

# **Exhibit K: Trip Generation and Distribution Memorandum**

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## Memorandum

To: Mike McCarthy, City of Tualatin  
Tony Doran, City of Tualatin

Copy: Haley Grimm, Grimm's Fuel Co.

From: Ken Kim, PE

Date: February 18, 2025

Subject: SW 128th Avenue Towing and Vehicle Storage Yard  
Trip Generation and Distribution Memorandum



EXPIRES: 06/30/2025

## Introduction

This memorandum includes a review of trip generation and distribution for the proposed towing and vehicle storage yard project located at 18867 SW 128<sup>th</sup> Avenue in Tualatin, Oregon. The proposal will include the development of a  $\pm 2.3$ -acre vehicle storage area with a  $\pm 900$  square foot portable trailer for use as office space. Site access will be provided via an existing driveway located along SW 128<sup>th</sup> Avenue which is classified as a commercial/industrial connector based on Tualatin Transportation System Plan (TSP). The trip generation results are compared with City standards to demonstrate that no further analysis beyond the preparation of this memorandum is necessary.

## Project Location and Description

The project site is a  $\pm 2.3$ -acre portion of Tax Lot 2S121A002100 in Tualatin, Oregon. A vicinity map is shown in Figure 1 with the subject site highlighted in yellow.



Figure 1: Project Location (image from Google Earth)

The project involves a vehicle storage area of  $\pm 2.3$ -acre with a portable trailer ( $\pm 900$  square feet) used for office/employee space. As shown in Figure 1, access to the site is provided via one existing driveway connection (yellow arrow) along SW 128<sup>th</sup> Avenue. A site plan is attached to this memorandum.

## Trip Generation

The *Trip Generation Manual*<sup>1</sup> does not include a land use category for a vehicle storage area. Therefore, to estimate the number of trips which may be generated by the proposed use, the size and operation of the facility was examined. Operation of the facility will include the following:

- Approximately 6 employees work on-site during weekdays.
- Approximately 7 tow trucks are anticipated to be stored on-site.
- On average the facility typically receives  $\pm 10$  calls per day to tow vehicles. This is equivalent to  $\pm 20$  entering/exiting trips per day.
- Vehicles are generally stored on the site for an average of  $\pm 7$  days.
- The owners of each towed vehicle are expected to pick up their vehicle. They are assumed to arrive at the site via vehicular travel, and this vehicle plus the towed vehicle will depart. On average 10 towed vehicles are expected to depart per day. In total, 10 vehicle trips will arrive and 20 vehicle trips will depart per day.
- It is assumed that up to 5 visitors, deliveries, and/or other miscellaneous vehicles will arrive/depart from the site per day.

For the purposes of this analysis, it is assumed the number of morning and evening peak hour trips generated by all trip types, excluding employee trips, will be approximately 20% and 40% of the estimated daily trip totals, respectively.

The trip generation calculations show that the proposed project is estimated to generate 18 morning peak hour trips, 30 evening peak hour trips, and 72 average weekday trips. The trip generation estimates of the proposed development are summarized in Table 1.

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<sup>1</sup> Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.



**Table 1: Trip Generation for Proposed Development**

Proposed Development	Intensity	Morning Peak Hour			Evening Peak Hour			Daily Trips
		In	Out	Total	In	Out	Total	
Employees	6 Employees	6	0	6	0	6	6	12
Towing Calls	10 Events	2	2	4	4	4	8	20
Vehicle Retrievals	10 Events	2	4	6	4	8	12	30
Visitors, Deliveries, etc	5 Visits	1	1	2	2	2	4	10
Total		11	7	18	10	20	30	72

## Trip Distribution

The trip distribution for the site was estimated based on the locations of major transportation facilities in the site vicinity. The following trip distribution is projected within the immediate site vicinity:

- Approximately 40 percent of site trips will travel to/from the northeast on Pacific Highway W (99W).
- Approximately 30 percent of site trips will travel to/from the southwest on Pacific Highway W (99W).
- Approximately 15 percent of site trips will travel to/from the south on SW 124<sup>th</sup> Avenue.
- Approximately 15 percent of site trips will travel to/from the east on SW Leveton Drive.

## Comparison to Agency TIA Standards

The City's Tualatin Traffic Study Requirements website outlines two levels of traffic analysis that may be required based on a proposed development type and size.

A Trip Generation and Distribution Description is required for, "[a]ny development that, in the judgement of City staff, would generate 100 or more new daily trips."

A full Transportation Impact Analysis (TIA) is required for cases (in staff's judgement) that, "[w]ould be anticipated to generate more than 500 vehicle trip ends per day and/or more than 60 vehicle trip ends in the morning or evening peak hour and/or more than 100 vehicle trip ends during the peak hour of development traffic."

The estimated trip generation for the proposed development falls below the aforementioned trip thresholds for a Trip Generation and Distribution Description and TIA. Therefore, no further traffic analysis is necessary beyond the preparation of this memorandum.



## Conclusions

Based on the trip generation calculations, the proposed towing and vehicle storage yard is projected to generate 18 morning peak hour trips, 30 evening peak hour trips, and 72 average weekday trips. These estimates fall below the City of Tualatin's analysis thresholds for requiring a Trip Generation and Distribution or TIA. Therefore, the preparation of this trip generation analysis memorandum is sufficient to capture and report the transportation impacts associated with the proposed development.

If you have any questions or concerns regarding this analysis or need further assistance, please don't hesitate to contact us.

### Attachments:

*Site Plan*

*Trip Generation Estimate*



TAX LOT 2202  
TAX MAP 25 1 21A

TAX LOT 4300  
TAX MAP 25 1 21A

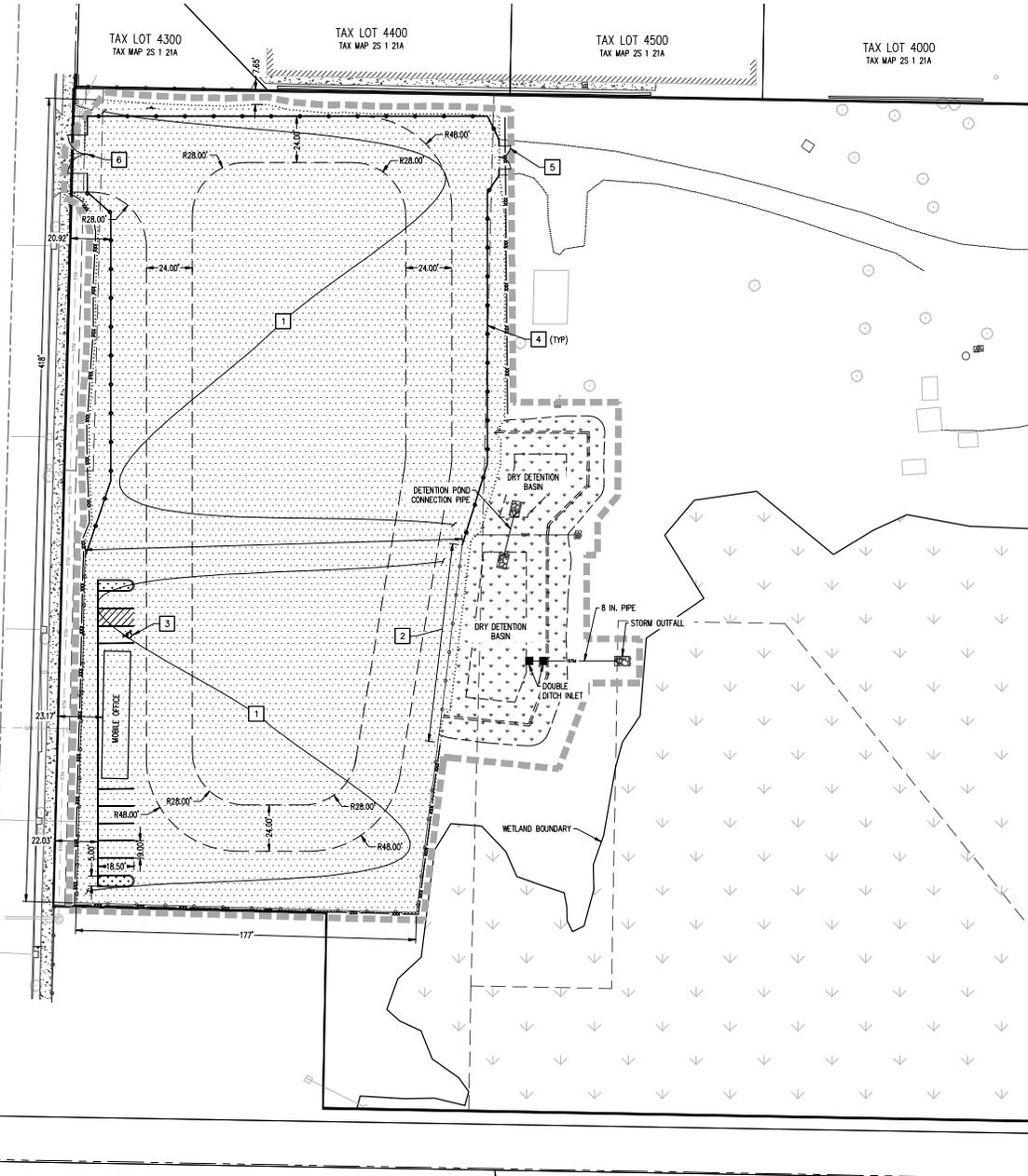
TAX LOT 4400  
TAX MAP 25 1 21A

TAX LOT 4500  
TAX MAP 25 1 21A

TAX LOT 4000  
TAX MAP 25 1 21A

TAX LOT 2100  
TAX MAP 25 1 21A

SW 128TH AVENUE



### LEGEND



### KEYED SITE NOTES:

1. PROPOSED ASPHALT AREA
2. REINSTALL FENCING AFTER COMPLETION OF GRADING AND ASPHALTING
3. ADA PARKING SPACE
4. CHAIN LINK FENCING
5. 12' MAINTENANCE GATE
6. 20' VEHICLE GATE

### AREA SUMMARY

SUBJECT PROPERTY AREA	= 110.7 ACRES
TOTAL DISTURBED AREA	= 22.3 ACRES
EXISTING IMPERVIOUS AREA PRIOR TO DEVELOPMENT	= 40 SF
EXISTING IMP. AREA REMOVED	= 40 SF
NEW IMPERVIOUS AREA	= 184,400 SF
TOTAL IMPERVIOUS AREA	= 184,400 SF

### PARKING SUMMARY

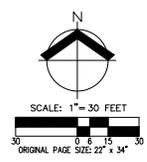
PARKING SPACES	= 6
ADA SPACES	= 1



**PRELIMINARY SITE AND STORMWATER PLAN**  
**FOX TOWING YARD IMPROVEMENTS**  
**GRIMM'S FUEL COMPANY**  
**TUALATAN, OREGON**



JOB NUMBER: 11113  
 DATE: 8/30/2024  
 DESIGNED BY: AIN  
 DRAWN BY: AIN  
 CHECKED BY: CAK



AKS DRAWING FILE: 11113.PE04 SITE PLAN - LAYOUT.P5

## Trip Generation

The *Trip Generation Manual*<sup>1</sup> does not include a land use category for a vehicle storage area. Therefore, to estimate the number of trips which may be generated by the proposed use, the size and operation of the facility was examined. Operation of the facility will include the following:

- Approximately 6 employees work on-site during weekdays.

6 Employees	=> 6 entering + 6 exiting trips per day (Assuming all arrive and depart during AM and PM peak hours, respectfully)			
Daily Trips	AM		PM	
Total	12 In	6	In	0
	Out	0	Out	6
	Total	6	Total	6

- Approximately 7 tow trucks are anticipated to be stored on-site.
- On average the facility typically receives  $\pm 10$  calls per day to tow vehicles. This is equivalent to  $\pm 20$  entering/exiting trips per day.

10 Towing Calls	=> 10 entering + 10 exiting trips per day			
Daily Trips	AM (Assuming 20% of Daily Trips)		PM (Assuming 40% of Daily Trips)	
Total	20 In	2	In	4
	Out	2	Out	4
	Total	4	Total	8

- Vehicles are generally stored on the site for an average of  $\pm 7$  days.
- The owners of each towed vehicle are expected to pick up their vehicle. They are assumed to arrive at the site via vehicular travel, and this vehicle plus the towed vehicle will depart. On average 10 towed vehicles are expected to depart per day. In total, 10 vehicle trips will arrive and 20 vehicle trips will depart per day.

10 Vehicle Retrievals	=> 10 entering for a ride + 10 exiting for a ride + 10 exiting of towed vehicle per day			
Daily Trips	AM (Assuming 20% of Daily Trips)		PM (Assuming 40% of Daily Trips)	
Total	30 In	2	In	4
	Out	4	Out	8
	Total	6	Total	12

- It is assumed that up to 5 visitors, deliveries, and/or other miscellaneous vehicles will arrive/depart from the site per day.

5 visitors, deliveries, etc	=> 5 entering + 5 exiting trips per day			
Daily Trips	AM (Assuming 20% of Daily Trips)		PM (Assuming 40% of Daily Trips)	
Total	10 In	1	In	2
	Out	1	Out	2
	Total	2	Total	4

For the purposes of this analysis, it is assumed the number of morning and evening peak hour trips generated by all trip types, excluding employee trips, will be approximately 20% and 40% of the estimated daily trip totals, respectively.

Proposed Development	Intensity	Morning Peak Hour			Evening Peak Hour			Daily Trips
		In	Out	Total	In	Out	Total	
Employees	6 Employees	6	0	6	0	6	6	12
Towing Calls	10 Events	2	2	4	4	4	8	20
Vehicle Retrievals	10 Events	2	4	6	4	8	12	30
Visitors, Deliveries, etc	5 Visits	1	1	2	2	2	4	10
<b>Total</b>		<b>11</b>	<b>7</b>	<b>18</b>	<b>10</b>	<b>20</b>	<b>30</b>	<b>72</b>