</b>
<input type="checkbox"/> Council Goal <input type="checkbox"/> Regulatory Requirement	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Yes \$ _____ <input type="checkbox"/> No
<input type="checkbox"/> Health & Safety <input type="checkbox"/> Service Delivery Need	<input type="checkbox"/> Replacement	
<input checked="" type="checkbox"/> Master Plan: <u>Sewer Master Plan (prelim.)</u>	<input checked="" type="checkbox"/> New/Expansion	

**DESCRIPTION:**  
 This is the downstream phase of a two phase project to increase the diameter of the existing concrete trunk line to accommodate future flows (with or without Basalt Creek). This project is needed when flow at MH SSF 0464 (just south of Avery Street) exceeds 1,100 GPM, which will occur by 2023 with existing growth (no Basalt Creek Planning Area) or when Basalt Creek Planning Area is constructed and pump stations 1 and 6 reach full capacity. Pump stations 1 and 6 serve the northeast quadrant of Basalt Creek east of Boones Ferry Road and north of Greenhill Lane. This project is primarily located in public easements on private property.

**PROJECT SCOPE:**  
 Upsize existing 12-inch trunk line to 15-inches approximate length, 1126 feet with manholes. Alignment begins at SW Seminole Trail at Manhole SSF-0557 where the sewer enters an easement between two homes. The alignment continues in an easement between homes and through the green space of Sandalwood Condominiums to Sagert Street near the intersection with Martinazzi Avenue at Manhole SSF-0618.

**HISTORY:**  
 This project is identified in the Sewer Master Plan nearing completion in FY 18/19.

**FUNDING PARTNERSHIPS:**  
 N/A

<b>FUNDING SOURCES FOR THIS PROJECT:</b>	<b>YEAR</b>	<b>AMOUNT</b>
Sewer SDC Fund	FY 22/23	<u>\$705,000</u>
	TOTAL:	\$705,000

Exhibit A

North Martinazzi Trunk: Seminole Trail to Sagert St

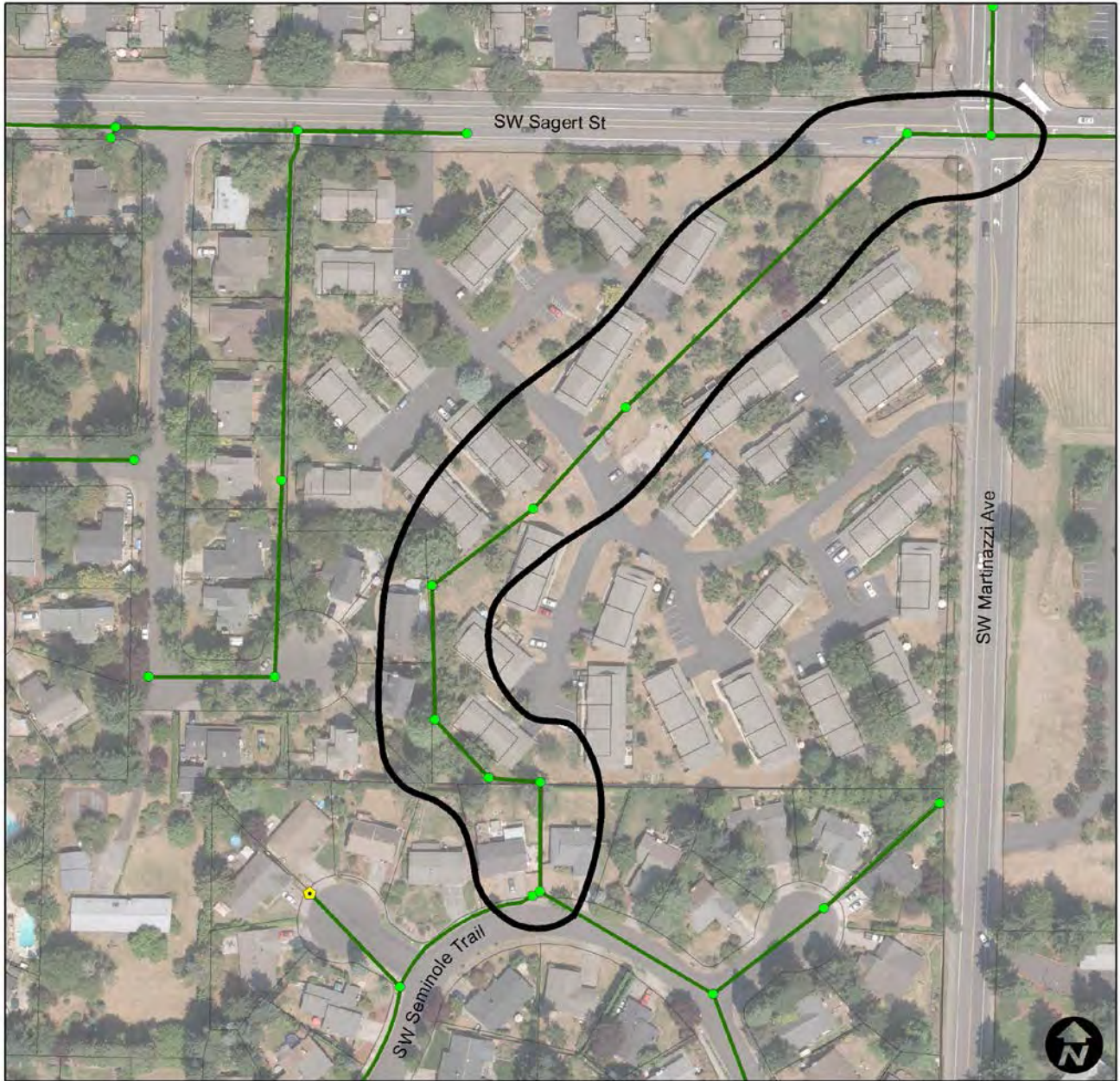


Exhibit A

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**Teton Trunk: Manhasset Dr to Spokane Ct**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Sewer

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$484,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Sewer Master Plan (prelim.)

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

Increase pipe size to accommodate flows from Cal Weld, a wet-industry identified in the Sanitary Sewer Master Plan.

**PROJECT SCOPE:**

Upsize 660 feet of existing 10-inch pipe and 571 feet of existing 12-inch pipe to 15 inches with 6 manholes. The alignment begins at Manhole SSF-2004 at Manhasset and Teton and travels north along Teton to Manhole SSF-1859 at Spokane Street.

**HISTORY:**

This project is identified in the Sewer Master Plan nearing completion in FY 18/19.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

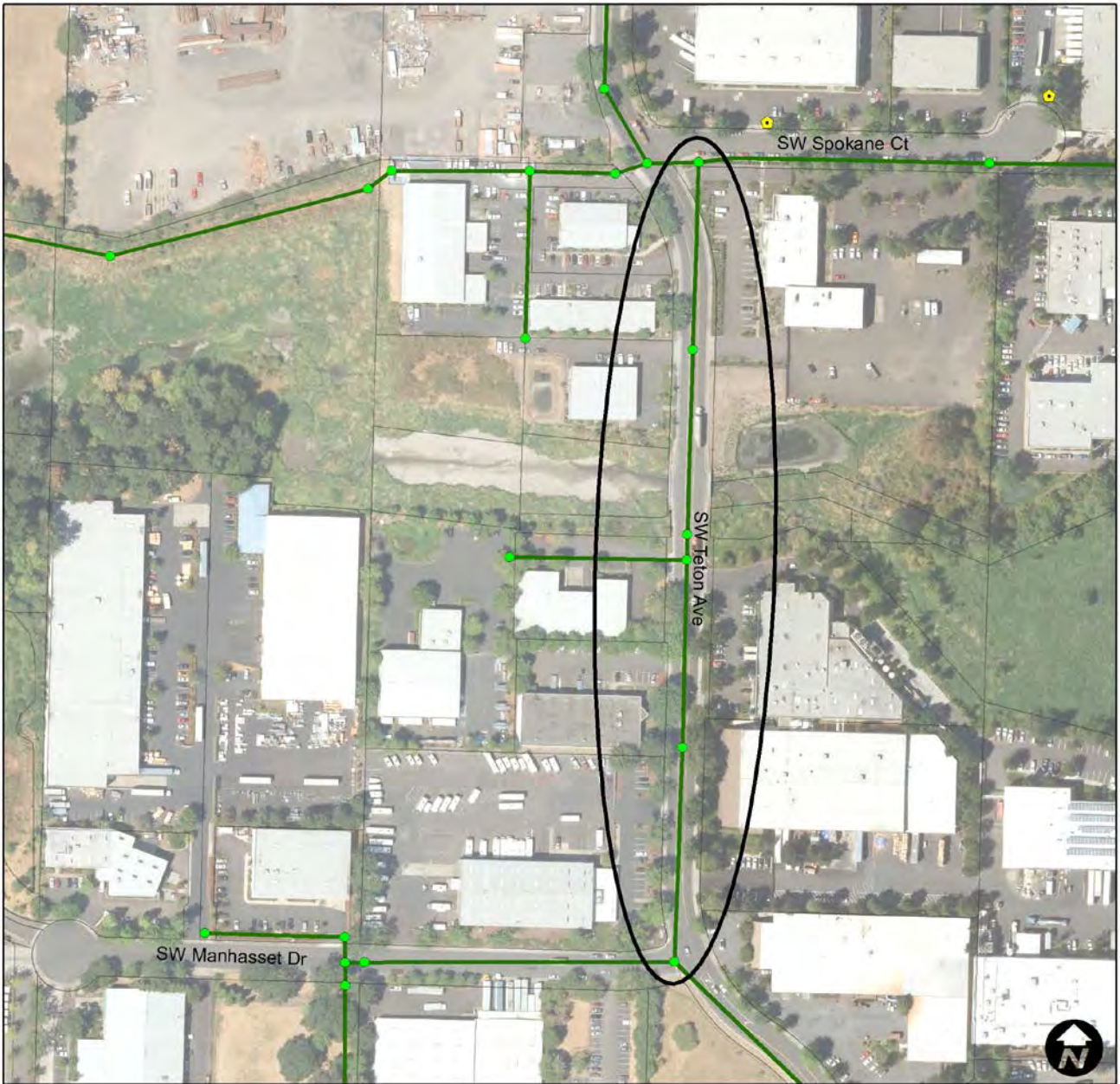
Sewer SDC Fund  
Sewer SDC Fund

YEAR	AMOUNT
FY 22/23	\$94,000
FY 23/24	\$390,000
TOTAL:	<u>\$484,000</u>



Exhibit A

Teton Trunk: Manhasset Dr to Spokane Ct



## Exhibit A

### Tonquin Loop Sewer

<b>DEPARTMENT:</b>	Public Works	<b>CONCEPT SCHEDULE:</b> _____
<b>CATEGORY:</b>	Utilities- Sewer	<b>DESIGN SCHEDULE:</b> _____
<b>TOTAL COST:</b>	\$688,000	<b>CONSTRUCTION SCHEDULE:</b> _____

<b>RANKING CRITERIA MET:</b>	<b>PROJECT TYPE:</b>	<b>NEW ONGOING COSTS?</b>
<input type="checkbox"/> Council Goal <input type="checkbox"/> Regulatory Requirement	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Yes \$ _____ <input checked="" type="checkbox"/> No
<input type="checkbox"/> Health & Safety <input checked="" type="checkbox"/> Service Delivery Need	<input type="checkbox"/> Replacement	
<input checked="" type="checkbox"/> Master Plan: <u>Sewer Master Plan (prelim.)</u>	<input checked="" type="checkbox"/> New/Expansion	

**DESCRIPTION:**  
 Build 2,170 feet of 10 inch sanitary sewer service in the Basalt Creek Planning Area to serve new commercial and residential development.

**PROJECT SCOPE:**  
 When the area near SW Tonquin Road develops, provide system development charge (SDC) credits to the developer for the expanded capacity in this service line beyond what is required for the development.

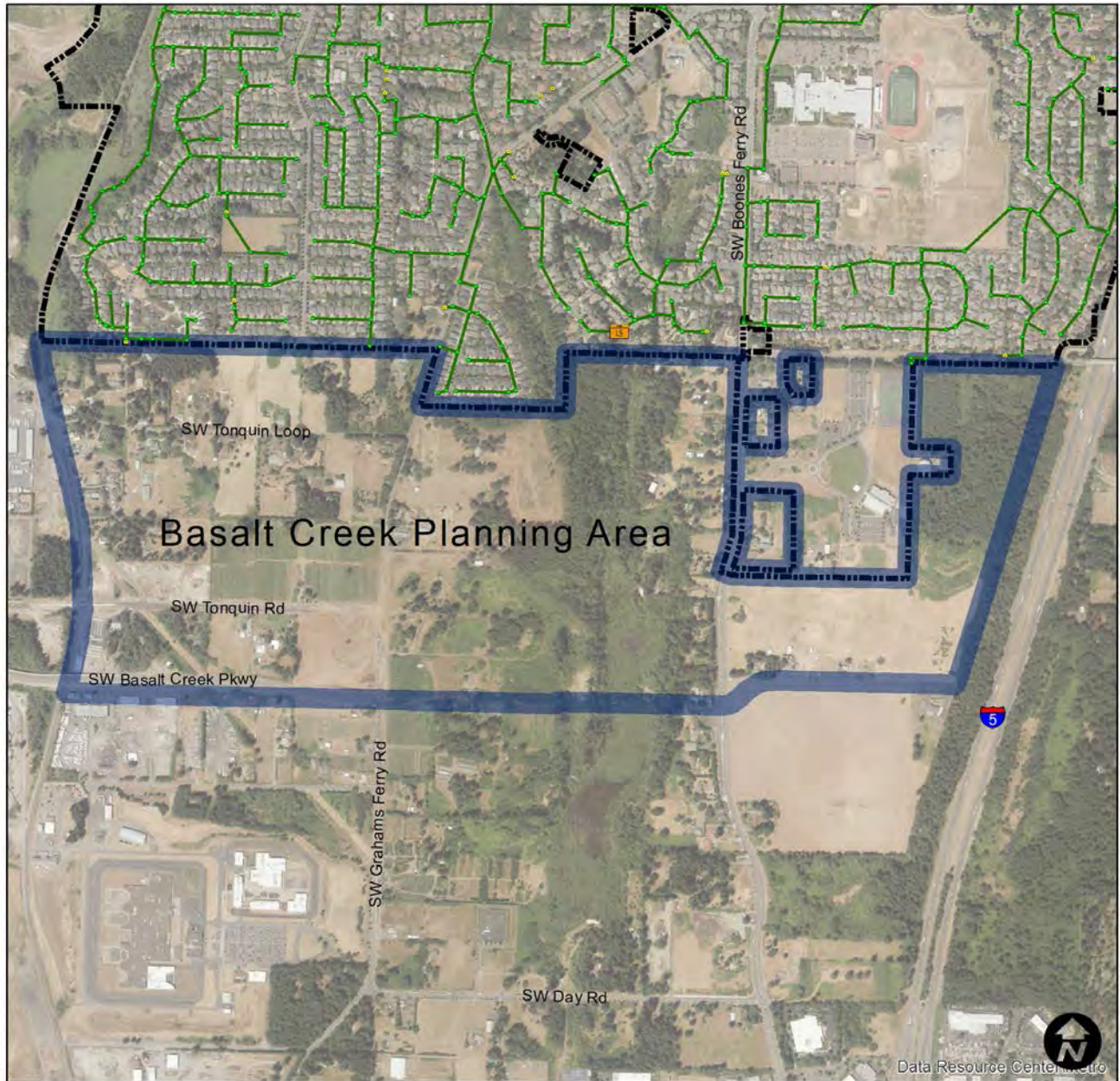
**HISTORY:**  
 The Basalt Creek Planning Area consists of 847 acres between the cities of Tualatin (to the north) and Wilsonville (to the south). It is primarily within Washington County, with a very small portion in the southwest corner located in Clackamas County. The construction timeline of this sewer extension depends on both the construction of a pump station and development progress in the western portion of the planning area.

**FUNDING PARTNERSHIPS:**  
 Most of the sanitary sewer in the Basalt Creek Planning Area will be 8-inch pipes installed by developers. Because this section needs to be 10 inch, the City would provide system development charge credits for the cost difference between 8 and 10 inches.

<b>FUNDING SOURCES FOR THIS PROJECT:</b>	<b>YEAR</b>	<b>AMOUNT</b>
Sewer SDC Fund	FY 22/23	\$61,000
Outside Funded (Developer)	FY 22/23	\$627,000
	<b>TOTAL:</b>	\$688,000

Exhibit A

Tonquin Loop Sewer



## UTILITIES- STORMWATER

The City of Tualatin manages stormwater discharges in accordance with Clean Water Services (CWS) Municipal Separate Storm Sewer System (MS4) permit. The City is one of 12 member cities who operate under CWS’s MS4 permit, which established regulations and standards for managing stormwater within the Tualatin River Watershed. The permit sets standards intended to reduce pollutant loads in stormwater runoff through implementation of Best Management Practices (BMPs).

The City works closely with CWS to construct and maintain public stormwater facilities and the City manages the private stormwater quality program to ensure that privately operated stormwater quality facilities provide the treatment benefits they were designed to provide.

Tualatin’s storm drain system includes approximately 89 miles of pipes, 12 drainage basins, more than 2,800 catch basins, 86 public water quality facilities (WQFs), and hundreds of manholes.

### FUNDING SOURCES

Fees collected in Storm Drain Operating Enterprise Fund, through Clean Water Services’ Surface Water Management Program provide funding for and must be used for maintenance and capital construction of the stormwater collection and treatment system.

When property is developed within Tualatin, the property owners are required to pay a Storm Drain System Development Charge to cover the costs associated with extending service to new and expanding developments. These funds may be used to construct capital improvements that increase the capacity of the system.

### ISSUES FACING UTILITIES

**Aging parts of infrastructure**—While Tualatin’s stormwater system is relatively young, regular replacement and upgrades are needed to prevent disruption of services.

**Regulatory requirements**— In May 2016, Clean Water Services signed a new MS4 permit which regulates stormwater discharge in the Tualatin River watershed. The new permit updates previous standards and implements new stormwater requirements. CWS and the member cities – including Tualatin – are currently updating the Design and Construction Standards that provide direction to developers, the design community, and contractors. Some of the changes will impact future CIPs.

**Expansion to serve growth**— The City is currently preparing a comprehensive stormwater master plan that will evaluate the existing stormwater system, provide a framework for future improvements, and evaluate and recommend a rate structure to fund the stormwater system. Once the Master Plan is completed, more projects will be added to this section.

Storm	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24
89th Ave Water Quality Retrofit					300,000
Grahams Ferry Rd and Ibach St: Upgrade Stormwater Outfall				235,000	
Nyberg Creek at Martinazzi Ave Assessment	200,000				
Sequoia Ridge Water Quality Facility	107,000				
Sweek Dr/Emery Zidell Pond B		110,000			
<b>Storm Total</b>	<b>307,000</b>	<b>110,000</b>	<b>0</b>	<b>235,000</b>	<b>300,000</b>

## Exhibit A

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# Exhibit A

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## 89<sup>th</sup> Avenue Water Quality Retrofit

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Storm

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$300,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Storm Master Plan (prelim.)

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project shall provide a new stormwater quality treatment system at an existing outfall near the Hedges Creek Wetland for 28.9 acres of contributing drainage area to address water quality retrofit objectives referenced in CWS' NPDES permit. This project is located north of the SW 89<sup>th</sup> Ave and SW Tualatin-Sherwood Rd intersection near the Hedges Green Retail Center.

**PROJECT SCOPE:**

Survey the existing grade and pipe conditions. Evaluate, design, and install a new stormwater quality treatment system to capture and treat the discharge from the existing 48-inch diameter storm line and contributing drainage area discharging to the Hedges Creek Wetland. This project may require easement acquisition to optimize the layout and maximize stormwater capture.

**HISTORY:**

The upstream stormwater collection system discharges to Hedges Creek wetland and has no water quality treatment. Clean Water Services' (CWS) NPDES Stormwater Permit requires retrofit of stormwater systems in partner jurisdictions to provide water quality treatment. The upstream stormwater conveyance system is relatively shallow with minimal slope while the water surface elevation in the wetlands at the outfall is relatively high. Garbage and other debris often wash into the wetland from this outfall location.

**FUNDING PARTNERSHIPS:**

N/A

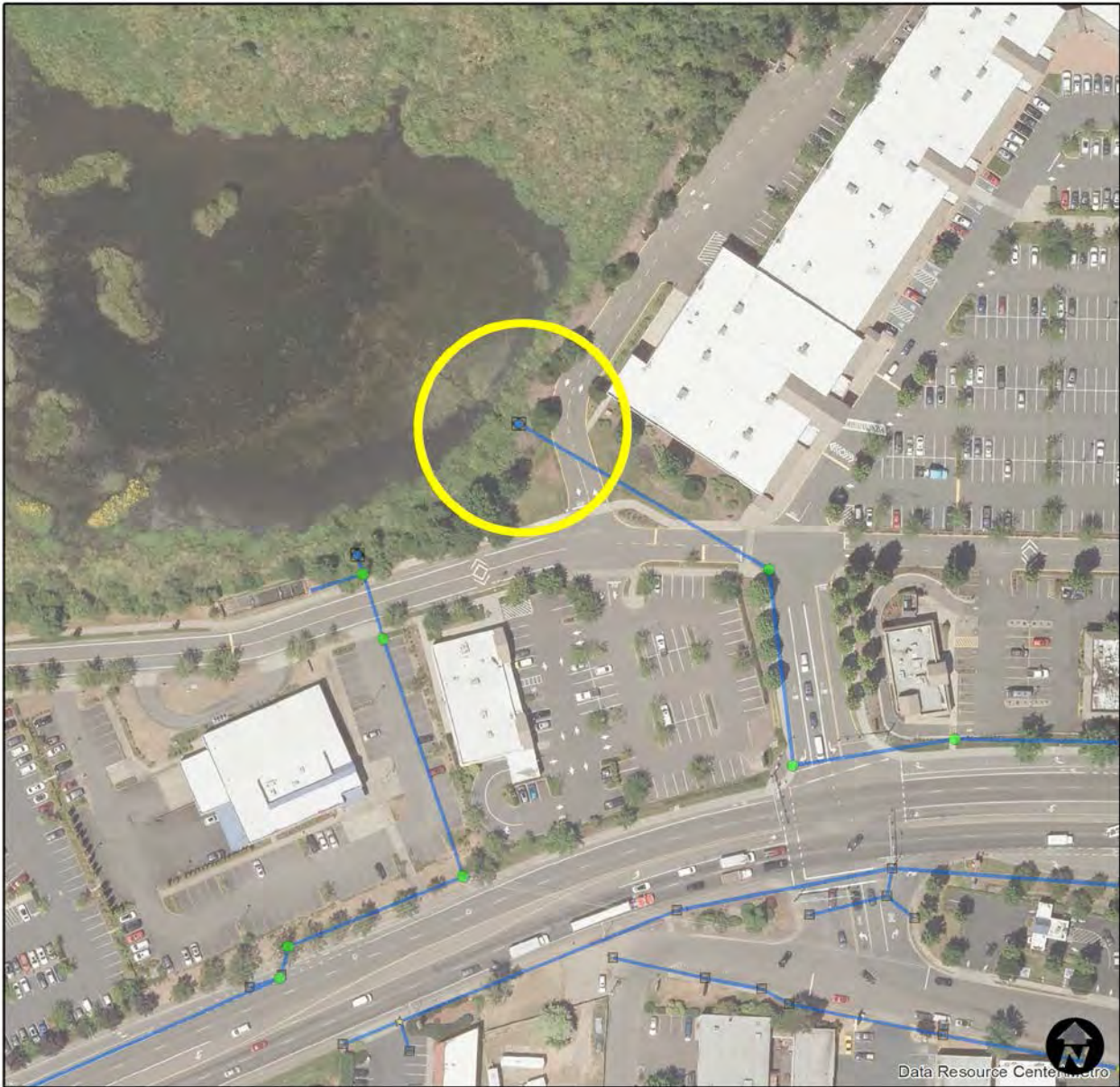
**FUNDING SOURCES FOR THIS PROJECT:**

Storm SDC Fund

YEAR	AMOUNT
FY 23/24	\$ 300,000
TOTAL:	\$300,000

Exhibit A

89<sup>th</sup> Avenue Water Quality Retrofit



# Exhibit A

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## Grahams Ferry Rd & Ibach St: Upgrade Outfall

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Storm

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$235,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Two stormwater outfalls currently discharge untreated stormwater to Hedges Creek. As part of the MS4 permit, stormwater outfalls are required to be retrofitted to provide water quality. This project will retrofit and/or upsize an existing public stormwater quality facility to handle additional flows from adjacent and untreated storm lines. The discharge for these existing storm lines will be rerouted from their current paths so that stormwater flows into the upgraded water quality facility.

**PROJECT SCOPE:**

Design and develop a stormwater quality treatment system to accommodate untreated stormwater from existing 27-inch and 42-inch stormwater lines. This may involve upsizing the existing and adjacent public water quality facility and bringing the untreated storm lines into the existing facility; designing a new public water quality facility large enough to capture and treat the stormwater from the existing stormwater outfalls; or a combination of upsizing the existing facility and adding another, smaller water quality facility at the outfalls.

**HISTORY:**

There exists both a 42" and a 27" stormwater outfall which discharges untreated stormwater into Hedges Creek, northwest of an existing public water quality facility, located at 9702 SW Ibach St. The current water quality facility is classified as an Extended Dry Basin and it accepts flow from an 18" storm line. At this time, the existing facility is not tied into the two larger untreated lines and would not have enough capacity to handle the additional flow if they were diverted into it, so the facility would need to be upsized in order to increase its treatment capacity.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Storm Drain Fund

YEAR	AMOUNT
FY 22/23	\$235,000
TOTAL:	\$235,000



Exhibit A

Grahams Ferry Rd & Ibach St: Upgrade Outfall



# Exhibit A

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## Nyberg Creek at Martinazzi Ave Assessment

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Storm

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$200,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Evaluate, design, and construct solution to reduce flooding on Martinazzi Avenue and Tualatin-Sherwood Road that results from backwater in lower Nyberg Creek.

**PROJECT SCOPE:**

Phase 1 will determine whether dredging of Nyberg Creek in the project area and proposed culvert removal will result in an expected lowering of water surface elevation of Nyberg Creek at Martinazzi Road. Phase 1 will also establish whether the current planned dredging and construction limits fall within current drainage easements.

If it can be demonstrated in Phase 1 that Nyberg Creek water surface elevations are lowered by proposed activities, this Phase 2 will evaluate whether the drop in water surface is sufficient to affect surface flooding via collection system on Martinazzi Road and Tualatin-Sherwood Road. Phase 3 would be to prepare draft legal descriptions of necessary easements for completion of the project. Phase 4 will construct improvements identified and designed in phases 1-3.

**HISTORY:**

This location regularly experiences high water elevations in Nyberg Creek that cause water to flood onto Martinazzi Road at Tualatin-Sherwood Road. Downstream improvements being developed by The Wetlands Conservancy and Clean Water Service may reduce backwater in the creek, which may reduce flooding. The evaluation phase of the project will be coordinated with The Wetland Conservancy and Clean Water Services.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Storm Drain Fund

YEAR	AMOUNT
FY 19/20	\$200,000
TOTAL:	\$200,000

Exhibit A

Nyberg Creek at Martinazzi Ave Assessment



# Exhibit A

---

## Sequoia Ridge Water Quality Facility

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Storm

**DESIGN SCHEDULE:** FY 18/19

**TOTAL COST:** \$107,000

**CONSTRUCTION SCHEDULE:** FY 19/20

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Rehabilitation of an existing public water quality facility located in the Sequoia Ridge Subdivision.

**PROJECT SCOPE:**

Survey the current grade, pipe inverts, emergency spillway, and evaluate the condition of the existing irrigation system. Remove large trees, vegetation, debris, and sediment to approved As-Built plans. Regrade facility and reestablish pipe inverts, as needed, to match As-Built plans. Install new irrigation system to ensure proper coverage for the establishment of new vegetation. Develop new planting plan and revegetate facility according to current Clean Water Services planting requirements for an Extended Dry Basin.

**HISTORY:**

Project resulted from City staff performing annual inspections on all of the City's public water quality facilities. Since 2014, and with each subsequent inspection, it has been determined that this public water quality facility is severely degraded and needs significantly more work than routine maintenance could provide. The project is intended to rehabilitate this facility to its originally intended design criteria in order to meet compliance with Clean Water Services stormwater quantity and quality requirements.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Storm Drain Fund

YEAR	AMOUNT
FY 19/20	<u>\$107,000</u>
TOTAL:	\$107,000

Exhibit A

Sequoia Ridge Water Quality Facility

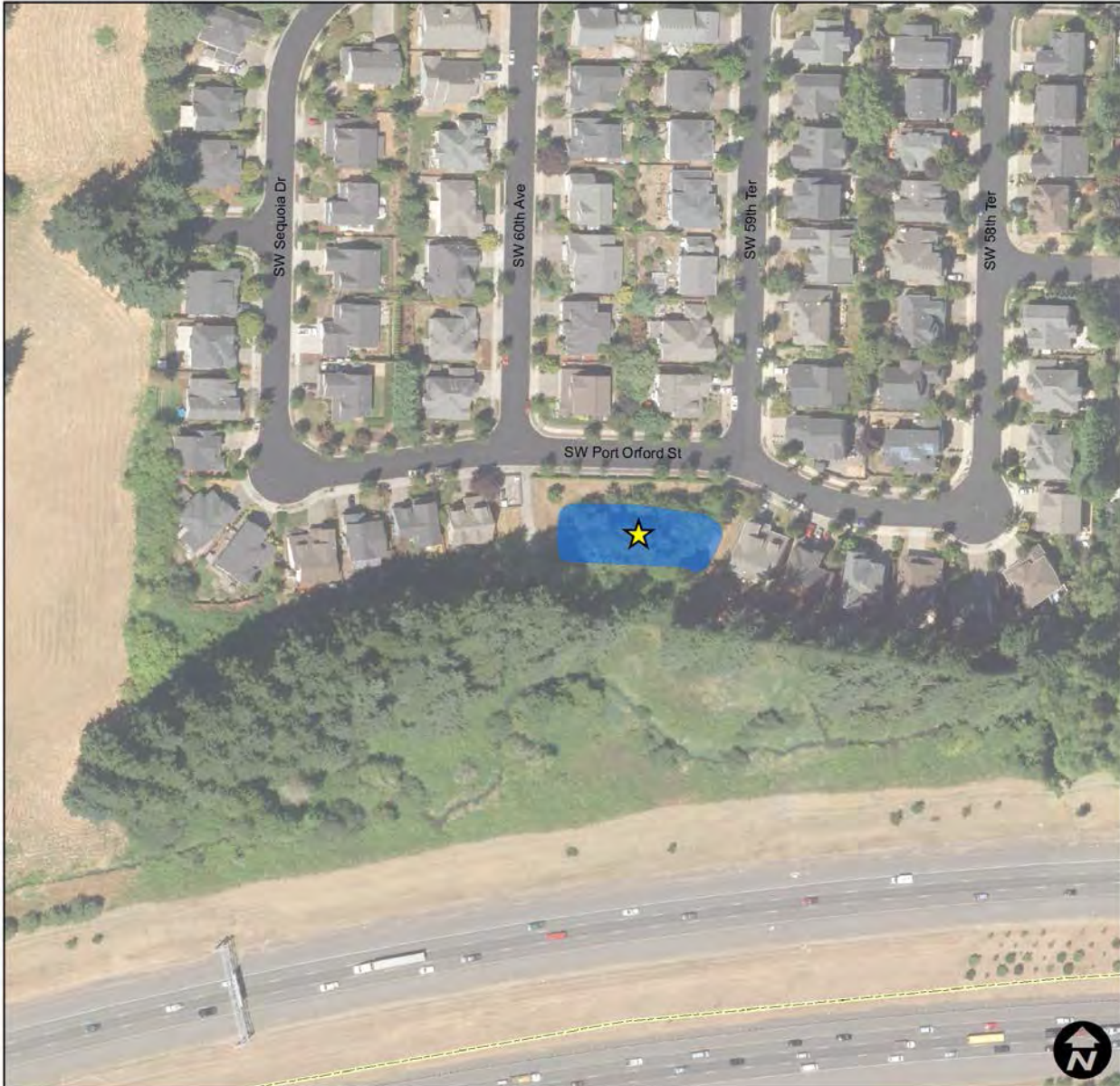


Exhibit A

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**Sweek Drive/Emery Zidell Pond B**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Storm  
**TOTAL COST:** \$110,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The existing public water quality facility located on the south side of SW Sweek Drive (Sweek Drive/Emery Zidell Pond) is no longer functioning properly as a water quality facility and needs to be reconstructed and re-vegetated.

**PROJECT SCOPE:**

Survey, design, and reconstruct the existing water quality facility.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Storm Drain Fund

YEAR	AMOUNT
FY 20/21	\$110,000
TOTAL:	\$110,000

Exhibit A

Sweek Drive/Emery Zidell Pond B



## Exhibit A

### UTILITIES- WATER

Tualatin’s water supply comes from the Bull Run Watershed and the Columbia Southshore Wellfield systems which are unfiltered systems. The City purchases the water from the City of Portland and distributes it to Tualatin residents.

The City’s distribution system contains 111 miles of water lines ranging from four to 36 inches in diameter, five reservoirs, three pump stations, and over 6,600 water connections.

#### FUNDING SOURCES

Fees collected in the Water Operating Enterprise Fund, provide funding for, and are restricted to, maintenance and capital construction of the water distribution and collection system.

Developers are required to pay a Water System Development Charge to cover the costs associated with extending service to new and expanding developments. These funds can be used to construct capital improvements thus increasing the capacity of the system.

#### ISSUES FACING UTILITIES

Aging parts of infrastructure—while Tualatin’s distribution system is relatively young, regular replacement and upgrades are needed to prevent disruption of services.

Regulatory requirements— as new or more stringent regulatory requirements are put into place, changes to the distribution and collection systems are necessary to stay in compliance.

Expansion to serve new development— new development requires new infrastructure be constructed to meet the increasing demands.

An update to the Water Master Plan is underway in FY 18/19. Once it is completed, more information and/or projects may be added to this section.

<b>Water</b>	<b>FY 19/20</b>	<b>FY 20/21</b>	<b>FY 21/22</b>	<b>FY 22/23</b>	<b>FY 23/24</b>
ASR Well Rehabilitation			373,000		
B Level Pump Station (PS-1)		1,046,000			
Blake Street to 115th Avenue: Install 12” Water Pipe	427,000				
Boones Ferry Rd: Fire Hydrants (P-5)				114,000	
Childs Rd, Crossing I-5: Replace AC Pipe (P-1 (1))					1,211,000
Leveton Dr: Complete Loop System for Fire Flow (P-4)			170,000		
Norwood Rd Tanks: New Water Line to Tanks (P-8)			1,148,000		
SCADA System Improvements (M-1)	186,000				
Tual-Sher Rd Waterline to B Level		164,000	636,000		
Water Reservoirs: A1 Exterior/Interior Coating Replacement		720,000			
Water Reservoirs: A2 Interior Coating Replacement			330,000		
Water Reservoirs: B2 Exterior Coating Replacement	659,000				
Water Reservoirs: B2 Interior Coating Replacement		600,000			
<b>Water Total</b>	<b>1,303,000</b>	<b>2,530,000</b>	<b>2,657,000</b>	<b>114,000</b>	<b>1,211,000</b>



## Exhibit A

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Exhibit A

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**ASR Well Rehabilitation**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$373,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The process for rehabilitation includes removal of the pump, inspection, cleaning and treatment of the well, then reinstallation of the pump. The project includes the potential for replacement of the Baski valve, an essential fluid-actuated valve, if needed.

**PROJECT SCOPE:**

Inspect, clean and treat the ASR well. Replace Baski valve if necessary.

**HISTORY:**

The ASR well was put into service in 2009. The ASR well rehabilitation was originally recommended for a 5-year cycle to maintain/improve performance and reduce biofouling. The ASR was last rehabilitated in 2010.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Water Fund	FY 21/22	\$373,000
	<b>TOTAL:</b>	<u>\$373,000</u>

Exhibit A

ASR Well Rehabilitation

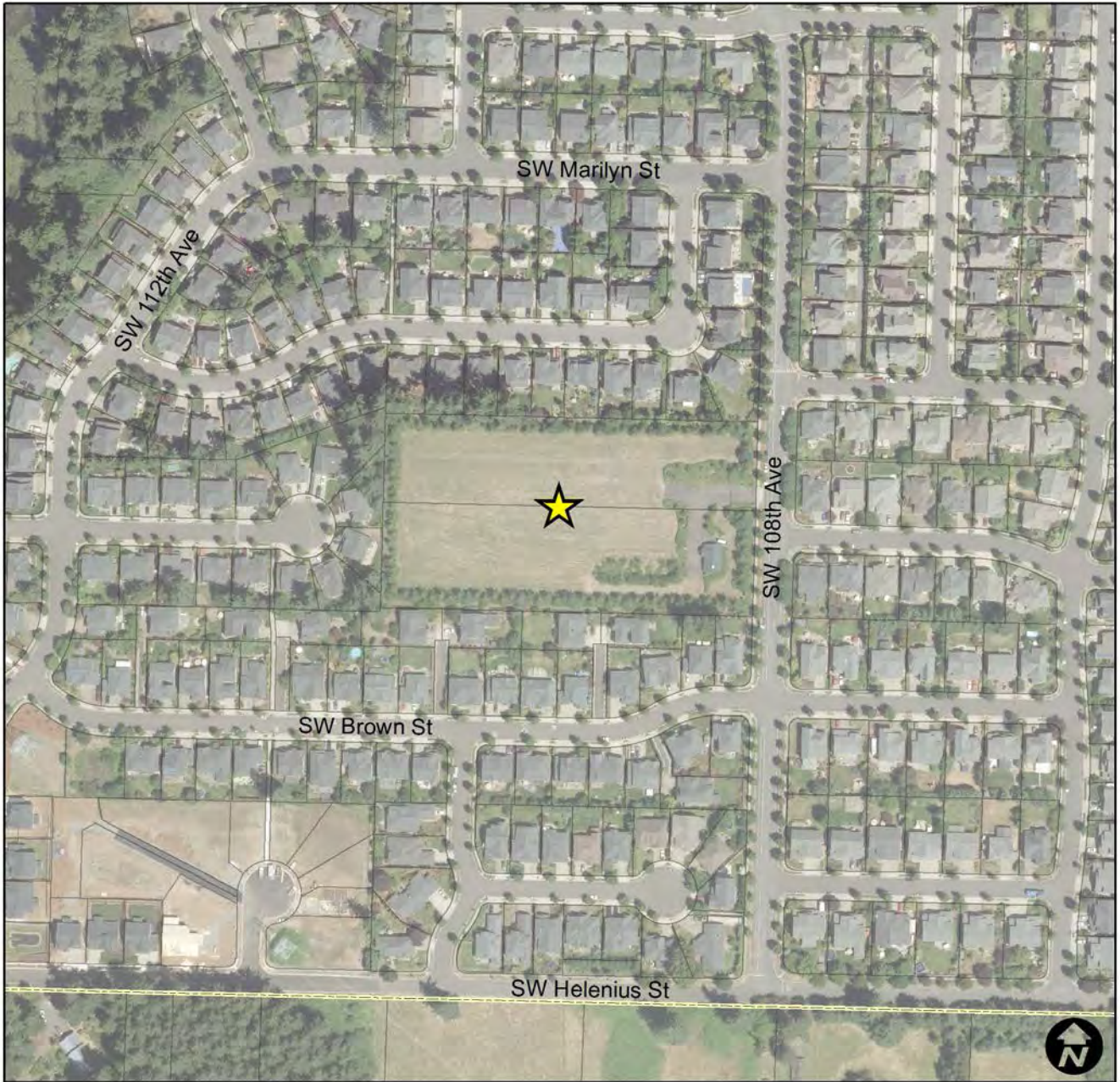


Exhibit A

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**B Level Pump Station**

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**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$1,046,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Water Master Plan PS-1

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ 500/year
- No

**DESCRIPTION:**

This new pump station will provide future pumping capacity needed for Service Area B in the event of PRV failure. The pump station will also provide for improved service pressures under high demand conditions and improve turnover for water quality in the A-2 reservoir.

**PROJECT SCOPE:**

Design and construct new 3,600 gpm (~100 horsepower) pump station near the A-2 Water Reservoir.

**HISTORY:**

The 2013 Water Master Plan recommended that the City construct a new back-up pump station located near the A-2 reservoir to accommodate development of the SW Concept Area.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Water SDC Fund	FY 20/21	<u>\$1,046,000</u>
	<b>TOTAL:</b>	<b>\$1,046,000</b>

**ON-GOING COSTS**

The pump station will require on-going operations and maintenance cost for the life of the facility.

Exhibit A

B Level Pump Station



Exhibit A

---

**Blake Street to 115<sup>th</sup> Avenue: Install 12" Water Pipe**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$427,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Construction of approximately 1,300 linear feet of 12-inch diameter piping to connect the existing dead-end line in 115th Street to the line in Blake Street to the east at the edge of Rogers Park subdivision. This project will alleviate an existing water pressure issue in this dead-end line.

**PROJECT SCOPE:**

Construct approximately 1,300 linear feet of 12-inch diameter pipe.

**HISTORY:**

Water pressure in this line has historically been an issue; the new line will prevent the issue from occurring in the future.

**FUNDING PARTNERSHIPS:**

This project is eligible for 36% system development charge funding.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Water Fund (64%)	FY 19/20	\$273,000
Water SDC Fund (36%)	FY 19/20	154,000
	<b>TOTAL:</b>	<u>\$427,000</u>

Exhibit A

Blake Street to 115<sup>th</sup> Avenue: Install 12" Water Pipe



Exhibit A

---

**Boones Ferry Rd: Fire Hydrants**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$114,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Water Master Plan P-5

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

Install fire hydrants on SW Boones Ferry Road to improve fire flow capacity at the Tualatin High School site.

**PROJECT SCOPE:**

Install three fire hydrants.

**HISTORY:**

This project is identified in the 2013 Water Master Plan.

**FUNDING PARTNERSHIPS:**

This project is eligible for 36% system development charge funding.

**FUNDING SOURCES FOR THIS PROJECT:**

Water Fund  
Water SDC Fund

YEAR	AMOUNT
FY 22/23	\$73,000
FY 22/23	\$41,000
TOTAL:	<u>\$114,000</u>



Exhibit A

Boones Ferry Rd: Fire Hydrants



Exhibit A

---

**Childs Rd, Crossing I-5: Replace AC Pipe**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$1,211,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Water Master Plan P-1 (1)

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

This project will replace existing asbestos concrete (AC) distribution piping along Childs Road where it crosses Interstate 5.

**PROJECT SCOPE:**

Design and construct replacement pipe, coordinating with the Oregon Dept. of Transportation where it crosses ODOT right-of-way.

**HISTORY:**

This project is identified in general in the 2013 Water Master Plan in order to replace all AC pipe in the city water system. The remaining areas have been broken into several phases; this is one of them.

**FUNDING PARTNERSHIPS:**

This project is eligible for SDC funds for 36% of the project cost.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Water Fund	FY 23/24	\$775,000
Water SDC Fund	FY 23/24	\$436,000
	<b>TOTAL:</b>	<u>\$1,211,000</u>

Exhibit A

Childs Rd, Crossing I-5: Replace AC Pipe

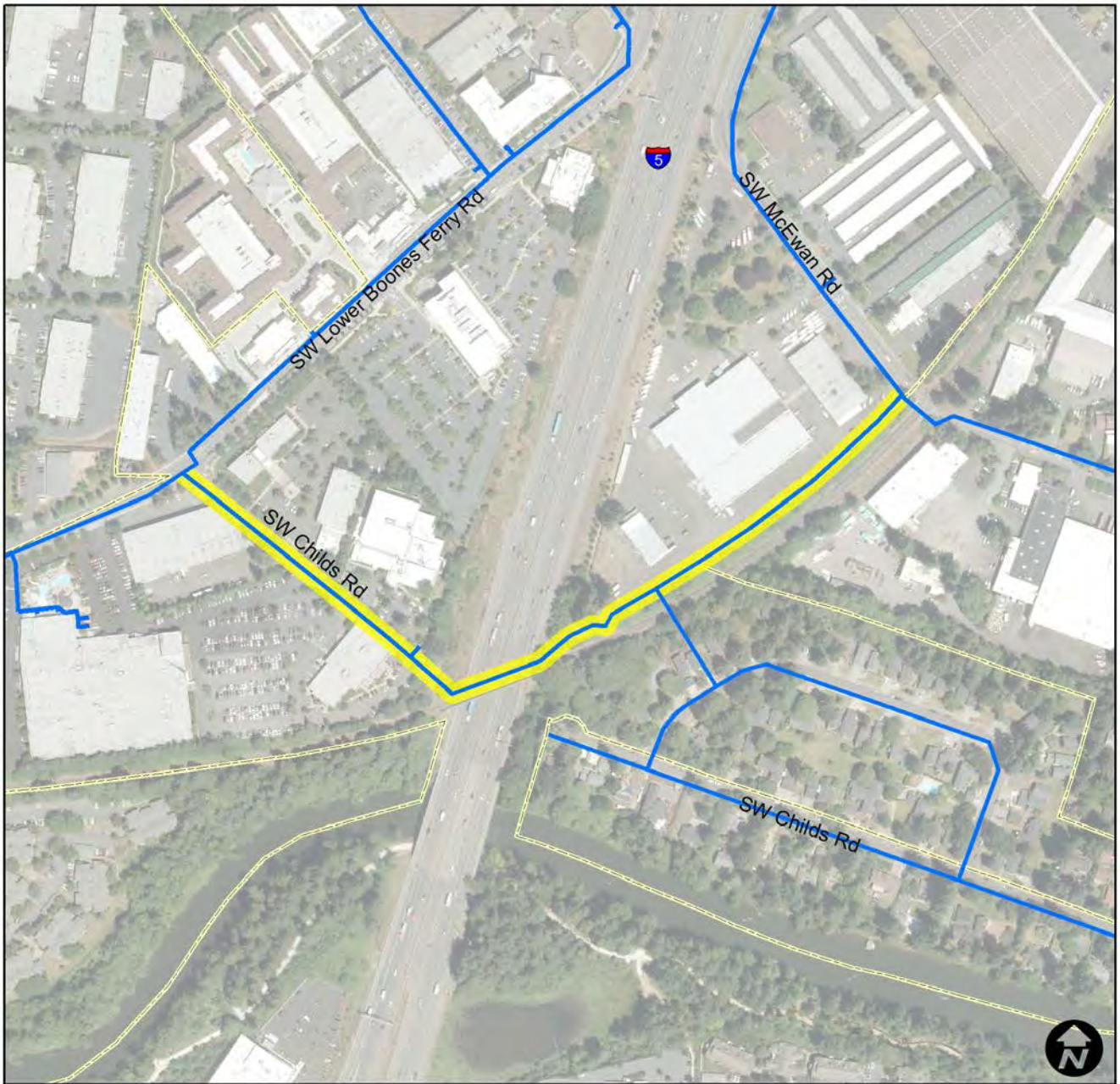


Exhibit A

---

**Leveton Dr: Complete Loop System for Fire Flow**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$170,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Water Master Plan P-4

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project consists of the partial completion of a 12-inch diameter water distribution loop to improve capacity to address existing fire flow deficiencies in the area. The project is located near the Leveton Pressure Reducing Valve (PRV) vault on Leveton Drive.

**PROJECT SCOPE:**

Survey, design, and construct a 12-inch diameter water main.

**HISTORY:**

This project is identified in the 2013 Water Master Plan.

**FUNDING PARTNERSHIPS:**

This project is eligible for 36% system development charge funding.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Water Fund	FY 21/22	\$109,000
Water SDC Fund	FY 21/22	\$61,000
	<b>TOTAL:</b>	<u>\$170,000</u>

# Exhibit A

## Leveton Dr: Complete Loop System for Fire Flow



Exhibit A

---

**Norwood Rd Tanks: New Water Line to Tanks**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$1,148,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Water Master Plan P-8

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Build approximately 4,700 feet of parallel 12-inch diameter outlet piping from the Norwood Reservoirs to the Service Area B distribution system at Ibach Road to provide for fire flow capacity and improve reservoir water quality.

**PROJECT SCOPE:**

Hire a consultant to design and a contractor to build this new water line.

**HISTORY:**

This project is identified in the 2013 Water Master Plan.

**FUNDING PARTNERSHIPS:**

This project is eligible for 36% system development charge funding.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Water Fund	FY 21/22	\$735,000
Water SDC Fund	FY 21/22	\$413,000
	<b>TOTAL:</b>	<u>\$1,148,000</u>

Exhibit A

Norwood Rd Tanks: New Water Line to Tanks



Exhibit A

---

**SCADA System Improvements**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$186,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Water Master Plan M-1

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**  
Upgrade the Supervisory Control and Data Acquisition (SCADA) system that staff use to monitor the City’s water system.

**PROJECT SCOPE:**  
Evaluate existing SCADA system components and upgrade to match existing water supply system.

**HISTORY:**  
The original SCADA system no longer allows staff to operate the water system efficiently.

**FUNDING PARTNERSHIPS:**  
This project is eligible for 36% SDC funding per the 2013 Water Master Plan.

**FUNDING SOURCES FOR THIS PROJECT:**  
Water Fund  
Water SDC Fund

YEAR	AMOUNT
FY 19/20	\$119,000
FY 19/20	\$67,000
TOTAL:	<u>\$186,000</u>



## Exhibit A

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# Exhibit A

---

## Tualatin-Sherwood Waterline to B Level

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Water

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$800,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Related to PS-1

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project will provide transmission piping from a proposed B Level Pump Station near A2 Reservoir (shown as PS-1 in the 2013 Water Master Plan) to connect the A Level Reservoir to B Level service area. This project is timed to coincide with a County road project along Tualatin-Sherwood Road that is already funded and planned for this timeframe (construction currently planned for FY 21/22).

**PROJECT SCOPE:**

Design and construct a 3,700 linear foot 16" diameter water transmission pipe in Tualatin-Sherwood Road between Wildrose Place and SW 120<sup>th</sup> Ave to accommodate the new pump station near A2 Reservoir and take advantage of Washington County's reconstruction in order to save costs on the installation.

**HISTORY:**

Moving water from A-Level to B-Level would improve storage available for B-Level and help reduce reservoir turn-over issue sometimes experienced in the large A-level reservoir. For estimating purposes, assume 4-6 feet of cover and assume cost does not include resurfacing Tualatin-Sherwood Road because project is planned to be constructed with the County road reconstruction project.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Water Fund (Design)  
Water Fund (Construction)

YEAR	AMOUNT
FY 20/21	\$164,000
FY 21/22	636,000
TOTAL:	<u>\$800,000</u>

Exhibit A

Tualatin-Sherwood Waterline to B Level



Exhibit A

---

**Water Reservoirs: A1 Interior & Exterior Coating Replacement**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$720,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project consists of interior and exterior coating of the City's Avery A1 Reservoir, a ground level 2.2 million gallon, welded steel drinking water storage tank.

**PROJECT SCOPE:**

Remove and replace interior and exterior coatings and apply new coating. Surface preparation will include full removal of existing interior and exterior coatings with abrasive blast methods.

**HISTORY:**

The tank is 90 feet in diameter and 50 feet tall and was constructed in 1971. The exterior coating of the A1 Reservoir has approached the recommended limit for adding more coatings, and has a lead-based primer coating that will require full containment. The interior coating appears to be the original coal tar coating applied when the reservoir was installed and must be removed and a new coating applied.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Water Fund

YEAR	AMOUNT
FY 20/21	\$720,000
TOTAL:	<u>\$720,000</u>

# Exhibit A

## Water Reservoirs: A1 Interior & Exterior Coating Replacement

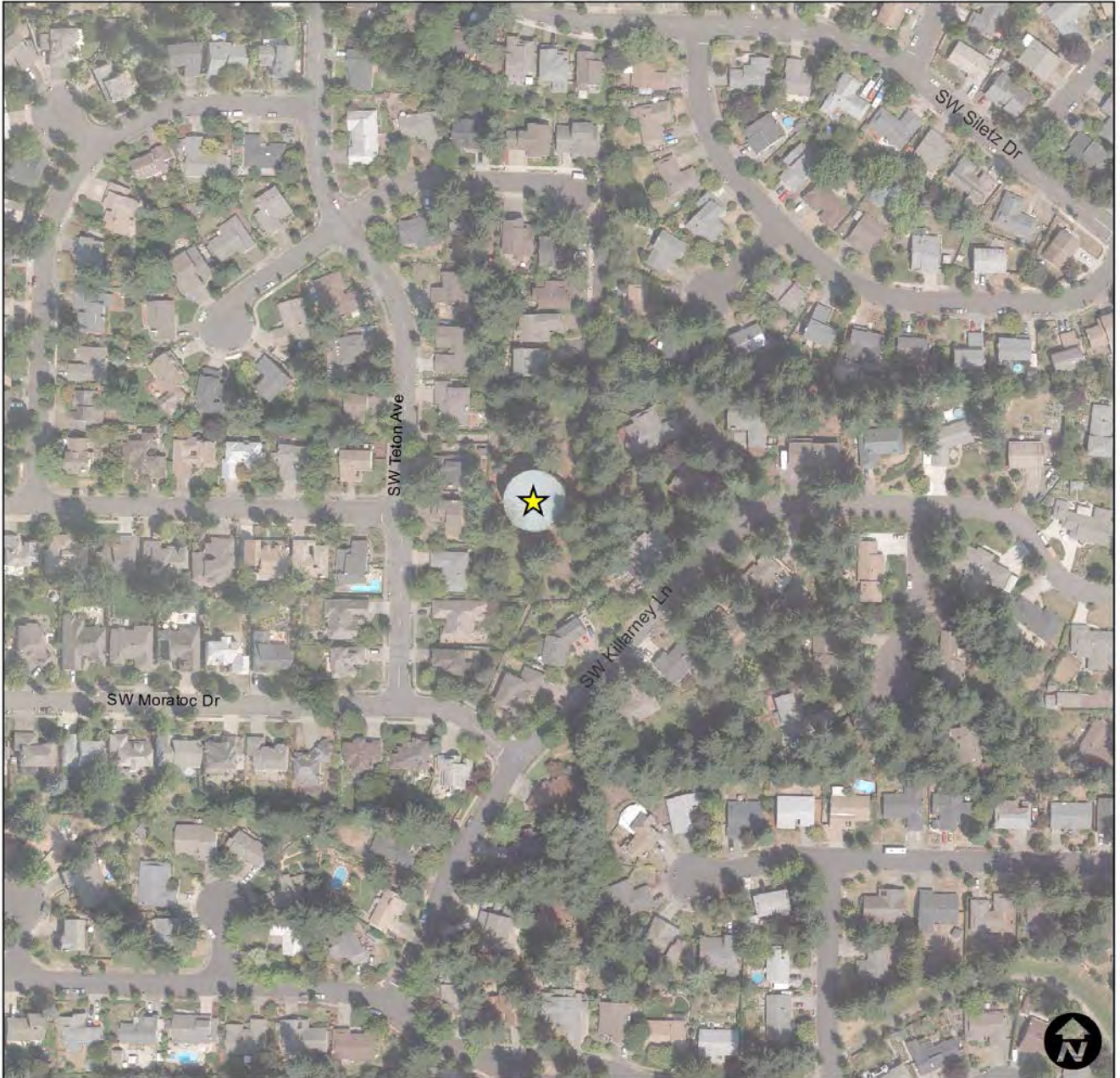


Exhibit A

---

**Water Reservoirs: A2 Interior Coating Replacement**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$330,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**  
Recoat the interior of the A2 water reservoir. The existing paint coating is showing signs of blistering.

**PROJECT SCOPE:**  
Staff will hire a contractor to recoat the inside of the reservoir.

**HISTORY:**  
The existing coating was applied when the reservoir was put into service in 2006.

**FUNDING PARTNERSHIPS:**  
N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Water Fund	FY 21/22	\$330,000
	<b>TOTAL:</b>	<u>\$330,000</u>

Exhibit A

Water Reservoirs: A2 Interior Coating Replacement



Exhibit A

---

**Water Reservoirs: B2 Exterior Coating Replacement**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$659,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project consists of exterior coating of the City's Norwood B2 Reservoir, a ground level 2.8 million gallon welded steel tank constructed in 1989. After cleaning, a standard exterior coating will be applied.

**PROJECT SCOPE:**

Remove and replace exterior coating and apply new coating. Surface preparation will include full removal of existing exterior coatings with abrasive blast methods.

**HISTORY:**

The original exterior coating of the B2 Reservoir was removed in 2000 due to poor adhesion.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Water Fund

YEAR	AMOUNT
FY 19/20	\$659,000
TOTAL:	<u>\$659,000</u>



Exhibit A

Water Reservoirs: B2 Exterior Coating Replacement



Exhibit A

---

**Water Reservoirs: B2 Interior Coating Replacement**

---

**DEPARTMENT:** Public Works  
**CATEGORY:** Utilities- Water  
**TOTAL COST:** \$600,000

**CONCEPT SCHEDULE:** \_\_\_\_\_  
**DESIGN SCHEDULE:** \_\_\_\_\_  
**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**  
 Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**  
 Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**  
 Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project consists of interior coating of the City's Norwood B2 Reservoir, a ground level 2.8 million gallon welded steel tank constructed in 1989.

**PROJECT SCOPE:**

Remove and replace interior coating and apply new coating. Surface preparation will include full removal of existing interior coatings with abrasive blast methods.

**HISTORY:**

Because the interior coatings are estimated to be the original coatings, the interior coatings must be removed and a new coating applied.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Water Fund

YEAR	AMOUNT
FY 20/21	\$600,000
TOTAL:	\$600,000

Exhibit A

Water Reservoirs: B2 Interior Coating Replacement



## APPENDIX A: EXTENDED CIP- TRANSPORTATION AND UTILITIES

This Capital Improvement Plan also includes extended information for Years 6 through 10 (FY 24/25- FY 28/29) in the categories of transportation and utilities. This allows the City to plan for future projects and see a larger picture of the financial needs we have identified through the City’s various master plans. The projects shown in this extended CIP are for planning and information and are not a set schedule. The CIP, particularly this extended section, is a fluid planning document that will continue to change as more information becomes available.

### Total Projects by Category

	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	Grand Total
<b>Transportation</b>	2,415,000	932,000	812,000	1,225,000	275,000	<b>5,659,000</b>
<b>Utilities-Sewer</b>			133,000			<b>133,000</b>
<b>Utilities-Storm</b>	263,000	214,000	1,936,000		275,000	<b>2,688,000</b>
<b>Utilities-Water</b>	844,000	517,000	1,240,000	275,000	158,000	<b>3,034,000</b>
<b>Grand Total</b>	<b>3,522,000</b>	<b>1,663,000</b>	<b>4,121,000</b>	<b>1,500,000</b>	<b>708,000</b>	<b>11,514,000</b>

### Total Projects by Funding Source

Fund	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	Grand Total
<b>Road Operating/Gas Tax</b>			203,000		275,000	<b>478,000</b>
<b>Sewer</b>						<b>0</b>
<b>Sewer SDC</b>			133,000			<b>133,000</b>
<b>Storm Drain</b>	263,000	214,000	1,936,000			<b>2,413,000</b>
<b>Storm SDC</b>					275,000	<b>275,000</b>
<b>Transp. Dev. Tax</b>	2,415,000	852,000	609,000	1,225,000		<b>5,101,000</b>
<b>Water</b>	844,000	331,000	794,000	176,000	103,000	<b>2,248,000</b>
<b>Water SDC</b>		186,000	446,000	99,000	55,000	<b>786,000</b>
<b>Outside funded</b>		80,000				<b>80,000</b>
<b>Grand Total</b>	<b>3,522,000</b>	<b>1,663,000</b>	<b>4,121,000</b>	<b>1,500,000</b>	<b>708,000</b>	<b>11,514,000</b>

## Exhibit A

### Total Projects by Category

<b>Transportation</b>	<b>FY 24/25</b>	<b>FY 25/26</b>	<b>FY 26/27</b>	<b>FY 27/28</b>	<b>FY 28/29</b>
Avery St and Teton Ave: New Traffic Signal (R37)			812,000		
Boones Ferry Rd, Ibach to Norwood: Upgrade to standards (R8)		852,000			
Boones Ferry Rd: Transit Stop Bus Pullouts (R41)					275,000
Herman Rd, 124th Ave to Cipole Rd Improvements (R1)2	2,415,000				
*Nyberg St: Improve Bike Lane on East Side of Interchange (BP15)		80,000			
Teton Ave: Add right-turn onto Tual-Sher Rd (R48)				1,225,000	
<b>Transportation Total</b>	<b>2,415,000</b>	<b>932,000</b>	<b>812,000</b>	<b>1,225,000</b>	<b>275,000</b>

\* These projects rely on outside funding and will only proceed if funding is secured.

<b>Utilities</b>	<b>FY 24/25</b>	<b>FY 25/26</b>	<b>FY 26/27</b>	<b>FY 27/28</b>	<b>FY 28/29</b>
<b>Sewer</b>					
Sewer Master Plan Update			133,000		
<b>Sewer Total</b>			<b>133,000</b>		

<b>Storm</b>					
125th Ct/Herman Rd: Upgrade or Install Stormwater Outfall	263,000				
Manhasset Storm System			1,936,000		
Storm Master Plan Update					275,000
Waterford Water Quality Facility		214,000			
<b>Storm Total</b>	<b>263,000</b>	<b>214,000</b>	<b>1,936,000</b>		<b>275,000</b>

<b>Water</b>					
Boones Ferry Rd: Replace AC Pipe (P-1 (4))				275,000	
Lower Boones Ferry Rd: Replace AC Pipe (P-1 (2))			1,067,000		
Manhasset: Fire Flow (P-7)			173,000		
Nyberg St: Replace AC Pipe (P-1(3))		517,000			
Water Master Plan Update and Rate Study (M-2 & M-3)					158,000
Water Reservoirs: B1 Exterior/Interior Coating Replacement	844,000				
<b>Water Total</b>	<b>844,000</b>	<b>517,000</b>	<b>1,240,000</b>	<b>275,000</b>	<b>158,000</b>
<b>Utilities Grand Total</b>	<b>1,107,000</b>	<b>731,000</b>	<b>3,309,000</b>	<b>275,000</b>	<b>433,000</b>

Exhibit A

Projects by Funding Source

Road Operating/Gas Tax Fund	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29
Avery St and Teton Ave: New Traffic Signal (R37)			203,000		
Boones Ferry Rd: Transit Stop Bus Pullouts (R41)					275,000
<b>Road Operating/Gas Tax Total</b>			<b>203,000</b>		<b>275,000</b>
<b>Projected Revenue Available for Projects</b>	<b>458,000</b>	<b>43,000</b>	<b>40,000</b>	<b>-511,000</b>	<b>-1,003,000</b>

Sewer Fund	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29
None					
<b>Sewer Total</b>					
<b>Projected Revenue Available for Projects</b>	<b>-256,000</b>	<b>-937,000</b>	<b>-1,823,000</b>	<b>-2,884,000</b>	<b>-4,070,000</b>

Sewer SDC Fund	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29
Sewer Master Plan Update			133,000		
<b>Sewer SDC Total</b>			<b>133,000</b>		
<b>Projected Revenue Available for Projects</b>	<b>3,085,000</b>	<b>3,336,000</b>	<b>3,587,000</b>	<b>3,705,000</b>	<b>3,956,000</b>

Storm Drain Fund	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29
125th Ct/Herman Rd: Upgrade or Install Stormwater Outfall	263,000				
Manhasset Storm System			1,936,000		
Waterford Water Quality Facility		214,000			
<b>Storm Drain</b>	<b>263,000</b>	<b>214,000</b>	<b>1,936,000</b>		
<b>Projected Revenue Available for Projects</b>	<b>7,226,000</b>	<b>7,971,000</b>	<b>8,797,000</b>	<b>7,660,000</b>	<b>9,025,000</b>

Storm SDC Fund	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29
Storm Master Plan					275,000
<b>Storm SDC Total</b>					<b>275,000</b>
<b>Projected Revenue Available for Projects</b>	<b>317,000</b>	<b>355,000</b>	<b>393,000</b>	<b>431,000</b>	<b>469,000</b>

Transportation Development Tax Fund	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29
Avery St and Teton Ave: New Traffic Signal (R37)			609,000		
Boones Ferry Rd, Ibach to Norwood (R8)		852,000			
Herman Rd, 124th Ave to Cipole Rd Improvements (R1)	2,415,000				
Teton Ave: Add right-turn onto Tual-Sher Rd (R48)				1,225,000	
<b>Transp. Dev. Tax Total</b>	<b>2,415,000</b>	<b>852,000</b>	<b>609,000</b>	<b>1,225,000</b>	
<b>Projected Revenue Available for Projects</b>	<b>6,955,000</b>	<b>4,858,000</b>	<b>4,324,000</b>	<b>4,033,000</b>	<b>3,126,000</b>

Exhibit A

Projects by Funding Source

<b>Water Fund</b>	<b>FY 24/25</b>	<b>FY 25/26</b>	<b>FY 26/27</b>	<b>FY 27/28</b>	<b>FY 28/29</b>
Boones Ferry Rd: Replace AC Pipe (P-1 (4))				176,000	
Lower Boones Ferry Rd: Replace AC Pipe (P-1 (2))			683,000		
Manhasset: Fire Flow (P-7)			111,000		
Nyberg St: Replace AC Pipe (P-1(3))		331,000			
Water Master Plan Update and Rate Study (M-2 & M-3)					103,000
Water Reservoirs: B1 Exterior/Interior Coating Replacement	844,000				
<b>Water Total</b>	<b>844,000</b>	<b>331,000</b>	<b>794,000</b>	<b>176,000</b>	<b>103,000</b>
<b>Projected Revenue Available for Projects</b>	<b>3,588,000</b>	<b>3,601,000</b>	<b>4,133,000</b>	<b>4,066,000</b>	<b>4,895,000</b>

<b>Water SDC Fund</b>	<b>FY 24/25</b>	<b>FY 25/26</b>	<b>FY 26/27</b>	<b>FY 27/28</b>	<b>FY 28/29</b>
Boones Ferry Rd: Replace AC Pipe (P-1 (4))				99,000	
Lower Boones Ferry Rd: Replace AC Pipe (P-1 (2))			384,000		
Manhasset: Fire Flow (P-7)			62,000		
Nyberg St: Replace AC Pipe (P-1(3))		186,000			
Water Master Plan Update and Rate Study (M-2 & M-3)					55,000
<b>Water SDC Total</b>		<b>186,000</b>	<b>446,000</b>	<b>99,000</b>	<b>55,000</b>
<b>Projected Revenue Available for Projects</b>	<b>522,000</b>	<b>825,000</b>	<b>942,000</b>	<b>799,000</b>	<b>1,003,000</b>

<b>Outside Funded (Grants, etc.)</b>	<b>FY 24/25</b>	<b>FY 25/26</b>	<b>FY 26/27</b>	<b>FY 27/28</b>	<b>FY 28/29</b>
*Nyberg St: Improve Bike Lane East of Interchange (BP15)		80,000			
<b>Outside Funded Total</b>		<b>80,000</b>			

\* These projects rely on outside funding and will only proceed if funding is secured.

## Exhibit A

### Transportation

The City of Tualatin's transportation network includes 91 miles of streets (seventy-seven miles are maintained by the City, nine miles are maintained by Washington and Clackamas Counties, and five miles are maintained by the State) and 48 traffic signals (the City owns twenty-two, eighteen are County-owned, and eight are State-owned). All signals within Tualatin are operated by Washington County or Oregon Department of Transportation.

Tualatin's right-of-way serves a multitude of transportation system users including pedestrians, bicycles, transit, automobiles, and freight. Projects included in the CIP include projects designed to improve the safety, capacity, and connectivity for all roadway users.

The transportation projects included in the CIP are generally identified in the 2014 Transportation System Plan (TSP). The TSP prioritized projects as short-term (one to five years), medium-term (five to ten years), and long term (more than 10 years). In addition to design and construction projects, there are also concept studies programmed into the CIP to evaluate possible projects and define scope for viable projects. The CIP plans for projects based on the TSP and anticipated funding.

<b>Transportation</b>	<b>FY 24/25</b>	<b>FY 25/26</b>	<b>FY 26/27</b>	<b>FY 27/28</b>	<b>FY 28/29</b>
Avery St and Teton Ave: New Traffic Signal (R37)			812,000		
Boones Ferry Rd, Ibach to Norwood: Upgrade to standards (R8)		852,000			
Boones Ferry Rd: Transit Stop Bus Pullouts (R41)					275,000
Herman Rd, 124th Ave to Cipole Rd Improvements (R1)2	2,415,000				
*Nyberg St: Improve Bike Lane on East Side of Interchange (BP15)		80,000			
Teton Ave: Add right-turn onto Tual-Sher Rd (R48)				1,225,000	
<b>Transportation Total</b>	<b>2,415,000</b>	<b>932,000</b>	<b>812,000</b>	<b>1,225,000</b>	<b>275,000</b>

\* These projects rely on outside funding and will only proceed if funding is secured.



## Exhibit A

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Exhibit A

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**Avery St and Teton Ave: New Traffic Signal**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$812,000

**CONSTRUCTION SCHEDULE:** FY 26/27

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan R37

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ 1000/year     No

**DESCRIPTION:**

Install a new traffic signal at the intersection of Avery Street and Teton Avenue as recommended in the 2014 Transportation System Plan.

**PROJECT SCOPE:**

Design and construct new traffic signal at this intersection.

**HISTORY:**

This project was identified in the 2014 TSP along with a menu of other improvements on Teton Avenue and Avery Street. The classifications for both streets were changed from major collectors to minor arterials in the 2014 TSP.

**FUNDING PARTNERSHIPS:**

This project is eligible for 75% Transportation Development Tax funding and included on the Washington County approved TDT list as Project #6007.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Road Operating/Gas Tax Fund	FY 26/27	\$203,000
Transportation Development Tax Fund	FY 26/27	\$609,000
	<b>TOTAL:</b>	<u>\$812,000</u>

Exhibit A

Avery St and Teton Ave: New Traffic Signal

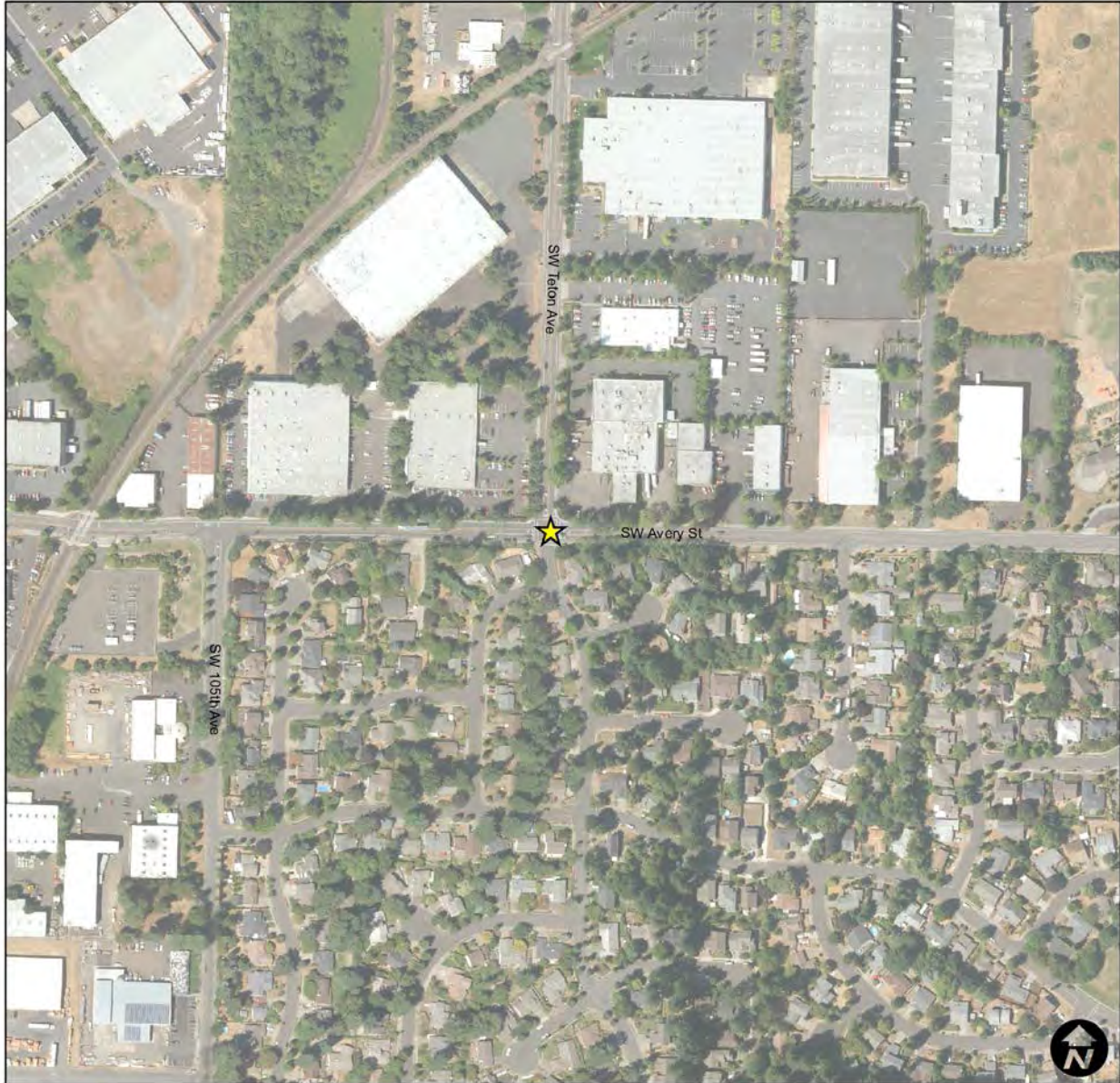


Exhibit A

---

**Boones Ferry Road, Ibach to Norwood: Upgrade to Standards**

---

**DEPARTMENT:** Public Works **CONCEPT SCHEDULE:** \_\_\_\_\_  
**CATEGORY:** Transportation **DESIGN SCHEDULE:** \_\_\_\_\_  
**TOTAL COST:** \$852,000 **CONSTRUCTION SCHEDULE:** FY 25/26

**RANKING CRITERIA MET:**  Council Goal  Regulatory Requirement  Health & Safety  Service Delivery Need  Master Plan: Transp. System Plan R8  
**PROJECT TYPE:**  Maintenance  Replacement  New/Expansion  
**NEW ONGOING COSTS?**  Yes \$ \_\_\_\_\_  No

**DESCRIPTION:**  
Widen Boones Ferry Rd to three lanes and add bike lanes and pedestrian enhancements.

**PROJECT SCOPE:**  
Design and construct this section of Boones Ferry Road to standards with bicycle and pedestrian improvements.

**HISTORY:**  
This project is called for in the 2014 Transportation System Plan.

**FUNDING PARTNERSHIPS:**  
This project is eligible for 100% Transportation Development Tax funding and included in the approved TDT list as Project #6013.

<b>FUNDING SOURCES FOR THIS PROJECT:</b>	<b>YEAR</b>	<b>AMOUNT</b>
Transportation Development Tax Fund	FY 25/26	<u>\$852,000</u>
	TOTAL:	\$852,000

Exhibit A

Boones Ferry Road, Ibach to Norwood: Upgrade to Standards

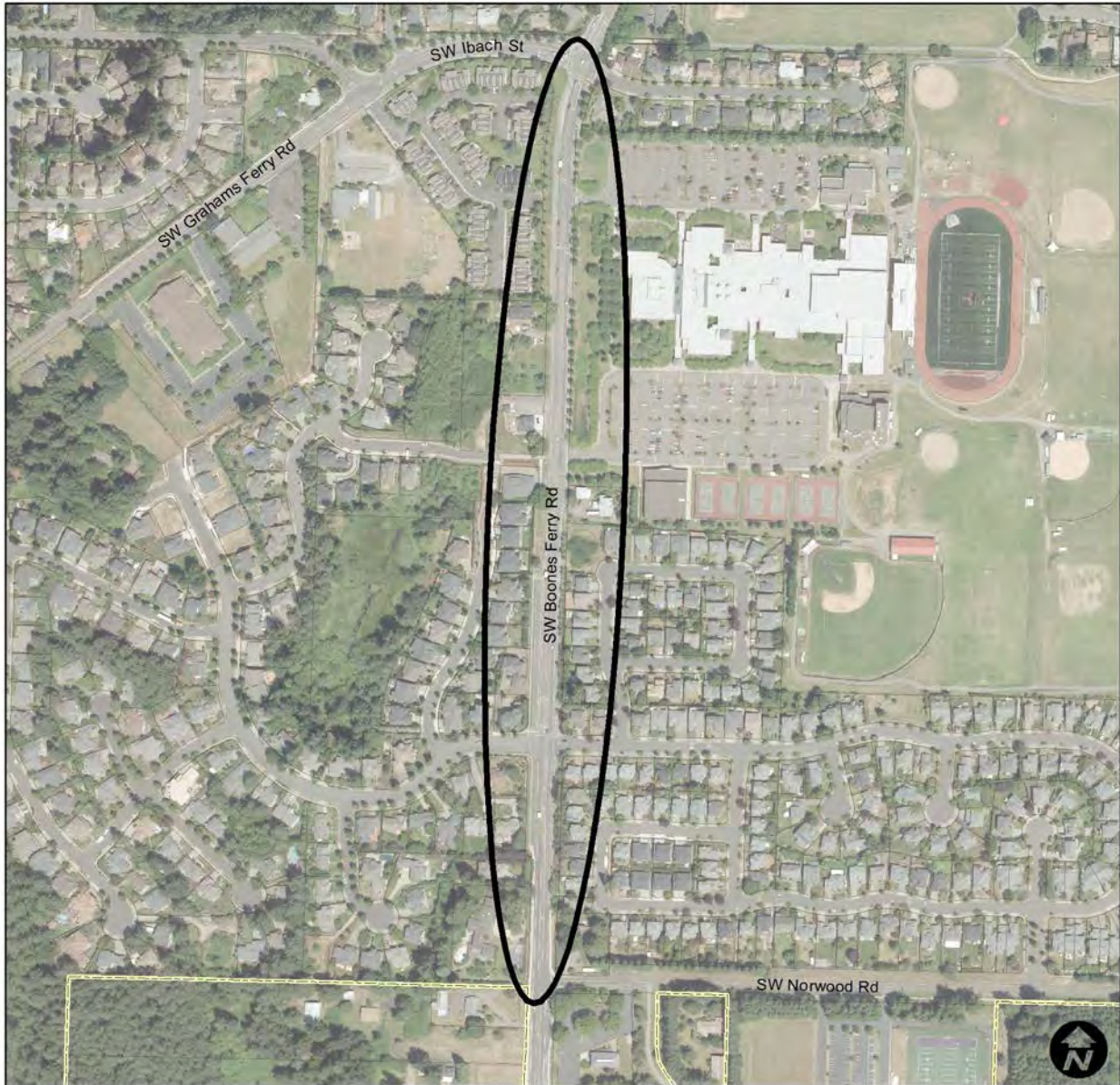


Exhibit A

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**Boones Ferry Rd: Transit Stop Bus Pullouts**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$275,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan R41

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Add bus pullouts at up to ten existing bus stops on SW Boones Ferry Road.

**PROJECT SCOPE:**

Coordinate with TriMet, evaluate alternatives, acquire right of way, prepare construction documents, and construct bus pullouts at up to ten locations on Boones Ferry Road.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

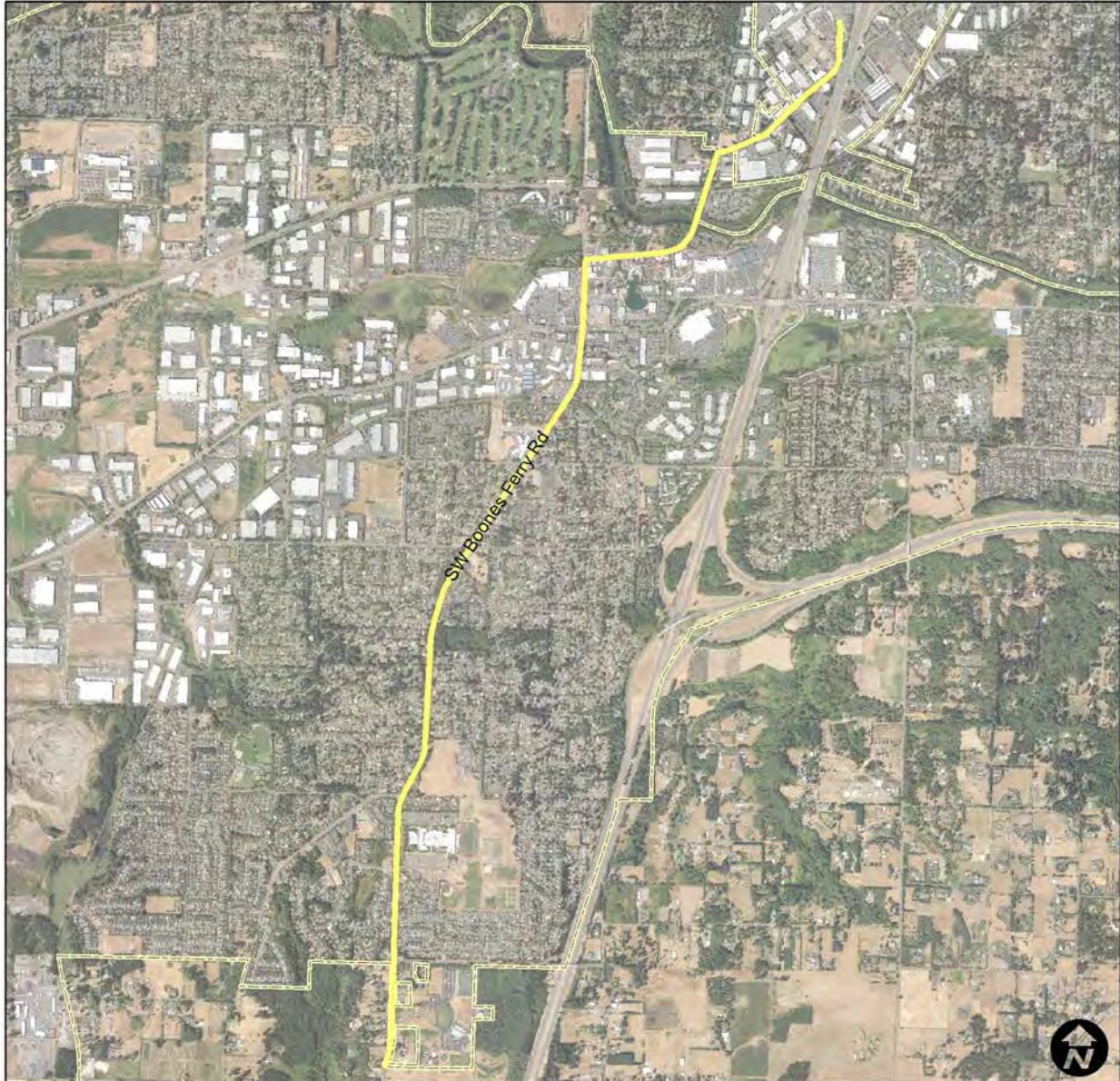
**FUNDING SOURCES FOR THIS PROJECT:**

Road Operating/Gas Tax Fund

YEAR	AMOUNT
FY 28/29	\$275,000
TOTAL:	\$275,000

Exhibit A

Boones Ferry Rd: Transit Stop Bus Pullouts



# Exhibit A

## Herman Rd, 124<sup>th</sup> Ave to Cipole Rd Improvements

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** FY 23/24

**TOTAL COST:** \$3,195,000

**CONSTRUCTION SCHEDULE:** FY 24/25

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Transp. System Plan R1

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

Upgrade Herman Rd to urban standards from 124<sup>th</sup> Avenue to Cipole Road.

**PROJECT SCOPE:**

Design and construct a complete street improvement along Herman Road from 124<sup>th</sup> Avenue to Cipole Road, including adding a center turn lane, bike lanes, stormwater treatment and drainage system, and sidewalk.

**HISTORY:**

This project is identified in the 2014 Transportation System Plan.

**FUNDING PARTNERSHIPS:**

This project is eligible for TDT funding and included on the Washington County approved project list as Project #6023.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Transportation Development Tax Fund	FY 23/24	\$780,000
Transportation Development Tax Fund	FY 24/25	<u>\$2,415,000</u>
	<b>TOTAL:</b>	<u>\$3,195,000</u>



Exhibit A

Herman Rd, 124<sup>th</sup> Ave to Cipole Rd Improvements

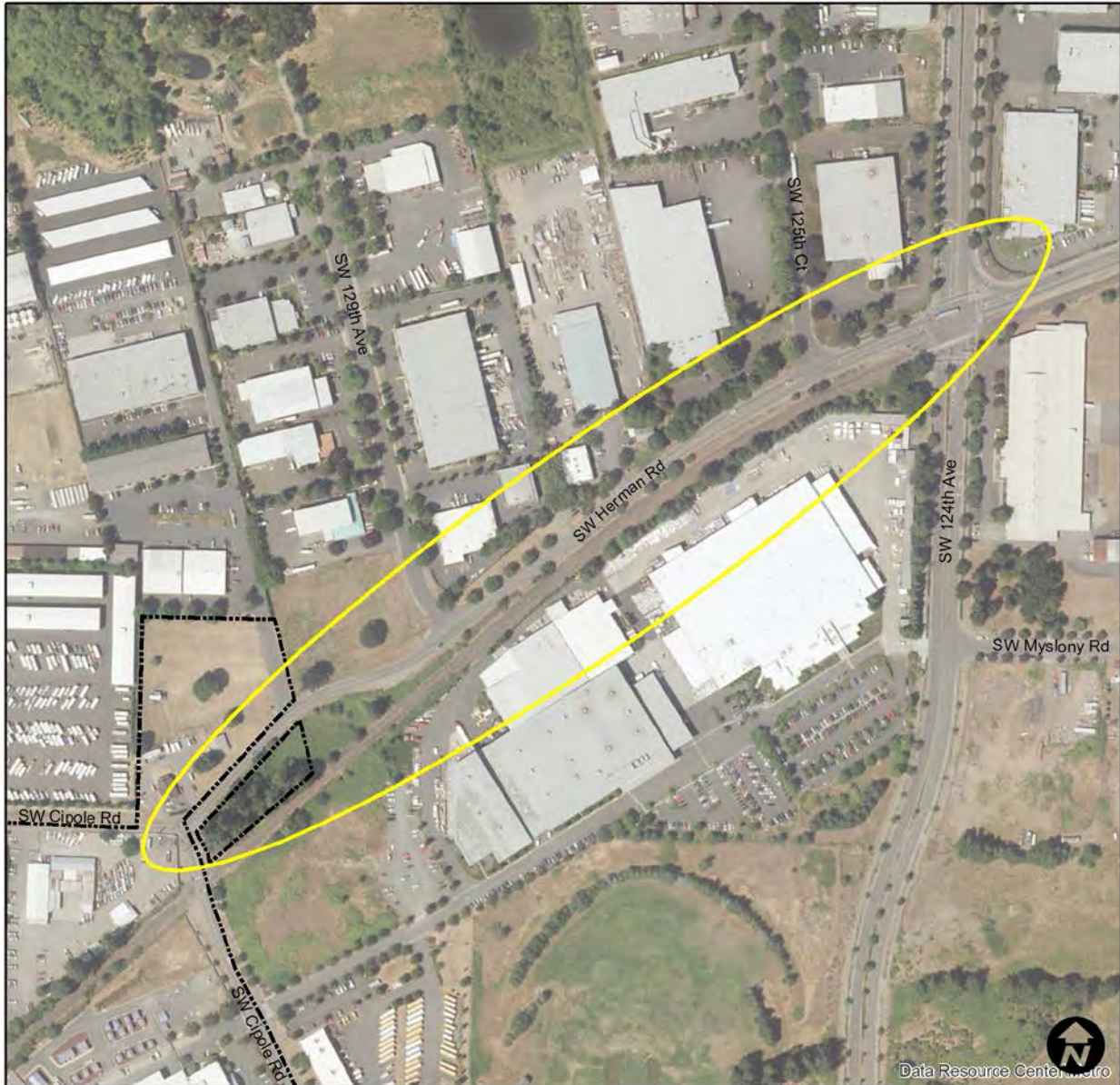


Exhibit A

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**Nyberg St: Improve Bike Lane East of Interchange**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$80,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Transp. System Plan BP15

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

Bike lane improvements to help eastbound cyclists on Nyberg Rd get through the I-5 northbound ramps area.

**PROJECT SCOPE:**

Work with ODOT to design and construct improvements to help eastbound cyclists get across the loop ramp to I-5 northbound and across the left and right turns of the I-5 northbound off ramp to Nyberg Rd.

**HISTORY:**

This project is identified in the 2014 Transportation System Plan.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Outside Funded

YEAR	AMOUNT
FY 25/26	\$80,000
TOTAL:	<u>\$80,000</u>

Exhibit A

Nyberg St: Improve Bike Lane East of Interchange

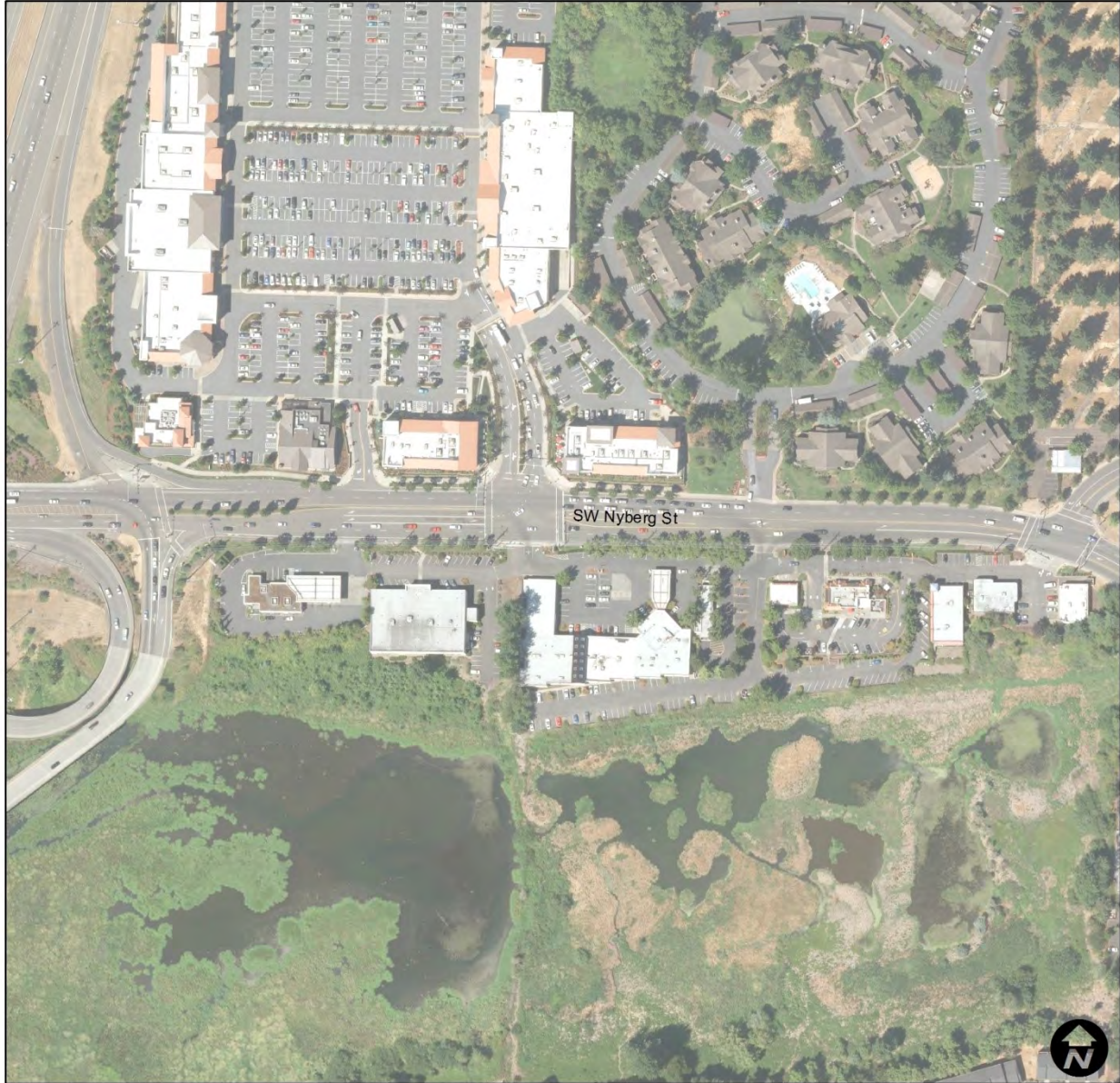


Exhibit A

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**Teton Ave: Add Right Turn onto Tualatin-Sherwood Rd**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Transportation

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$1,225,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Transp. System Plan R48

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

This is a regionally focused project to add a dedicated right-turn lane on Teton Avenue southbound onto Tualatin-Sherwood Road.

**PROJECT SCOPE:**

Design and construct a dedicated right-turn lane on Teton Avenue southbound onto Tualatin-Sherwood Road westbound.

**HISTORY:**

This project was identified in the 2014 Transportation System Plan.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Transportation Development Tax Fund

YEAR	AMOUNT
FY 27/28	\$1,225,000
TOTAL:	\$1,225,000

Exhibit A

Teton Ave: Add Right Turn onto Tualatin-Sherwood Rd



## Exhibit A

### Utilities

#### SEWER

The City owns and operates a sanitary sewer collection system consisting of 96 miles of sewer pipes (eighty-eight miles are maintained by the City and eight miles are maintained by Clean Water Services (CWS). Over 6,400 sewer connections, hundreds of manholes, and ten lift stations are maintained by CWS.

#### STORMWATER

The City of Tualatin manages stormwater discharges in accordance with Clean Water Services (CWS) Municipal Separate Storm Sewer System (MS4) permit. The City is one of 12 member cities operating under CWS's MS4 permit, which established regulations and standards for managing stormwater within the Tualatin River Watershed. The permit standards intend to reduce pollutant loads in stormwater runoff. The City works closely with CWS to construct and maintain public stormwater facilities and the City manages the private stormwater quality program to ensure that privately operated stormwater quality facilities provide the treatment benefits as designed.

Tualatin's storm drain system includes approximately 89 miles of pipes, 12 drainage basins, more than 2,800 catch basins, 86 public water quality facilities (WQFs), and hundreds of manholes.

#### WATER

Tualatin's water supply comes from the Bull Run Watershed and the Columbia Southshore Wellfield systems which are unfiltered systems. The City purchases the water from the City of Portland and distributes it to Tualatin residents.

The City's distribution system contains 111 miles of water lines ranging from four to 36 inches in diameter, five reservoirs, three pump stations, and over 6,600 water connections.

Utilities	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29
<b>Sewer</b>					
Sewer Master Plan Update			133,000		
<b>Sewer Total</b>			<b>133,000</b>		

<b>Storm</b>					
125th Ct/Herman Rd: Upgrade or Install Stormwater Outfall	263,000				
Manhasset Storm System			1,936,000		
Storm Master Plan Update					275,000
Waterford Water Quality Facility		214,000			
<b>Storm Total</b>	<b>263,000</b>	<b>214,000</b>	<b>1,936,000</b>		<b>275,000</b>

<b>Water</b>					
Boones Ferry Rd: Replace AC Pipe (P-1 (4))				275,000	
Lower Boones Ferry Rd: Replace AC Pipe (P-1 (2))			1,067,000		
Manhasset: Fire Flow (P-7)			173,000		
Nyberg St: Replace AC Pipe (P-1(3))		517,000			
Water Master Plan Update and Rate Study (M-2 & M-3)					158,000
Water Reservoirs: B1 Exterior/Interior Coating Replacement	844,000				
<b>Water Total</b>	<b>844,000</b>	<b>517,000</b>	<b>1,240,000</b>	<b>275,000</b>	<b>158,000</b>
<b>Utilities Grand Total</b>	<b>1,107,000</b>	<b>731,000</b>	<b>3,309,000</b>	<b>275,000</b>	<b>433,000</b>

## Exhibit A

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Exhibit A

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**Sewer Master Plan Update**

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**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Sewer

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$133,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement
- Health & Safety     Service Delivery Need
- Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

This is a scheduled update to the Sanitary Sewer Master Plan which is scheduled to be completed in FY 18/19.

**PROJECT SCOPE:**

Hire a consultant to conduct an update to the sewer master plan based on new development and other conditions.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Sewer SDC Fund

YEAR	AMOUNT
FY 26/27	\$133,000
TOTAL:	<u>\$133,000</u>



## Exhibit A

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Exhibit A

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**125<sup>th</sup> Ct to Herman Rd: Stormwater Outfall**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Storm

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$263,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

The 125<sup>th</sup> Court stormwater outfall currently has no water quality treatment and serves 143 acres of impervious surface. This project will upgrade the facility to provide water quality treatment.

**PROJECT SCOPE:**

Design and install a hydrodynamic separator to control water pollution, and install 50 LF of 24- inch-diameter pipe and 50 LF of 36-inch-diameter pipe to support connections to existing infrastructure. The City will work with property owners to obtain an easement to build a water quality facility or water quality manhole.

**HISTORY:**

Clean Water Services' Stormwater Discharge Permit (MS4) requires a certain amount of retrofit of stormwater systems in partner jurisdictions to provide water quality treatment. This project will count toward meeting that requirement.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Storm Drain Fund

YEAR	AMOUNT
FY 24/25	<u>\$263,000</u>
TOTAL:	\$263,000

Exhibit A

125<sup>th</sup> Ct to Herman Rd: Stormwater Outfall



# Exhibit A

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## Manhasset Storm System

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**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Storm

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$1,100,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Stormwater Master Plan (prelim.)

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project addresses localized flooding by piping the existing open channel conveyance and upsizing select pipe segments on Manhasset Drive. It also meets the storm drain outfall retrofit requirement by Clean Water Services. This is intended to reduce potential flooding during the 25-year design storm event.

**PROJECT SCOPE:**

Design and hire a contractor to replace an existing open channel and section of 21-inch diameter pipe with 1,230 LF of 30-inch diameter pipe. Also replace the existing 750 LF of 27-inch-diameter pipe from Manhasset Drive to the outfall to Hedges Creek with 750 LF of 36-inch-diameter pipe. This includes purchasing an easement for the installation of the underground pipe.

**HISTORY:**

City staff and residents have noted flooding of the open conveyance channel from Tualatin-Sherwood Road to Manhasset Drive. Stormwater flows have exceeded the capacity of the channel, overtopping the banks of the channel and impacting adjacent parking lots and structures.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Storm Drain Fund

YEAR	AMOUNT
FY 26/27	\$1,936,000
TOTAL:	<u>\$1,936,000</u>

# Exhibit A

## Manhasset Storm System



# Exhibit A

---

## Storm Master Plan Update

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Sewer

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$275,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This is a scheduled update to the Storm Master Plan which is scheduled to be completed in FY 18/19.

**PROJECT SCOPE:**

Hire a consultant to conduct an update to the storm master plan based on new development and other conditions.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Storm SDC Fund

YEAR	AMOUNT
FY 28/29	\$275,000
TOTAL:	\$275,000

## Exhibit A

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# Exhibit A

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## Waterford Water Quality Facility

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Storm

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$214,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Stormwater Master Plan (prelim.)

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project restores the public water quality facility at Palouse Lane and 94<sup>th</sup> Terrace to its original function by removing accumulated sediment and overgrown vegetation, amending soils and replanting. This project also relocates the outlet structure to improve maintenance access.

**PROJECT SCOPE:**

This project's specific activities include:

- Clear invasive and unwanted vegetation from the facility.
- Excavate and regrade as needed to maximize water quality function and restore to original design.
- Remove accumulated sediment and replace with amended soils.
- Replant the swale and bottom and sides of the pond facility with native vegetation suitable for a swale and water quality pond. Add temporary irrigation.
- Relocate and replace the outlet control structure to the edge of pond for improved maintenance access.
- Replace inlet rip rap for increased energy dissipation.
- Install two water quality/flow splitter manholes upstream of facility to minimize sediment loading.

**HISTORY:**

During a site visit in December 2016, accumulated sediment was found to have filled in the swale causing all water to bypass the swale. There is little/no vegetation present in the pond and swale. The outlet of the facility is in the middle of the pond, preventing maintenance during high water events.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Storm Drain Fund	FY 25/26	\$214,000
	<b>TOTAL:</b>	<b>\$214,000</b>



Exhibit A

Waterford Water Quality Facility



Exhibit A

---

**Boones Ferry Rd: Replace AC Pipe**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Water

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$275,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Water Master Plan P-1 (4)

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

This project will replace existing asbestos concrete (AC) distribution piping along Boones Ferry Road just south of the Tualatin River bridge.

**PROJECT SCOPE:**

Design and construct replacement pipe.

**HISTORY:**

This project is identified in general in the 2013 Water Master Plan in order to replace all AC pipe in the city water system. The remaining areas have been broken into several phases; this is one of them. This road impacted by this project is owned by the City of Tualatin.

**FUNDING PARTNERSHIPS:**

This project is eligible for SDC funds for 36% of the project cost.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Water Fund	FY 27/28	\$176,000
Water SDC Fund	FY 27/28	\$99,000
	<b>TOTAL:</b>	<u>\$275,000</u>

Exhibit A

Boones Ferry Rd: Replace AC Pipe



# Exhibit A

## Lower Boones Ferry Rd: Replace AC Pipe

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Water

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$1,067,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement
- Health & Safety     Service Delivery Need
- Master Plan: Water Master Plan P-1 (2)

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

This project will replace existing asbestos concrete (AC) distribution piping along Boones Ferry Rd where it crosses the railroad, turns east and follows along Lower Boones Ferry Rd.

**PROJECT SCOPE:**

Design and construct replacement pipe, coordinating with the Oregon Department of Transportation (ODOT) where the project crosses ODOT right-of-way, and with Portland and Western Railroad where it crosses PNWR right-of-way, and Washington County where it crosses Washington County right-of-way.

**HISTORY:**

This project is identified in general in the 2013 Water Master Plan in order to replace all AC pipe in the city water system. The remaining areas have been broken into several phases; this is one of them.

**FUNDING PARTNERSHIPS:**

This project is eligible for SDC funds for 36% of the project cost.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Water Fund	FY 26/27	\$683,000
Water SDC Fund	FY 26/27	\$384,000
	TOTAL:	\$1,067,000

Exhibit A

Lower Boones Ferry Rd: Replace AC Pipe



Exhibit A

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**Manhasset Dr: Fire Flow Capacity**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Water

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$173,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: Water Master Plan P-7

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project will add 850 feet of 8-inch diameter piping to complete the fire distribution system looping along Manhasset Drive to improve capacity, addressing existing and future fire flow deficiencies.

**PROJECT SCOPE:**

Design and construct 850 feet of 8-inch diameter piping.

**HISTORY:**

This project is identified in the 2013 Water Master Plan in order to improve fire flow capacity and address existing and future fire flow deficiencies.

**FUNDING PARTNERSHIPS:**

This project is eligible for SDC funds for 36% of the project cost.

**FUNDING SOURCES FOR THIS PROJECT:**

	<b>YEAR</b>	<b>AMOUNT</b>
Water Fund	FY 26/27	\$111,000
Water SDC Fund	FY 26/27	\$62,000
	<b>TOTAL:</b>	<u>\$173,000</u>

# Exhibit A

## Manhasset Dr: Fire Flow Capacity



Exhibit A

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**Nyberg St: Replace AC Pipe**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Water

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$517,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal
- Regulatory Requirement
- Health & Safety
- Service Delivery Need
- Master Plan: Water Master Plan P-1 (3)

**PROJECT TYPE:**

- Maintenance
- Replacement
- New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_
- No

**DESCRIPTION:**

This project will replace existing asbestos concrete (AC) distribution piping east along Nyberg Rd from the Martinazzi Ave intersection.

**PROJECT SCOPE:**

Design and construct replacement pipe, coordinating with Washington County where it crosses Washington County right-of-way.

**HISTORY:**

This project is identified in general in the 2013 Water Master Plan in order to replace all AC pipe in the city water system. The remaining areas have been broken into several phases; this is one of them.

**FUNDING PARTNERSHIPS:**

This project is eligible for SDC funds for 36% of the project cost.

**FUNDING SOURCES FOR THIS PROJECT:**

Water Fund  
Water SDC Fund

YEAR	AMOUNT
FY 25/26	\$331,000
FY 25/26	\$186,000
TOTAL:	<u>\$517,000</u>



# Exhibit A

## Nyberg St: Replace AC Pipe



Exhibit A

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**Water Master Plan Update and Rate Study**

---

**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Water

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$158,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This is a scheduled update to the Water Master Plan which is underway in FY 18/19.

**PROJECT SCOPE:**

Update Water Master Plan, including a rate study, based on new regulations and conditions.

**HISTORY:**

N/A

**FUNDING PARTNERSHIPS:**

This project is eligible for 36% SDC funding.

**FUNDING SOURCES FOR THIS PROJECT:**

Water Fund

Water SDC Fund

YEAR	AMOUNT
FY 27/28	\$103,000
FY 27/28	\$55,000
TOTAL:	<u>\$158,000</u>

## Exhibit A

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Exhibit A

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**Water Reservoirs: B1 Exterior/Interior Coating Replacement**

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**DEPARTMENT:** Public Works

**CONCEPT SCHEDULE:** \_\_\_\_\_

**CATEGORY:** Utilities- Water

**DESIGN SCHEDULE:** \_\_\_\_\_

**TOTAL COST:** \$844,000

**CONSTRUCTION SCHEDULE:** \_\_\_\_\_

**RANKING CRITERIA MET:**

- Council Goal     Regulatory Requirement  
 Health & Safety     Service Delivery Need  
 Master Plan: \_\_\_\_\_

**PROJECT TYPE:**

- Maintenance  
 Replacement  
 New/Expansion

**NEW ONGOING COSTS?**

- Yes \$ \_\_\_\_\_     No

**DESCRIPTION:**

This project consists of interior and exterior coating of the City's B1 Reservoir, a drinking water storage tank. Surface preparation will include full removal of existing interior and exterior coatings with abrasive blast methods.

**PROJECT SCOPE:**

Clean and recoat the interior and exterior of B1 Reservoir.

**HISTORY:**

This reservoir was last cleaned and recoated in 2015; this is scheduled maintenance.

**FUNDING PARTNERSHIPS:**

N/A

**FUNDING SOURCES FOR THIS PROJECT:**

Water Fund

YEAR	AMOUNT
FY 24/25	\$844,000
TOTAL:	\$844,000

Exhibit A

Water Reservoirs: B1 Exterior/Interior Coating Replacement



## APPENDIX B: UNFUNDED PROJECTS – LISTED BY CATEGORY

Unfunded CIP Projects by Category	Unfunded
<b>Facilities &amp; Equipment</b>	<b>33,344,000</b>
Civic Center/ City Hall Facility	32,100,000
Hanegan Lot: Paving	325,000
Operations: Building A Lower Roof Replacement (Thermo)	39,000
Operations: Remodel Administration Bldg. A	880,000
<b>Parks &amp; Recreation</b>	<b>185,730,000</b>
105th/Blake/108th Trail through Ibach Park (BP10)	810,000
Bikeways: I-205 Feasibility Study	25,000
Bikeways: I-5 Feasibility Study	25,000
Bikeways: Southwest Concept Plan Trails Master Plan	50,000
Bikeways: Tualatin River Bicycle Bridge at 108th (BP17(2))	2,434,000
Bikeways: Tualatin River Bicycle Bridge at Ice Age Tonquin/Westside Trails	8,000,000
Bikeways: Tualatin River Bicycle Bridge at Westside Trail, north of Cipole (BP17(1))	2,434,000
Brown's Ferry Park Picnic Shelter & Community Center Renovation	2,000,000
Brown's Ferry Park: Amphitheater Improvements	50,000
Community Recreation Center	36,000,000
Hedges Creek Greenway @ HC Wetlands Protection District	2,500,000
Hedges Creek Greenway, Paulina Drive to Hedges Drive	2,000,000
Helenius Greenway west of 108th & Blake St.	300,000
Ice Age Tonquin Trail connect to neighborhoods	7,650,000
Ice Age Tonquin Trail eastern segment, Hedges Creek and WES	22,700,000
Ice Age Tonquin Trail western segment, Cipole Rd	14,620,000
Juanita Pohl Center Building and Grounds Improvements	1,800,000
Multi-Use Paths: I-5 Path - Connect Martinazzi to I-5 Path (BP7(4))	209,000
Multi-Use Paths: Tualatin River Greenway fill in gaps at east UGB (BP9)	123,000
Natural Areas: 108th Reservoir	400,000
Natural Areas: Other Acquisitions and Development to meet goals	15,000,000
Natural Areas: Sweek Woods Soft Surface Trail	100,000
Neighborhood Parks: Area 4 West Planning Area - Jurgens Addition	500,000
Nyberg Creek Greenway, Martinazzi Ave to 65th Ave	8,500,000
Nyberg Creek Greenway-South	1,500,000
Park Improvements: Community Gardens	60,000
Riverside Wayside Parks - Land Acquisition & Development	5,000,000
Saum Creek Greenway, Atfalati Park to Sagert St	2,500,000
Shared Use Paths: I-5 Path - Bridgeport Village to Norwood Rd (BP7(3))	3,250,000
Shared Use Paths: I-5 Path - Undercrossing to connect Nyberg Creek Grwy (BP11)	1,947,000
Shared Use Paths: Norwood Rd Path - Boones Ferry Rd to I-5 (BP7(6))	3,760,000
Sports Fields: Atfalati Park Lower Field Renovation	550,000
Sports Fields: Bridgeport Elementary School Multipurpose Field Renovation	2,010,000

Exhibit A

<b>Unfunded CIP Projects by Category</b>	<b>Unfunded</b>
<b>Parks &amp; Recreation, continued</b>	
Sports Fields: Hazelbrook Elementary School (renovate soil to sand-based)	1,816,000
Sports Fields: Ibach Park Soccer Field Conversion to Artificial Turf	888,000
Sports Fields: Jurgens Park North Fields (renovate soil to sand-based)	550,000
Sports Fields: New Sports Field Complex (includes site acquisition)	17,000,000
Sports Fields: New Tualatin Elementary School (renovate soil to sand-based)	2,349,000
Sports Fields: Tualatin Community Park Main Field Renovation and Pathways	900,000
Sports Fields: Tualatin High School Synthetic Field Replacement	420,000
Tonquin Trail Preliminary Design/Cost Estimating	50,000
Tualatin Community Park - Expand Park	3,750,000
Tualatin Community Park - Floating Dock and Kayak Rental Facility	400,000
Tualatin Community Park - Major Pedestrian Linkage to Boones Ferry Rd	500,000
Tualatin Community Park: Main Shelter Remodel Shelter & Restroom	500,000
Tualatin River Greenway at 6645 SW Nyberg Lane	800,000
Tualatin River Greenway, River Lofts to west UGB	7,000,000
<b>Transportation</b>	<b>183,816,000</b>
103rd Ave to Grahams Ferry Rd: Extend	312,000
105th Ave at Avery St: Add Signal	325,000
108th Ave at Leveton: Add Signal	600,000
115th Ave (SW Concept Plan): Extend to 124th to the south and east-west	31,446,000
115th Ave: Extend from SW 124th to SW 126th Pl as two lane roadway with sidewalks	2,950,000
120th and Tual-Sher Rd: New Traffic Signal	681,000
124th Ave: Extend south, include multi-use path (R30)	15,000,000
128th Ave: Extend to Cipole Rd via Cumming Drive with ROW	5,930,000
65th Ave, Hospital to Nyberg Ln: Construct Sidewalk on East Side	1,700,000
65th Ave, Nyberg Lane to Borland Rd: Construct Bike Lanes	2,600,000
65th Ave, Tualatin River to I205: Add multi-use path (R16)	9,734,000
95th Ave, Avery St to Sagert St: Construct Bike Lanes (R15-1)	2,920,000
95th Ave, Sagert St to Tual-Sher Rd: Construct Bike Lanes (R15-2)	2,920,000
99th Court: Extend to SW Herman Rd as two lane roadway with sidewalks	2,095,000
Avery St at Tual-Sher Rd: Construct Sidewalk on West Side of Intersection	85,000
Avery, Teton to Tual-Sher Rd: Widen to three lanes (R6)	3,600,000
Blake Street: New Road 115th to 124th	16,398,000
Boones Ferry Rd at Iowa Dr: Improve Intersection	425,000
Boones Ferry Rd at Norwood Rd: Improve Intersection	425,000
Boones Ferry Rd, Martinazzi north to city limits: Widen to 5 lanes (R19)	17,818,000
Borland Rd at Wilke Rd: Improve Intersection	637,000
Borland Rd, 65th Ave to City Limit: Upgrade to standards (R21)	9,646,000
Borland Rd, 65th to eastern city limits: Fill sidewalk gaps (R26)	2,603,000
Cipole Rd at Cumins: Add Signal	600,000
Cipole Rd, Pacific Hwy to TSR: Upgrade to standards & add multi-use path( R18)	20,030,000

Exhibit A

<b>Unfunded CIP Projects by Category</b>	<b>Unfunded</b>
<b>Transportation, continued</b>	
Grahams Ferry Rd at Helenius Rd: Add Signal	530,000
Grahams Ferry Rd at Ibach St: Add Signal	430,000
Grahams Ferry Rd, Ibach to Helenius: Upgrade to standards (R22)	3,300,000
Grahams Ferry Rd: Sidewalk in-fill from Ibach to south city limits (R25)	1,680,000
Hazelbrook Rd, 99W to Jurgens: Upgrade to standards (R2)	3,543,000
Helenius Rd, 109th Terr to Grahams Ferry Rd: Upgrade to standards (R9)	1,403,000
Itel St near 119th/120th: Improve to standards	0
Martinazzi Ave, Warm Springs to Boones Ferry Rd: Add bike lanes (R14)	2,403,000
McEwan Rd, 65th Ave to Railroad Tracks/LO City Limits: Rebuild/Widen to 3 lanes	3,600,000
Norwood Rd, BFR to eastern City limits: Add sidewalks & bike lane/multi-use path (R17)	305,000
Norwood Rd, BFR to eastern City limits: upgrade to standards (R10)	2,824,000
Nyberg St: Add on-ramp to northbound I-5 traffic (R45)	1,071,000
Sagert St bridge over I-5: Widen to add sidewalk or multi-use path (R11)	3,282,000
Teton at Avery St: Add southbound turn pocket (R36)	274,000
Teton Ave, Herman to Tual-Sher Rd: Widen to 3 lanes add bike lane (R4)	2,464,000
Tualatin Rd and 115th Ave: New Traffic Signal (R31)	609,000
Tualatin Rd, at Herman Rd: Add roundabout (R34)	1,631,000
Tualatin Rd: Extend from 124th Ave to SW 126th as two lane roadway with sidewalks	1,530,000
Tual-Sher Rd at Boones Ferry Rd: add eastbound right-turn lane (R42)	792,000
Tual-Sher Rd: Add right turn lane to northbound 124th Ave (R49)	320,000
Tual-Sher Rd: Improve I-5 signage west of the interchange (R50)	345,000
<b>Utilities-Storm</b>	<b>6,230,000</b>
65th Ave at Saum Creek: Upgrade Stormwater Outfall	890,000
Herman Road Storm Pipe: Teton to Tualatin Road	800,000
Nyberg Ln adjacent to Brown's Ferry Park: Upgrade Stormwater Outfall	1,140,000
Tualatin Rd near Community Park entrance: Upgrade Stormwater Outfall	940,000
Tual-Sher Rd near Avery St: Upgrade Stormwater Outfall	610,000
Tual-Sher Rd, 115th Ave to 120th Ave: Upgrade Stormwater Outfall	1,850,000
<b>Utilities-Water</b>	<b>15,084,000</b>
90th Ave: Improve Fire Flow (P-6)	70,000
B Level Transmission Main (P-2)	514,000
SW Concept Plan Water Piping (P-2)	8,200,000
Water Reservoirs: 2.2 MG for SW Concept Plan area (R-2)	3,700,000
Water Reservoirs: 2.2 MG next to ASR (R-3)	2,600,000
<b>Grand Total</b>	<b>424,204,000</b>





## CONTACT US

### Contact Your City of Tualatin Capital Improvement Plan Team:

Kelsey Lewis, Management Analyst II & CIP Project Manager

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*Contact Kelsey with specific questions about the plan, the CIP process, schedule or implementation.*

•

Don Hudson, Assistant City Manager/Finance Director

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*Contact Don with general questions about City finances, forecasts, budgets, taxes, and debt.*

•

Ross Hoover, Parks & Recreation Director

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*Contact Ross with questions about the City's parks and recreation and park SDC projects.*

•

Jeff Fuchs, Public Works Director

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*Contact Jeff with questions about the City's planned water, sewer, storm, transportation and associated SDC projects.*

•

Bates Russell, Information Services Director

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*Contact Bates with questions about the City's facility, equipment and technology projects.*

### **City of Tualatin**

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