



6. Transportation Impact Study



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TRANSPORTATION IMPACT STUDY

March 11, 2026

Project# 31876

To: James E Carothers, PE & Anita Ashton
City of Camas Community Development Engineering
616 NE 4th Avenue
Camas, WA 98607

From: Chris Brehmer, PE, Julia Kuhn, PE & James Hollingsworth

CC: Stacy Shields, Romano Capital, Inc.
Michael Andreotti, AKS Engineering & Forestry LLC

RE: Uhacz Residential Development Transportation Impact Study



Christopher Lynn Brehmer

2026.03.11
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Romano Capital, Inc. proposes to develop a 32-unit subdivision on property located at 27429 SE 15th Street. A Transportation Impact Study (TIS) is required per City of Camas Municipal Code (CMC) Section 17.11.030.B. This memorandum documents the TIS analysis, findings, and recommendations. No capacity-based mitigation measures were identified at the three study intersections. The following recommendations are offered for implementation in conjunction with site development subject to City of Camas review and direction.

- Subject to City of Vancouver concurrence and final residential unit count confirmation, pay the following proportional share intersection fees:
 - \$2,200 towards NE 192nd Avenue/NE 13th Street mitigation
 - \$600 towards NE 172nd Avenue/NE 18th Street mitigation
 - \$1,800 towards NE 179th Place/NE 18th Street mitigation
 - \$2,400 towards NE 187th Avenue/NE 18th Street mitigation
- Locate and maintain site landscaping, above-ground utilities, and site signage at all local street intersections within and adjacent to the site to provide adequate intersection sight distance and vision clearance per applicable City requirements.

The details of the study methodology and findings are summarized herein.

INTRODUCTION

The proposed subdivision will provide up to 32 single-family detached homes on approximately 6.84-acres of land¹ generally located between SE 15th Street and NE Woodburn Drive west of NE Umatilla Street. Figure 1 shows the proposed site location and Figure 2 is the proposed site plan.

NE 41st Avenue will be extended west into the site as a Local Access Road with site development to provide vehicle access. Local Access Roads "A" Street, "B" Street, and "C" Street will provide for on-site

¹ City Parcel Number 178413000

access and circulation with "A" Street and "C" Street stubbed for anticipated future connectivity to the west as off-site property is developed by others. Tract A will provide a pedestrian connection to SE 15th Street. This TIS assumes full occupancy of the 32 single-family homes to occur by 2028.

STUDY METHODOLOGY

Weekday morning (7-9 AM) and weekday afternoon commuter peak period (4-6 PM) traffic conditions were assessed for the following analysis scenarios:

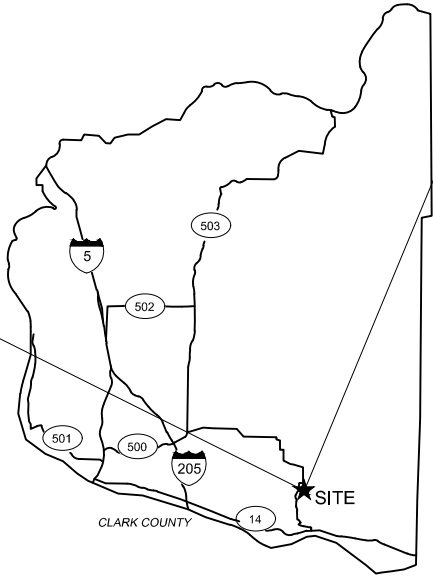
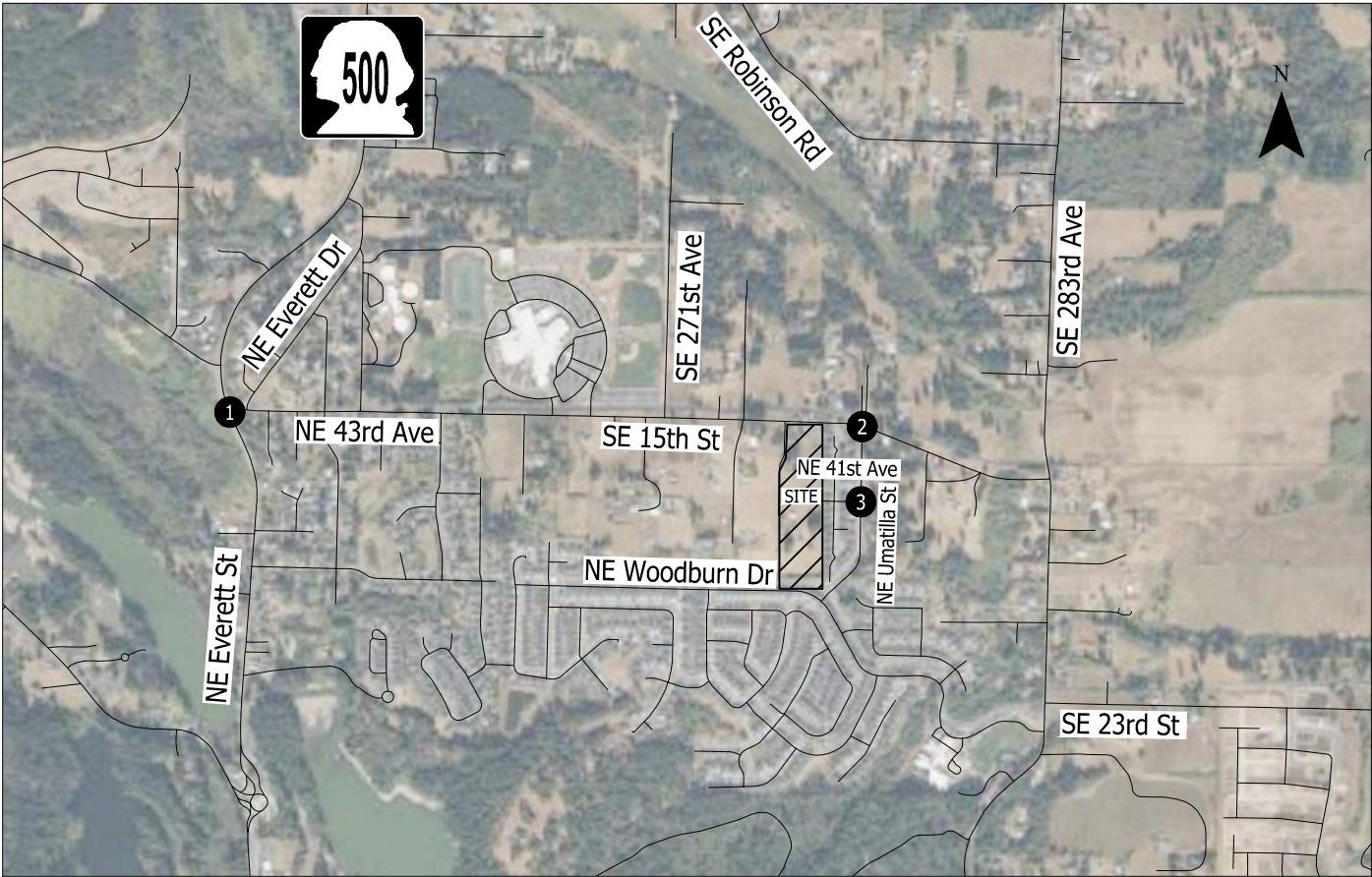
- Existing land use and transportation system conditions within the site vicinity;
- Forecast year 2028 background traffic conditions (including background growth and identified in-process developments);
- Site trip generation and distribution estimates; and,
- Forecast year 2028 total traffic conditions with site development.

The City of Camas' *Transportation Impact Study Guidelines* (TIS, Reference 1) require preparation and submittal of a TIS for each proposed development that generates 200 or more daily vehicle trips. The 200 daily trip threshold is met for the Uhacz development, triggering a TIS.

The study intersections were determined through a scoping process involving staff from the City of Camas and are as follows:

- NE Everett Street (SR 500)/NE 43rd Avenue
- NE Umatilla Street/SE 15th Street
- NE Umatilla Street/NE 41st Avenue

Appendix A includes documentation from the scoping process.

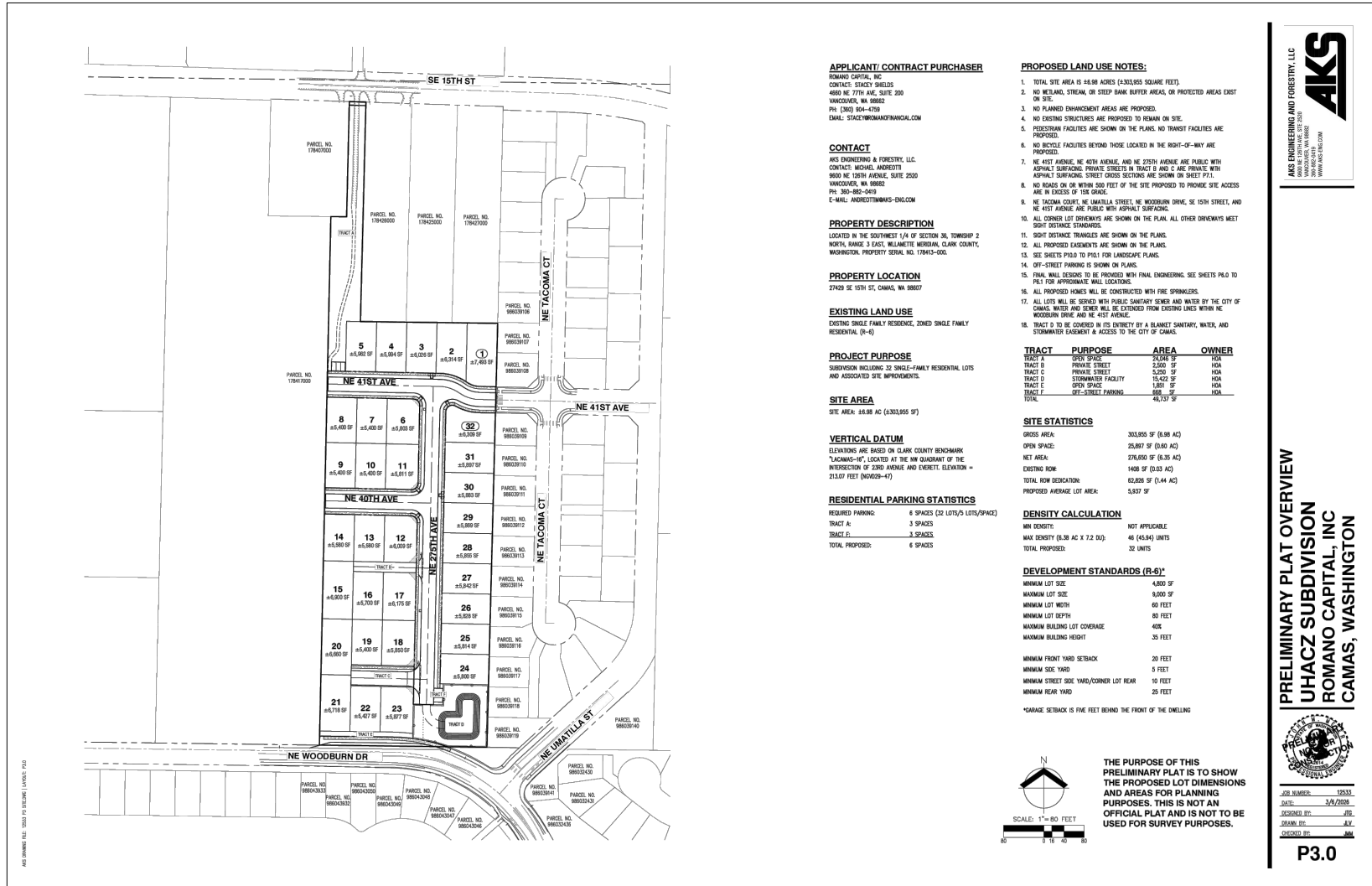


- # - Study Intersections
-  Site Area

Site Vicinity Map
Camas, WA

Figure
1

H:\3131876 - Uhacz Residential\report\figs\31876 figs.dwg Mar 09, 2026 - 12:44pm - jhollingsworth Layout Tab: Proposed Site Plan



RECEIVED FROM ROMANO CAPITAL, INC : MARCH 9, 2026

Capacity Analysis Methodology

Intersection level of service (LOS) and volume-to-capacity (V/C) analyses described in this report were performed at signalized and unsignalized intersections in accordance with the procedures stated in the *Highway Capacity Manual, 7th Edition* (Reference 2) methodology using Synchro 12 software.

Level of Service Standards

City of Camas

Camas requires that minor and local streets meet LOS C standards and that collector and arterial streets meet LOS D standards. If site traffic contributes to traffic operations that exceed the LOS D standard, then the TIS recommendations need to include mitigations or roadway improvements.

SR 500 (NE Everett Street)

Chapter 320 of Washington State Department of Transportation's (WSDOT) *Design Manual* (Reference 3) covers traffic impact analysis on state facilities.

The Urban non-National Highway System facilities (non-HSS standard)² established by the Southwest Washington Regional Transportation Council (RTC) for Clark County is LOS E and applies to the NE Everett Street (SR 500)/NE 43rd Avenue intersection.

Table 1 summarizes the applicable intersection performance metrics at each study intersection.

Table 1. Study Intersection Performance Metrics

ID	Study Intersection	Traffic Control	Jurisdictional Authority	Facility Designation	Operating Requirement
1	SR 500/NE 43 rd Ave	Signalized	WSDOT	Urban non-HSS	LOS E
2	NE Umatilla St/SE 15 th St	TWSC	City of Camas	City Arterial	LOS D
3	NE Umatilla St/NE 41 st Ave	TWSC	City of Camas	City Collector	LOS D

Where: TWSC = Two-way Stop Control

² [WSDOT - Highways of Statewide Significance | WSDOT Geospatial Open Data Portal](#)

2026 EXISTING CONDITIONS

The existing conditions analysis identifies site conditions and the current operational and geometric characteristics of streets within the study area. The purpose of this section is to set the stage for a basis of comparison to future conditions. The study intersections were inventoried in February 2026.

Site Conditions and Adjacent Land Uses

The proposed development project is located on the south side of SE 15th Street and west of an existing single family home subdivision that fronts NE Umatilla Street. The approximate 6.84-acre site is comprised of a single taxlot zoned Single-Family Residential (R-6). One existing single-family residence, shop, and barn is located on site today accessed by an existing driveway on SE 15th Street. The existing home, supporting structures, and driveway access will be removed with the proposed subdivision.

This site is bordered to the east by a residential subdivision developed within the last 10 years and accessed by NE 41st Avenue. Single-family residential housing borders the site to the north (3 homes) and west while NE Woodburn Drive borders the site to the south.

Transportation Facilities

Table 2 provides a summary of the existing streets closest to the site. Figure 3 illustrates the existing lane configurations and traffic control devices at the study intersections. Note that SE 43rd Avenue transitions to become SE 15th Street near Camas High School.

Table 2. Existing Transportation Facilities

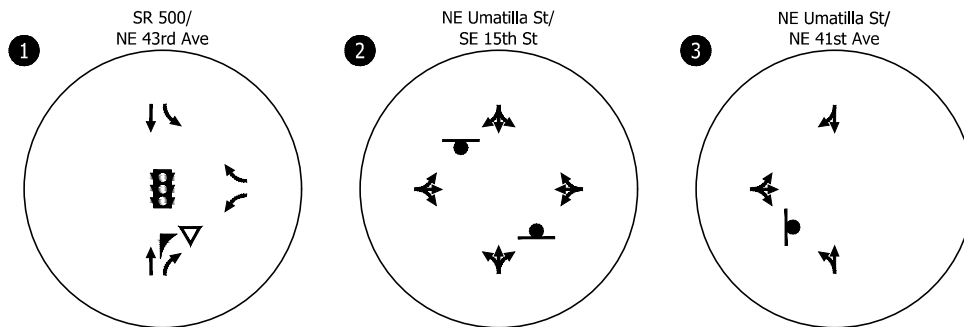
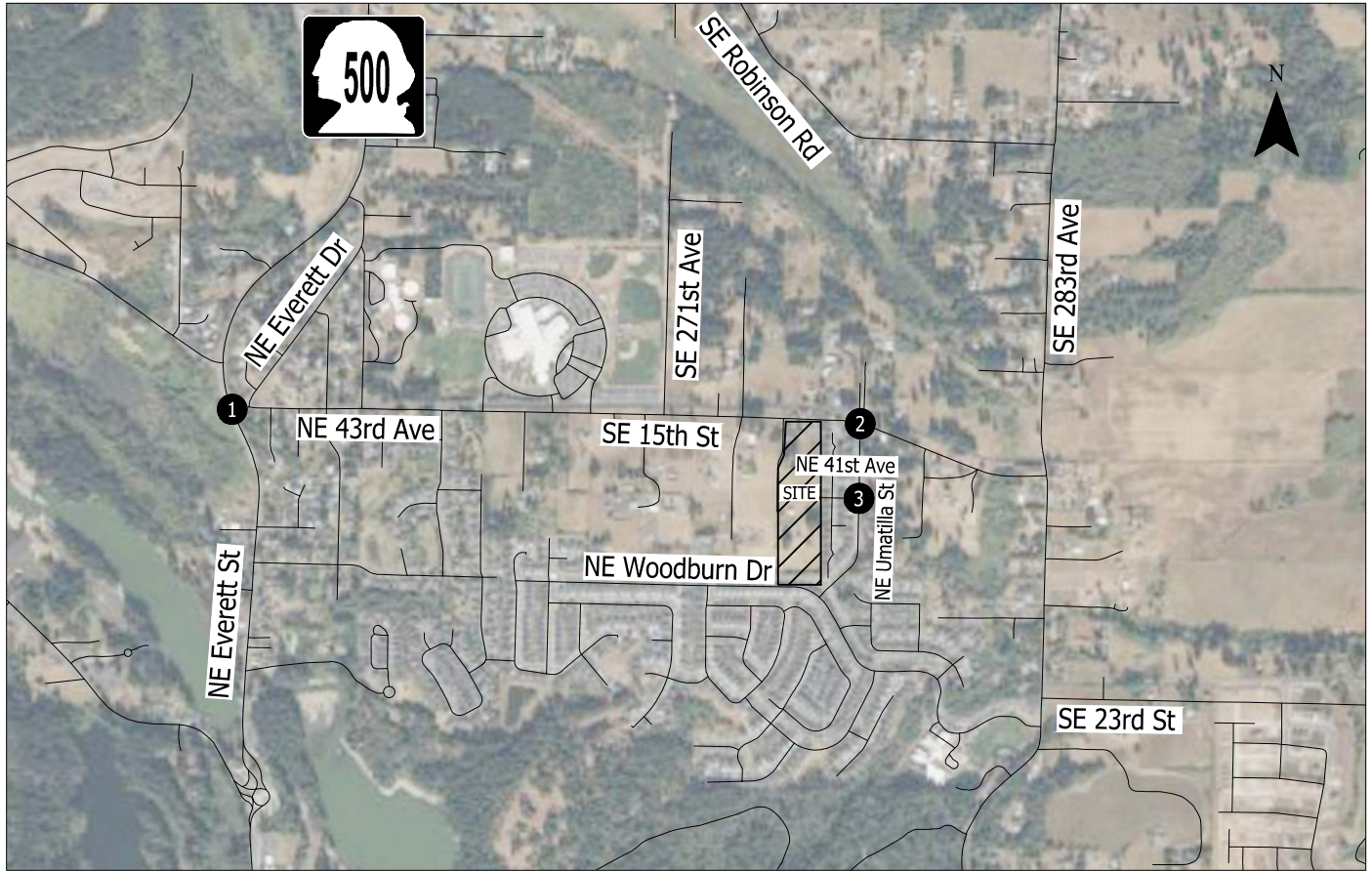
Street	Jurisdiction	Classification	Cross-Section	Posted Speed	Sidewalks Present?	Bike Lanes Present?
NE Everett Street (SR 500)	WSDOT ¹	Rural Major Collector / Urban Minor Arterial ²	2-lane	45 mph ³	No	No
NE 43 rd Ave-SE 15 th St West of SE 271 st Ave	City	Arterial ⁴	2/3-lane	25 mph	Partial	No
SE 15 th St East of SE 271 st Ave	City	Arterial ⁴	2-lane	40 mph	No	No
NE Umatilla St	City	Collector ⁴	2 lane	Not Posted	West side	Partial
NE 41 st Ave	City	Local Road	2 lane	Not Posted	Yes	No

¹ WSDOT Functional Classification (Reference 4)

² North of Robinson Road, SR 500 is classified as a Rural Major Collector. South of Robinson Road (including at NE 43rd Avenue), SR 500 is classified as an Urban Minor Arterial.

³ Along SR 500, lower advisory speeds are posted at roadway curves. As SR 500 approaches downtown Camas, the posted speed is reduced to 25 mph.

⁴ 2035 *City of Camas 2035 Comprehensive Plan (Transportation Element, Reference 5).*



- | | | | |
|--|---------------------|--|------------|
| | Stop Sign | | Yield Sign |
| | Traffic Signal | | Site Area |
| | Study Intersections | | |

Existing Lane Configurations
& Traffic Control Devices
Camas, WA

Figure
3

Facilities for Non-Motorized Users

A 10-foot wide curb tight sidewalk is provided along the west side of NE Umatilla Street between NE 43rd Avenue-SE 15th Street and NE Woodburn Drive. Striped bike lanes and a detached sidewalk located on the east side of the roadway are provided on NE Umatilla Street extending from NE Woodburn Drive north approximately 370 feet.

Sidewalks are provided along NE 41st Avenue and stubbed to link the project site and NE Umatilla Street. Sidewalks extend approximately 300 feet west of NE Umatilla Street along the south side of SE 15th Street. The only other sidewalk facility along SE 15th Street fronts Camas High School and a few homes on the south side of NE 43rd Avenue at NE Hayes Street.

Transit Facilities

C-Tran provides transit service within the City of Camas. There are no fixed-route transit services currently operated in the site vicinity. The nearest fixed-route service provides east-west service along NE 3rd Avenue in the downtown Camas area and is located over two miles south of the project site.

Given the lack of transit service within a convenient ½ mile walking distance today and for the foreseeable future, no transit-related trip reductions were assumed in this study and no transit-related mitigation measures are recommended as part of the proposed development.

TRAFFIC SAFETY

WSDOT provided crash records for the five-year period from November 1, 2020 to October 31, 2025. The data was reviewed to identify potential crash trends or safety needs at the study intersection. Table 3 summarizes the reported crash type, severity and calculated crash rate by intersection. *Appendix B contains the WSDOT provided crash data.*

Table 3. Intersection Crash Frequency and Severity (November 2020 through October 2025)

#	Intersection	Collision Type								Crash Severity			Total Number of Crashes	Crash Rate ²
		Rear-end	Turning	Angle	Side Swipe	Backing	Fixed Object	Ped/Bike	Other	PDO ¹	Injury	Fatality		
1	SR 500/NE 43 rd Ave	2	3	-	-	-	1	-	-	3	3	-	6	0.30
2	NE Umatilla St/SE 15 th St	-	-	-	-	-	1	-	-	-	-	-	1	0.18
3	NE Umatilla St/NE 41 st Ave	-	-	-	-	-	-	-	-	-	-	-	-	0

¹ PDO = Property Damage Only

² Crash rate is calculated as the number of crashes per million entering vehicles.

The sections that follow provide identification of crash types and/or factors contributing to the reported crashes.

Crash Severity

There were no reported fatal crashes at the study intersections. None of the study intersections experienced a crash rate greater than 1.0 crashes per million entering vehicles (i.e., the metric used by the City to assess whether further analyses are warranted).

SR 500/NE 43rd Avenue (Intersection #1)

Of the six reported crashes at the SR 500/NE 43rd Avenue intersection:

- The two rear-end collisions involved southbound vehicles. One collision involved a driver that was reportedly distracted by their cellphone, and the other collision report indicates the driver was distracted during night conditions.
- Two left-turn collisions occurred during rainy weather conditions, and the single fixed object collision involved a northbound vehicle turning east and colliding with the traffic island during icy road conditions.

The City of Camas is currently in the process of designing a roundabout to replace the existing traffic signal, though roundabout construction is not programmed or financed at the time this report was prepared. No crash trends requiring mitigation were identified at this intersection through the crash data review.

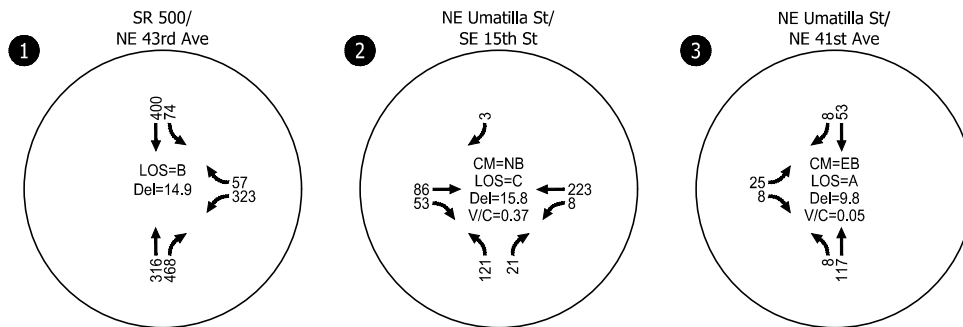
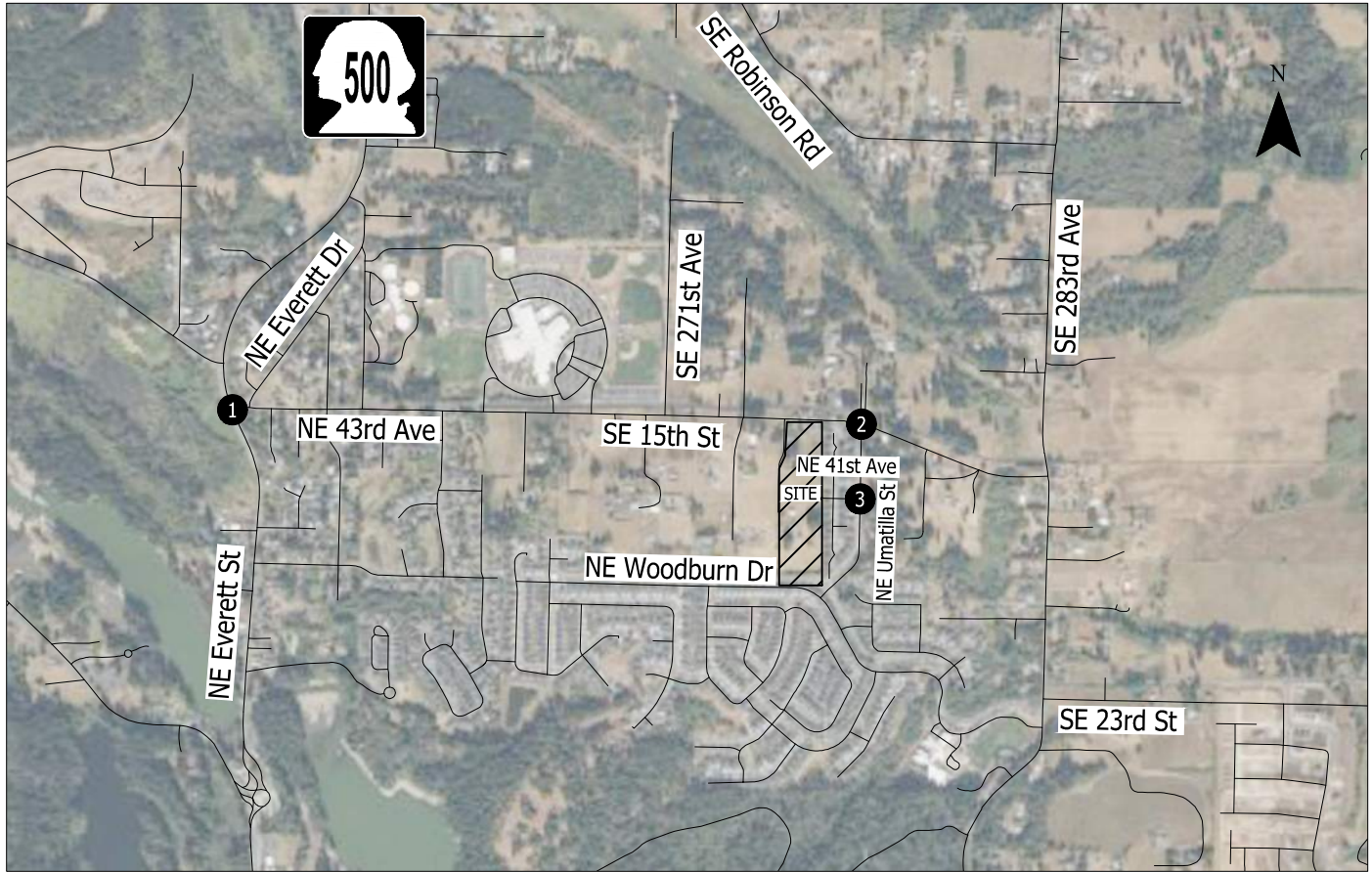
NE Umatilla Street/SE 15th Street (Intersection #2)

The single reported crash at this intersection involved a westbound driver that struck a mailbox. The driver was described as distracted while negotiating a turn during rainy weather conditions.

Traffic Volumes and Peak Hour Operations

Vehicle turning movement, pedestrian and bicycle counts were collected at the study intersections on a mid-weekday in May 2025 during the morning (7:00 – 9:00 AM) and evening (4:00 – 6:00 PM) hours when local schools were in-session and there were no adverse weather conditions. *Appendix C contains the traffic count sheets used in this study.*

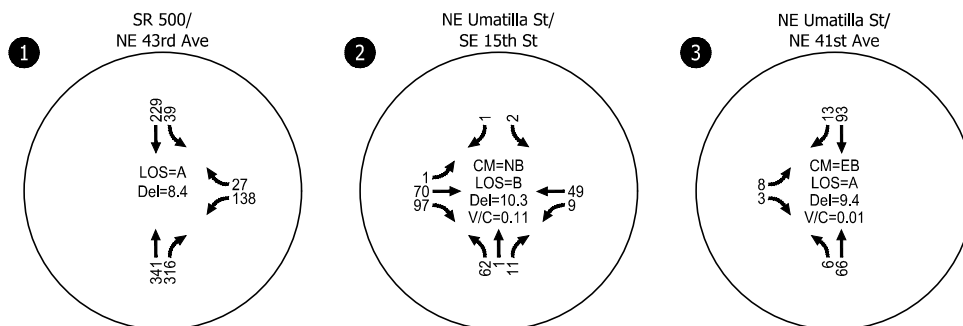
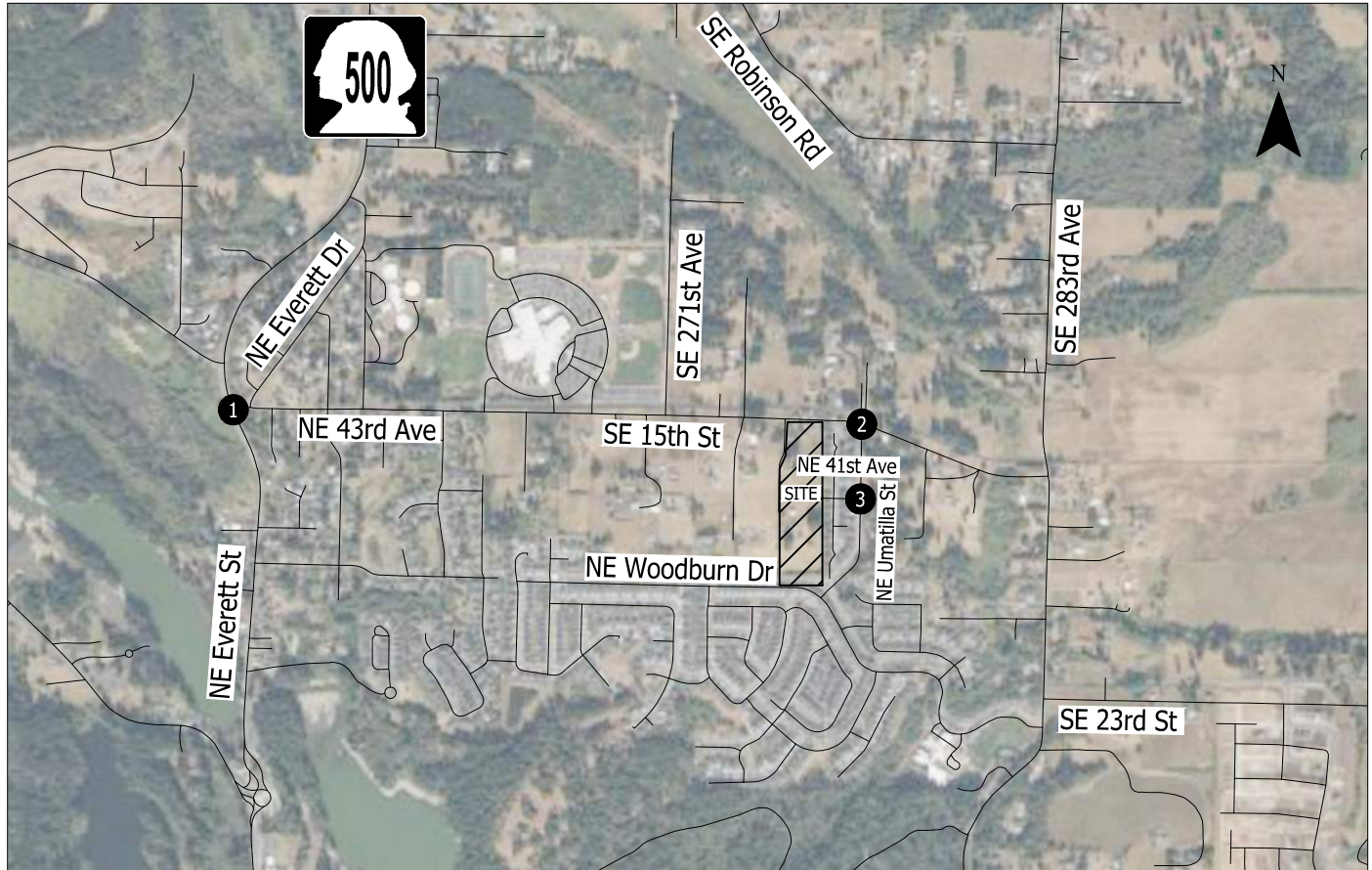
The weekday AM and PM peak hour traffic volumes and the associated intersection operations are shown in Figures 4 and 5. As shown, all study intersections satisfy the applicable LOS standards under existing weekday AM and PM peak hour conditions. While the respective agency LOS standards are satisfied, morning peak hour field observations at the SR 500 (NE Everett Street)/NE 43rd Avenue intersection identified westbound queueing on NE 43rd Avenue that extended towards the high school. These peak queues were observed to last for approximately 15 minutes and were associated with school-related trips at the start of the school day. *Appendix D includes the existing conditions level-of-service worksheets.*



CM = INTERSECTION MOVEMENT (UNSIGNALIZED)
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2026 Existing Traffic Conditions
 Weekday AM Peak Hour
 Camas, WA

Figure
 4



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2026 Existing Traffic Conditions
 Weekday PM Peak Hour
 Camas, WA

Figure
 5

2028 BACKGROUND TRAFFIC CONDITIONS

The year 2028 background traffic analysis identifies how the study intersections will operate prior to the construction and occupancy of the Uhacz Residential development. This analysis includes traffic attributed to planned developments within the study area and to general growth in the region but does not include traffic from the proposed development.

Planned Developments

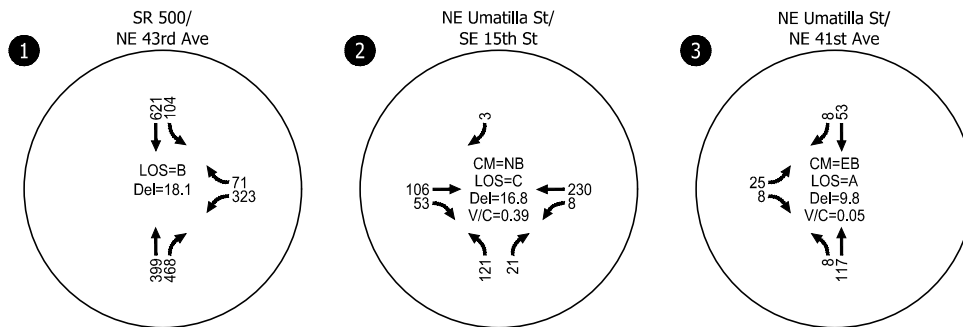
City staff identified the following previously approved developments to include in the traffic forecasts for the year 2028:

- Reserve at Green Mountain, located on the south side of NE 28th Street, east of NE Ingle Road
- Landing at Green Mountain Phase 2, located on the south side of NE 28th Street, east of NE Ingle Road
- Lacamas North Shore between North Shore Village and Lacamas Elementary School
- North Shore Village, located east of NE 252nd Avenue and south of SE 3rd Street
- Camas Woods and Camas Woods 2, located east of SR 500 between Everett Drive and NE 8th Street
- Camas Heights, located on the north side of NE 28th Street at and west of NE 232nd Avenue
- Green Mountain Estates, located on the north side of NE 28th Street, east of NE 222nd Avenue
- Green Mountain Planned Residential Development (PRD), located east of NE Ingle Road and north of NE 28th Street
- Lacamas Hills, located on the north side of Leadbetter Road west of Everett Road (formerly known as CJ Dens East Subdivision)
- Monte Verde Subdivision, located on the south side of NE 28th Street, west of NE 232nd Avenue
- Stella Ridge residential development, located north of NW 18th Avenue and west of NE Brady Road

In addition to the “in-process” development traffic, a two percent growth rate was also applied to account for continued growth in regional traffic north-south along SR 500. *In-process traffic details as provided by the City are included in Appendix E.*

Traffic Operations

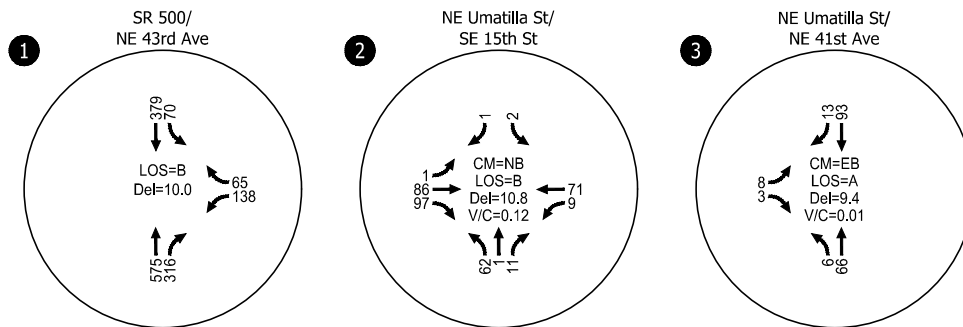
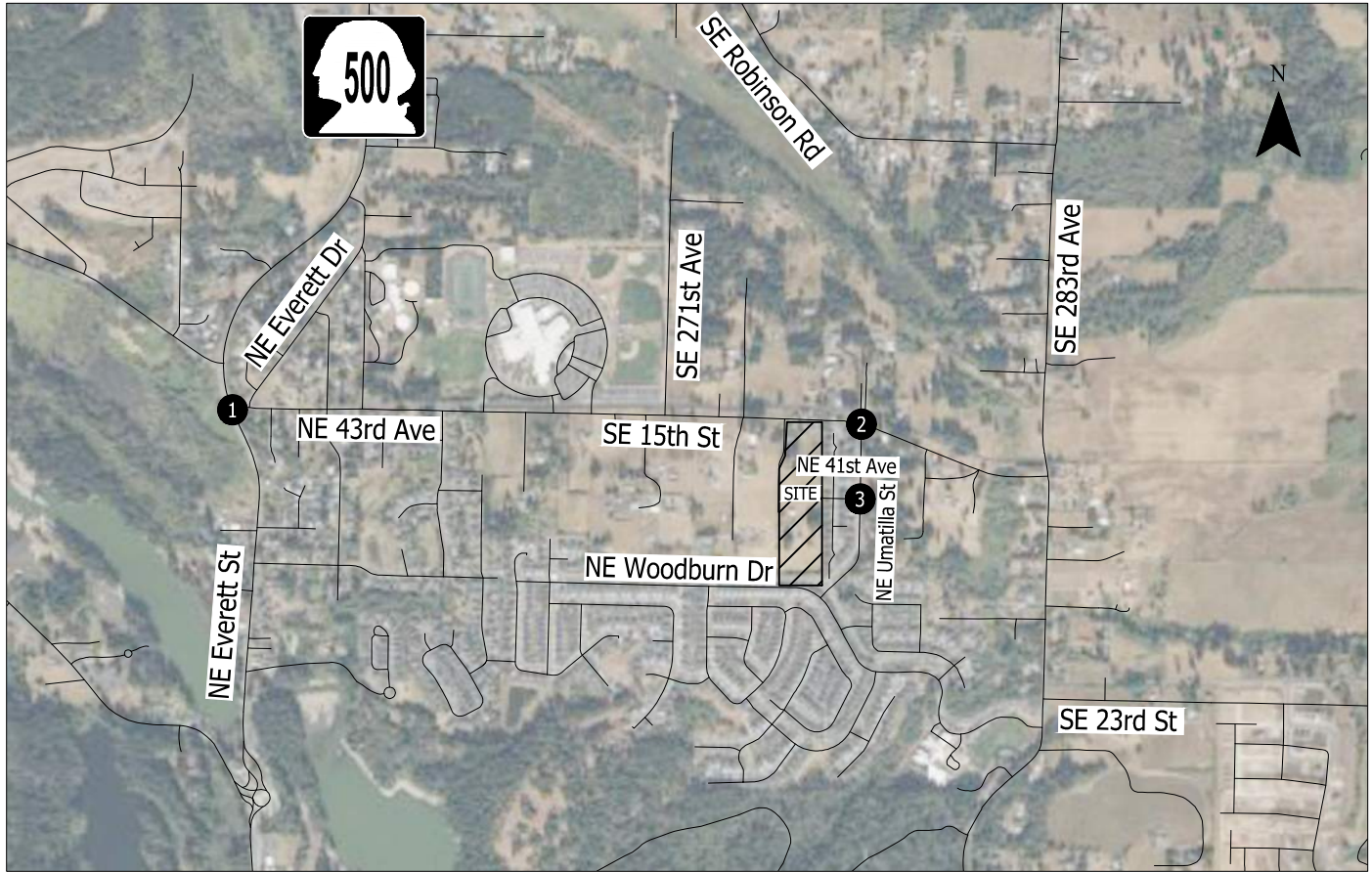
Figures 6 and 7 show the year 2028 background traffic analysis turning movement volumes and associated intersection analyses during weekday AM and PM peak hour periods. As shown in the figures, all study intersections are projected to satisfy the applicable LOS standards under weekday background traffic AM and PM peak hour conditions. *Appendix F contains the year 2028 background traffic conditions worksheets.*



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2028 Background Traffic Conditions
 Weekday AM Peak Hour
 Camas, WA

Figure
 6



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2028 Background Traffic Conditions
 Weekday PM Peak Hour
 Camas, WA

Figure
 7

PROPOSED DEVELOPMENT

Romano Capital, Inc. proposes to develop up to 32 single-family detached homes on the project site, with construction and full occupancy anticipated by 2028. Vehicle access to the project site will be via an extension of NE 41st Avenue. The existing home, buildings, and driveway access will be removed with site development.

Trip Generation Estimates

The anticipated weekday daily, AM, and PM peak hour vehicular trips for the proposed development were calculated based on fitted equation trip rates from the *Trip Generation Manual, 12th Edition*, published by the Institute of Transportation Engineers (ITE, Reference 6). Table 4 summarizes the residential development phase trip generation estimate, reflecting the average rate for daily trips and fitted equation trip rates during the AM and PM peak hours.

Table 4. Estimated Site Trip Generation

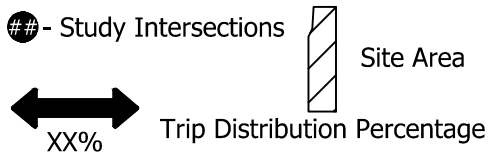
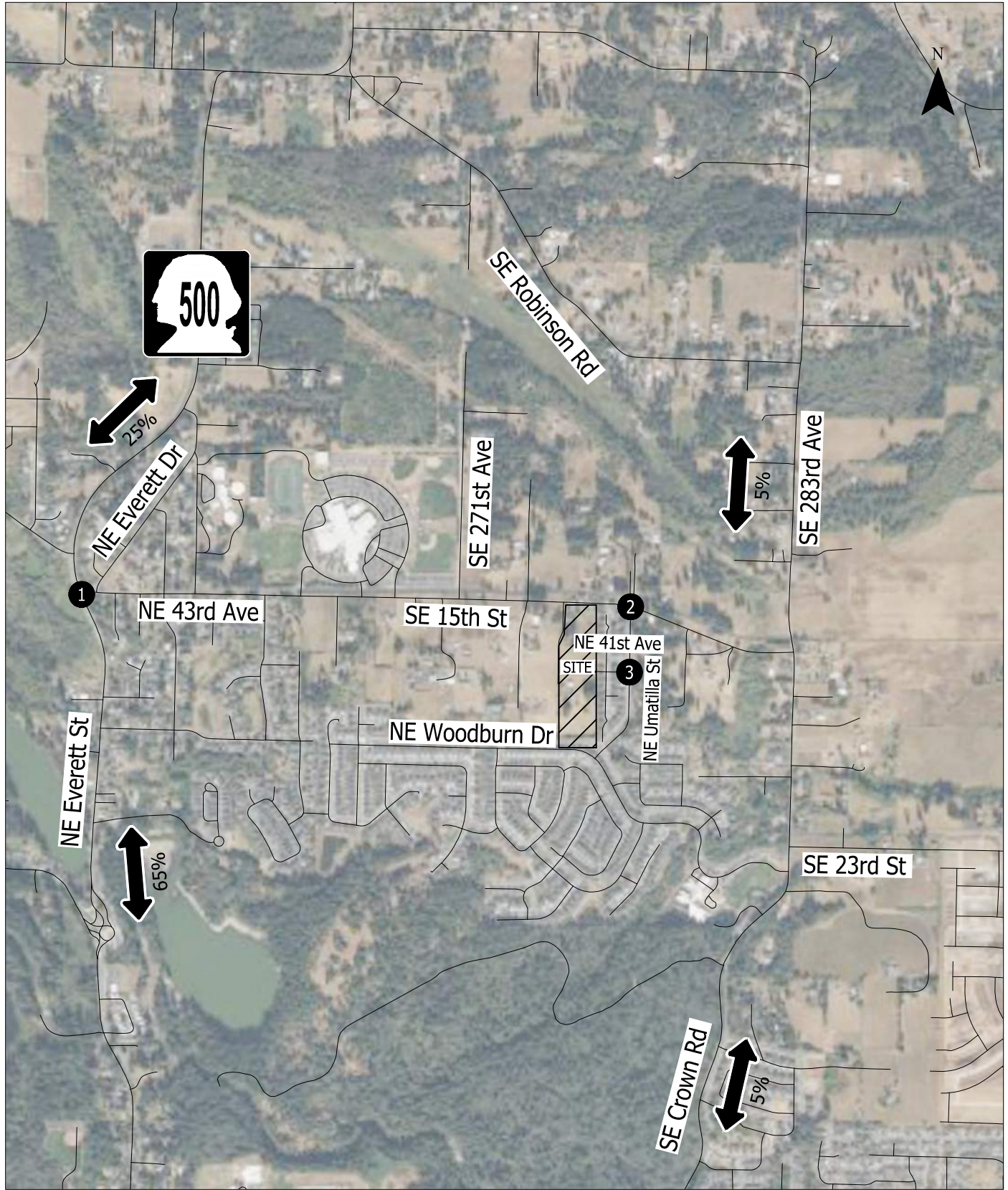
Land Use	ITE Code	Size (units)	Daily Trips	Weekday AM Peak			Weekday PM Peak		
				Total	In	Out	Total	In	Out
Single-Family Detached Housing	210	32	302	27	7	20	34	21	13

Note that no trip reduction was made for the existing home on the project site to provide a conservative analysis and recognizing that the existing home access is to NE 43rd Avenue-SE 15th Street. Trip credits for the existing single-family home should be considered for Traffic Impact Fee assessment purposes per standard City of Camas practice.

Trip Distribution and Assignment

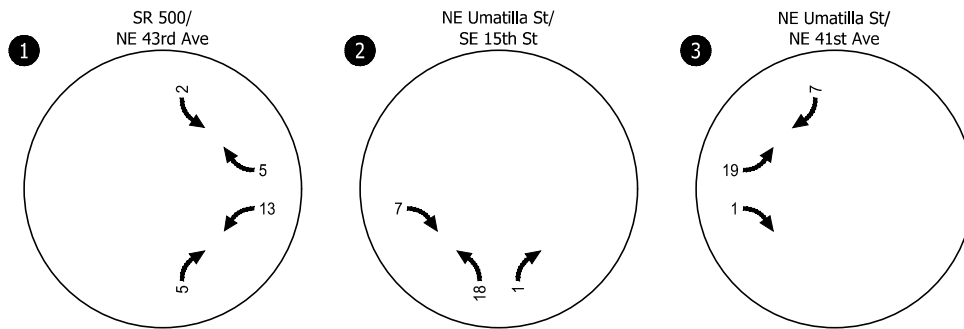
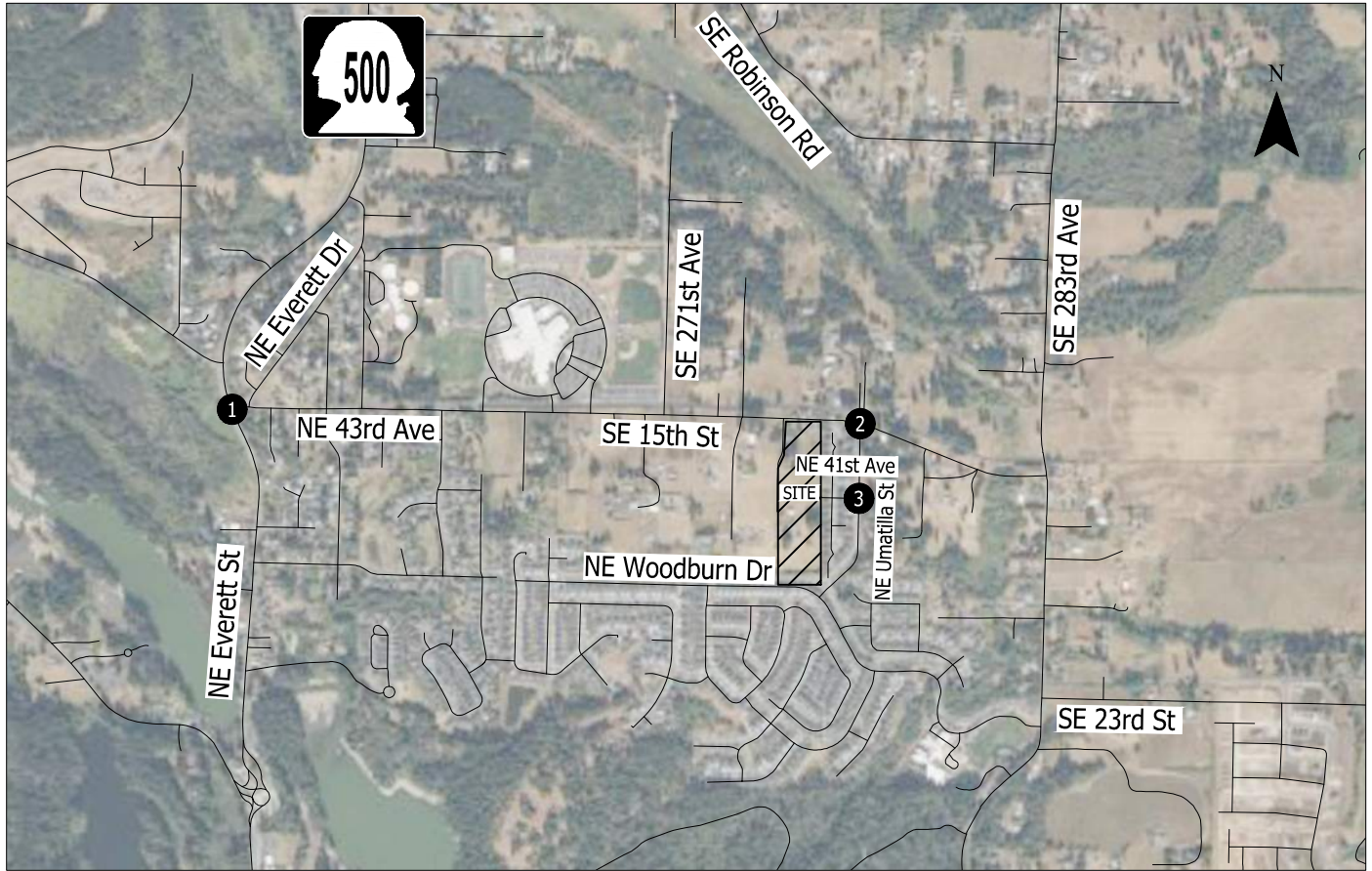
The site generated trips shown in Table 4 were assigned using the Southwest Washington Regional Transportation Council (RTC) travel demand modeling of nearby TAZs utilized for other residential projects in the area. Figure 8 illustrates the estimated trip distribution pattern while the assignment of AM and PM peak hour trips to the study intersections are shown in Figures 9 and 10, respectively.

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Estimated Trip Distribution Pattern
Camas, WA

Figure
8

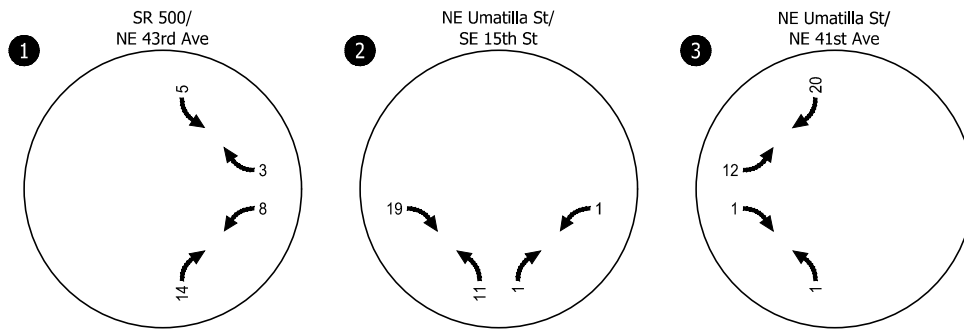
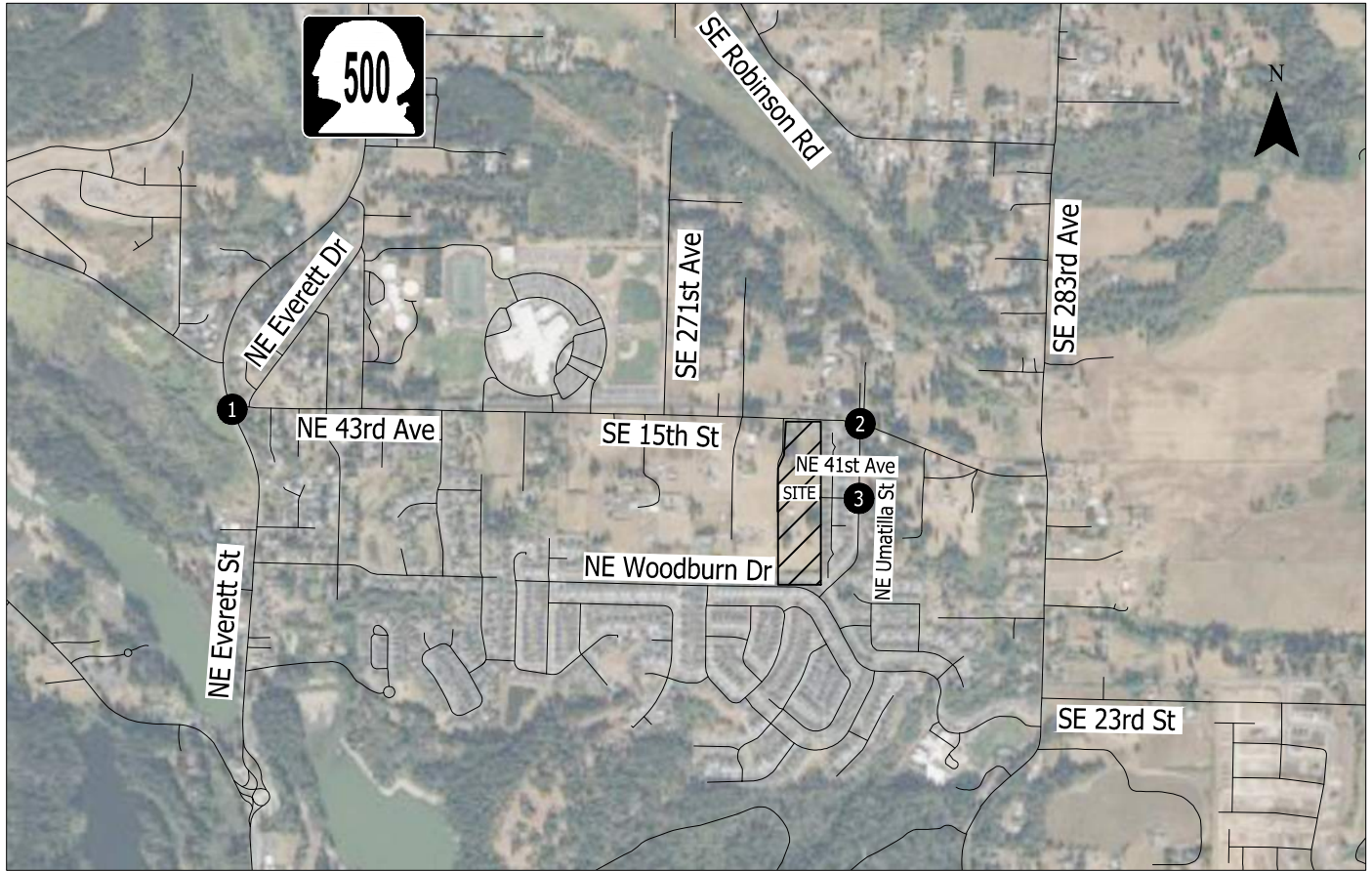


- Study Intersections

 Site Area

Estimated Trip Assignment
Weekday AM Peak Hour
Camas, WA

Figure
9



- Study Intersections

 Site Area

Estimated Trip Assignment
Weekday PM Peak Hour
Camas, WA

Figure
10

2028 TOTAL TRAFFIC CONDITIONS

The total traffic conditions analysis forecasts how the study intersections will operate with the traffic associated with full occupancy of the proposed development. The site-generated trips shown in Figures 9 and 10 were added to the 2028 background traffic volumes reflected in Figures 6 and 7 to arrive at the 2028 total traffic volumes shown in Figures 11 and 12. Figures 11 and 12 also include the resulting intersection operations under total traffic conditions. Tables 5 and 6 summarize intersection operations for the AM and PM peak hour analysis periods, respectively. All study intersections are projected to satisfy the applicable LOS standards under weekday total traffic AM and PM peak hour conditions.

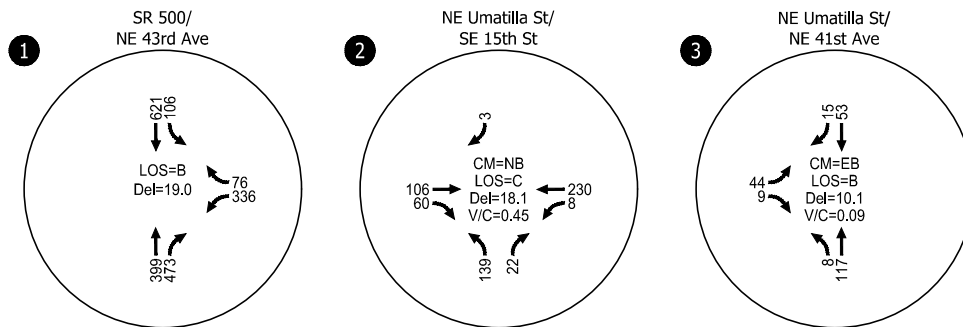
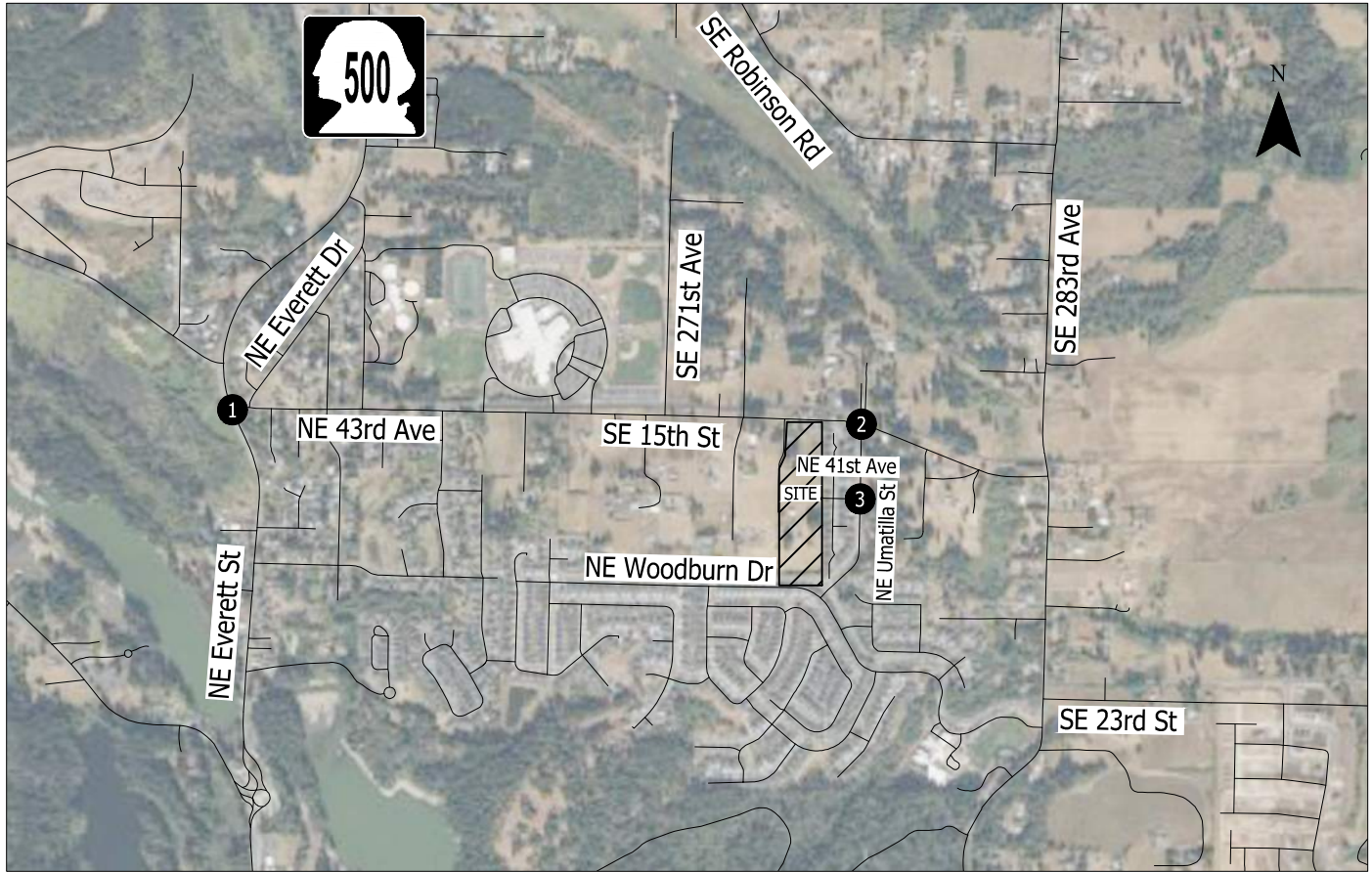
Table 5. Projected Weekday AM Peak Hour Study Intersection Operations Summary

ID	Study Intersection	Traffic Control	LOS Standard	Existing Conditions	2028 Background Traffic	2028 Total Traffic
1	SR 500/ NE 43 rd Ave	Signalized	LOS E	LOS B, 14.9 sec	LOS B, 18.1 sec	LOS B, 19.0 sec
2	NE Umatilla St/ SE 15 th St	Stop	LOS D	CA = NB LOS C, 15.8 sec V/C = 0.37	CA = NB LOS C, 16.8 sec V/C = 0.39	CA = NB LOS C, 18.1 sec V/C = 0.45
3	NE Umatilla St/ NE 41 st Ave	Stop	LOS D	CA = EB LOS A, 9.8 sec V/C = 0.05	CA = EB LOS A, 9.8 sec V/C = 0.05	CA = EB LOS A, 10.1 sec V/C = 0.09

Table 6. Projected Weekday PM Peak Hour Study Intersection Operations Summary

ID	Study Intersection	Traffic Control	LOS Standard	Existing Conditions	2028 Background Traffic	2028 Total Traffic
1	SR 500/ NE 43 rd Ave	Signalized	LOS E	LOS A, 8.4 sec	LOS B, 10.0 sec	LOS B, 10.3 sec
2	NE Umatilla St/ SE 15 th St	Stop	LOS D	CA = NB LOS B, 10.3 sec V/C = 0.11	CA = NB LOS B, 10.8 sec V/C = 0.12	CA = NB LOS B, 11.1 sec V/C = 0.14
3	NE Umatilla St/ NE 41 st Ave	Stop	LOS D	CA = EB LOS A, 9.4 sec V/C = 0.01	CA = EB LOS A, 9.4 sec V/C = 0.01	CA = EB LOS A, 9.6 sec V/C = 0.03

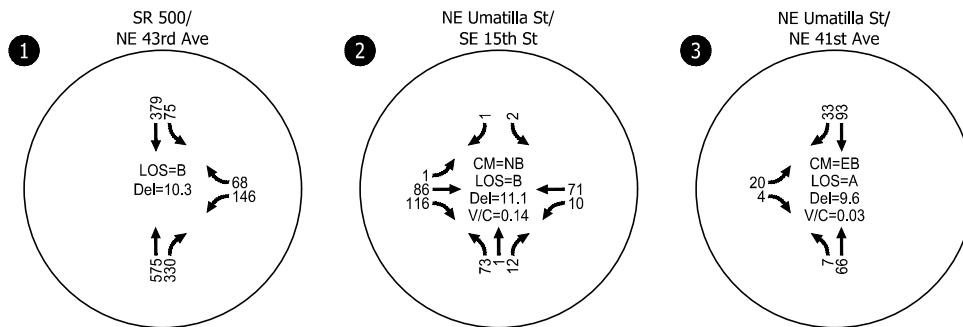
Appendix G contains the year 2028 total traffic conditions worksheets.



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**2028 Total Traffic Conditions
 Weekday AM Peak Hour
 Camas, WA**

**Figure
 11**



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**2028 Total Traffic Conditions
 Weekday PM Peak Hour
 Camas, WA**

**Figure
 12**

TURN LANE CONSIDERATIONS

The potential need for a northbound left-turn lane on NE Umatilla Street at NE 41st Avenue and a westbound left-turn lane on SE 15th Street at NE Umatilla Street was considered. As previously noted, SE 15th Street is designated as a City 2/3-lane arterial and NE Umatilla Street is designated as a City 2-lane collector.

Both intersections are projected to operate well with minimal delay. Further, there is no northbound left-turn lane need or westbound left-turn lane need based on the projected intersections volumes and the volume-based criteria in Chapter 1310 of the *WSDOT Design Manual* (Reference 7) as shown in Appendix H.

INTERSECTION SIGHT DISTANCE

Documentation demonstrating adequate intersection sight distance and vision clearance at the new public street roadways and intersections will be provided by AKS Engineering & Forestry, LLC through the site plan application process. We recommend that on-site landscaping, signage, and any new above-ground utilities be appropriately located and maintained to provide adequate intersection sight distance and vision clearance per applicable City requirements.

PROPORTIONATE SHARE CONTRIBUTIONS

The City of Vancouver collects proportionate share fee contributions from all future developments that add one or more site-generated trips to an adopted list of intersections that require mitigation. Table 5 provides a summary of the current proportional share fee intersections, the mitigation cost per trip, the estimated number of site-generated trips added based on the proposed site plan as well as the corresponding mitigation fee anticipated.

Table 5. City of Vancouver Proportionate Share Fee Summary

Mitigation Location	Mitigation Cost/Peak Hour Trip	Peak Hour Trips Added	Estimated Mitigation Cost
137 th Ave: 49 th St to Fourth Plain Blvd	\$3,000/PM	0	\$0
Fourth Plain Blvd & 152 nd Ave Signal	\$333/PM	0	\$0
Lieser/St. Helens/MacArthur	\$2,000/PM	0	\$0
176 th Ave & SE 20 th St	\$400/PM	0	\$0
192 nd Avenue & NE 13 th Street	\$400/PM	3	\$1,200
192 nd Ave & SE 34 th St	\$150/PM	0	\$0
192 nd Ave & SR-14 ramps	\$2,000/PM	0	\$0
SE 192 nd Ave & Columbia Palisades Dr (E/W legs only)	\$830/PM	0	\$0
MacArthur & Andresen Roundabout	\$2,285/PM	0	\$0
MacArthur & Devine Roundabout	\$2,226/PM	0	\$0
Grove St/Columbia House Blvd/SR-14 WB Ramp	\$600/AM	0	\$0
NE 172 nd Avenue & NE 18 th Street	\$300/PM	2	\$600
NE 179 th Place & NE 18 th Street	\$900/PM	2	\$1,800
NE 187 th Avenue & NE 18 th Street	\$1,200/PM	2	\$2,400
NE 162 nd Avenue & NE 9 th Street	\$1,500/PM	0	\$0
NE 172 nd Avenue & NE 9 th Street	\$4,100/PM	0	\$0
NE 192 nd Avenue & NE 9 th Street	\$1,100/PM	0	\$0
NE 187 th Avenue & SE 1 st Street	\$1,100/PM	0	\$0
Total Proportional Share Cost			\$6,000

SUMMARY

- All study intersections experience performance levels that satisfy the applicable operating parameters today and in 2028 assuming full occupancy of the homes.
- A northbound left-turn lane on NE Umatilla St at NE 41st Ave and a westbound left-turn lane on SE 15th St at NE Umatilla St were not found to be needed.
- The proposed site development is projected to add weekday PM peak hour trips to the following intersections where the City of Vancouver assesses proportional share mitigation payments:
 - NE 192nd Avenue/NE 13th Street: 3 trips
 - NE 172nd Avenue/NE 18th Street: 2 trips
 - NE 179th Place/NE 18th Street mitigation: 2 trips
 - NE 187th Avenue/NE 18th Street: 2 trips

Based on the traffic operations analysis findings and subject to City of Camas review and direction, we recommend the following in conjunction with the proposed site development.

- Subject to City of Vancouver concurrence and final residential unit count confirmation, pay the following proportional share intersection fees as identified per City of Vancouver requirements:
 - \$2,200 towards NE 192nd Avenue/NE 13th Street mitigation
 - \$600 towards NE 172nd Avenue/NE 18th Street mitigation
 - \$1,800 towards NE 179th Place/NE 18th Street mitigation
 - \$2,400 towards NE 187th Avenue/NE 18th Street mitigation
- Locate and maintain site landscaping, above-ground utilities, and site signage at all local street intersections within and adjacent to the site to provide adequate intersection sight distance and vision clearance per applicable City requirements.

REFERENCES

1. City of Camas. *Transportation Impact Study Guidelines*. June 10, 2019.
2. Transportation Research Board. *Highway Capacity Manual, 7th Edition*. 2022.
3. Washington State Department of Transportation. *WSDOT Design Manual M 22-01.22 – Chapter 320: Traffic Analysis*. September 2024.
4. Washington State Department of Transportation. Functional Classification Map, accessed March 2026. <https://www.wsdot.wa.gov/data/tools/geoportal/?config=functionalclass>
5. City of Camas. Camas 2035. https://www.cityofcamas.us/sites/default/files/fileattachments/community_development/page/5971/comprehensive_plan_camas_2035.pdf
6. Institute of Transportation Engineers. *Trip Generation Manual, 12th Edition*. August 2025.

LIST OF APPENDICES

- A. Traffic Study Scoping Documentation
- B. WSDOT Crash Data
- C. Traffic Count Data
- D. Existing Conditions Analysis Worksheets
- E. In-Process Data
- F. Year 2028 Background Traffic Conditions Analysis Worksheets
- G. Year 2028 Total Traffic Conditions Analysis Worksheets
- H. WSDOT Design Manual Left-Turn Lane Criteria

Appendix A : Traffic Study Scoping Documentation

James Hollingsworth

From: Anita Ashton <AAshton@cityofcamas.us>
Sent: Monday, May 5, 2025 12:35 PM
To: Chris Brehmer; Curleigh (Jim) Carothers
Subject: RE: PA25-1036 Uhaz Traffic Study Scoping
Attachments: PA25-1036 Pre-Application Meeting Notes REVISED 03.10.25.pdf

[External Sender]

Chris,
 I've attached the pre-app notes for your information.
 You don't need to do counts on the interior road intersection (41st and Tacoma).
 You do need the others as noted below and they will have to provide another access onto SE 15th St. (county) from the development.

Let us know if you have any other questions. Thanks

Anita Ashton

Engineering Project Manager
 Community Development Dept.
 Office Hours: 8:00-5:00, Closed 12:00-1:00
 Desk 360-817-7231
www.cityofcamas.us | aashton@cityofcamas.us

The City of Camas has gone digital! Apply for permits online through our new Civic Access Portal at www.cityofcamas.us/permits.

From: Chris Brehmer <CBREHMER@kittelerson.com>
Sent: Friday, May 2, 2025 1:53 PM
To: Curleigh (Jim) Carothers <jcarothers@cityofcamas.us>
Cc: Anita Ashton <AAshton@cityofcamas.us>
Subject: PA25-1036 Uhaz Traffic Study Scoping

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Hi Curleigh,

Romano Capital asked us to prepare a traffic study for the proposed 31 lot residential development at 27429 SE 15th Street. I understand there is more coordination work to be done with the City but it sounds like the study will be needed this summer and I'm hoping to collect traffic counts here in May while school is still in session. I'm reaching out to try to assess what locations to count.

41st

It appears to me that the only site access initially will be to the east connecting with NE 41st Avenue out to NE Umatilla Street. With 31 homes proposed, the site trip generation should be on the order of 26 AM peak hour trips and 33 peak hour trips (Trip Generation Manual, 11th Edition single family detached home rates). As such, the project would add more than 20 peak hour trips through NE Tacoma Street/NE 41st Avenue and NE Umatilla

Street/NE 41st Avenue. I think it is possible we might also see 20+ trips at SE 15th Street/NE Umatilla Street and NE 43rd/SR 500 (NE Everett Street).



Would you want to see analysis of these four intersections or are any unnecessary (I'm wondering specifically if NE Tacoma Street/NE 41st Avenue is necessary given the configuration).

Thank you,
Chris

Christopher L Brehmer, PE*

Senior Principal Engineer
(he/him)

*Licensed in OR, WA, MO and NV

Kittelson & Associates, Inc.

Transportation Engineering & Planning
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Appendix B : WSDOT Crash Data

OFFICER REPORTED CRASHES THAT OCCURRED at OR in the vicinity of MULTIPLE INTERSECTIONS IN THE CITY OF CAMAS

11/19/2019 - 11/19/2025 See 2nd tab below for road info

Under 23 U.S. Code § 148 and 23 U.S. Code § 407, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

KAI Intersection #	KAI Intersection Name	JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER
2	15th St @ 273rd Ave / 274th Ct	City Street	Clark	Camas	SE 15TH ST			37	F	E	SE 273RD AVE				No	EE62926
3	15th St / Nourse Rd @ Umatilla St	City Street	Clark	Camas	SE NOURSE RD		NE UMATILLA ST								No	EE50493
1	SR 500 / Everett St @ 43rd Ave	State Route	Clark	Camas	500							17.33		19.16	No	EG36167
1	SR 500 / Everett St @ 43rd Ave	State Route	Clark	Camas	500							17.33		19.16	No	EG38916
1	SR 500 / Everett St @ 43rd Ave	State Route	Clark	Camas	500							17.33		19.16	No	EC13028
1	SR 500 / Everett St @ 43rd Ave	State Route	Clark	Camas	500							17.33		19.16	No	EC02446
1	SR 500 / Everett St @ 43rd Ave	State Route	Clark	Camas	500							17.33		19.16	No	EG22109
1	SR 500 / Everett St @ 43rd Ave	State Route	Clark	Camas	500							17.33		19.16	No	EF15278

DATE	TIME	MOST SEVERE INJURY TYPE	# I N J U R I E S	# F A T A L I T I E S	# P E R S O N S I N J U R E D	# B Y P I	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP
03/26/2024	08:48	Possible Injury	1	0	1	0	Passenger Car		Not at Intersection and Not Related
02/08/2024	07:06	Suspected Minor Injury	1	0	1	0	Passenger Car		At Intersection and Not Related
09/04/2025	16:45	No Apparent Injury	0	0	2	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related
10/17/2025	06:47	Possible Injury	3	0	3	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
01/11/2022	08:25	Suspected Minor Injury	3	0	2	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related
12/14/2021	08:40	No Apparent Injury	0	0	1	0	Passenger Car		At Intersection and Related
08/21/2025	12:04	Suspected Minor Injury	4	0	2	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
09/13/2024	22:45	No Apparent Injury	0	0	2	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related

WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO
Overcast	Wet	Daylight	Fire Hydrant	Going Straight Ahead		East	West
Raining	Wet	Daylight	Mailbox	Negotiating a Curve		East	West
Clear or Partly Cloudy	Dry	Daylight	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	North	South
Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	Northwest	East
Raining	Wet	Daylight	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	North	East
Clear	Ice	Daylight	Traffic Island	Making Left Turn		North	East
Clear or Partly Cloudy	Dry	Daylight	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	North	East
Clear or Partly Cloudy	Dry	Dark-Street Lights On	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	North	South

VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)
		Eating or Drinking					
		Lost in Thought / Day Dreaming					
North	Vehicle Stopped	Operating Handheld Cell Phone	Disregard Traffic Sign and Signals		None		
Southeast	Northwest	Did Not Grant RW to Vehicle			None		
South	North	Did Not Grant RW to Vehicle			None		
		None					
South	North	Did Not Grant RW to Vehicle			None		
North	Vehicle Stopped	Other Distractions			None		

FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Past the Outside Shoulder of Primary Trafficway	1156263.39	106956.29
Past the Outside Shoulder of Primary Trafficway	1157145.83	106902.01
Lane 1 Increasing Milepost	1152219.53	107017.48
Lane 1 Decreasing Milepost	1152219.53	107017.48
Lane 1 Decreasing Milepost	1152219.53	107017.48
Decreasing Other Location	1152219.53	107017.48
Lane 2 Decreasing Milepost	1152219.53	107017.48
Lane 1 Increasing Milepost	1152219.53	107017.48

CITY STREET INTERSECTIONS

15th St @ 273rd Ave / 274th Ct

15th St / Nourse Rd @ Umatilla St

41st Ct @ Umatilla St – *No Reported Crashes*

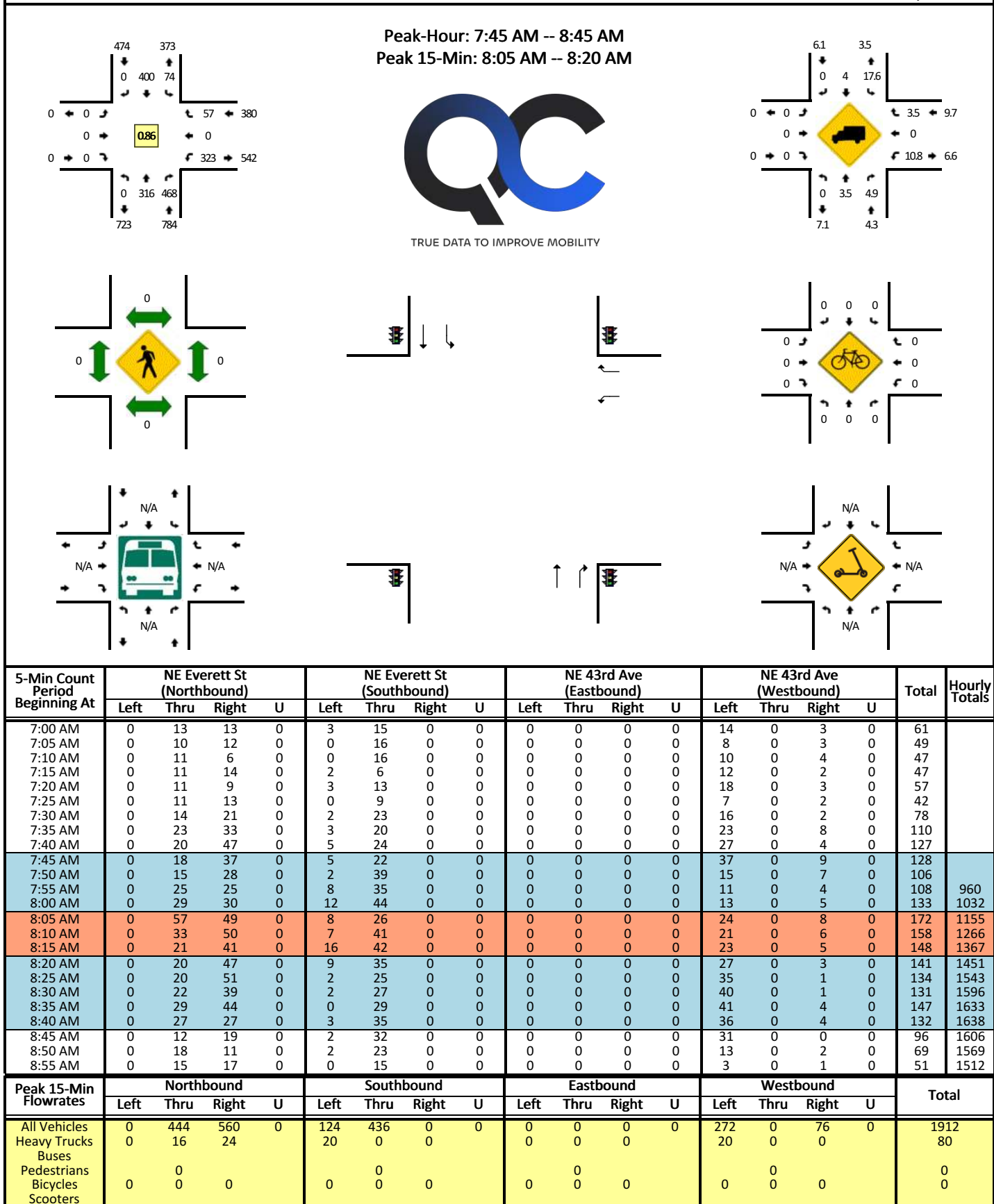
STATE ROUTE INTERSECTION

SR 500 (aka Everett St, mp 17.30 – 17.40) @ 43rd Ave

Appendix C : Traffic Count Data

Type of peak hour being reported: User-Defined

Method for determining peak hour: Total Entering Volume

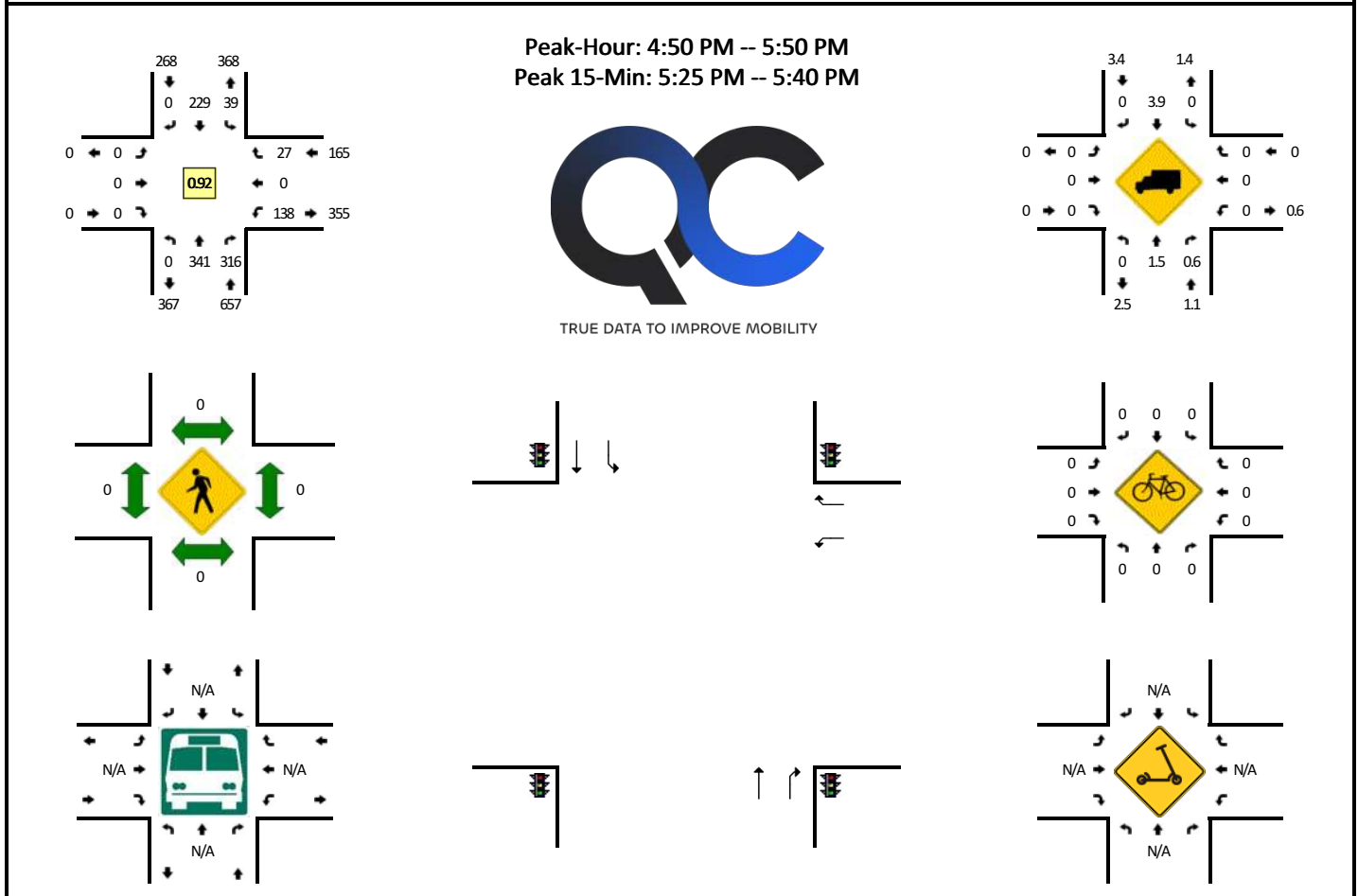
LOCATION: NE Everett St -- NE 43rd Ave**CITY/STATE:** Camas, WA**QC JOB #:** 16591615**DATE:** Wed, May 15 2024

Report generated on 3/3/2026 3:30 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Type of peak hour being reported: User-Defined

Method for determining peak hour: Total Entering Volume

LOCATION: NE Everett St -- NE 43rd Ave**QC JOB #:** 16591616**CITY/STATE:** Camas, WA**DATE:** Wed, May 15 2024

5-Min Count Period Beginning At	NE Everett St (Northbound)				NE Everett St (Southbound)				NE 43rd Ave (Eastbound)				NE 43rd Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	23	16	0	1	15	0	0	0	0	0	0	8	0	1	0	64	
4:05 PM	0	32	15	0	2	20	0	0	0	0	0	0	16	0	2	0	87	
4:10 PM	0	21	12	0	3	23	0	0	0	0	0	0	15	0	1	0	75	
4:15 PM	0	20	6	0	2	22	0	0	0	0	0	0	18	0	3	0	71	
4:20 PM	0	20	16	0	2	20	0	0	0	0	0	0	13	0	1	0	72	
4:25 PM	0	25	10	0	1	16	0	0	0	0	0	0	9	0	3	0	64	
4:30 PM	0	20	14	0	5	18	0	0	0	0	0	0	5	0	1	0	63	
4:35 PM	0	21	9	0	1	15	0	0	0	0	0	0	17	0	2	0	65	
4:40 PM	0	17	16	0	4	19	0	0	0	0	0	0	5	0	3	0	64	
4:45 PM	0	17	16	0	2	23	0	0	0	0	0	0	18	0	2	0	78	
4:50 PM	0	31	32	0	2	14	0	0	0	0	0	0	11	0	4	0	94	
4:55 PM	0	30	29	0	2	16	0	0	0	0	0	0	9	0	2	0	88	885
5:00 PM	0	33	25	0	4	20	0	0	0	0	0	0	12	0	4	0	98	919
5:05 PM	0	28	23	0	2	19	0	0	0	0	0	0	13	0	2	0	87	919
5:10 PM	0	25	19	0	2	12	0	0	0	0	0	0	13	0	2	0	73	917
5:15 PM	0	21	28	0	6	22	0	0	0	0	0	0	17	0	2	0	96	942
5:20 PM	0	24	22	0	5	19	0	0	0	0	0	0	14	0	3	0	87	957
5:25 PM	0	29	27	0	4	19	0	0	0	0	0	0	8	0	3	0	90	983
5:30 PM	0	33	24	0	1	19	0	0	0	0	0	0	13	0	1	0	91	1011
5:35 PM	0	38	36	0	6	26	0	0	0	0	0	0	7	0	2	0	115	1061
5:40 PM	0	26	20	0	3	25	0	0	0	0	0	0	12	0	0	0	86	1083
5:45 PM	0	23	31	0	2	18	0	0	0	0	0	0	9	0	2	0	85	1090
5:50 PM	0	28	28	0	0	20	0	0	0	0	0	0	11	0	3	0	90	1086
5:55 PM	0	22	24	0	2	18	0	0	0	0	0	0	16	0	1	0	83	1081
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	400	348	0	44	256	0	0	0	0	0	0	112	0	24	0	1184	
Heavy Trucks	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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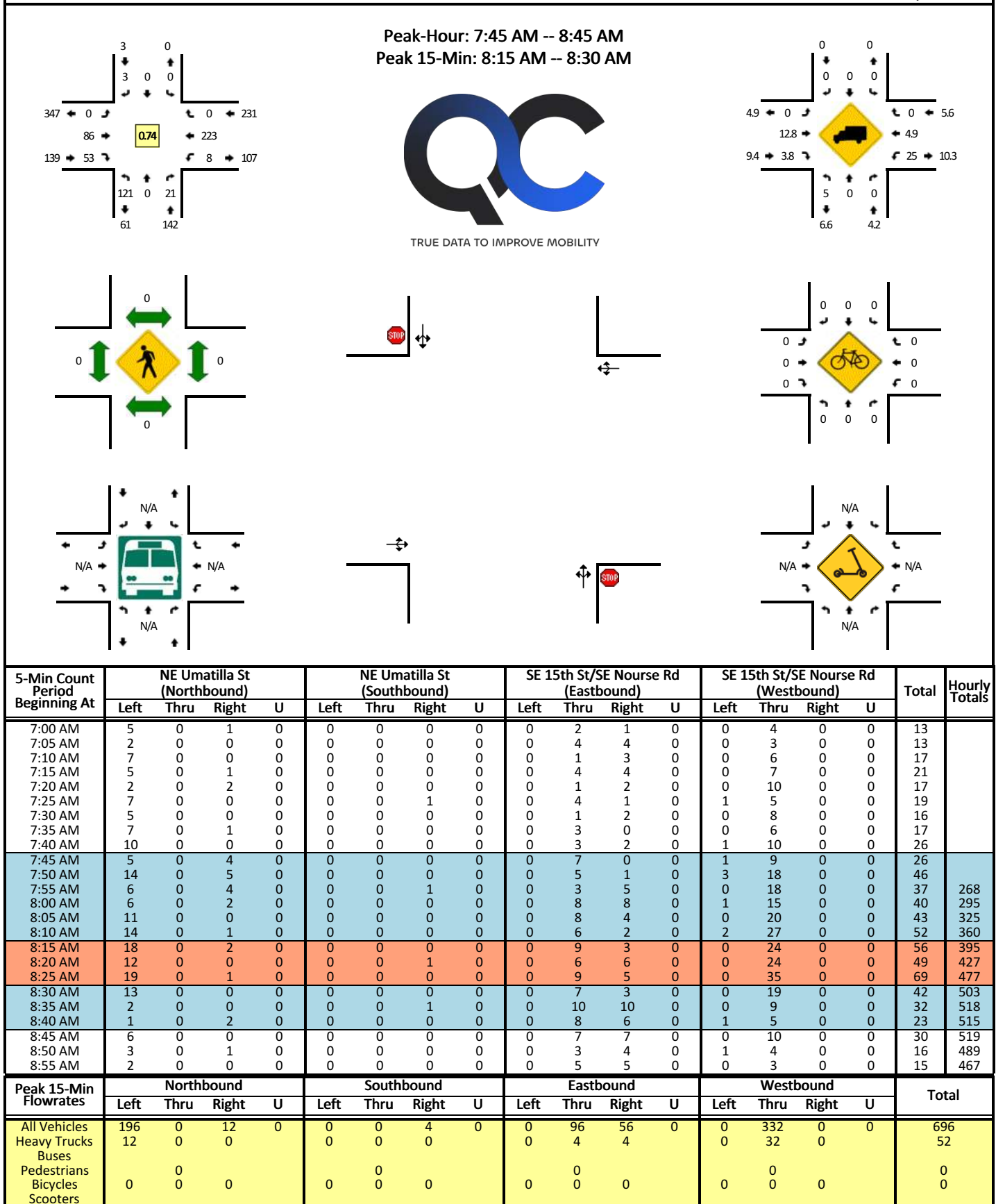
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Report generated on 3/3/2026 3:29 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Type of peak hour being reported: User-Defined

Method for determining peak hour: Total Entering Volume

LOCATION: NE Umatilla St -- SE 15th St/SE Nourse Rd**CITY/STATE:** Camas, WA**QC JOB #:** 17062001**DATE:** Tue, May 13 2025

Report generated on 3/3/2026 3:17 PM

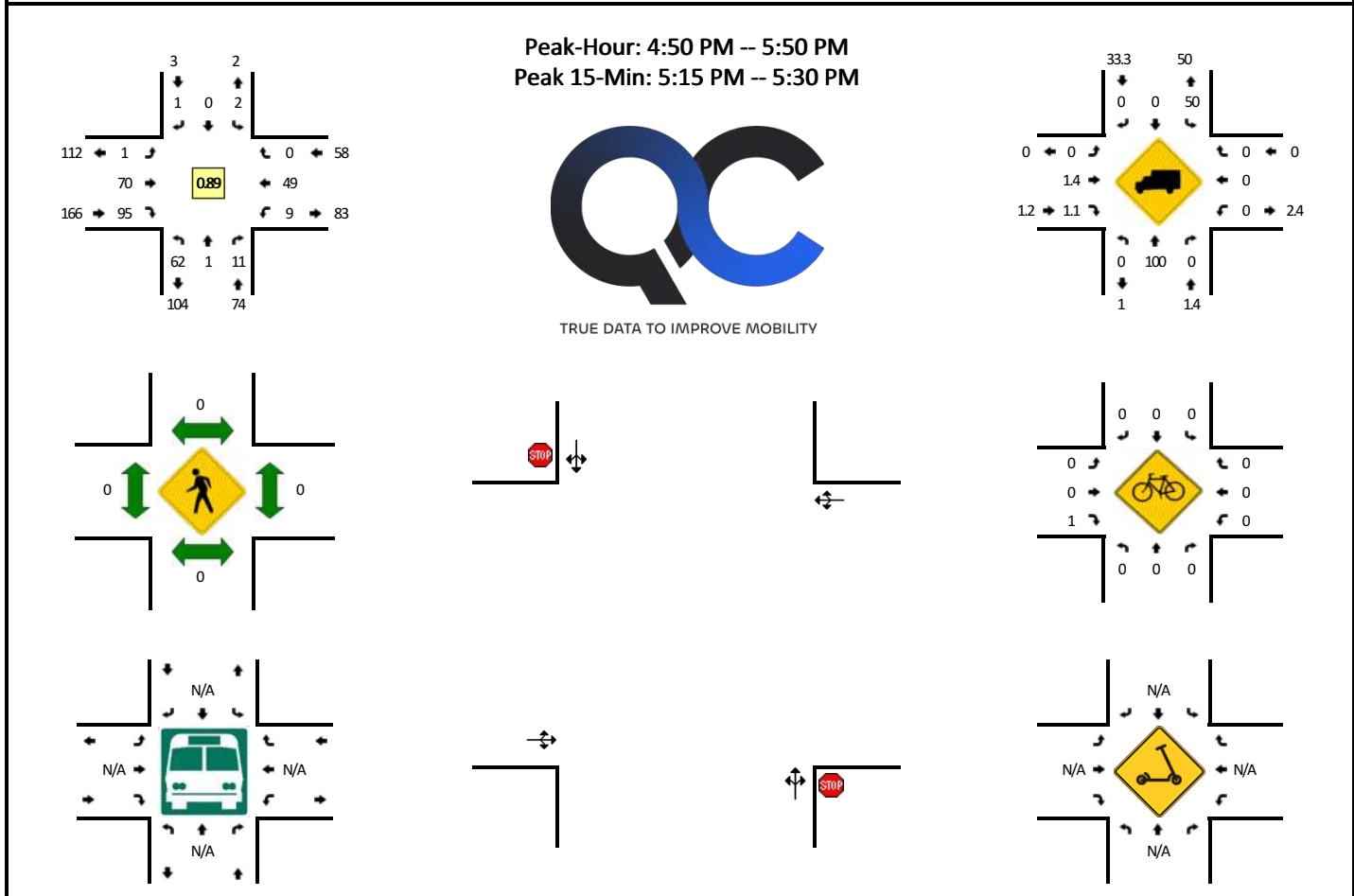
SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Type of peak hour being reported: User-Defined

Method for determining peak hour: Total Entering Volume

LOCATION: NE Umatilla St -- SE 15th St/SE Nourse Rd
CITY/STATE: Camas, WA

QC JOB #: 17062002
DATE: Tue, May 13 2025



5-Min Count Period Beginning At	NE Umatilla St (Northbound)				NE Umatilla St (Southbound)				SE 15th St/SE Nourse Rd (Eastbound)				SE 15th St/SE Nourse Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	0	2	0	0	0	0	0	0	9	1	0	0	4	0	0	20	
4:05 PM	4	0	0	0	0	0	0	0	1	11	6	0	1	9	0	0	32	
4:10 PM	6	0	1	0	0	0	0	0	0	8	5	0	0	4	0	0	24	
4:15 PM	9	0	0	0	0	0	0	0	0	12	3	0	0	4	0	0	28	
4:20 PM	2	0	0	0	0	0	0	0	0	9	9	0	0	4	2	0	26	
4:25 PM	3	0	1	0	0	1	0	0	0	3	7	0	1	6	0	0	22	
4:30 PM	6	0	0	0	0	0	0	0	0	8	5	0	0	5	0	0	24	
4:35 PM	8	0	0	0	0	0	0	0	0	4	6	0	0	0	0	0	18	
4:40 PM	3	0	1	0	0	0	0	0	0	6	8	0	0	3	0	0	21	
4:45 PM	4	0	0	0	0	0	0	0	0	5	11	0	1	5	0	0	26	
4:50 PM	3	0	0	0	0	0	0	0	0	13	13	0	0	2	0	0	31	
4:55 PM	5	0	3	0	0	0	0	0	0	9	7	0	1	7	0	0	32	304
5:00 PM	7	1	0	0	1	0	0	0	0	2	5	0	0	3	0	0	19	303
5:05 PM	7	0	1	0	0	0	0	0	0	6	5	0	1	2	0	0	22	293
5:10 PM	8	0	1	0	0	0	0	0	0	5	8	0	0	1	0	0	23	292
5:15 PM	3	0	1	0	0	0	0	0	0	7	12	0	3	3	0	0	29	293
5:20 PM	6	0	0	0	0	0	0	0	0	2	10	0	2	5	0	0	25	292
5:25 PM	6	0	1	0	0	0	0	0	0	4	9	0	1	10	0	0	31	301
5:30 PM	3	0	1	0	0	0	1	0	0	3	7	0	0	8	0	0	23	300
5:35 PM	5	0	1	0	0	0	0	0	0	6	10	0	0	1	0	0	23	305
5:40 PM	6	0	1	0	0	0	0	0	0	4	4	0	0	4	0	0	19	303
5:45 PM	3	0	1	0	1	0	0	0	1	9	5	0	1	3	0	0	24	301
5:50 PM	9	0	2	0	0	0	0	0	0	10	7	0	1	3	0	0	32	302
5:55 PM	4	0	0	0	0	0	1	0	0	12	9	0	1	4	0	0	31	301
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	60	0	8	0	0	0	0	0	0	52	124	0	24	72	0	0	340	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																		
Pedestrians	0	0			0				0				0				0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																		

Comments:

Report generated on 3/3/2026 3:21 PM

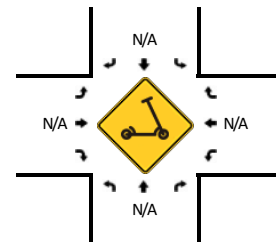
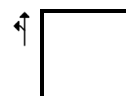
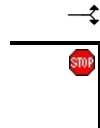
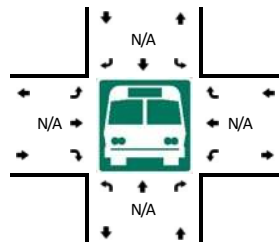
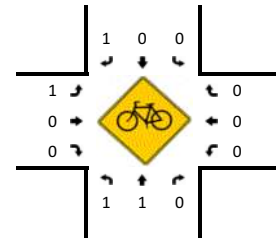
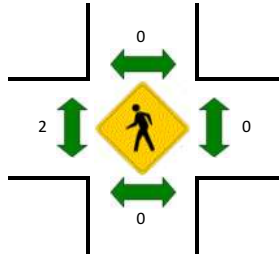
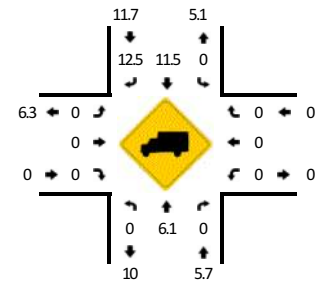
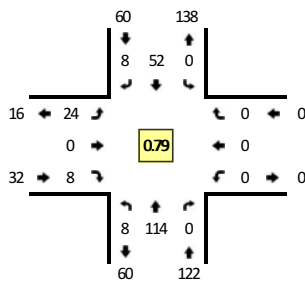
SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Type of peak hour being reported: User-Defined

Method for determining peak hour: Total Entering Volume

LOCATION: NE Umatilla St -- NE 41st Ave**CITY/STATE:** Camas, WA**QC JOB #:** 17062003**DATE:** Tue, May 27 2025

Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:20 AM -- 8:35 AM



5-Min Count Period Beginning At	NE Umatilla St (Northbound)				NE Umatilla St (Southbound)				NE 41st Ave (Eastbound)				NE 41st Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	7	0	0	0	2	0	0	0	0	0	0	0	0	0	0	9	
7:05 AM	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9	
7:10 AM	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	8	
7:15 AM	0	3	0	0	0	2	0	0	0	2	0	0	0	0	0	0	7	
7:20 AM	0	5	0	0	0	3	0	0	0	1	0	0	0	0	0	0	9	
7:25 AM	0	6	0	0	0	2	1	0	0	0	0	1	0	0	0	0	10	
7:30 AM	0	6	0	0	0	1	1	0	0	1	0	0	0	0	0	0	9	
7:35 AM	0	8	0	0	0	1	1	0	0	1	0	2	0	0	0	0	13	
7:40 AM	0	8	0	0	0	2	0	0	0	0	0	1	0	0	0	0	11	
7:45 AM	1	8	0	0	0	4	0	0	0	2	0	2	0	0	0	0	17	
7:50 AM	2	8	0	0	0	3	0	0	0	1	0	3	0	0	0	0	17	
7:55 AM	4	10	0	0	0	3	0	0	0	0	0	2	0	0	0	0	19	138
8:00 AM	1	8	0	0	0	3	0	0	0	1	0	0	0	0	0	0	13	142
8:05 AM	0	7	0	0	0	2	0	0	0	4	0	0	0	0	0	0	13	146
8:10 AM	0	6	0	0	0	3	1	0	0	3	0	0	0	0	0	0	13	151
8:15 AM	0	16	0	0	0	1	2	0	0	3	0	0	0	0	0	0	22	166
8:20 AM	0	13	0	0	0	3	1	0	0	0	0	1	0	0	0	0	18	175
8:25 AM	0	16	0	0	0	4	2	0	0	2	0	0	0	0	0	0	24	189
8:30 AM	0	13	0	0	0	10	0	0	0	3	0	0	0	0	0	0	26	206
8:35 AM	0	3	0	0	0	11	1	0	0	0	0	0	0	0	0	0	15	208
8:40 AM	0	6	0	0	0	5	1	0	0	5	0	0	0	0	0	0	17	214
8:45 AM	0	5	0	0	0	4	1	0	0	1	0	1	0	0	0	0	12	209
8:50 AM	0	5	0	0	0	4	0	0	0	1	0	0	0	0	0	0	10	202
8:55 AM	0	5	0	0	0	3	0	0	0	2	0	0	0	0	0	0	10	193
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	168	0	0	0	68	12	0	20	0	4	0	0	0	0	0	272	
Heavy Trucks	0	12	0	0	0	8	4	0	0	0	0	0	0	0	0	0	24	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	
Bicycles	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	8	
Scooters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Comments:

Report generated on 3/3/2026 3:17 PM

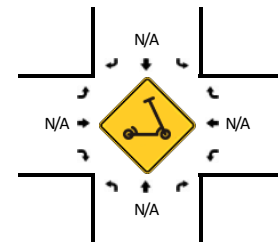
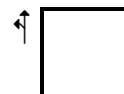
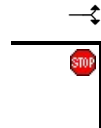
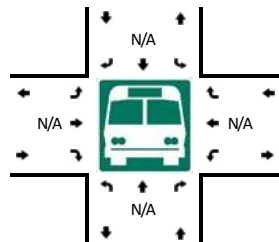
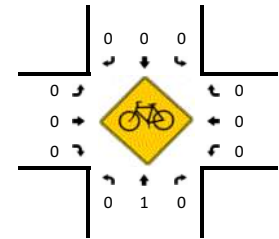
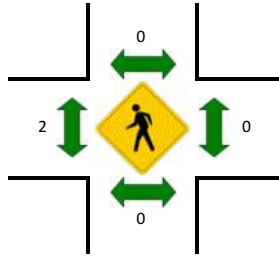
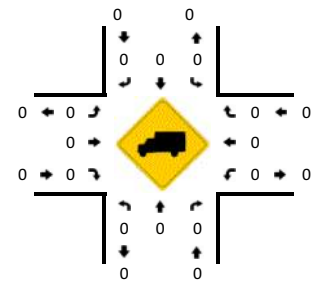
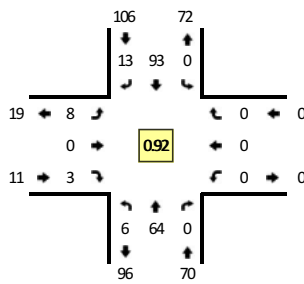
SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Type of peak hour being reported: User-Defined

Method for determining peak hour: Total Entering Volume

LOCATION: NE Umatilla St -- NE 41st Ave**CITY/STATE:** Camas, WA**QC JOB #:** 17062004**DATE:** Tue, May 27 2025

Peak-Hour: 4:50 PM -- 5:50 PM
Peak 15-Min: 4:50 PM -- 5:05 PM



5-Min Count Period Beginning At	NE Umatilla St (Northbound)				NE Umatilla St (Southbound)				NE 41st Ave (Eastbound)				NE 41st Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	5	0	0	0	6	1	0	0	0	0	0	0	0	0	0	12	
4:05 PM	0	2	0	0	0	1	1	0	1	0	0	0	0	0	0	0	5	
4:10 PM	0	5	0	0	0	3	0	0	1	0	0	0	0	0	0	0	9	
4:15 PM	0	4	0	0	0	7	3	0	2	0	0	0	0	0	0	0	16	
4:20 PM	0	0	0	0	0	8	1	0	1	0	0	0	0	0	0	0	10	
4:25 PM	0	3	0	0	0	3	0	0	1	0	0	0	0	0	0	0	7	
4:30 PM	0	3	0	0	0	4	1	0	1	0	0	0	0	0	0	0	9	
4:35 PM	1	0	0	0	0	6	0	0	1	0	0	0	0	0	0	0	8	
4:40 PM	0	4	0	0	0	9	1	0	0	0	0	0	0	0	0	0	14	
4:45 PM	0	4	0	0	0	6	0	0	2	0	0	0	0	0	0	0	12	
4:50 PM	1	7	0	0	0	6	0	0	1	0	0	0	0	0	0	0	15	
4:55 PM	0	5	0	0	0	8	2	0	1	0	1	0	0	0	0	0	17	134
5:00 PM	3	5	0	0	0	9	2	0	0	0	0	0	0	0	0	0	19	141
5:05 PM	0	7	0	0	0	7	0	0	0	0	1	0	0	0	0	0	15	151
5:10 PM	1	5	0	0	0	7	0	0	1	0	0	0	0	0	0	0	14	156
5:15 PM	0	3	0	0	0	9	2	0	0	0	0	0	0	0	0	0	14	154
5:20 PM	1	6	0	0	0	8	0	0	2	0	0	0	0	0	0	0	17	161
5:25 PM	0	4	0	0	0	8	2	0	2	0	0	0	0	0	0	0	16	170
5:30 PM	0	6	0	0	0	6	0	0	0	0	1	0	0	0	0	0	13	174
5:35 PM	0	3	0	0	0	11	0	0	0	0	0	0	0	0	0	0	14	180
5:40 PM	0	9	0	0	0	10	1	0	1	0	0	0	0	0	0	0	21	187
5:45 PM	0	4	0	0	0	4	4	0	0	0	0	0	0	0	0	0	12	187
5:50 PM	0	5	0	0	0	6	0	0	0	0	1	0	0	0	0	0	12	184
5:55 PM	1	3	0	0	0	5	1	0	1	0	1	0	0	0	0	0	12	179
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	68	0	0	0	92	16	0	8	0	4	0	0	0	0	0	204	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses																		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scooters																		

Comments:

Report generated on 3/3/2026 3:21 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

Appendix D : Existing Conditions Analysis Worksheets

HCM 7th Signalized Intersection Summary

1: NE Everett St & NE 43rd Ave

02/25/2026

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	323	57	316	468	74	400
Future Volume (veh/h)	323	57	316	468	74	400
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1463	1550	1622	1595	1504	1695
Adj Flow Rate, veh/h	376	66	367	0	86	465
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	11	4	3	5	18	4
Cap, veh/h	462	436	537		346	839
Arrive On Green	0.33	0.33	0.33	0.00	0.07	0.49
Sat Flow, veh/h	1393	1314	1622	1352	1433	1695
Grp Volume(v), veh/h	376	66	367	0	86	465
Grp Sat Flow(s),veh/h/ln	1393	1314	1622	1352	1433	1695
Q Serve(g_s), s	12.8	1.8	10.1	0.0	1.8	9.9
Cycle Q Clear(g_c), s	12.8	1.8	10.1	0.0	1.8	9.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	462	436	537		346	839
V/C Ratio(X)	0.81	0.15	0.68		0.25	0.55
Avail Cap(c_a), veh/h	968	913	1096		664	1800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	12.2	15.0	0.0	10.0	9.1
Incr Delay (d2), s/veh	3.5	0.2	3.3	0.0	0.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.3	0.9	6.4	0.0	0.8	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	19.4	12.3	18.3	0.0	10.4	9.8
LnGrp LOS	B	B	B		B	A
Approach Vol, veh/h	442		367			551
Approach Delay, s/veh	18.3		18.3			9.9
Approach LOS	B		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	8.5	22.1			30.6	21.2
Change Period (Y+Rc), s	5.0	5.0			5.0	4.0
Max Green Setting (Gmax), s	15.0	35.0			55.0	36.0
Max Q Clear Time (g_c+l1), s	4.8	13.1			12.9	15.8
Green Ext Time (p_c), s	0.1	4.0			3.9	1.4

Intersection Summary

HCM 7th Control Delay, s/veh	14.9
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th TWSC

2: NE Umatilla St & SE 15th St/SE Nourse Rd

02/25/2026

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	86	53	8	223	0	121	0	21	0	0	3
Future Vol, veh/h	0	86	53	8	223	0	121	0	21	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	0	13	4	25	5	0	5	0	0	0	0	0
Mvmt Flow	0	116	72	11	301	0	164	0	28	0	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	301	0	0	188	0	0	475	475	152	439	511	301
Stage 1	-	-	-	-	-	-	152	152	-	323	323	-
Stage 2	-	-	-	-	-	-	323	323	-	116	188	-
Critical Hdwy	4.1	-	-	4.35	-	-	7.15	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.425	-	-	3.545	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1271	-	-	1260	-	-	495	491	899	531	469	743
Stage 1	-	-	-	-	-	-	843	775	-	693	654	-
Stage 2	-	-	-	-	-	-	683	654	-	893	748	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1271	-	-	1260	-	-	487	486	899	509	464	743
Mov Cap-2 Maneuver	-	-	-	-	-	-	487	486	-	509	464	-
Stage 1	-	-	-	-	-	-	843	775	-	686	647	-
Stage 2	-	-	-	-	-	-	672	647	-	865	748	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0			0.27			15.83			9.87		
HCM LOS							C			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	523	1271	-	-	62	-	-	743				
HCM Lane V/C Ratio	0.367	-	-	-	0.009	-	-	0.005				
HCM Ctrl Dly (s/v)	15.8	0	-	-	7.9	0	-	9.9				
HCM Lane LOS	C	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	1.7	0	-	-	0	-	-	0				

HCM 7th TWSC

3: NE Umatilla St & NE 41st Ave

02/25/2026

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	8	8	117	53	8
Future Vol, veh/h	25	8	8	117	53	8
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	6	12	12
Mvmt Flow	32	10	10	148	67	10
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	243	74	79	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	168	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	750	993	1532	-	-	-
Stage 1	954	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	743	991	1529	-	-	-
Mov Cap-2 Maneuver	743	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	9.8	0.47		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	115	-	791	-	-	
HCM Lane V/C Ratio	0.007	-	0.053	-	-	
HCM Ctrl Dly (s/v)	7.4	0	9.8	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

HCM 7th Signalized Intersection Summary

1: NE Everett St & NE 43rd Ave

02/25/2026

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	138	27	341	316	39	229
Future Volume (veh/h)	138	27	341	316	39	229
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1791	1791	1900	1841
Adj Flow Rate, veh/h	150	29	371	0	42	249
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	1	1	0	4
Cap, veh/h	268	239	691		521	1062
Arrive On Green	0.15	0.15	0.39	0.00	0.04	0.58
Sat Flow, veh/h	1810	1610	1791	1518	1810	1841
Grp Volume(v), veh/h	150	29	371	0	42	249
Grp Sat Flow(s),veh/h/ln	1810	1610	1791	1518	1810	1841
Q Serve(g_s), s	2.5	0.5	5.3	0.0	0.4	2.2
Cycle Q Clear(g_c), s	2.5	0.5	5.3	0.0	0.4	2.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	268	239	691		521	1062
V/C Ratio(X)	0.56	0.12	0.54		0.08	0.23
Avail Cap(c_a), veh/h	1988	1769	1913		1279	3090
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	12.1	7.8	0.0	5.0	3.4
Incr Delay (d2), s/veh	1.8	0.2	1.4	0.0	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	0.3	2.6	0.0	0.1	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	14.8	12.3	9.2	0.0	5.1	3.5
LnGrp LOS	B	B	A		A	A
Approach Vol, veh/h	179		371			291
Approach Delay, s/veh	14.4		9.2			3.8
Approach LOS	B		A			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	6.3	17.6			23.9	8.9
Change Period (Y+Rc), s	5.0	5.0			5.0	4.0
Max Green Setting (Gmax), s	15.0	35.0			55.0	36.0
Max Q Clear Time (g_c+l1), s	3.4	8.3			5.2	5.5
Green Ext Time (p_c), s	0.0	4.4			1.9	0.5

Intersection Summary

HCM 7th Control Delay, s/veh	8.4
HCM 7th LOS	A

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th TWSC

2: NE Umatilla St & SE 15th St/SE Nourse Rd

02/25/2026

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	70	97	9	49	0	62	1	11	2	0	1
Future Vol, veh/h	1	70	97	9	49	0	62	1	11	2	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	1	1	0	0	0	0	100	0	50	0	0
Mvmt Flow	1	79	109	10	55	0	70	1	12	2	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	55	0	0	188	0	0	211	211	133	157	265	55
Stage 1	-	-	-	-	-	-	135	135	-	75	75	-
Stage 2	-	-	-	-	-	-	75	75	-	81	190	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	7.5	6.2	7.6	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.5	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.5	-	6.6	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.9	3.3	3.95	4	3.3
Pot Cap-1 Maneuver	1563	-	-	1399	-	-	751	545	921	713	644	1017
Stage 1	-	-	-	-	-	-	873	630	-	827	836	-
Stage 2	-	-	-	-	-	-	939	675	-	821	747	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1563	-	-	1399	-	-	744	540	921	696	638	1017
Mov Cap-2 Maneuver	-	-	-	-	-	-	744	540	-	696	638	-
Stage 1	-	-	-	-	-	-	872	629	-	821	830	-
Stage 2	-	-	-	-	-	-	931	670	-	807	746	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.04			1.18			10.3			9.65		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	762	10	-	-	279	-	-	778				
HCM Lane V/C Ratio	0.109	0.001	-	-	0.007	-	-	0.004				
HCM Ctrl Dly (s/v)	10.3	7.3	0	-	7.6	0	-	9.6				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0				

HCM 7th TWSC 3: NE Umatilla St & NE 41st Ave

02/25/2026

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	3	6	66	93	13
Future Vol, veh/h	8	3	6	66	93	13
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	3	7	72	101	14
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	195	110	117	0	-	0
Stage 1	110	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	798	949	1484	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	793	947	1481	-	-	-
Mov Cap-2 Maneuver	793	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	9.4	0.62		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	150	-	830	-	-	
HCM Lane V/C Ratio	0.004	-	0.014	-	-	
HCM Ctrl Dly (s/v)	7.4	0	9.4	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Appendix E : In-Process Data

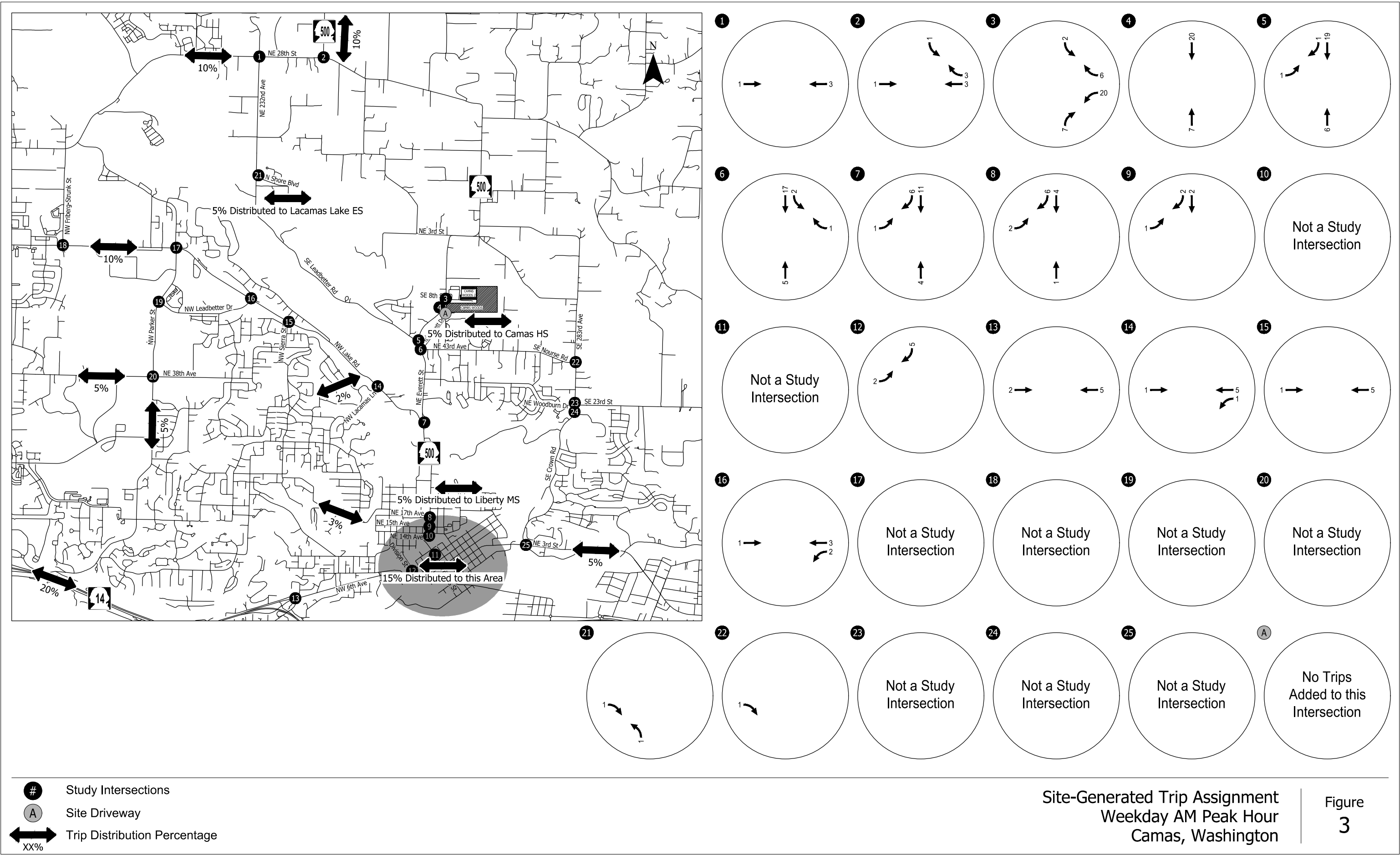
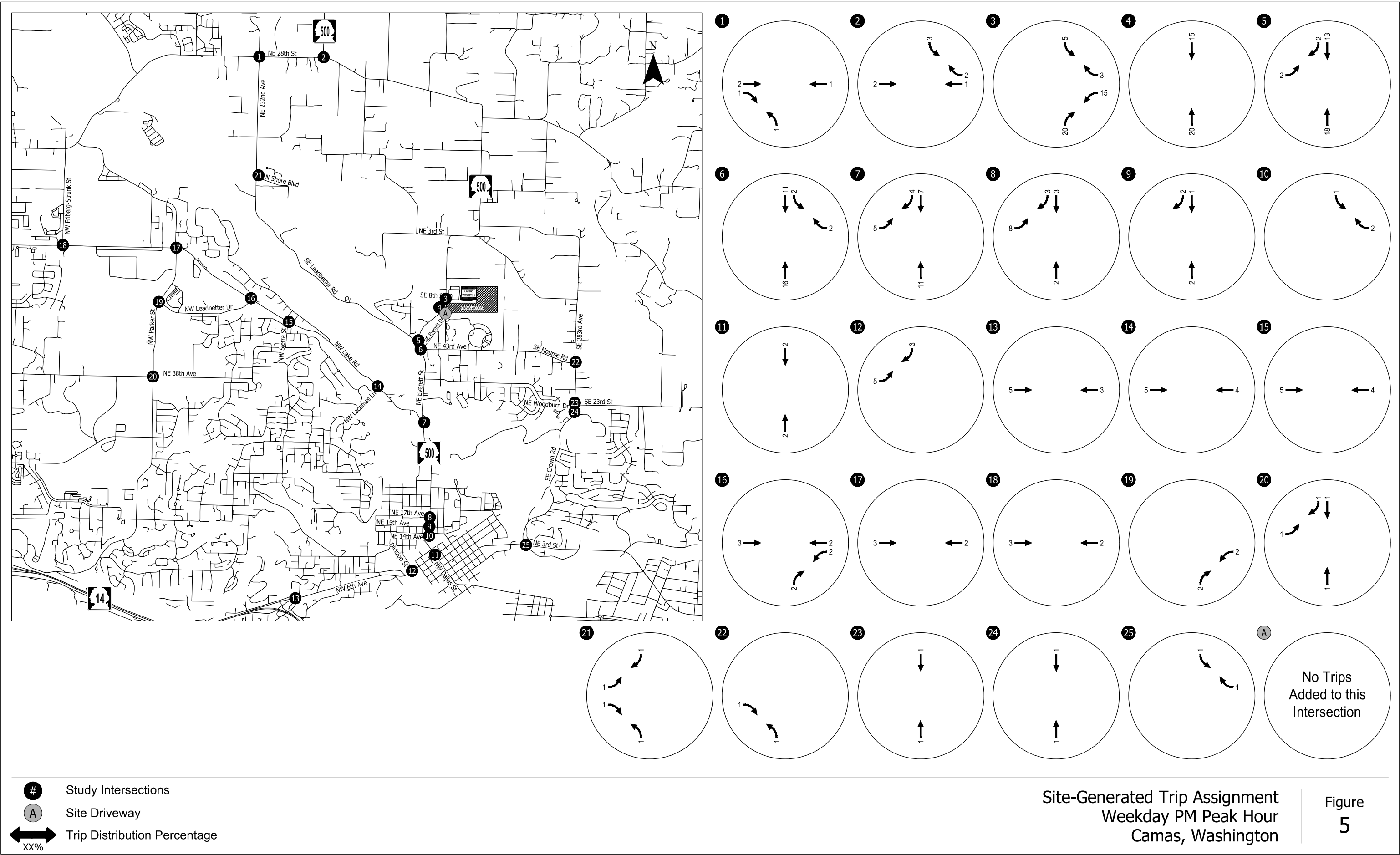


Figure 3





0% Build-Out

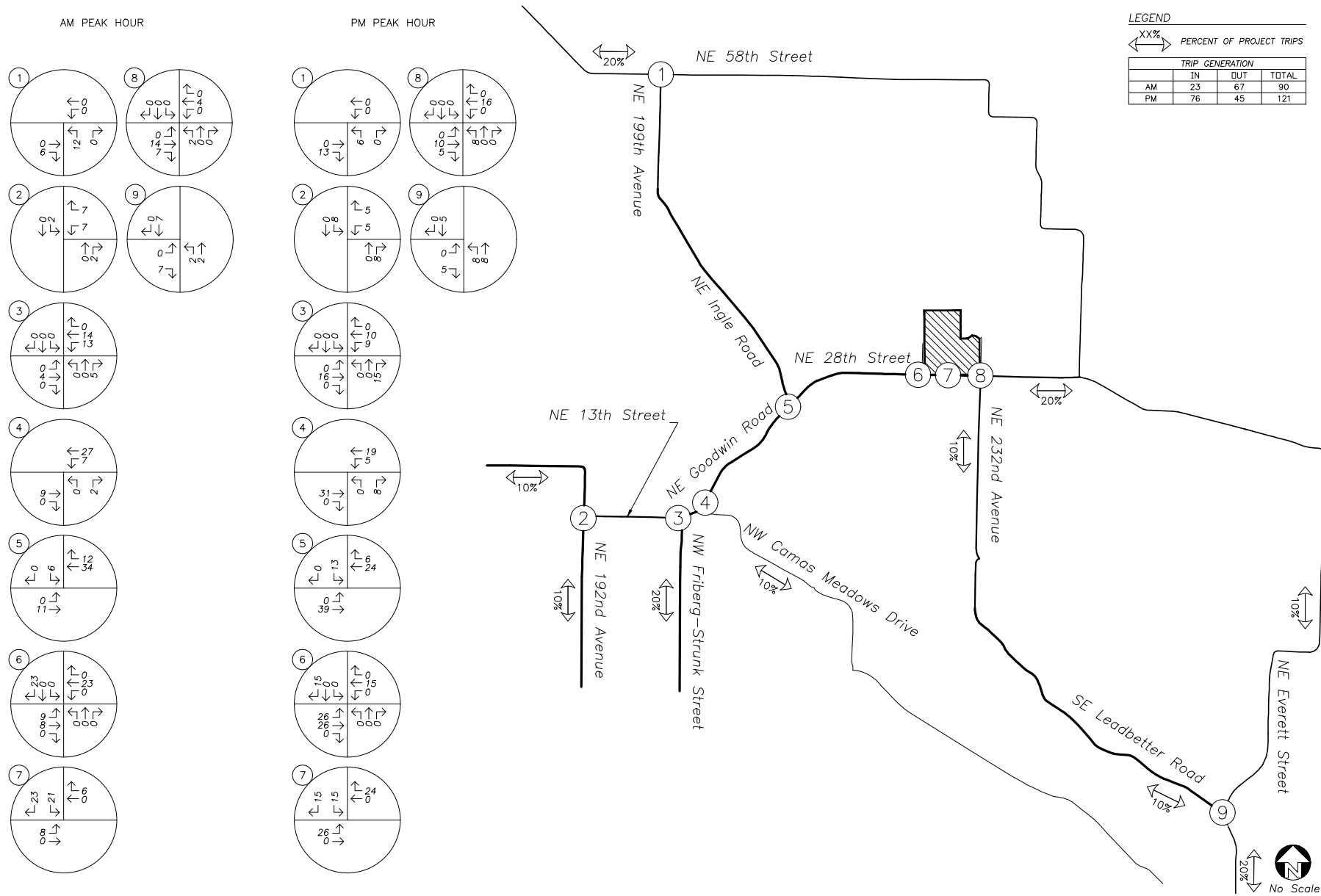


Figure 3

Camas Heights

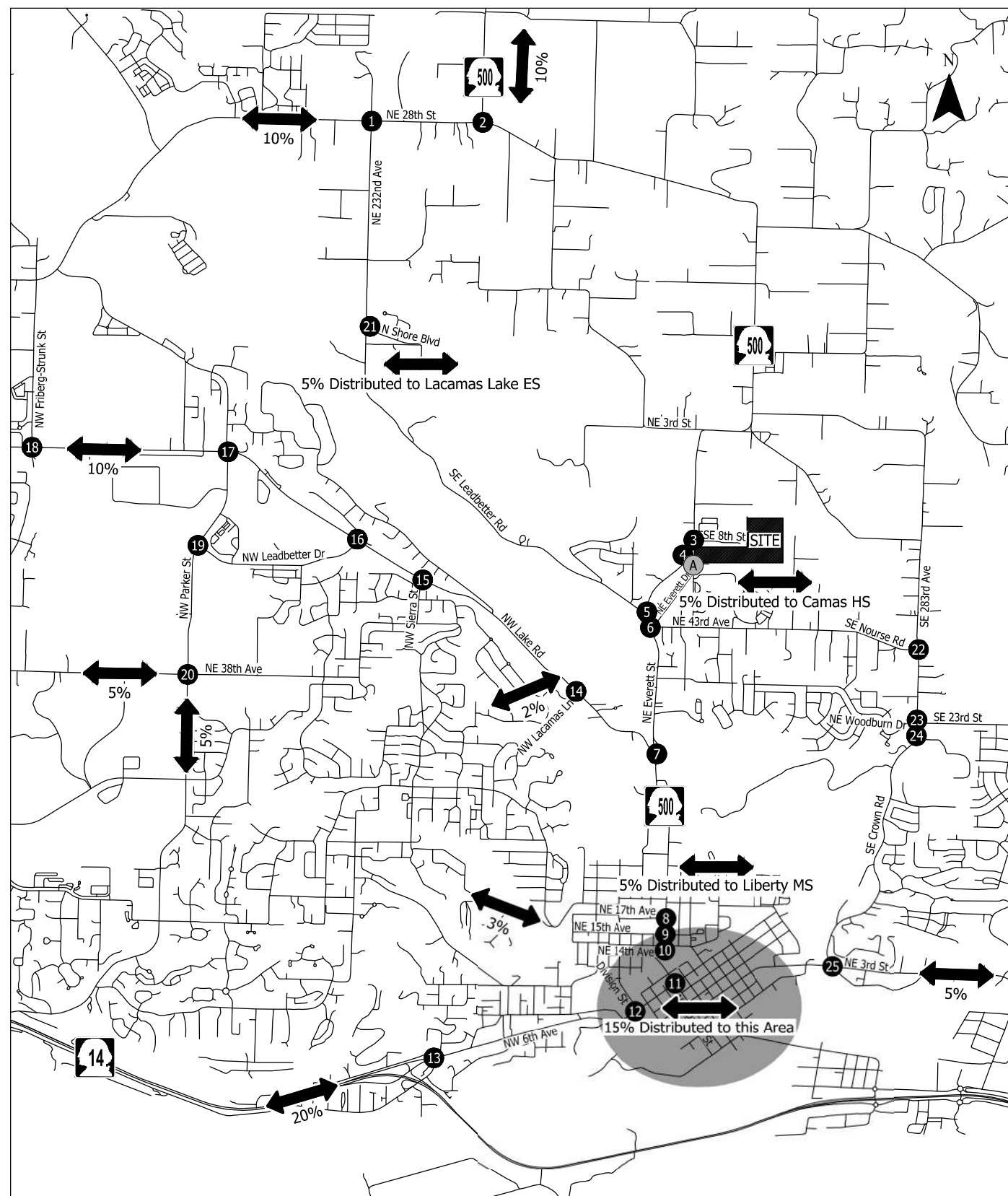
10/22/2021

SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips

AM & PM Peak Hours

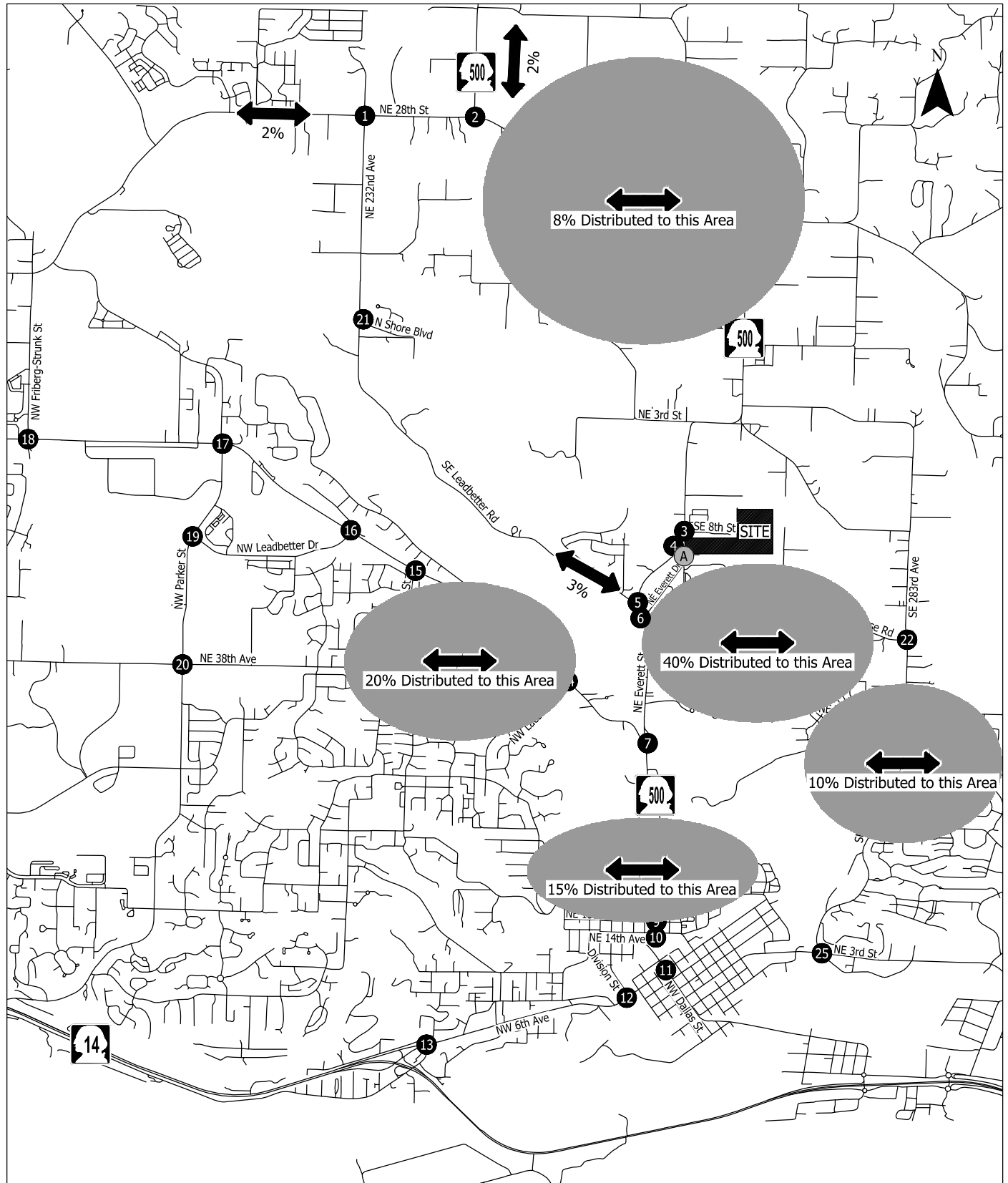
0% Build-Out



Estimated Residential Site Trip Distribution Pattern Camas, Washington

Figure
10

C:\Users\doubleclay\appdata\local\temp\AcPublish_23824\30088_figureset.dwg Oct 10, 2024 - 3:29pm - rdoubeday Layout Tab: Fig.11 Commercial Trip Distribution



- # Study Intersections
- A Site Driveway
- Trip Distribution Percentage
XX%

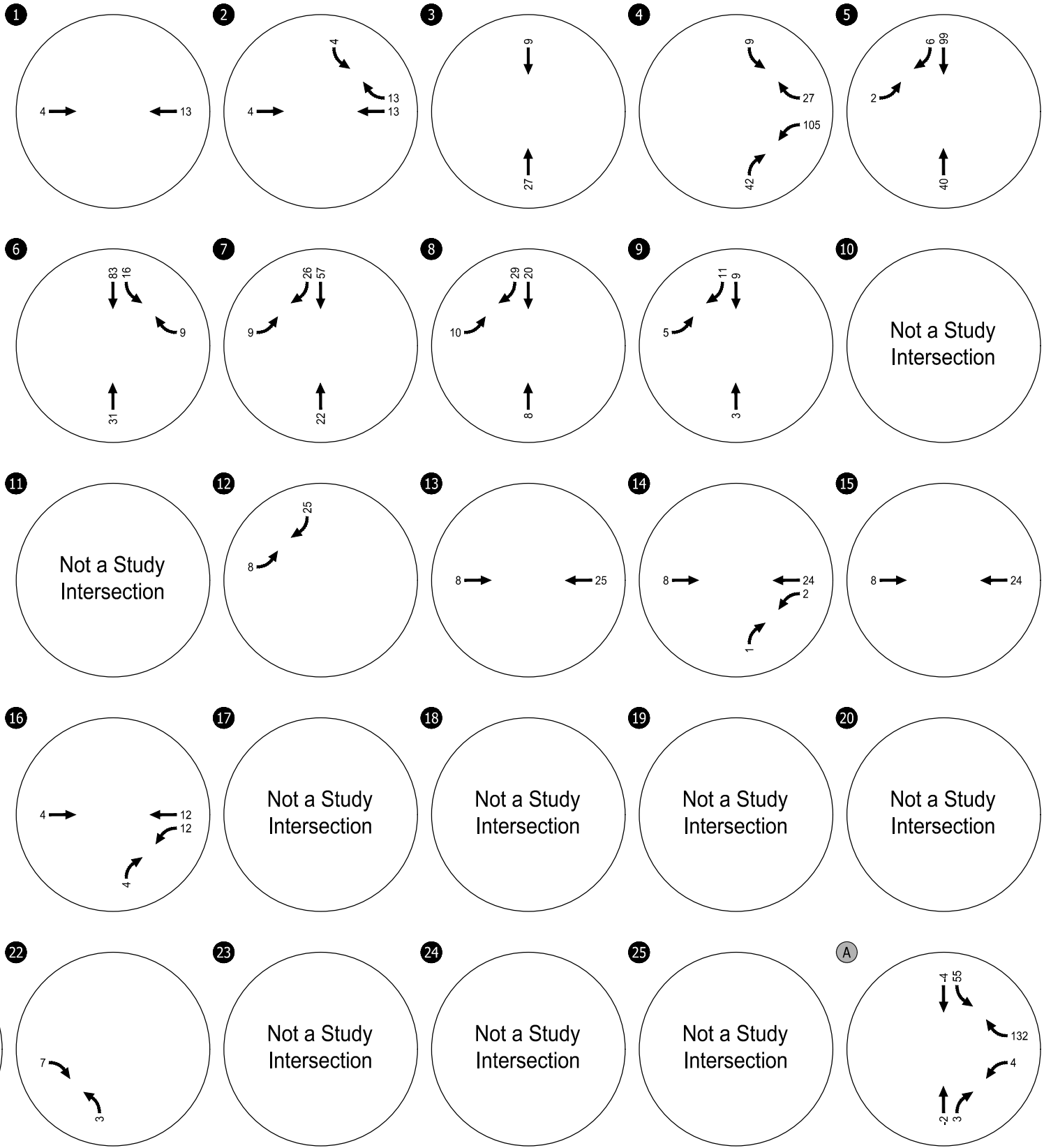
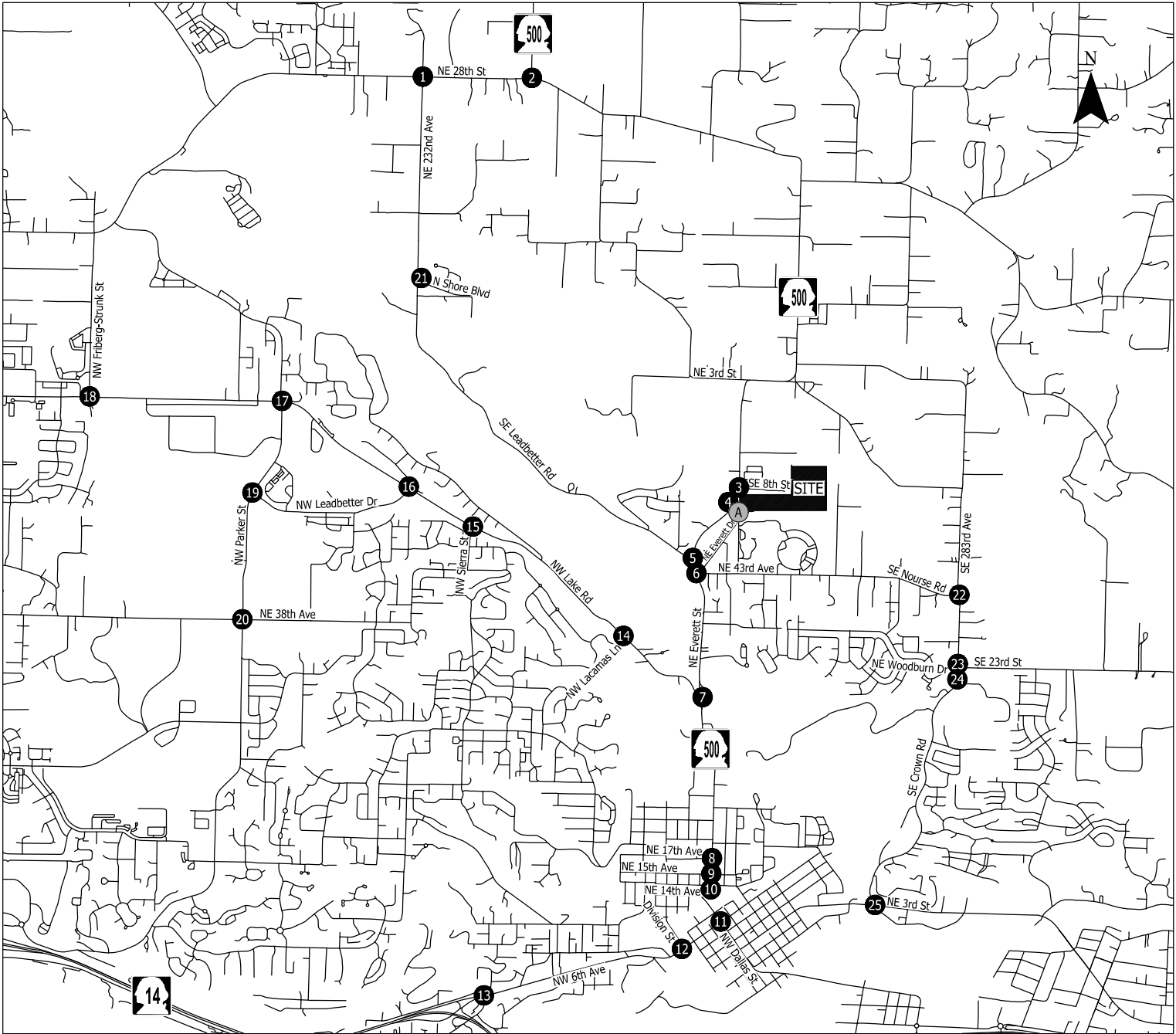
Estimated Commercial Site
Trip Distribution Pattern
Camas, Washington

Figure
11

0% Build-Out

Camas Woods

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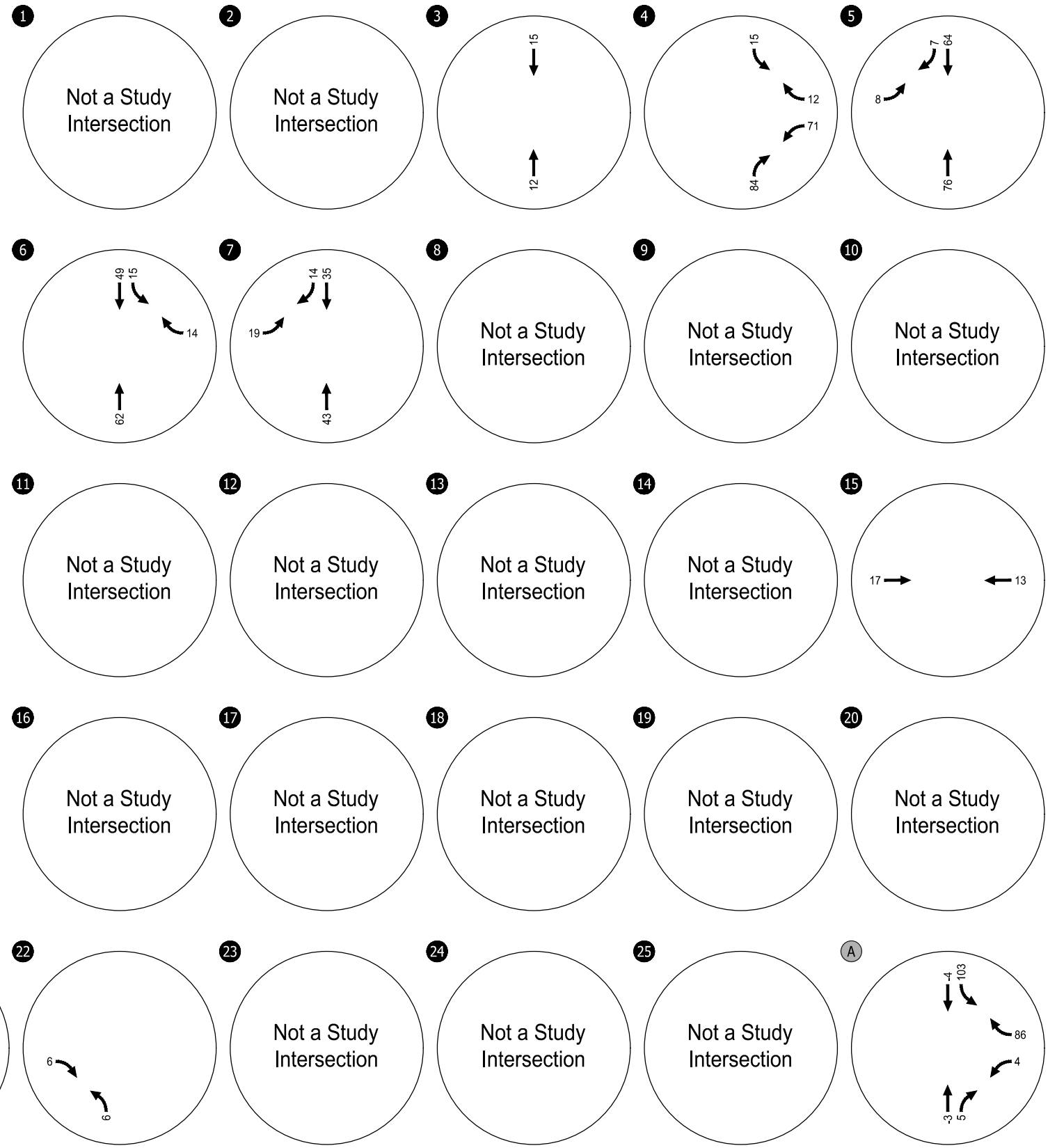
Note: Negative volumes reflect pass-by trips

- # Study Intersections
- A Site Driveway

Weekday AM Peak Hour
Site-Generated Trip Assignment
Camas, Washington

Figure
12

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Note: Negative volumes reflect pass-by trips

-  Study Intersections
 Site Driveway

Weekday School PM Peak Hour
Site-Generated Trip Assignment
Camas, Washington

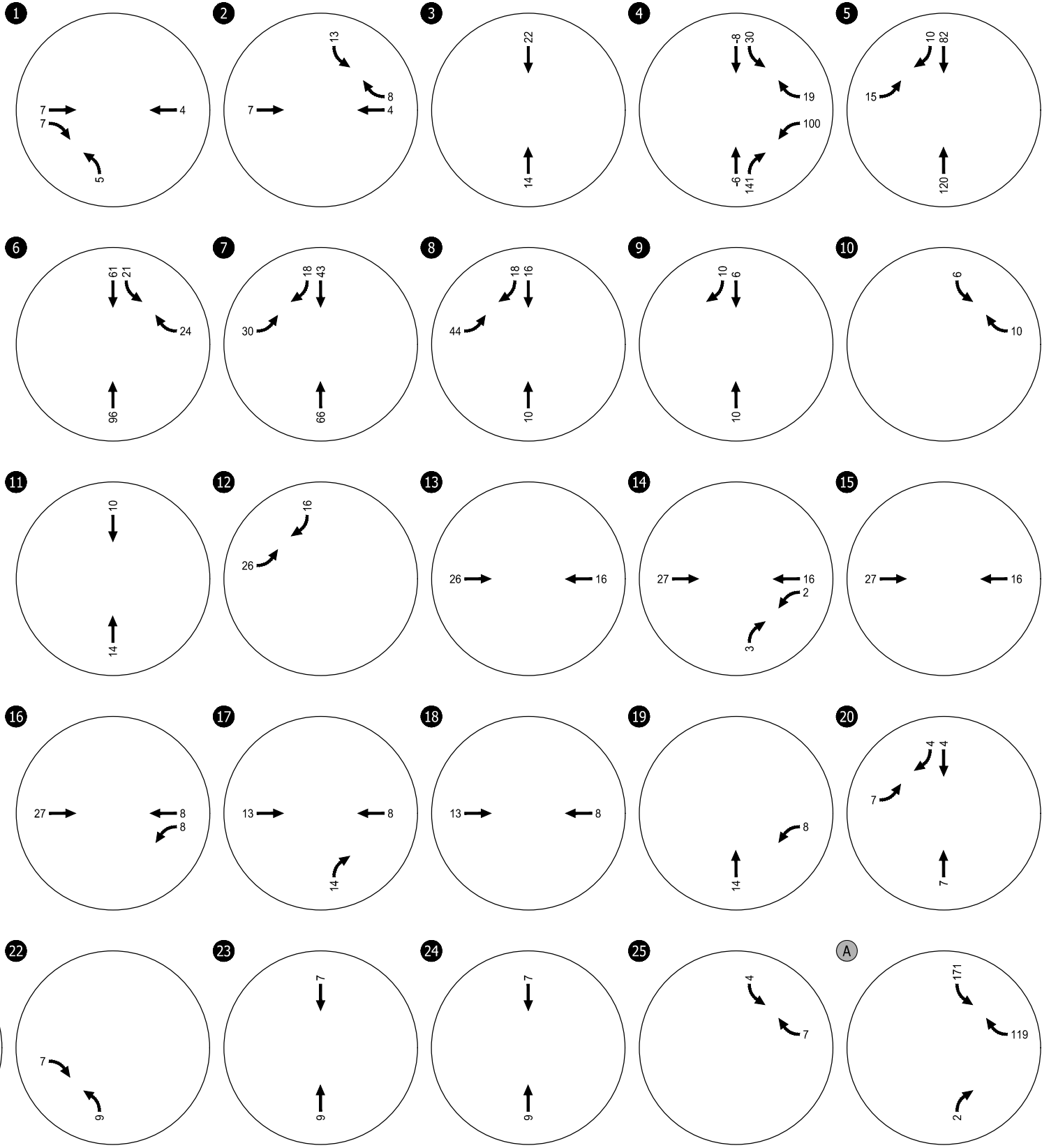
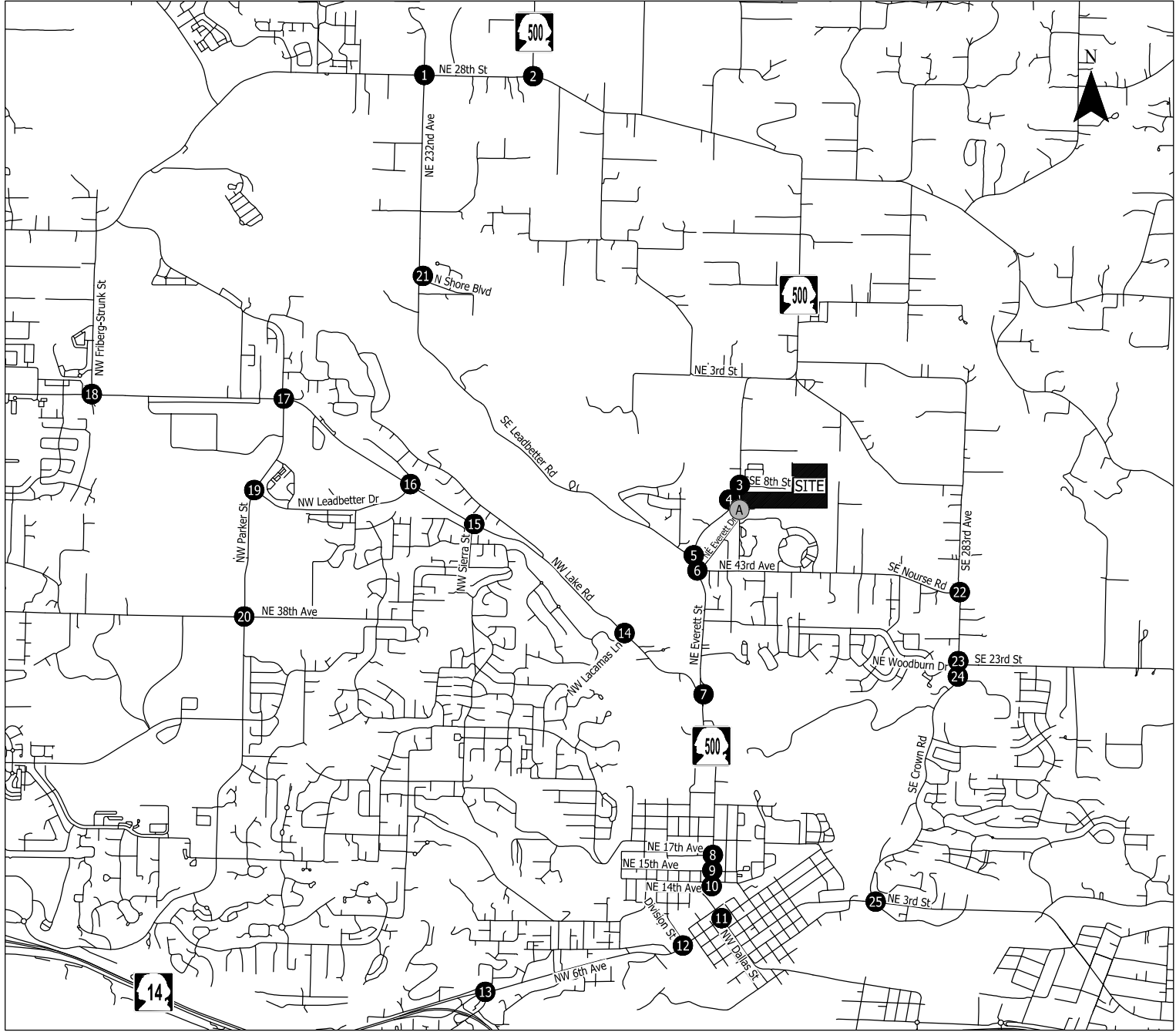
Figure
13

0% Build-Out

October 2024

Camas Woods

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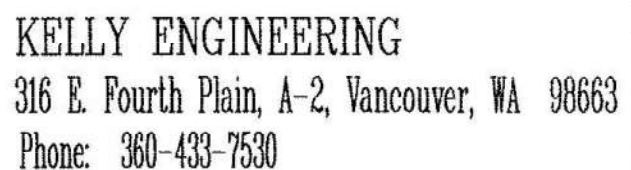


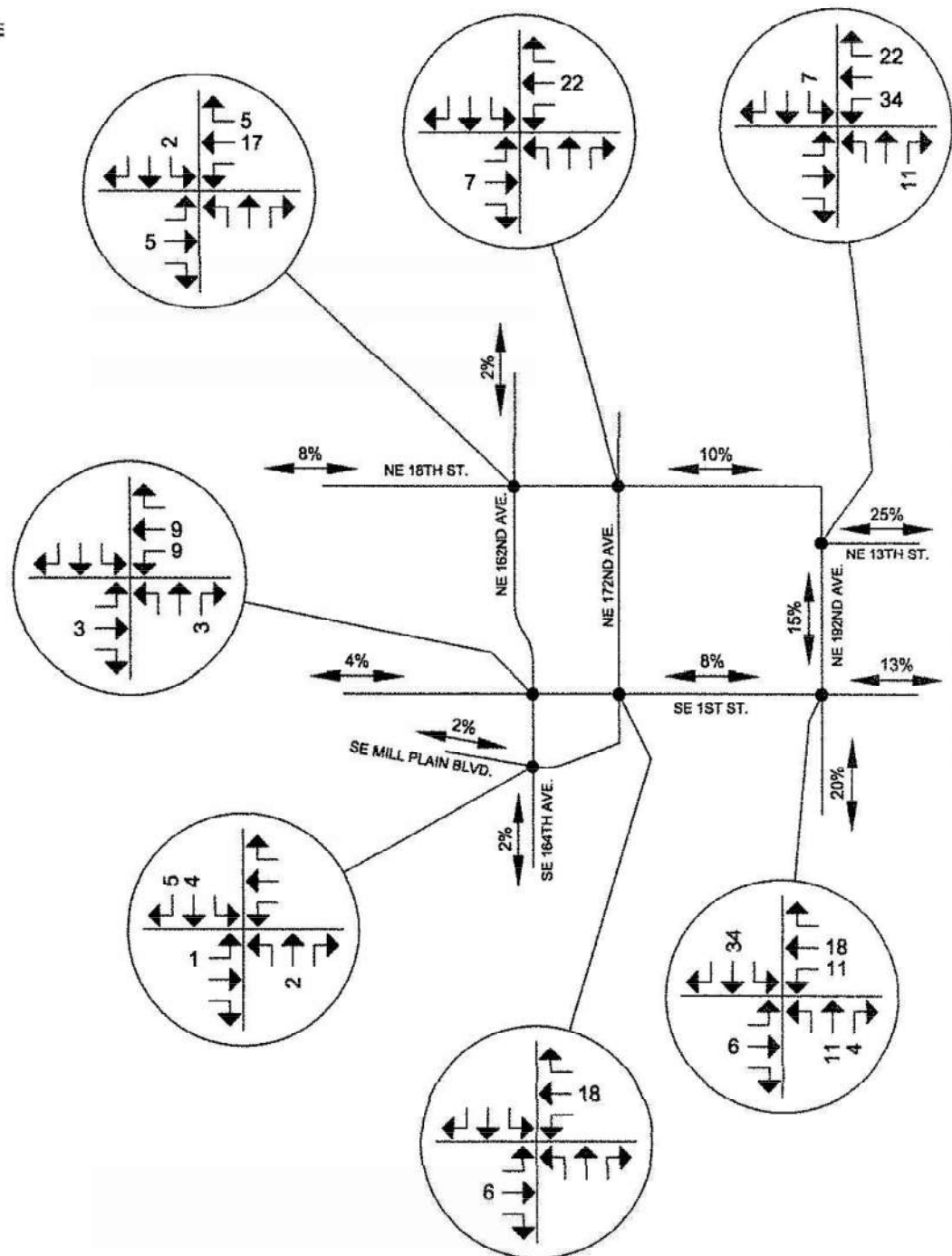
Note: Negative volumes reflect pass-by trips

- # Study Intersections
- A Site Driveway

Weekday PM Peak Hour
Site-Generated Trip Assignment
Camas, Washington

Figure
14





MATCH LINE SEE FIGURE 7a

GREEN MOUNTAIN ESTATES

FIGURE 7b
**SITE TRAFFIC DISTRIBUTION/
 ASSIGNMENT, AM PEAK HOUR**

KELLY ENGINEERING

316 E. Fourth Plain, A-2, Vancouver, WA 98663

Phone: 360-433-7530

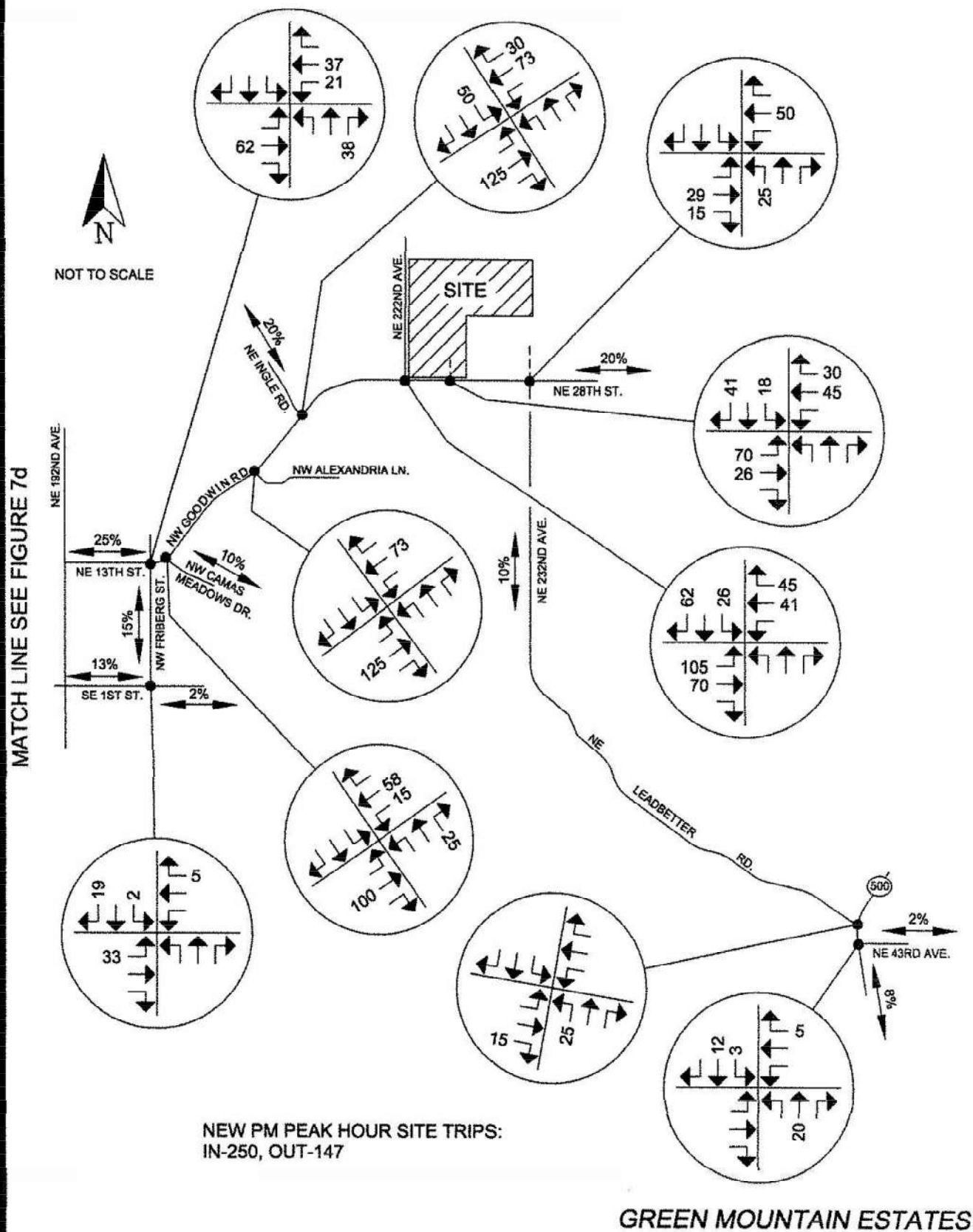
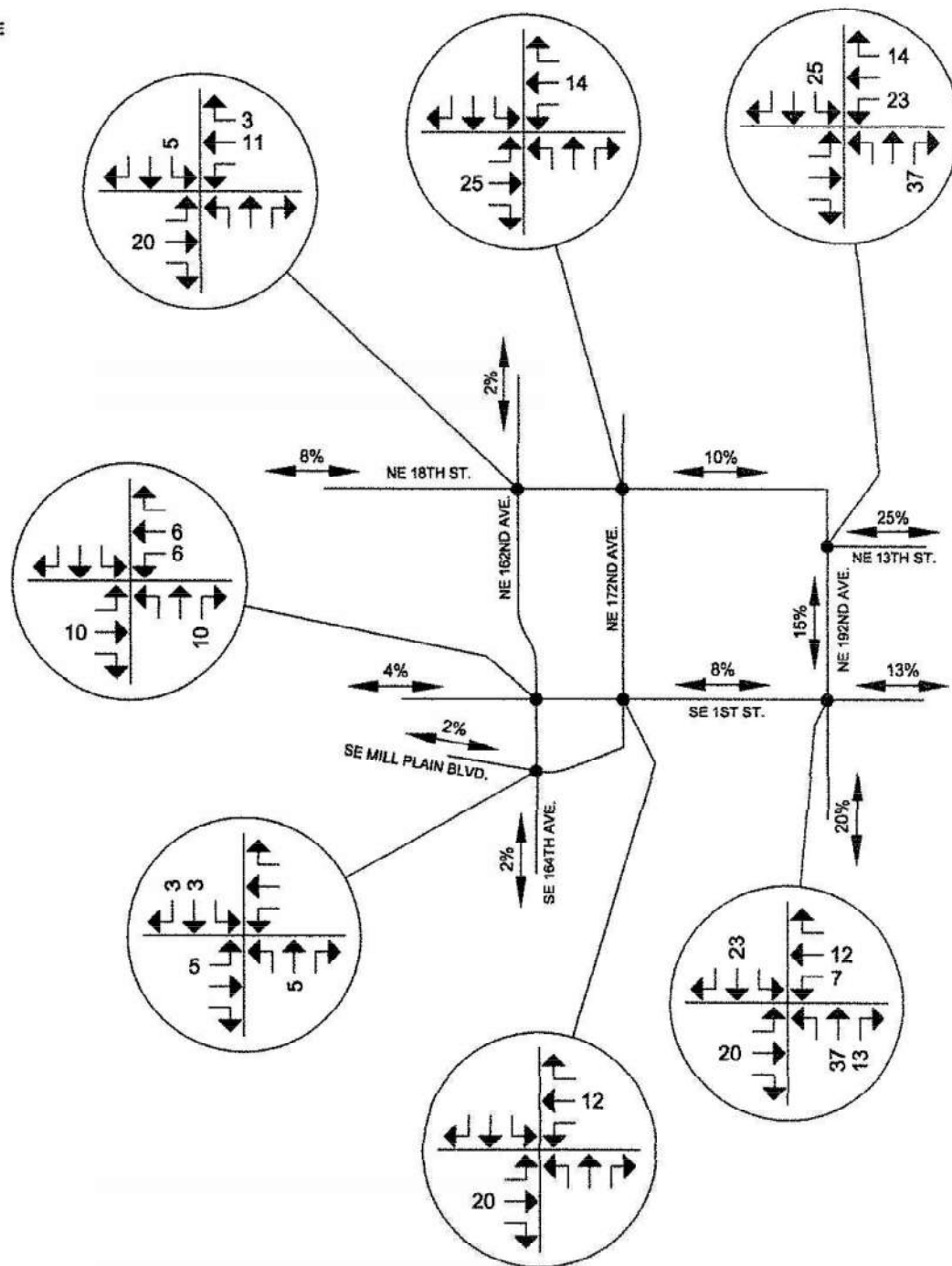


FIGURE 7c
**SITE TRAFFIC DISTRIBUTION/
 ASSIGNMENT, PM PEAK HOUR**

KELLY ENGINEERING

316 E. Fourth Plain, A-2, Vancouver, WA 98663

Phone: 360-433-7530



MATCH LINE SEE FIGURE 7c

GREEN MOUNTAIN ESTATES

FIGURE 7d
SITE TRAFFIC DISTRIBUTION/
ASSIGNMENT, PM PEAK HOUR

KELLY ENGINEERING

316 E. Fourth Plain, A-2, Vancouver, WA 98663

Phone: 360-433-7530

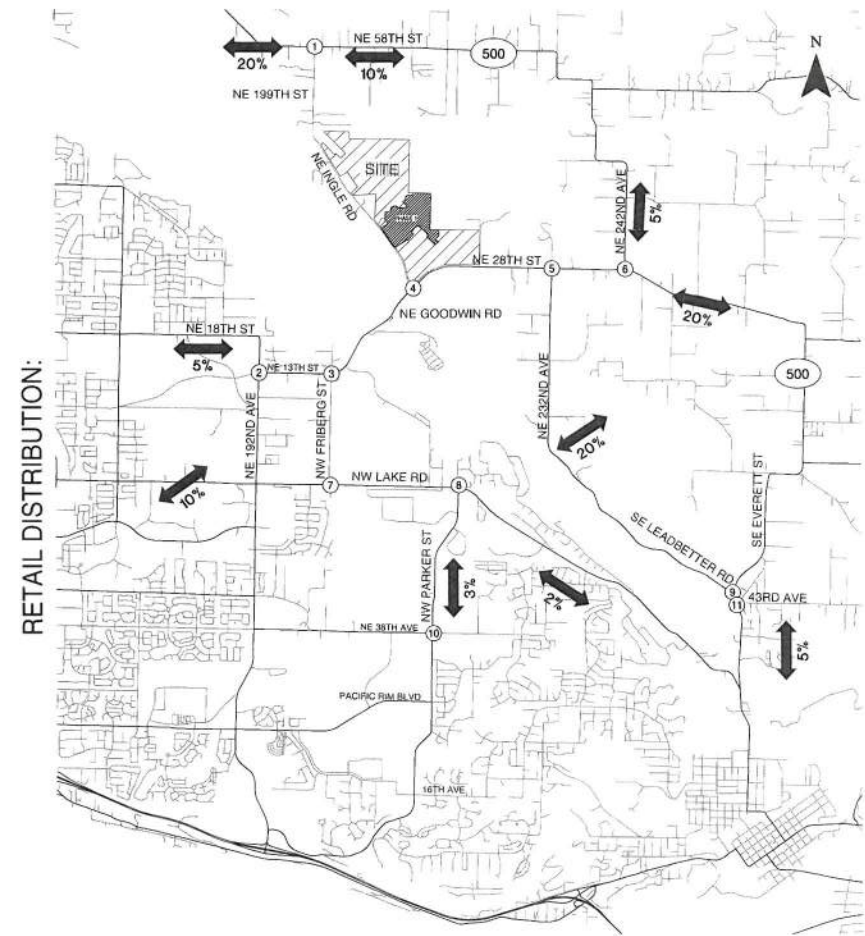
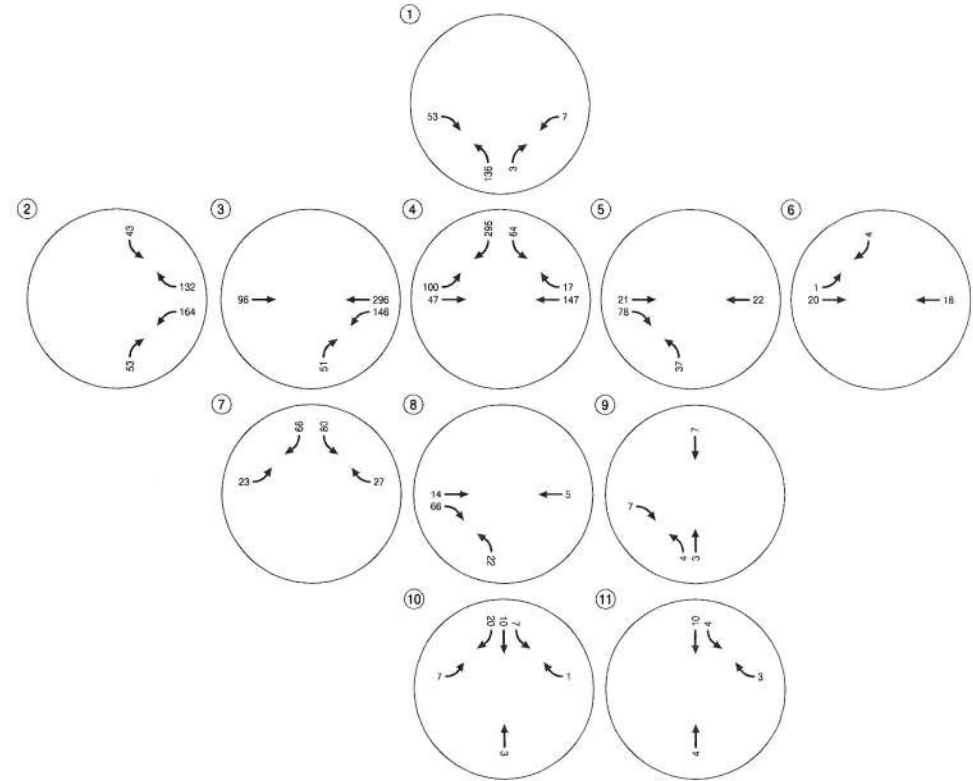


Figure
6

75% Build-Out

Green Mountain Master Plan

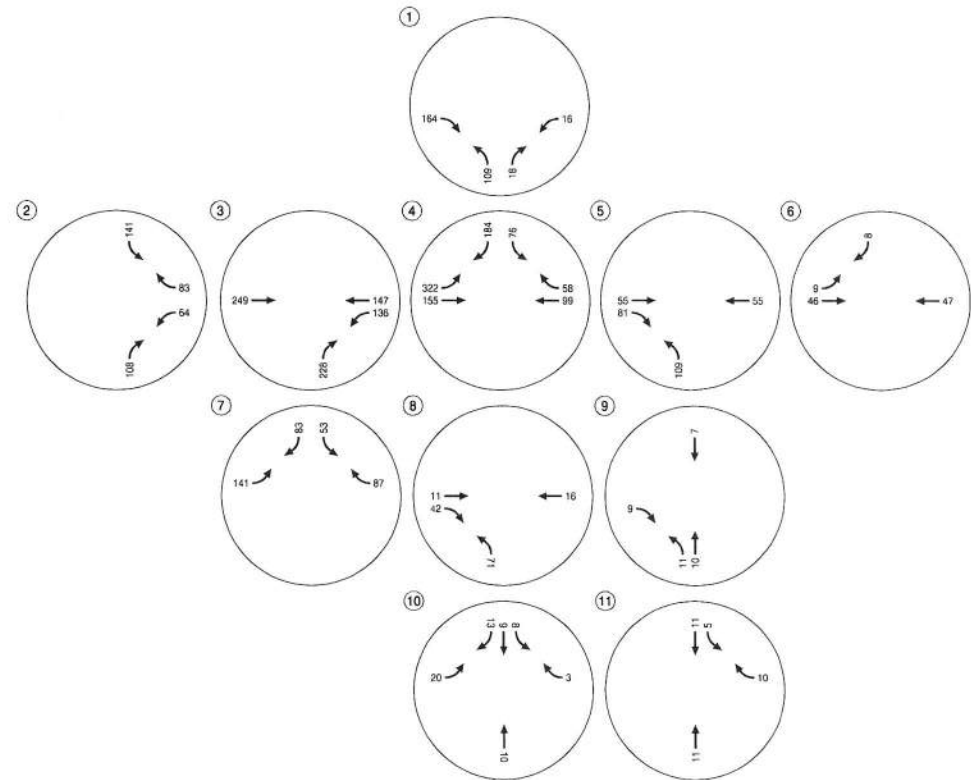
November 2014



Total Estimated Trip Assignment - Full Build-Out
Weekday AM Peak Hour
Camas, Washington

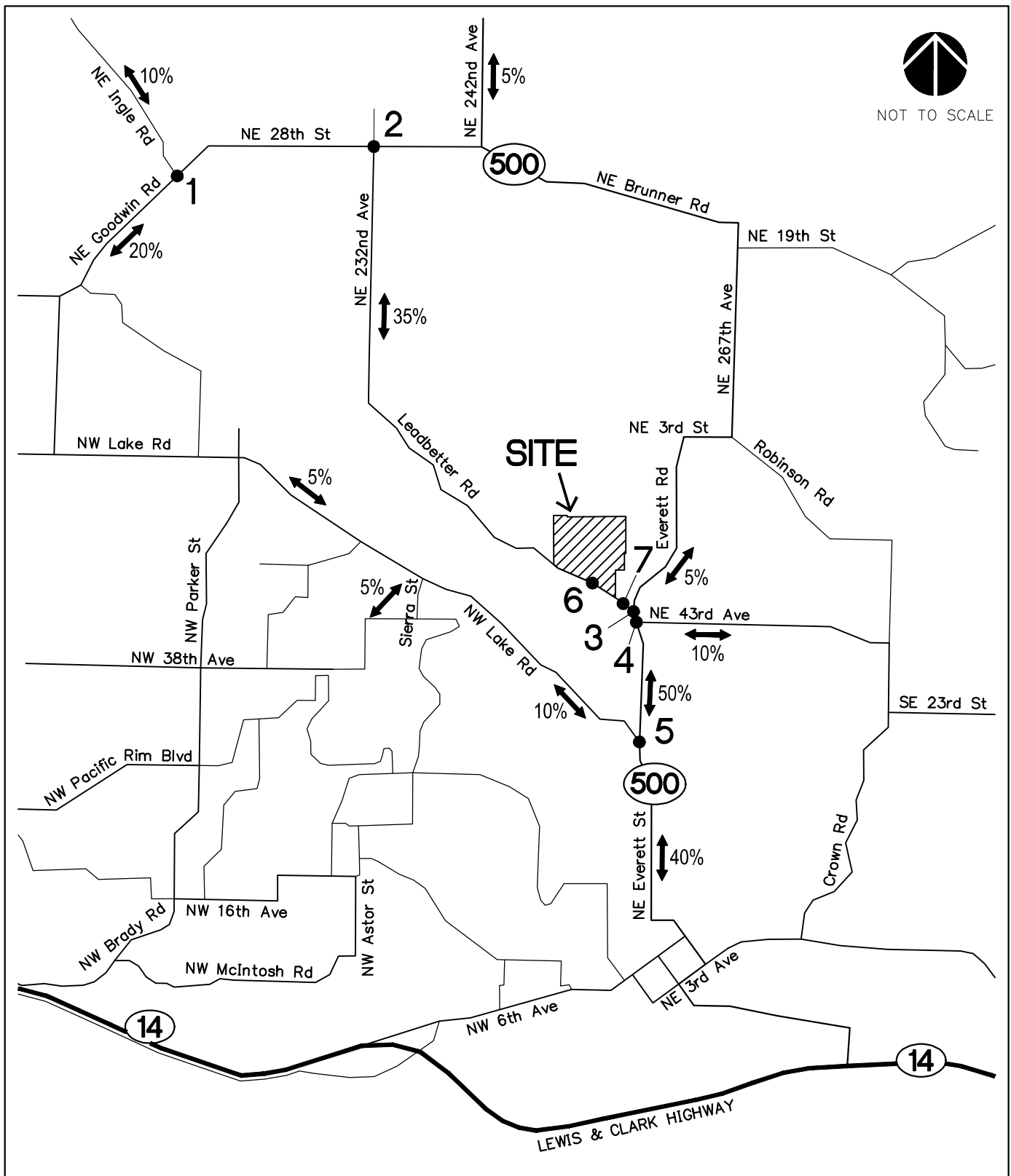
Figure
9

75% Build-Out



Total Estimated Trip Assignment - Full Build-Out
Weekday PM Peak Hour
Camas, Washington

Figure
10



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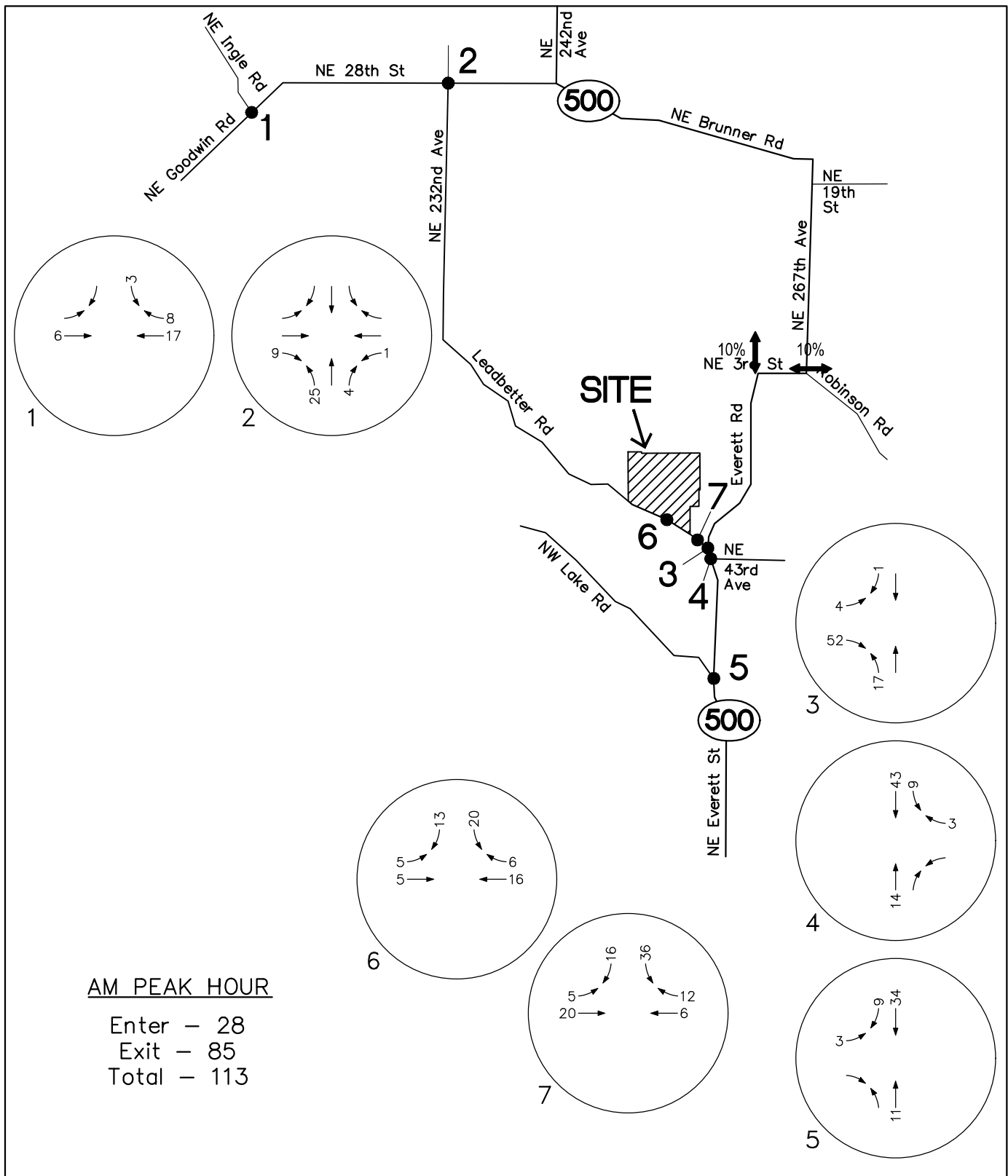
JOB NO:
220038900

TRIP DISTRIBUTION

**CJ DENS EAST SUBDIVISION
CAMAS, WASHINGTON**

FIGURE

1



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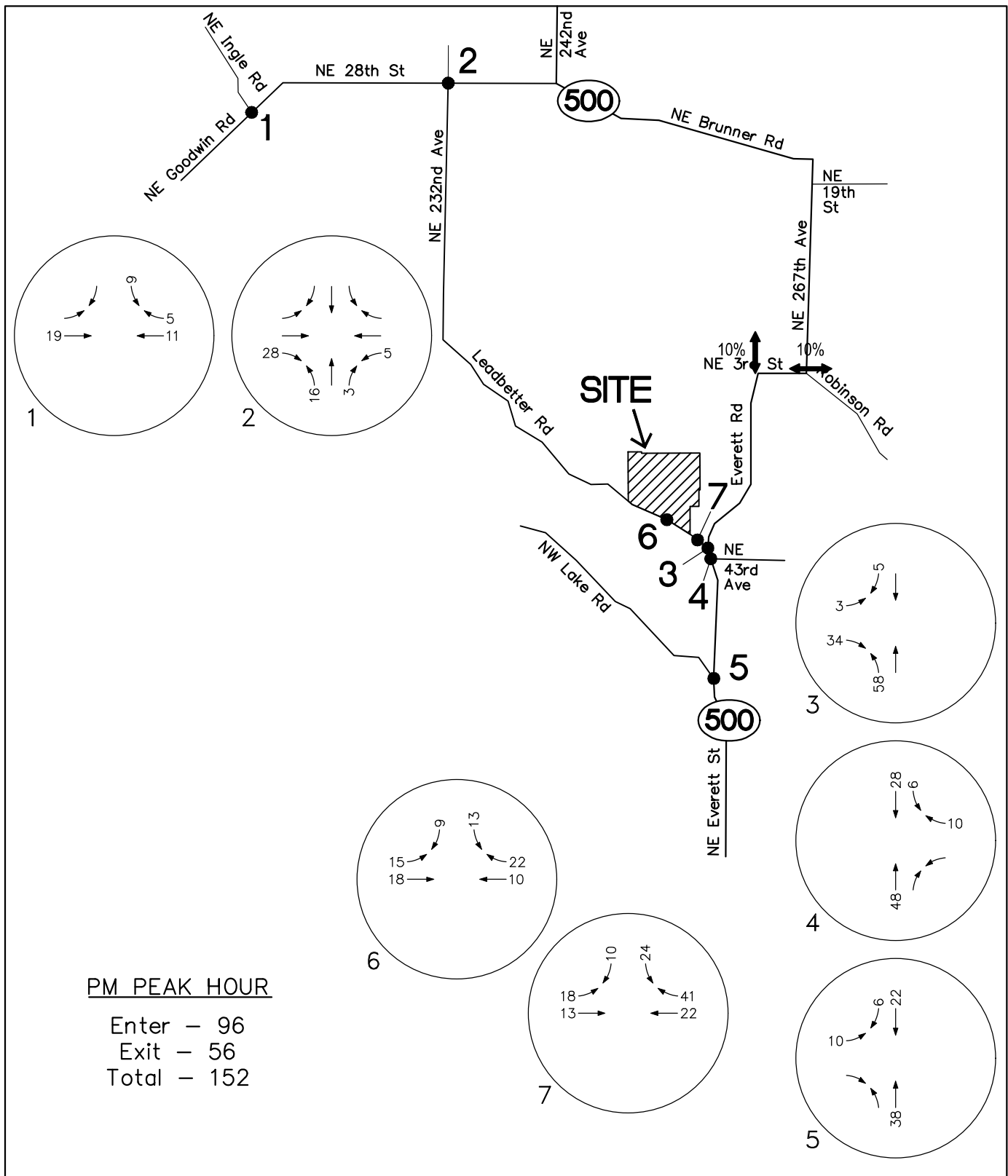
PROJECT TRIP ASSIGNMENT AM PEAK HOUR

CJ DENS EAST SUBDIVISION
CAMAS, WASHINGTON

FIGURE

2A

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JOB NO:
220038900

PROJECT TRIP ASSIGNMENT PM PEAK HOUR

CJ DENS EAST SUBDIVISION
CAMAS, WASHINGTON

FIGURE

2B

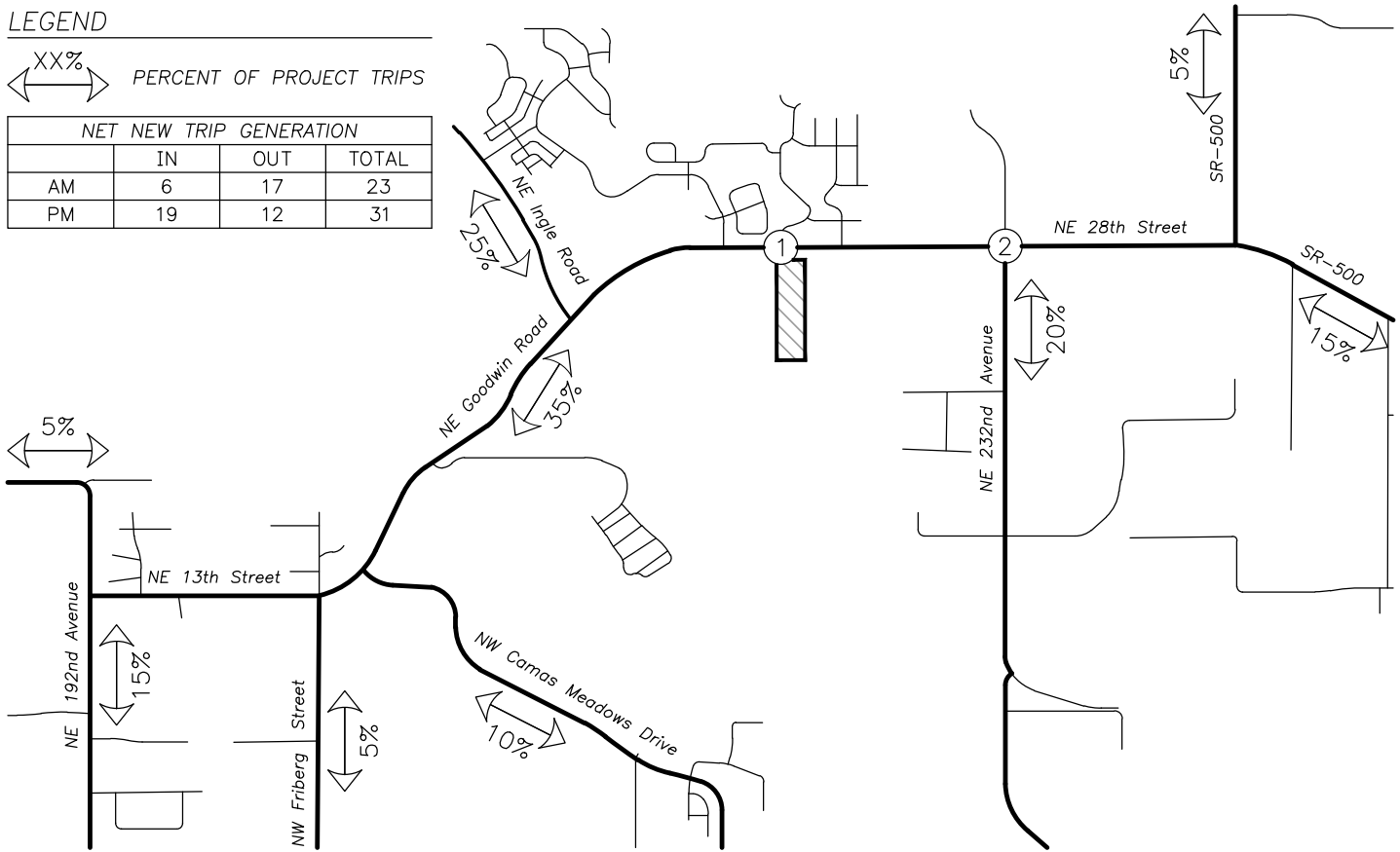
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0% Build-Out

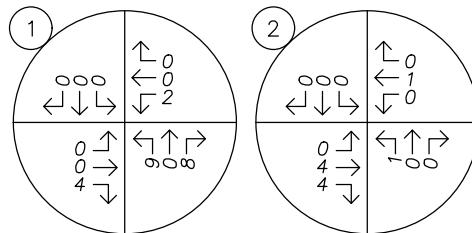
LEGEND

XX%
PERCENT OF PROJECT TRIPS

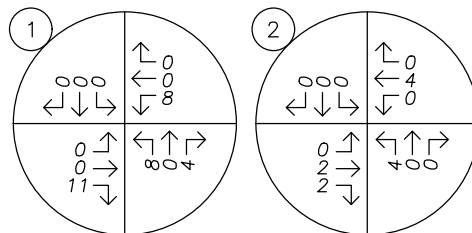
NET NEW TRIP GENERATION			
	IN	OUT	TOTAL
AM	6	17	23
PM	19	12	31



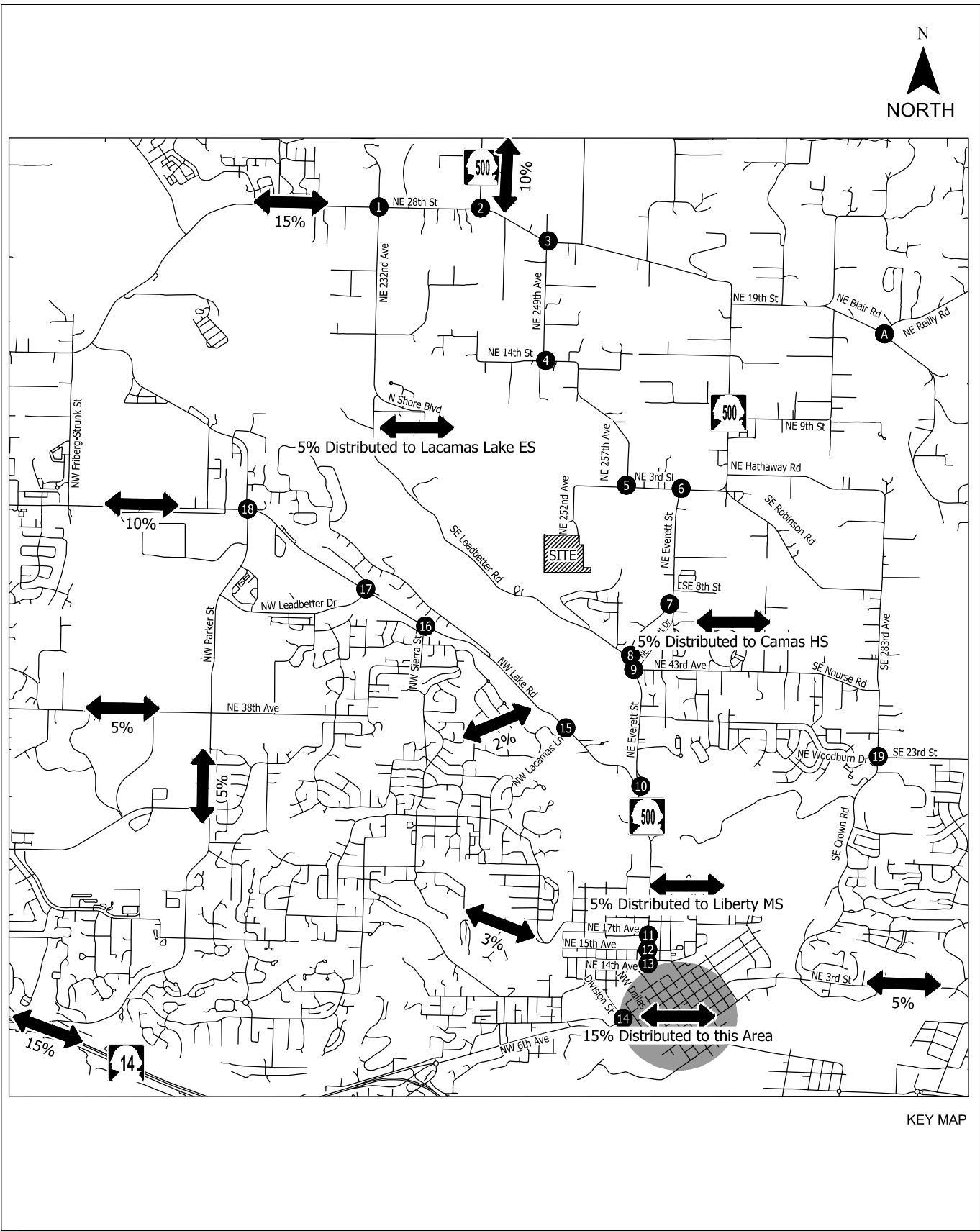
AM PEAK HOUR



PM PEAK HOUR



no scale



KEY MAP



Site Generated Trip Assignment
Weekday AM Peak Hour
Camas, Washington

Figure
8



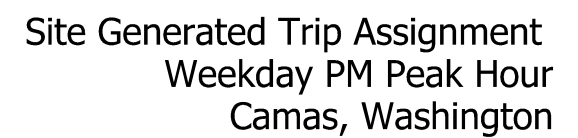
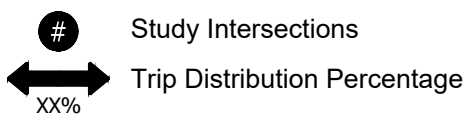
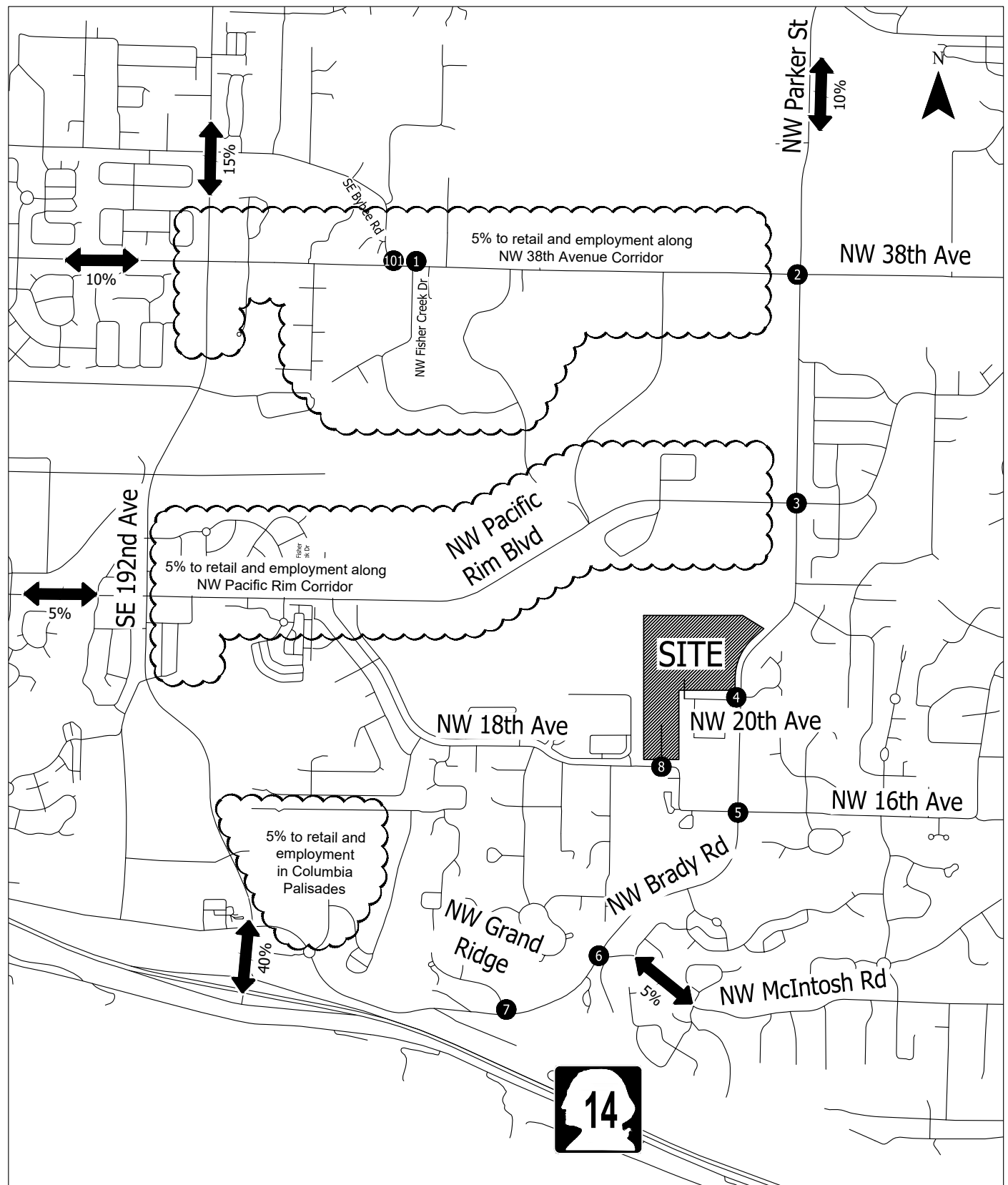
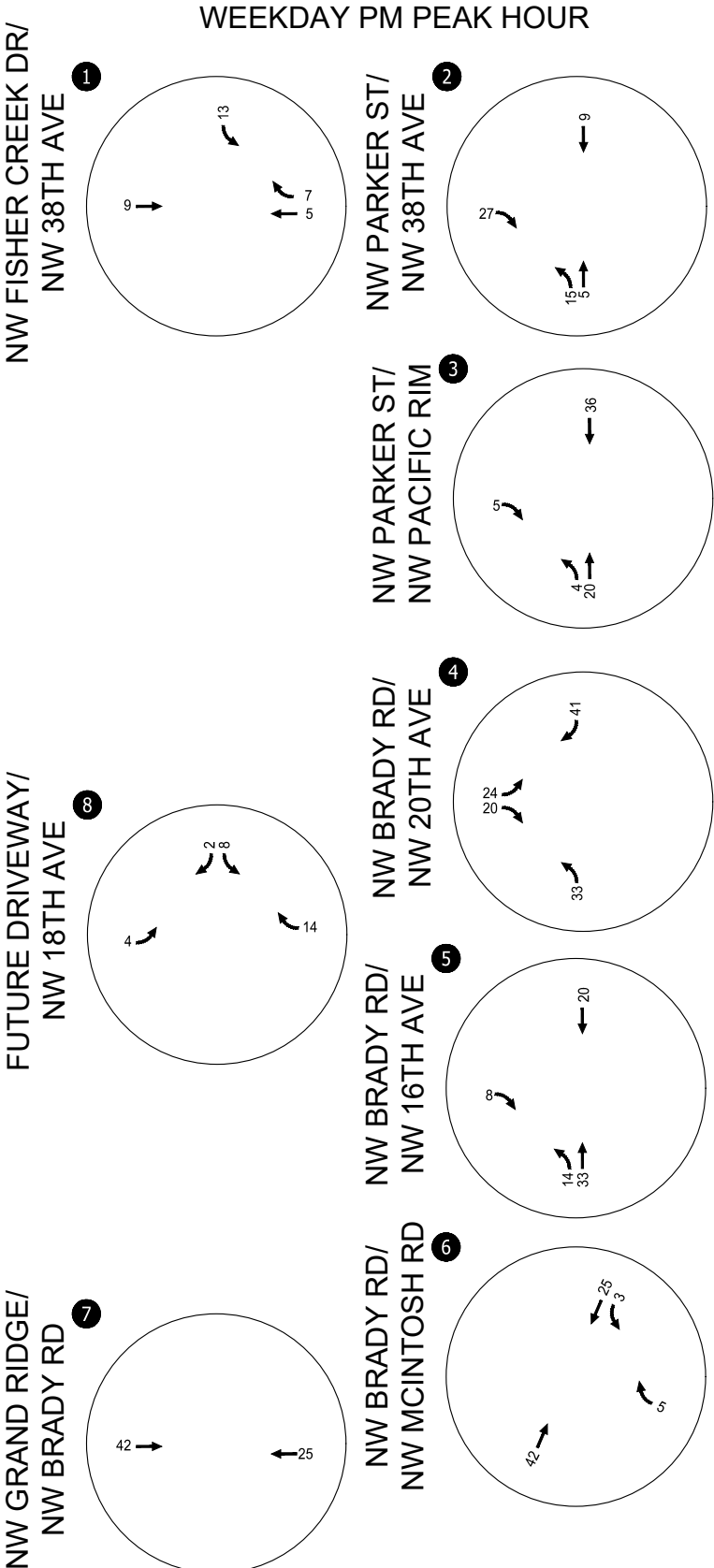
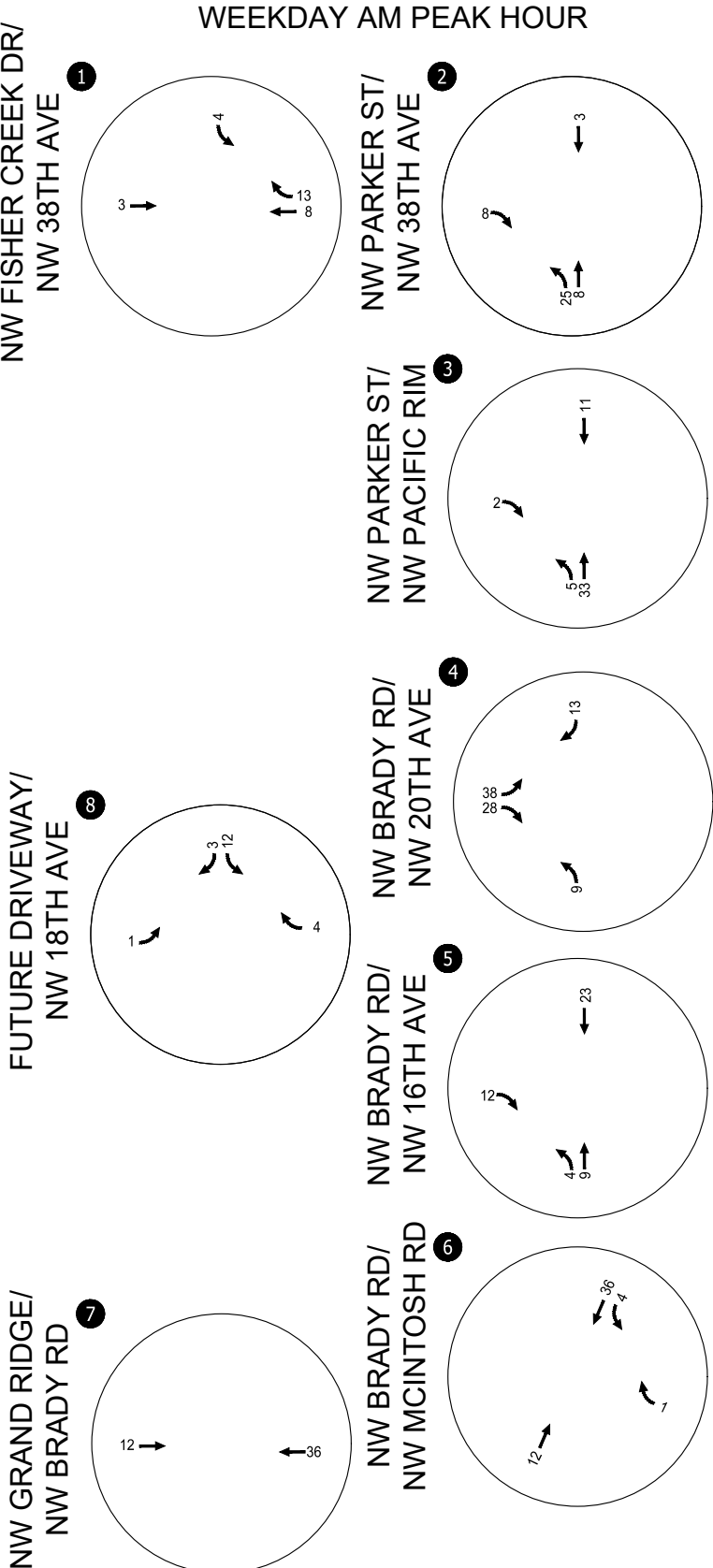
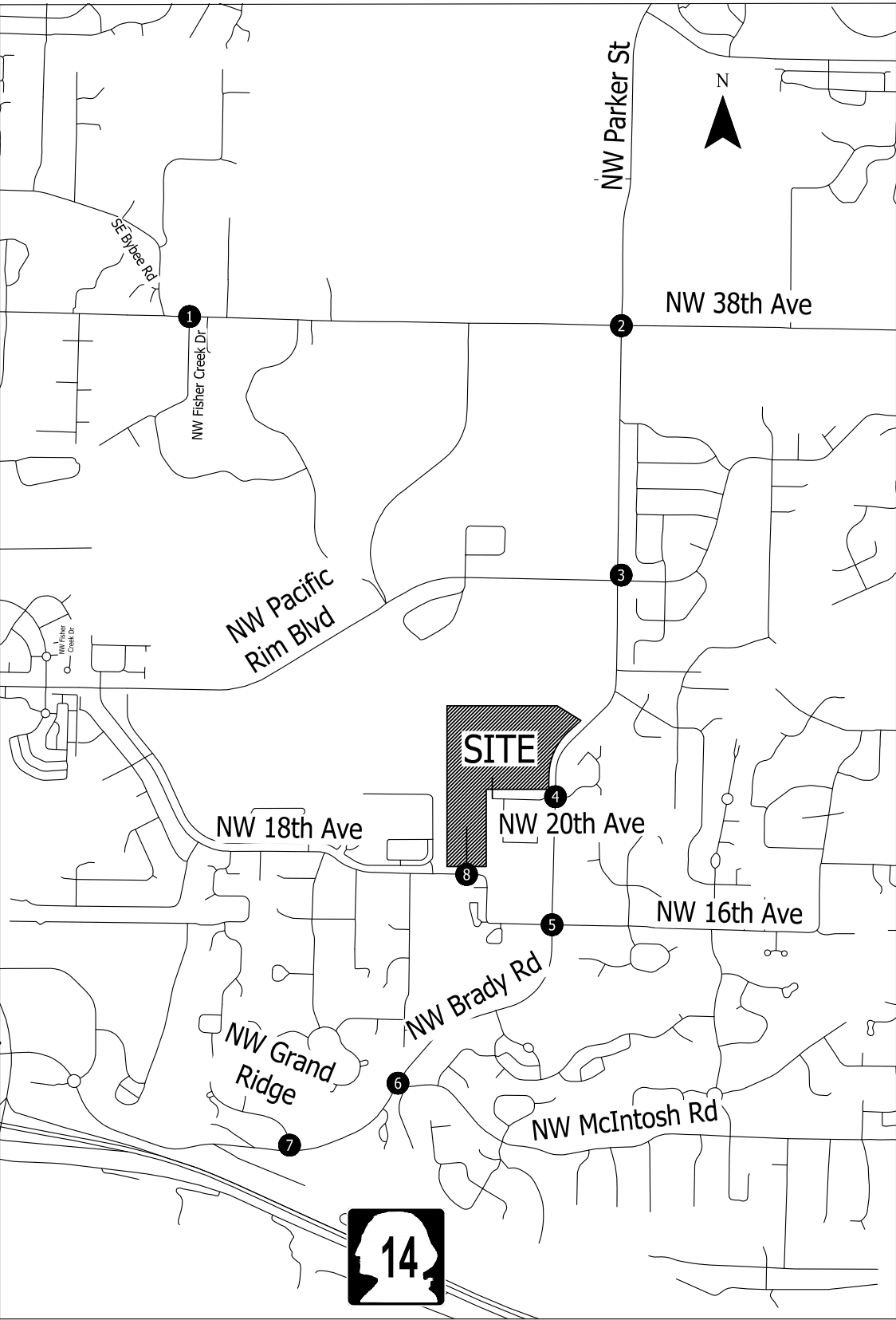


Figure
9



Estimated Trip Distribution Pattern
Camas, Washington

Figure
6



Site-Generated Trip Assignment
Weekday AM & PM Peak Hours
Camas, Washington

Figure
7

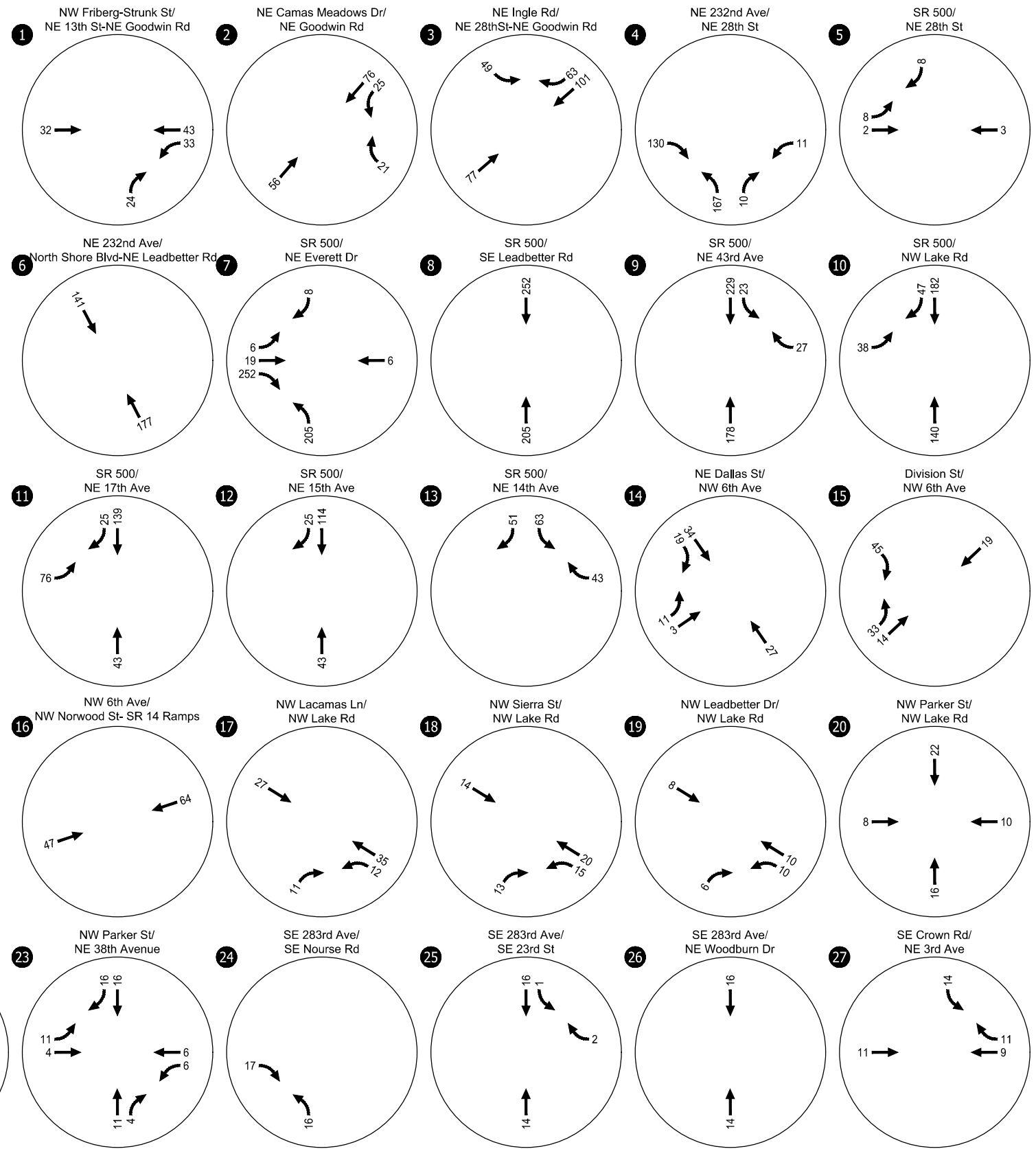


Figure
8

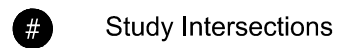
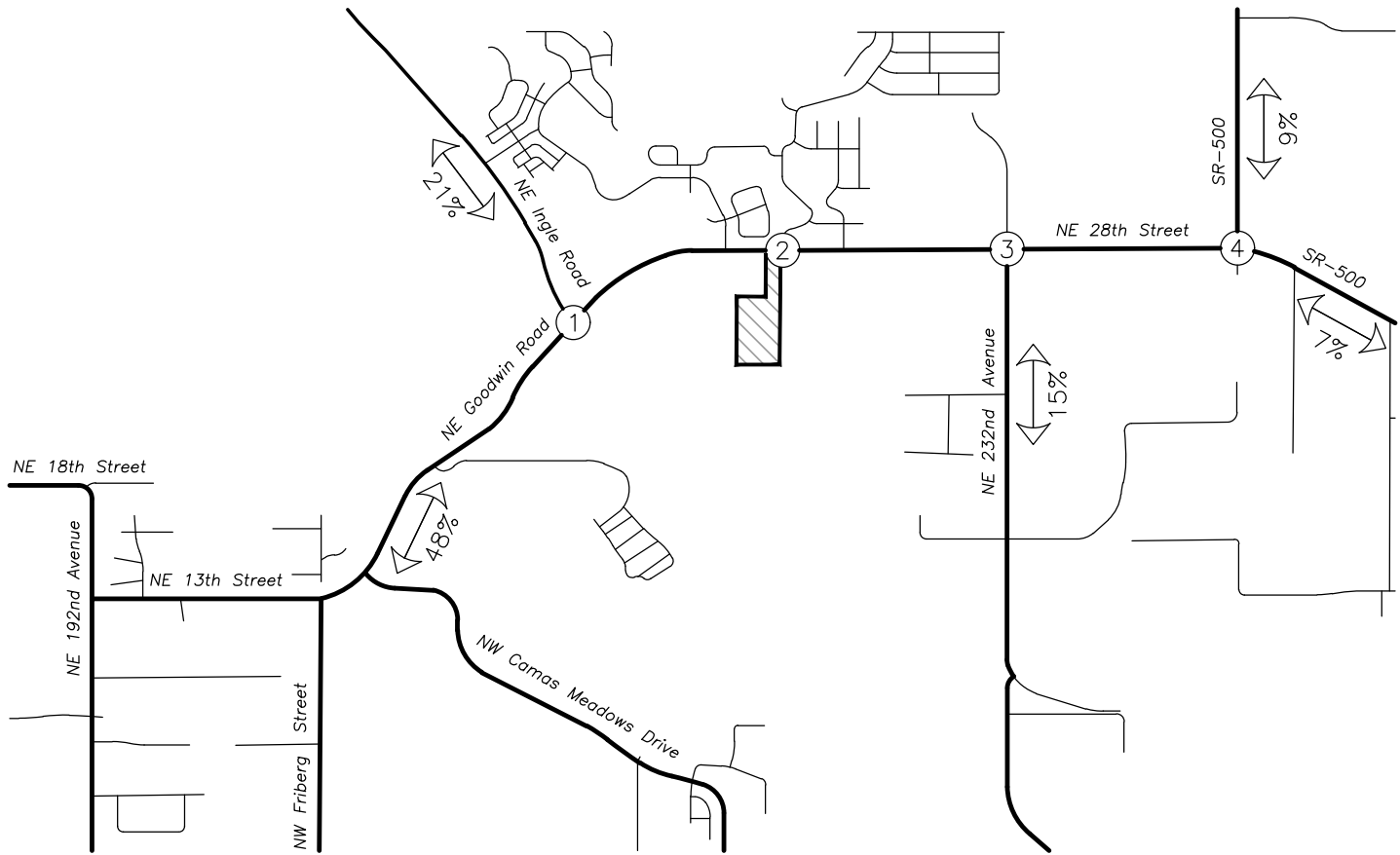
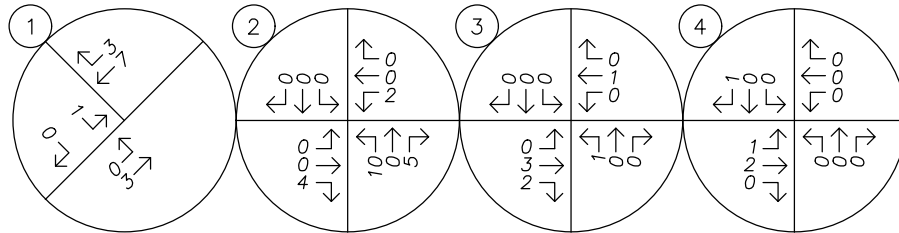


Figure
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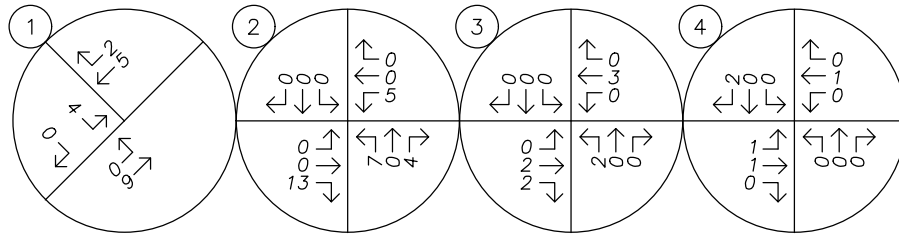
0% Build-Out



AM PEAK HOUR



PM PEAK HOUR



LEGEND

XX% PERCENT OF PROJECT TRIPS

NET NEW TRIP GENERATION			
	IN	OUT	TOTAL
AM	6	15	21
PM	18	11	29



no scale

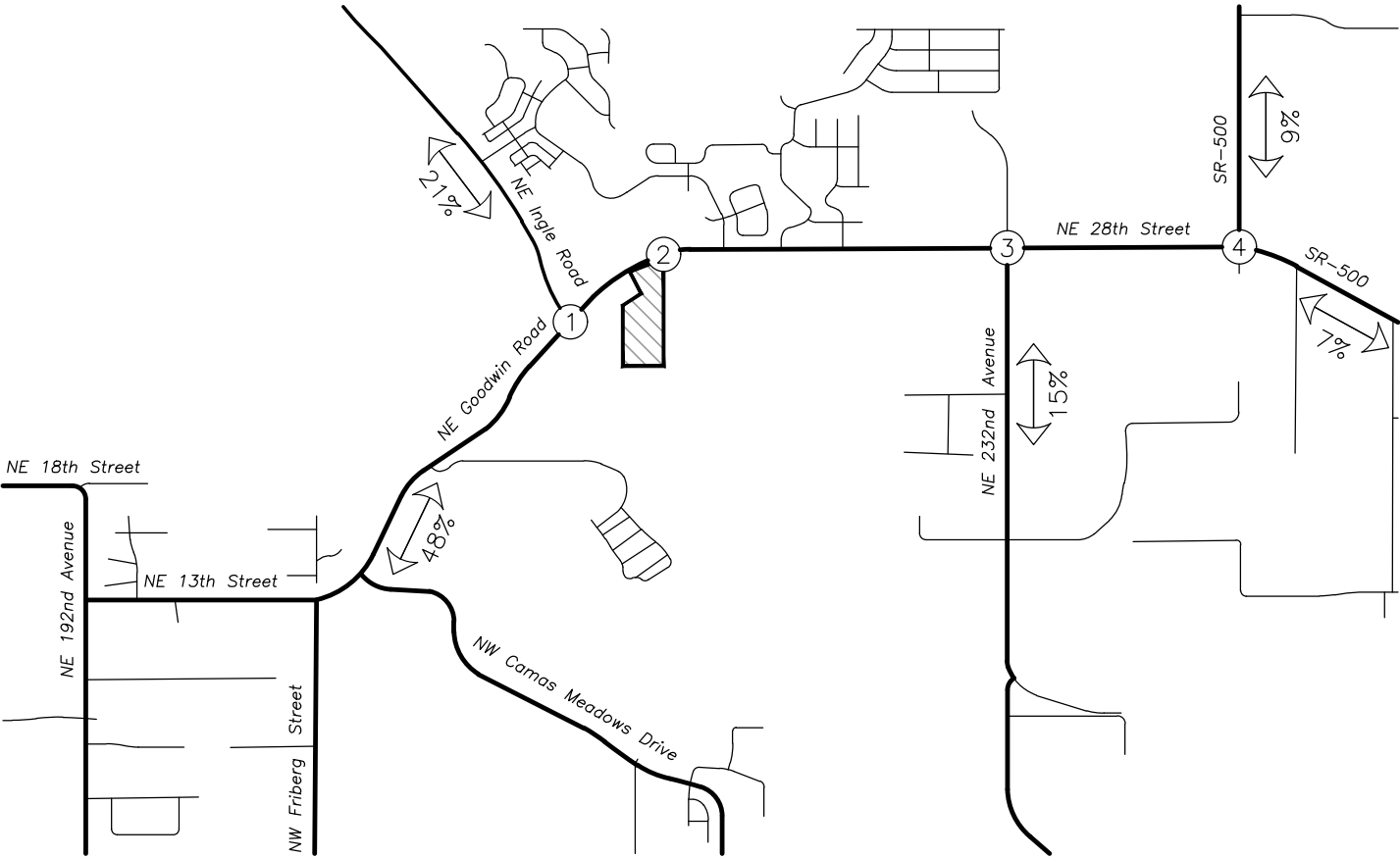
SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips
AM & PM Peak Hours

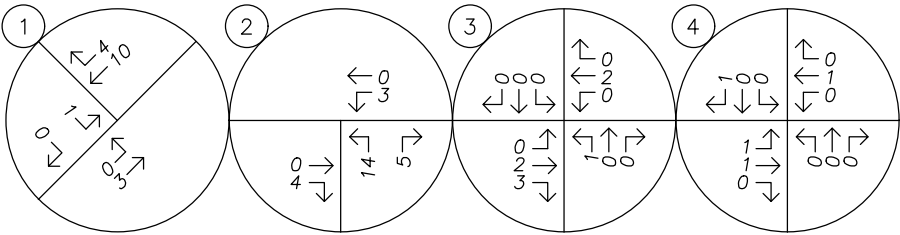
Figure 3

Landing at Green Mountain Phase 2

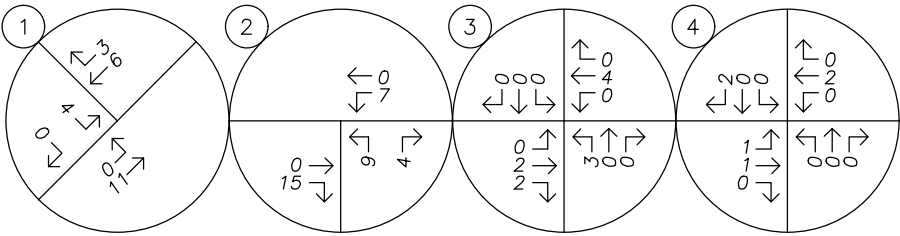
4/23/2025



AM PEAK HOUR



PM PEAK HOUR



LEGEND

XX% PERCENT OF PROJECT TRIPS

NET NEW TRIP GENERATION			
	IN	OUT	TOTAL
AM	7	19	26
PM	22	13	35



no scale

Appendix F : Year 2028 Background Traffic Conditions Analysis Worksheets

HCM 7th Signalized Intersection Summary

1: NE Everett St & NE 43rd Ave

03/05/2026

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	323	71	399	468	104	621
Future Volume (veh/h)	323	71	399	468	104	621
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1463	1550	1622	1595	1504	1695
Adj Flow Rate, veh/h	376	83	464	0	121	722
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	11	4	3	5	18	4
Cap, veh/h	447	422	603		325	909
Arrive On Green	0.32	0.32	0.37	0.00	0.08	0.54
Sat Flow, veh/h	1393	1314	1622	1352	1433	1695
Grp Volume(v), veh/h	376	83	464	0	121	722
Grp Sat Flow(s),veh/h/ln	1393	1314	1622	1352	1433	1695
Q Serve(g_s), s	15.8	2.9	15.8	0.0	2.9	21.7
Cycle Q Clear(g_c), s	15.8	2.9	15.8	0.0	2.9	21.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	447	422	603		325	909
V/C Ratio(X)	0.84	0.20	0.77		0.37	0.79
Avail Cap(c_a), veh/h	797	751	902		546	1482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	15.5	17.4	0.0	11.8	11.8
Incr Delay (d2), s/veh	4.3	0.2	4.6	0.0	0.7	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.0	1.5	9.9	0.0	1.4	11.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	24.2	15.7	21.9	0.0	12.5	13.8
LnGrp LOS	C	B	C		B	B
Approach Vol, veh/h	459		464			843
Approach Delay, s/veh	22.7		21.9			13.6
Approach LOS	C		C			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	10.3	28.4			38.7	24.2
Change Period (Y+Rc), s	5.0	5.0			5.0	4.0
Max Green Setting (Gmax), s	15.0	35.0			55.0	36.0
Max Q Clear Time (g_c+l1), s	5.9	18.8			24.7	18.8
Green Ext Time (p_c), s	0.2	4.6			6.8	1.4
Intersection Summary						
HCM 7th Control Delay, s/veh			18.1			
HCM 7th LOS			B			
Notes						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 7th TWSC 3: NE Umatilla St & NE 41st Ave

03/05/2026

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	8	8	117	53	8
Future Vol, veh/h	25	8	8	117	53	8
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	6	12	12
Mvmt Flow	32	10	10	148	67	10
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	243	74	79	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	168	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	750	993	1532	-	-	-
Stage 1	954	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	743	991	1529	-	-	-
Mov Cap-2 Maneuver	743	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	9.8	0.47		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	115	-	791	-	-	
HCM Lane V/C Ratio	0.007	-	0.053	-	-	
HCM Ctrl Dly (s/v)	7.4	0	9.8	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

HCM 7th Signalized Intersection Summary

1: NE Everett St & NE 43rd Ave

03/05/2026

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	138	65	575	316	70	379
Future Volume (veh/h)	138	65	575	316	70	379
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1791	1791	1900	1841
Adj Flow Rate, veh/h	150	71	625	0	76	412
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	1	1	0	4
Cap, veh/h	267	238	885		435	1209
Arrive On Green	0.15	0.15	0.49	0.00	0.05	0.66
Sat Flow, veh/h	1810	1610	1791	1518	1810	1841
Grp Volume(v), veh/h	150	71	625	0	76	412
Grp Sat Flow(s),veh/h/ln	1810	1610	1791	1518	1810	1841
Q Serve(g_s), s	3.5	1.8	12.5	0.0	0.8	4.6
Cycle Q Clear(g_c), s	3.5	1.8	12.5	0.0	0.8	4.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	267	238	885		435	1209
V/C Ratio(X)	0.56	0.30	0.71		0.17	0.34
Avail Cap(c_a), veh/h	1417	1261	1363		928	2202
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	17.5	9.0	0.0	6.5	3.5
Incr Delay (d2), s/veh	1.9	0.7	2.2	0.0	0.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	1.2	6.8	0.0	0.3	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	20.1	18.2	11.3	0.0	6.7	3.7
LnGrp LOS	C	B	B		A	A
Approach Vol, veh/h	221		625			488
Approach Delay, s/veh	19.5		11.3			4.2
Approach LOS	B		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	7.5	27.7			35.2	10.8
Change Period (Y+Rc), s	5.0	5.0			5.0	4.0
Max Green Setting (Gmax), s	15.0	35.0			55.0	36.0
Max Q Clear Time (g_c+l1), s	3.8	15.5			7.6	6.5
Green Ext Time (p_c), s	0.1	7.2			3.4	0.7
Intersection Summary						
HCM 7th Control Delay, s/veh			10.0			
HCM 7th LOS			B			
Notes						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 7th TWSC

2: NE Umatilla St & SE 15th St/SE Nourse Rd

03/05/2026

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	86	97	9	71	0	62	1	11	2	0	1
Future Vol, veh/h	1	86	97	9	71	0	62	1	11	2	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	1	0	0	0	0	100	0	100	0	0
Mvmt Flow	1	100	113	10	83	0	72	1	13	2	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	83	0	0	213	0	0	262	262	156	206	319	83
Stage 1	-	-	-	-	-	-	159	159	-	103	103	-
Stage 2	-	-	-	-	-	-	103	103	-	103	215	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	7.5	6.2	8.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.5	-	7.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.5	-	7.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.9	3.3	4.4	4	3.3
Pot Cap-1 Maneuver	1527	-	-	1370	-	-	695	506	894	582	601	983
Stage 1	-	-	-	-	-	-	848	613	-	710	813	-
Stage 2	-	-	-	-	-	-	907	653	-	711	728	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1527	-	-	1370	-	-	688	501	894	567	596	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	688	501	-	567	596	-
Stage 1	-	-	-	-	-	-	847	613	-	705	807	-
Stage 2	-	-	-	-	-	-	899	648	-	699	728	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.04			0.86			10.78			10.48		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	709	9	-	-	203	-	-	660				
HCM Lane V/C Ratio	0.121	0.001	-	-	0.008	-	-	0.005				
HCM Ctrl Dly (s/v)	10.8	7.4	0	-	7.6	0	-	10.5				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0				

HCM 7th TWSC

3: NE Umatilla St & NE 41st Ave

03/05/2026

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	3	6	66	93	13
Future Vol, veh/h	8	3	6	66	93	13
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	3	7	72	101	14
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	195	110	117	0	-	0
Stage 1	110	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	798	949	1484	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	793	947	1481	-	-	-
Mov Cap-2 Maneuver	793	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	9.4	0.62		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	150	-	830	-	-	
HCM Lane V/C Ratio	0.004	-	0.014	-	-	
HCM Ctrl Dly (s/v)	7.4	0	9.4	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Appendix G : Year 2028 Total Traffic Conditions Analysis Worksheets

HCM 7th Signalized Intersection Summary

1: NE Everett St & NE 43rd Ave

03/05/2026

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	336	76	399	473	106	621
Future Volume (veh/h)	336	76	399	473	106	621
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1463	1550	1622	1595	1504	1695
Adj Flow Rate, veh/h	391	88	464	0	123	722
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	11	4	3	5	18	4
Cap, veh/h	460	434	598		320	900
Arrive On Green	0.33	0.33	0.37	0.00	0.09	0.53
Sat Flow, veh/h	1393	1314	1622	1352	1433	1695
Grp Volume(v), veh/h	391	88	464	0	123	722
Grp Sat Flow(s),veh/h/ln	1393	1314	1622	1352	1433	1695
Q Serve(g_s), s	16.9	3.1	16.4	0.0	3.0	22.5
Cycle Q Clear(g_c), s	16.9	3.1	16.4	0.0	3.0	22.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	460	434	598		320	900
V/C Ratio(X)	0.85	0.20	0.78		0.38	0.80
Avail Cap(c_a), veh/h	774	730	876		529	1438
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	15.6	18.1	0.0	12.3	12.4
Incr Delay (d2), s/veh	4.7	0.2	4.9	0.0	0.8	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.6	1.6	10.3	0.0	1.5	11.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	24.9	15.8	23.0	0.0	13.1	14.5
LnGrp LOS	C	B	C		B	B
Approach Vol, veh/h	479		464			845
Approach Delay, s/veh	23.2		23.0			14.3
Approach LOS	C		C			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	10.5	28.9			39.4	25.4
Change Period (Y+Rc), s	5.0	5.0			5.0	4.0
Max Green Setting (Gmax), s	15.0	35.0			55.0	36.0
Max Q Clear Time (g_c+l1), s	6.0	19.4			25.5	19.9
Green Ext Time (p_c), s	0.2	4.5			6.8	1.5
Intersection Summary						
HCM 7th Control Delay, s/veh			19.0			
HCM 7th LOS			B			
Notes						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 7th TWSC

2: NE Umatilla St & SE 15th St/SE Nourse Rd

03/05/2026

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	106	60	8	230	0	139	0	22	0	0	3
Future Vol, veh/h	0	106	60	8	230	0	139	0	22	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	74	74	74	74	74	74	74	74	74
Heavy Vehicles, %	0	13	4	25	5	0	5	0	0	0	0	0
Mvmt Flow	0	143	81	11	311	0	188	0	30	0	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	311	0	0	224	0	0	516	516	184	476	557	311
Stage 1	-	-	-	-	-	-	184	184	-	332	332	-
Stage 2	-	-	-	-	-	-	332	332	-	143	224	-
Critical Hdwy	4.1	-	-	4.35	-	-	7.15	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.425	-	-	3.545	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1261	-	-	1220	-	-	465	466	864	503	442	734
Stage 1	-	-	-	-	-	-	811	751	-	685	648	-
Stage 2	-	-	-	-	-	-	675	648	-	864	722	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1261	-	-	1220	-	-	457	461	864	480	437	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	457	461	-	480	437	-
Stage 1	-	-	-	-	-	-	811	751	-	678	641	-
Stage 2	-	-	-	-	-	-	664	641	-	835	722	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0			0.27			18.15			9.93		
HCM LOS							C			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	489	1261	-	-	61	-	-	734				
HCM Lane V/C Ratio	0.445	-	-	-	0.009	-	-	0.006				
HCM Ctrl Dly (s/v)	18.1	0	-	-	8	0	-	9.9				
HCM Lane LOS	C	A	-	-	A	A	-	A				
HCM 95th %tile Q(veh)	2.3	0	-	-	0	-	-	0				

HCM 7th TWSC 3: NE Umatilla St & NE 41st Ave

03/05/2026

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	9	8	117	53	15
Future Vol, veh/h	44	9	8	117	53	15
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	6	12	12
Mvmt Flow	56	11	10	148	67	19

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	247	79	88	0	-	0
Stage 1	79	-	-	-	-	-
Stage 2	168	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	746	988	1520	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	739	986	1517	-	-	-
Mov Cap-2 Maneuver	739	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.11	0.47	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	115	-	772	-	-
HCM Lane V/C Ratio	0.007	-	0.087	-	-
HCM Ctrl Dly (s/v)	7.4	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

HCM 7th Signalized Intersection Summary

1: NE Everett St & NE 43rd Ave

03/05/2026

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	146	68	575	330	75	379
Future Volume (veh/h)	146	68	575	330	75	379
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1791	1791	1900	1841
Adj Flow Rate, veh/h	159	74	625	0	82	412
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	1	1	0	4
Cap, veh/h	277	247	879		433	1204
Arrive On Green	0.15	0.15	0.49	0.00	0.06	0.65
Sat Flow, veh/h	1810	1610	1791	1518	1810	1841
Grp Volume(v), veh/h	159	74	625	0	82	412
Grp Sat Flow(s),veh/h/ln	1810	1610	1791	1518	1810	1841
Q Serve(g_s), s	3.8	1.9	12.7	0.0	0.9	4.7
Cycle Q Clear(g_c), s	3.8	1.9	12.7	0.0	0.9	4.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	277	247	879		433	1204
V/C Ratio(X)	0.57	0.30	0.71		0.19	0.34
Avail Cap(c_a), veh/h	1395	1241	1342		913	2168
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	17.6	9.3	0.0	6.6	3.6
Incr Delay (d2), s/veh	1.9	0.7	2.3	0.0	0.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	1.2	7.0	0.0	0.3	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	20.2	18.2	11.6	0.0	6.9	3.8
LnGrp LOS	C	B	B		A	A
Approach Vol, veh/h	233		625			494
Approach Delay, s/veh	19.6		11.6			4.3
Approach LOS	B		B			A
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	7.6	27.9			35.6	11.2
Change Period (Y+Rc), s	5.0	5.0			5.0	4.0
Max Green Setting (Gmax), s	15.0	35.0			55.0	36.0
Max Q Clear Time (g_c+l1), s	3.9	15.7			7.7	6.8
Green Ext Time (p_c), s	0.1	7.2			3.4	0.7
Intersection Summary						
HCM 7th Control Delay, s/veh			10.3			
HCM 7th LOS			B			
Notes						
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 7th TWSC

2: NE Umatilla St & SE 15th St/SE Nourse Rd

03/05/2026

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	86	116	10	71	0	73	1	12	2	0	1
Future Vol, veh/h	1	86	116	10	71	0	73	1	12	2	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	1	0	0	0	0	100	0	100	0	0
Mvmt Flow	1	100	135	12	83	0	85	1	14	2	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	83	0	0	235	0	0	276	276	167	209	343	83
Stage 1	-	-	-	-	-	-	170	170	-	106	106	-
Stage 2	-	-	-	-	-	-	106	106	-	103	237	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	7.5	6.2	8.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.5	-	7.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.5	-	7.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4.9	3.3	4.4	4	3.3
Pot Cap-1 Maneuver	1527	-	-	1344	-	-	681	496	882	580	583	983
Stage 1	-	-	-	-	-	-	837	606	-	708	812	-
Stage 2	-	-	-	-	-	-	905	652	-	711	713	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1527	-	-	1344	-	-	673	491	882	563	577	983
Mov Cap-2 Maneuver	-	-	-	-	-	-	673	491	-	563	577	-
Stage 1	-	-	-	-	-	-	836	605	-	702	804	-
Stage 2	-	-	-	-	-	-	895	646	-	698	712	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.04			0.95			11.07			10.51		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	693	8	-	-	222	-	-	657				
HCM Lane V/C Ratio	0.144	0.001	-	-	0.009	-	-	0.005				
HCM Ctrl Dly (s/v)	11.1	7.4	0	-	7.7	0	-	10.5				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0				

HCM 7th TWSC 3: NE Umatilla St & NE 41st Ave

03/05/2026

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	4	7	66	93	33
Future Vol, veh/h	20	4	7	66	93	33
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	22	4	8	72	101	36
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	208	121	139	0	-	0
Stage 1	121	-	-	-	-	-
Stage 2	87	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	785	936	1457	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	779	934	1454	-	-	-
Mov Cap-2 Maneuver	779	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	9.64	0.72		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	173	-	801	-	-	
HCM Lane V/C Ratio	0.005	-	0.033	-	-	
HCM Ctrl Dly (s/v)	7.5	0	9.6	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Appendix H: WSDOT Design Manual Left-Turn Lane Criteria

Exhibit 1310-9 Left-Turn Storage Guidelines: Two-Lane, Unsignalized

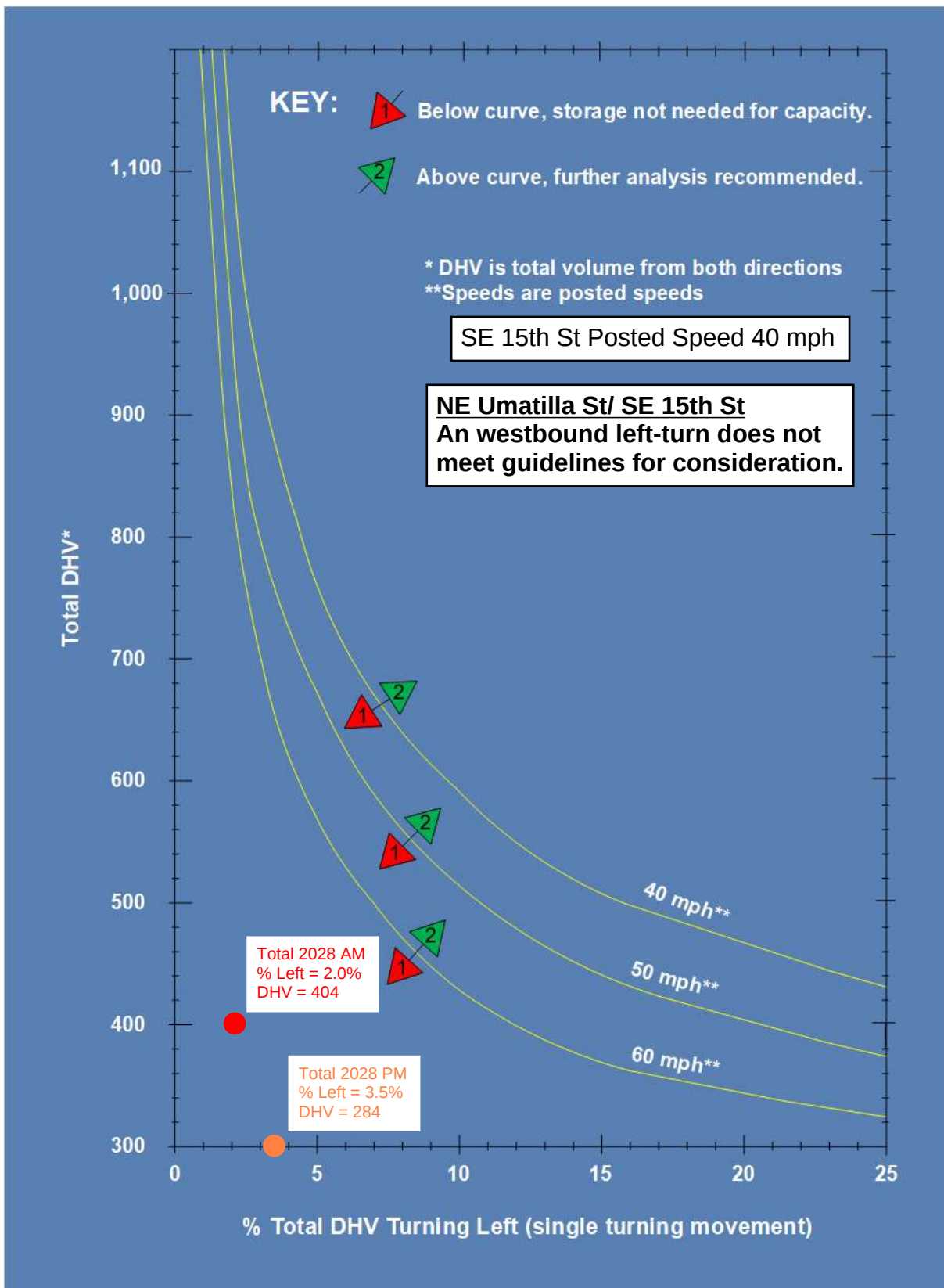


Exhibit 1310-9 Left-Turn Storage Guidelines: Two-Lane, Unsignalized

