

TRAFFIC ANALYSIS REPORT

FOR

VILLAGE AT CAMAS MEADOWS

NW LAKE ROAD

CITY OF CAMAS

SUBMITTED BY



May 2015

Project 15-21

TRAFFIC ANALYSIS REPORT

FOR

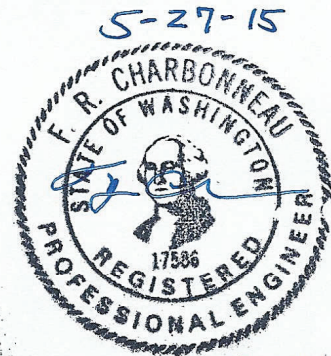
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INTRODUCTION

This traffic study has been prepared to evaluate and document the traffic operation and safety conditions associated with the Village at Camas Meadows residential development planned in the City of Camas, Washington. Development of Village at Camas Meadows will include the building of office 215 housing units including 46 single-family homes, 31 townhomes, and 138 apartment units on the property at address #6101 NW Nightshade Street in Camas (tax lot #175951-000). Currently the development site contains one existing residence. The study area was defined as the surrounding neighborhood, including SE 1st Street, NW Lake Road, and several study intersections. The site is located on approximately 19.5 acres north of NW Lake Road on the east side of the Payne Road. Figure 'a' in the appendix serves as the vicinity map.

TRAFFIC ANALYSIS CONSIDERATIONS

In the project scope established with City of Camas staff a number of important elements were identified and considered in this study.

- Inventory and record pertinent information such as traffic control devices, circulation patterns, lane widths, pedestrian & bicycle facilities, transit zones, parking conditions, and street characteristics.
- Record data on typical weekdays during the AM and PM peak traffic hours.
- Analyze peak hour traffic counts at six intersections along Lake Road and the site access points.
- Level of service (LOS) analysis of the study intersections to measure the approach delays for comparison to City standards.
- Determination of vehicular queuing at the study intersections and comparison of the demand queues to the available storage lengths.
- Verification of intersection sight distance at the proposed access.
- Review of traffic accident data furnished by WSDOT and determination of the intersection crash rates.
- Determination of signal and left turn lane warrants at the study intersections.
- Document COV concurrency requirements by verifying the number of peak hour site trips entering the City's adopted TMZ corridors.

SITE DESCRIPTION, STREETS, AND CRITICAL INTERSECTIONS

The Village at Camas Meadows will be located on the north side of Lake Road between Payne and Larkspur Streets. The surrounding area consists of residential properties. Development of the Village at Camas Meadows will include construction of 46 single family homes, 31 townhomes, and 138 apartments. Vehicular access to the site will be provided from Payne Street and at the extension of Camas Meadows Drive on the property's north side. Figure 'b' illustrates the site plan and access locations.

Currently the study intersections on Lake Road are controlled by stop signing on the side street approaches except at the signalized intersections at Friberg Street, Parker Street, and

SR500/Everett Street. The existing and proposed lane configuration and traffic control are presented in Figure 'c'.

Lake Road at Friberg Street is a four-way signalized intersection. On Lake Road there are center left turns with two through lanes in each direction. The south intersection leg is a private driveway approach. Sidewalk, crosswalks, and bike lanes are provided at this location.

Lake Road at Payne Street is a three-way intersection with the southbound approach designated the stop approach. There are four travel lanes, center turn lane, bike lanes, and sidewalks on Lake Road. Payne Street consists of one travel lane in each direction and is posted at 25 MPH. There are curbs on Payne Street. The sidewalks on Payne Street terminate approximately 100 feet north of the intersection.

Lake Road at Larkspur Street/Parker Street is a four-way signalized intersection. On Lake Road there are center left turns with one through and a separate right turn lane on the west approach and two through lanes on the east approach. Sidewalk, crosswalks, and bike lanes are also provided at this location.

Lake Road at Leadbetter Blvd. is four-way intersection controlled by stop signing on Leadbetter Blvd. (north and south approaches). Lake Road contains a three-lane street section with two travel lanes with a center left turn lane and is posted at 35 MPH. There are bike lanes and sidewalks along Lake Road. Leadbetter Blvd. provides one lane in each direction on both approaches and is posted at 25 MPH

Lake Road at Sierra Street is configured as a tee-shaped intersection with two travel lanes and a center left turn lane on Lake Road. The south approach contains separate northbound left and right turn lanes and is controlled by stop signing. There is sidewalk on the south side of Lake Road west of the intersection and sidewalk on both sides of Sierra Street. There are no bike lanes. The travel speed is posted at 35 MPH on Lake Road.

Lake Road at SR500 (Everett Street) is a tee-shaped intersection controlled by signalization. There are marked crosswalks and pedestrian signals on the west and north intersection legs. State Route 500 contains two travel lanes, a separate northbound left turn lane, and bike lanes. The eastbound approach on Lake Road contains separate left and right turn lanes. The northbound left turn approach is controlled with protected left turn phasing.

Payne Street north of Lake Road is a private road with a posted speed of 25 MPH. The development will construct a half-street improvement on the road between Lake Road and Camas Meadows Drive.

Larkspur Street north of Lake Road is a public street that narrows to a half-street section north of 59th Circle. This street will be fully improved north of 59th Circle in conjunction with the Village at Camas Meadows development.

TRAFFIC OPERATIONAL ANALYSIS

In order to evaluate traffic flow and delay in the area the study intersections were analyzed for level of service (LOS) conditions and safety. The intersections evaluated included six locations on Lake Road and the site accesses. LOS analyses were completed in the AM and PM peak hour periods for the following scenarios:

- 2014 Existing Traffic
- 2018 Background Traffic
- 2018 Total Traffic

In order to perform the LOS analysis at the critical intersections manual traffic counts were utilized for the AM peak and PM peak traffic hours. Figures 1a, 1b, 2a, & 2b illustrate the existing volume data for the weekday peak hours.

Background growth is comprised of the existing traffic plus the in-process traffic from previously approved developments in Camas. This data was provided by the City for several development projects (reference the in-process traffic on Figures 3 & 4). The year 2018 background traffic is illustrated on Figures 5a, 5b, 6a, & 6b. Following are the in-process development projects included in the analysis.

- Dwyer Creek Commercial Center
- CJ Dens Subdivision
- Alpha Tec
- Green Mountain Mixed Use
- Green Mountain Estates
- Brady Road Subdivision
- Hidden Meadows
- Lake Hills Residential
- North Hills Subdivision
- Parker Village Residential
- Two Creeks Residential

The 2018 total traffic is the summation of background traffic volumes and site generated traffic. The peak hour total traffic volumes are presented in Figures 12a, 12b, 13a, & 13b.

VEHICULAR TRIP GENERATION

Trip rates presented in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th edition (year 2012), were utilized to estimate the site's trip generation. Specifically, single-family housing (ITE code #210) was applied for the single-family and townhouse units and apartment (ITE code #220) was applied for the multi-family units to estimate the trips generated by the proposed development. Table 1 presents the trip generation for the proposed development.

Table 1 Trip Generation Summary

ITE Land Use	Units (#)	Weekday						
		ADT	AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit
Single-Family (#210) Generation Rate ¹ Site Trips	46	9.52 438	0.75 35	25% 9	75% 26	1.00 46	63% 29	37% 17
Single-Family (#210) Generation Rate ¹ Site Trips	31	9.52 295	0.75 23	25% 6	75% 17	1.00 31	63% 20	37% 11
Apartment (#220) Generation Rate ¹ Site Trips	138	6.65 918	0.51 70	20% 14	80% 56	0.62 86	65% 56	35% 30
Total	215	1,651	128	29	99	163	105	58

¹ Source: *Trip Generation*, 9th Edition, ITE, 2012, average rates.

The Village at Camas Meadows is expected to generate 1,651 daily trips, 128 AM peak hour trips, and 163 PM peak hour trips.

The development's trip distribution was based on existing traffic count data, previous traffic study, engineering judgement, and City staff input and is illustrated on Figures 7a, 7b, 8a, & 8b. Figures 9a, 9b, 10a, & 10b illustrate the AM & PM peak hour trip assignments.

It is anticipated that some of the existing traffic flow will transition from Payne Street to Camas Meadows Drive when this street is extended between Larkspur and Payne Streets in the future. As a result a reroute plan was established to illustrate the estimated traffic changes in the peak hours (reference Figure 11).

CONCURRENCY

The following table presents a summary of the number of site generated trips that will be distributed to the City of Vancouver's Transportation Management Zone (TMZ) corridors during the PM peak hour.

Table 2a Number of site generated trips using adopted TMZ corridors

TMZ Corridor	Limits of Corridor	PM Peak Hour Trips
Mill Plain Boulevard	Fourth Plain Boulevard to I-5	0
	I-5 to Andresen Road	0
	Andresen Road to I-205	0
	I-205 to NE 136th Avenue	7
	NE 136th Avenue to NE 164th Avenue	15
	NE 164th Avenue to NE 192nd Avenue	21
St. Johns / Ft. Van Way	Mill Plain Boulevard to NE 63rd Street	0
Fourth Plain Boulevard	Mill Plain Boulevard to I-5	0
	I-5 to Andresen Road	0
	Andresen Road to I-205	0
	I-205 to NE 162nd Avenue	0
Andresen Road	Mill Plain Boulevard to SR-500	0
	SR-500 to NE 78th Street	0
NE 112th Avenue	Mill Plain Boulevard to NE 28th Street	0
	NE 28th Street to NE 51st Street	0
NE 162nd/164th Avenue	SE 1st Street to Fourth Plain Boulevard	9
	SR-14 to SE 1st Street	6
Burton Road / NE 28th Street	NE 18th Street to NE 112th Avenue	0
	NE 112th Avenue to NE 138th Avenue	0
	NE 138th Avenue to NE 162nd Avenue	2
NE 18th Street	NE 112th Avenue to NE 138th Avenue	0
	NE 138th Avenue to NE 162nd Avenue	4
NE 136th / 137th Avenue	Mill Plain Boulevard to NE 28th Street	0
	NE 28th Street to Fourth Plain Boulevard	0
SE 192nd Avenue	SR-14 to NE 18th Street	106

Table 2b lists the Village at Camas Meadows trips that are expected to travel within the Mill Plain corridor between I-205 and NE 192nd Avenue during the PM peak hour.

Table 2b Number of site generated trips in the Mill Plain Boulevard corridor intersections

Intersection	PM Peak Hour											
	SB			WB			NB			EB		
	R	T	L	R	T	L	R	T	L	R	T	L
Mill Plain Boulevard & Chkalov Drive/NE 112th Avenue	-	-	-	-	-	-	-	-	-	-	-	-
Mill Plain Boulevard & NE 117th Avenue	-	-	-	-	-	-	-	-	-	-	-	-
Mill Plain Boulevard & NE 120th Avenue	-	-	-	-	-	-	-	-	-	-	-	-
Mill Plain Boulevard & NE 123rd/124th Avenue	-	-	1	3	-	2	1	-	-	-	-	-
Mill Plain Boulevard & NE 126th Avenue	-	-	-	-	5	-	-	-	-	-	2	-
Mill Plain Boulevard & Park Plaza Drive	-	-	-	-	5	-	-	-	-	-	2	-
Mill Plain Boulevard & NE 136th Avenue	-	-	-	-	5	3	1	-	-	-	2	-
Mill Plain Blvd. & Hearthwood Blvd./Park Crest Avenue	-	-	-	-	8	-	-	-	-	-	3	-
Mill Plain Boulevard & NE 164th Avenue	-	-	-	-	11	4	2	-	-	-	4	-
Mill Plain Boulevard & SE 172nd Avenue	-	-	-	-	15	-	-	-	-	-	6	-
Mill Plain Boulevard & SE 192nd Avenue	15	54	-	-	-	-	-	21	-	-	-	6

Exhibit 1A in the appendix presents the trip distribution at the City of Vancouver's corridor intersections in tabular format.

Exhibit 1B in the appendix presents the PM peak hour trip assignments at the City of Vancouver's corridor intersections in tabular format.

CAPACITY ANALYSIS

Capacity analyses were performed to determine the levels of service for the weekday peak hours. HCS and Traffix software was used to determine the volume/capacity ratios, delays, and level of service for each scenario considered. The programs are based on the Highway Capacity Manual methodology. Copies of the capacity analysis calculations are included in the appendix.

According to the City's traffic study guidelines and specifically the Comprehensive Plan Transportation Element (Policy TR-20) the LOS standard is LOS 'D' or better and a v/c ratio of 0.90 or better.

Table 2 Capacity Analysis Summary

Intersection	Type of Control	Peak Hour	Traffic Scenario											
			2014 Existing				2018 Background				2018 Total			
			Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c	Crit. Mov't	LOS	Delay	v/c
Friberg Street and Lake Road	Signal	AM	-	C	33.2	0.83	-	E	73.4	1.05	-	E	79.2	1.07
		PM	-	A	9.5	0.30	-	B	14.5	0.59	-	B	14.4	0.60
Payne Street and Lake Road	Two-way Stop	AM	SB	C	16.5	-	SB	D	26.2	-	SB	D	30.3	-
		PM	SB	C	21.1	-	SB	E	40.6	-	SB	F	58.9	-
	Mitigation ¹	AM	-	-	-	-	-	-	-	-	-	-	-	-
		PM	-	-	-	-	SB	E	36.0	-	SB	E	47.9	-
	Mitigation ²	AM	-	-	-	-	-	-	-	-	-	-	-	-
		PM	-	-	-	-	-	A	8.7	0.40	-	A	9.6	0.45
Parker Street/ Larkspur Street and Lake Road	Signal	AM	-	B	15.3	0.40	-	B	15.7	0.52	-	B	16.3	0.54
		PM	-	B	14.7	0.57	-	B	18.2	0.73	-	B	19.2	0.75
Leadbetter Drive and Lake Road	Two-way Stop	AM	SB	C	18.3	-	SB	C	22.7	-	SB	C	24.1	-
		PM	NB	C	21.9	-	NB	D	32.7	-	NB	E	35.8	-
	Mitigation ³	AM	-	-	-	-	-	-	-	-	-	-	-	-
		PM	-	-	-	-	NB	D	27.1	-	NB	D	29.2	-
Sierra Street and Lake Road	Two-way Stop	AM	NB	B	14.7	-	NB	C	19.2	-	NB	C	20.4	-
		PM	NB	C	17.4	-	NB	D	25.9	-	NB	D	29.4	-
Everett Street (SR 500) and Lake Road	Signal	AM	-	C	31.0	0.83	-	D	52.2	0.96	-	D	54.9	0.98
		PM	-	C	21.3	0.74	-	C	29.6	0.89	-	C	31.4	0.91
Site Access and Payne Street	Two-way Stop	AM	-	-	-	-	-	-	-	-	WB	A	9.7	-
		PM	-	-	-	-	-	-	-	-	WB	B	10.2	-

Notes: 2000 Highway Capacity Manual methodology used in analysis. NB - Northbound, SB - Southbound, WB - Westbound, Crit. Mov't - Critical movement or critical approach.

¹ Mitigation: Construct southbound left turn lane and southbound right turn lane on Payne Street - Recommended.

² Mitigation: Install traffic signal - Not Recommended.

³ Mitigation: Re-stripe south approach with separate left turn lane & through-right lane on Leadbetter Drive.

The results in Table 2 cover all of the study intersections and reflect that the following locations will meet the City's operational standards through the year 2018 total traffic scenario:

Lake Road at Parker/Larkspur Street, Leadbetter Drive, Sierra Street, Everett Street/SR500, site access at Payne Street

It is noted that at Leadbetter Drive/Lake Road in order to maintain LOS 'D' or better it will be necessary to re-stripe the south approach to add a separate northbound left turn lane. The curb lane would then operate as a combination through/right turn lane.

Lake Road at Friberg Street is signalized and will experience LOS 'E' in the AM peak hour in the year 2018 background and year 2018 total traffic scenarios with v/c ratios of 1.05 & 1.07, respectively. The failing condition first occurring in the background scenario is due to the in-process traffic which accounts for 447 vehicles in the AM peak hour (66% increase in traffic over the existing volume). The Village at Camas Meadows proposed development will add 75 vehicles which represents an increase of 11% over the existing traffic. As documented the background traffic contributes more traffic than the development by a ratio of six to one.

Lake Road at Payne Street is stop controlled and will experience LOS 'E' in the PM peak hour in the year 2018 background and LOS 'F' in the year 2018 total traffic scenario unless improvements are made. The failing condition first occurring in the background scenario is due to the in-process traffic which accounts for 365 vehicles in the PM peak hour (+28%). The Village at Camas Meadows proposed development will add 121 vehicles which represents an increase of 9% over the existing traffic. As documented the background traffic contributes more traffic than the development by a ratio of three to one. When the Payne Street approach is improved to provide separate left and right turn lanes (recommended mitigation) for southbound traffic the failing LOS condition improves to LOS 'E' in the PM peak hour with an average delay of 47.9 seconds.

Generally, LOS 'A', 'B', 'C', and 'D' are desirable service levels ranging from no vehicle delays to average or longer than average delays in the peak hours. Level 'E' represents long delays indicating signalization warrants need to be reviewed and signals considered only if warrants are met. Level 'F' indicates that intersection improvements, such as widening and signalization, may be required. According to the Highway Capacity Manual (HCM), the following delay times are associated with the LOS at stop controlled unsignalized and signalized intersections.

Level of Service criteria defined in the Highway Capacity Manual.

Level of Service (LOS)	Unsignalized Control Stopped Delay (sec/veh)	Signalized Control Stopped Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

QUEUING ANALYSIS

Queue length demand at the stop controlled intersection of Lake Road at Payne Street was established in the capacity analysis. Copies of the reports are included in the appendix. The 95th percentile vehicle queue occurring on the southbound stop approach was determined to be approximately five vehicles during the PM peak hour in the total traffic scenario. The 95th percentile queue in the AM peak hour was approximately four vehicles.

SIGHT DISTANCE

Sight distance at the proposed access to Payne Street will require 280 feet based on the posted speed of 25 MPH according to the AASHTO standards. The future half-street improvements on Payne Street planned with the development will need to insure that this distance is attained in accordance with City of Camas standards.

The intersection sight distance along Lake Road at Payne Street was measured in the field (by Harb Engineering) and determined to be over 490 feet in both directions. Based on a posted speed of 40 MPH a sight distance of 445 feet in both directions is required so the standard is met.

LEFT TURN LANE WARRANTS

Currently all of the intersections analyzed on Lake Road have left turn lanes. Therefore, no turn lane warrants were necessary for this street.

At the site access intersection on Payne Street a separate southbound left turn lane is not warranted through the year 2018 total traffic scenario. The warrant analysis data sheet is included in the appendix.

TRAFFIC SIGNAL WARRANTS

The peak hour signal warrant presented in the Manual on Uniform Traffic Control Devices (MUTCD) was reviewed for the non-signalized study intersections on Lake Road. The warrant is not met for any of the intersections through the year 2018 total traffic conditions. At Payne Street and Lake Road the warrant is not met after the southbound approach is improved to separate left and right turn lanes. A copy of the peak hour signal warrant is included.

ACCIDENT HISTORY

Accident data for the study intersections on Lake Road was obtained from WSDOT and was reviewed to help identify any traffic safety problems. The data was derived from a five-year study period covering the years 2009 through 2013.

The accident rates presented in Table 6 are based on the number of accidents per million entering vehicles (MEV) per year. Typically, an intersection is not considered unsafe unless the accident rate exceeds the threshold of 1.0 accident per MEV/year.

Table 6 Intersection Crash Rate Summary

Intersection	Accident History (Years)	Number of Accidents	Accidents per year	Annual Traffic Entering (veh/yr)	Accident rate per M.E.V.*
SE 192nd Avenue and SE 1st Street	5	7	1.4	8831503	0.16
SE 199th Avenue and SE 1st Street	5	0	0	4616634	0.00
Friberg Street and SE 1st Street/Lake Road	5	10	2	4799254	0.42
WaferTech driveway and Lake Road	5	0	0	4229479	0.00
Payne Street and Lake Road	5	2	0.4	4711596	0.08
Parker Street and Lake Road	5	3	0.6	5153536	0.12
Leadbetter Drive and Lake Road	5	1	0.2	3466128	0.06
Sierra Street and Lake Road	5	4	0.8	3904416	0.20
Everett Street (SR 500) and Lake Road	5	16	3.2	5270413	0.61
Westridge Boulevard and SE 195th Avenue	5	0	0.0	730480	0.00
SE 15th Street and SE 195th Avenue	5	2	0.4	938667	0.43

* M.E.V. - million entering vehicles.

None of the intersections have experienced a crash rate over 0.61 accidents per MEV/year and therefore safety mitigation is not necessary.

PEDESTRIANS, BICYCLES, & BUSES

There are sidewalks and bike lanes along both sides of Lake Road near Payne Street and Larkspur Street/Parker Road. There is sidewalk along the east side of Larkspur Street north of Lake Road. With development of the Village at Camas Meadows sidewalk will be installed on the streets internal to the site and with the half-street improvements constructed on Payne Street and Larkspur Street. Additional bicycle lanes are not planned with the development.

C-Tran does not provide transit service along Lake Road. Route #90 (Burton) provides bus service on SE 192nd Avenue.

SUMMARY AND RECOMMENDATIONS

The traffic study for the proposed Village at Camas Meadows development has been prepared to determine the potential impacts to six intersections on Lake Road and the site access on Payne Street. Development of the Village at Camas Meadows is expected to generate 1,651 daily trips, 128 AM peak hour trips, and 163 PM peak hour trips.

Sight distance at the proposed access to Payne Street will require 280 feet based on the posted speed of 25 MPH. The future improvements on Payne Street planned with the development will need to insure that this distance is attained in accordance with City of Camas standards. Sight distance along Lake Road at Payne Street was determined to be over 490 feet in both directions. Based on a posted speed of 40 MPH a sight distance of 445 feet in both directions is required so the standard is met.

The peak hour signal warrant was reviewed for the non-signalized study intersections on Lake Road. The warrant is not met for any of the intersections and no new signals are proposed. At Payne Street and Lake Road the warrant will not be met when the north approach is improved to provide two approach lanes (separate left & right turn lanes).

The capacity analysis indicated that the study intersections including Lake Road at Parker/Larkspur Street, Leadbetter Drive, Sierra Street, Everett/SR500, and the site access at Payne Street will meet the City's operational standards through the year 2018 total traffic scenario. It should be noted that at Leadbetter Drive/Lake Road in order to maintain LOS 'D' or better it will be necessary to re-stripe the south approach to add a separate northbound left turn lane.

Lake Road at Friberg Street is signalized and will experience LOS 'E' in the AM peak hour in the year 2018 background and year 2018 total traffic scenarios with v/c ratios of 1.05 & 1.07, respectively. The failing condition occurring in the background scenario is due to the in-process traffic which accounts for a 66% increase in traffic over the existing volume. Due to the insignificant change in the v/c ratio (1.9% increase) attributed to the development no improvements are recommended at this location.

Lake Road at Payne Street will experience failing conditions in the PM peak hour in the year 2018 background and year 2018 total traffic scenarios unless improvements are made. The failing condition first occurring in the background scenario is due to the in-process traffic which accounts for a 28% traffic increase. When the Payne Street approach is improved to provide separate left and right turn lanes (recommended mitigation) the LOS 'F' condition improves to LOS 'E' in the PM peak hour. The intersection has experienced very few crashes in the past (crash rate = 0.02 MEV/year) and will not meet the signal warrant with the proposed lane improvements.

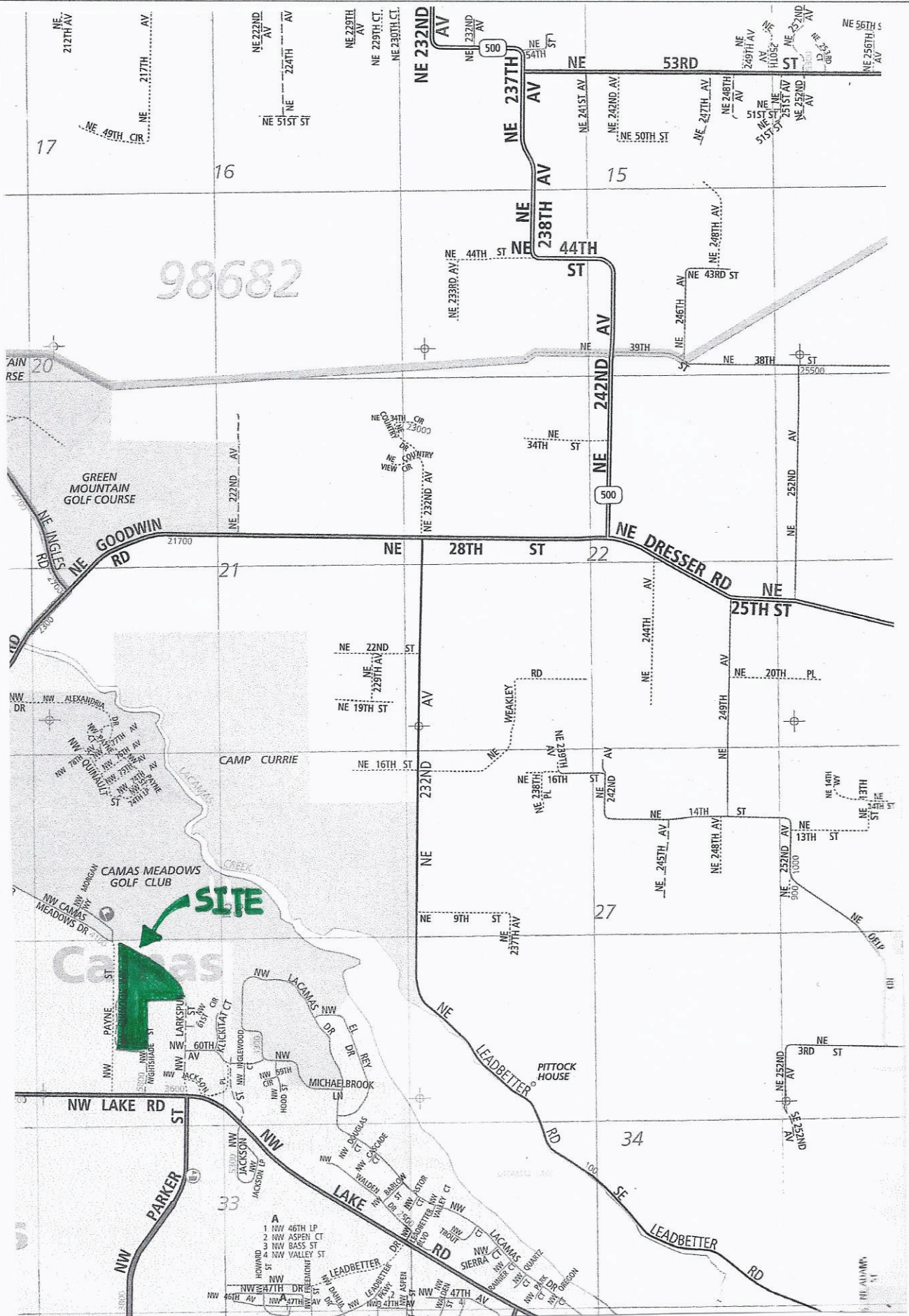
It is recommended that stop sign control be established on the site access approach to Payne Street. Figure 'c' references the lane configuration and traffic control recommendations.

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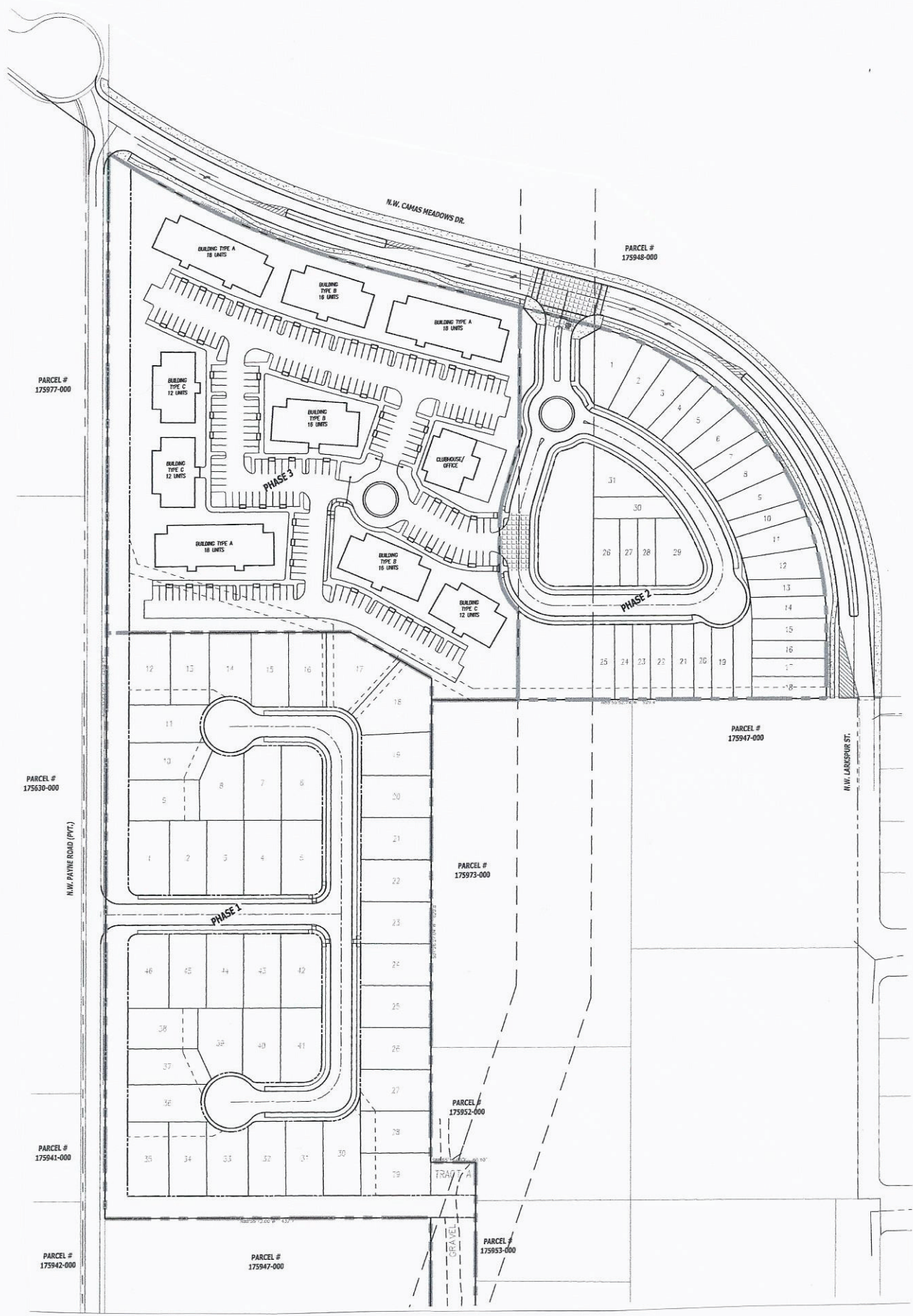
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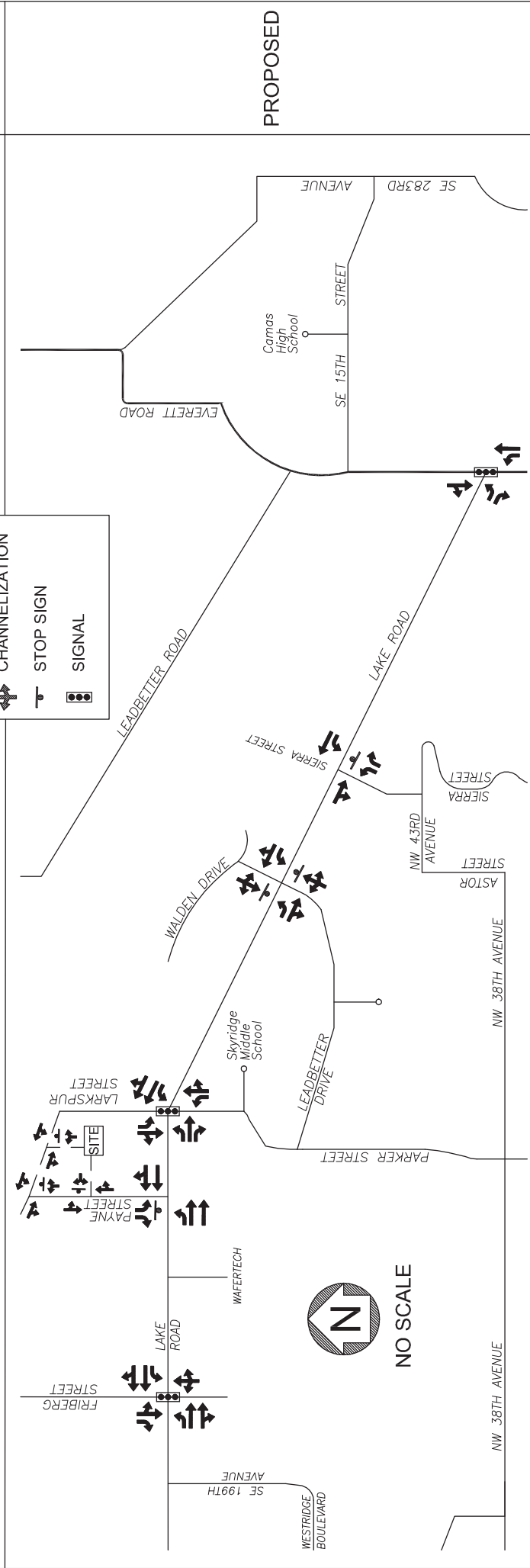
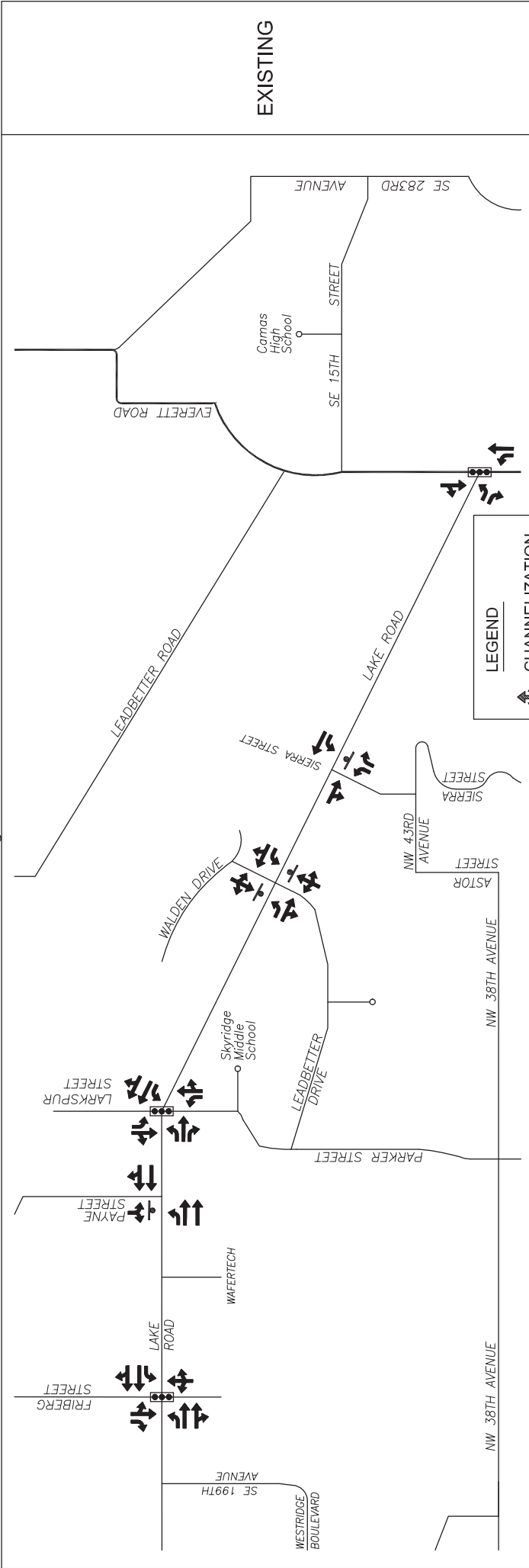
PLOT DATE: 05.15.15



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PLOT DATE: 05.15.15





LEGEND

- CHANNELIZATION (Symbol: double-headed arrow with a vertical line)
- STOP SIGN (Symbol: octagon with a horizontal line)
- SIGNAL (Symbol: circle with a vertical line)

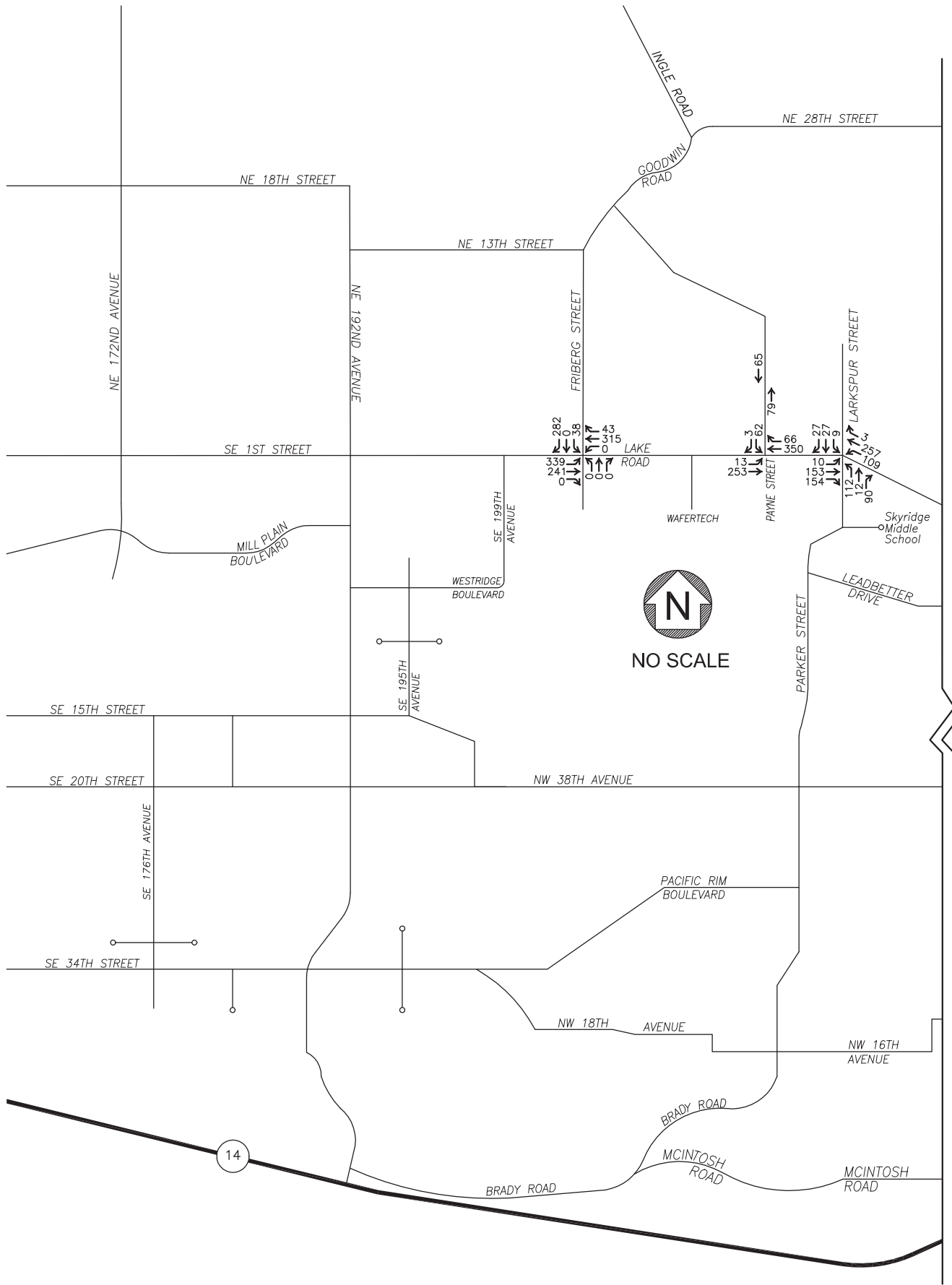


NO SCALE

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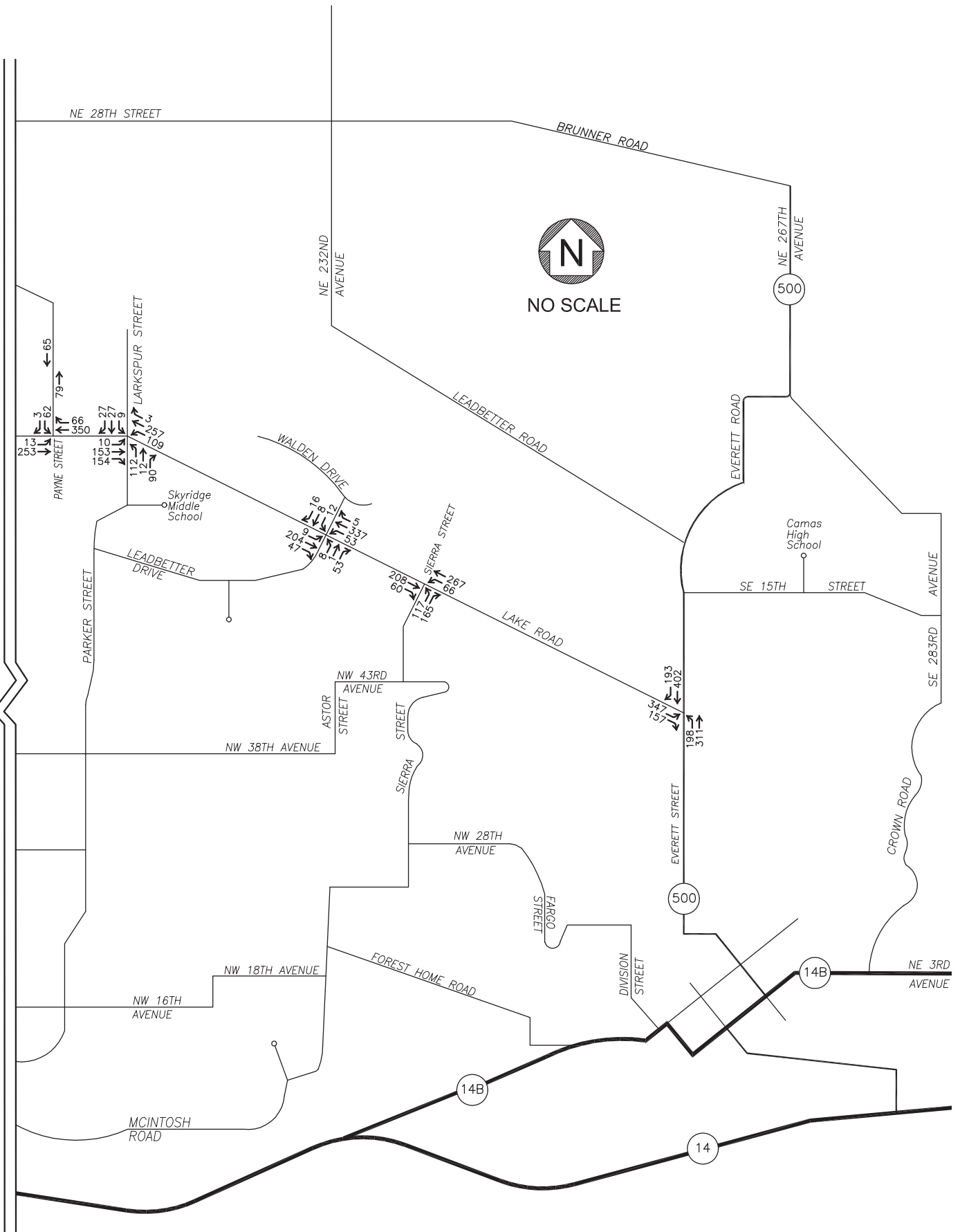


SEE FIGURE 1b

SEE FIGURE 1b

SEE FIGURE 1a

SEE FIGURE 1a



CHARBONNEAU
ENGINEERING LLC

PROJECT: 15-21

NOTES:

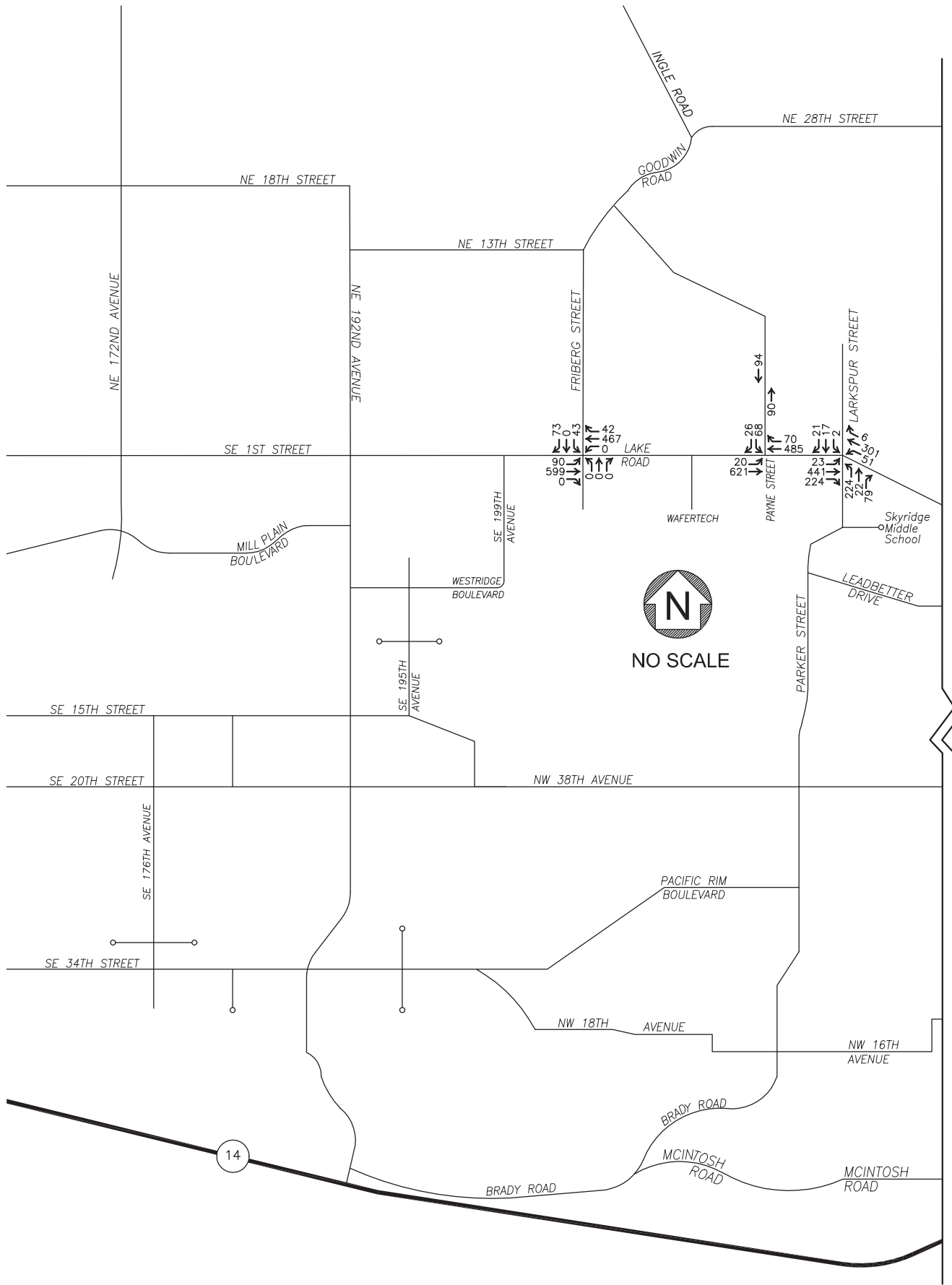
2014 EXISTING TRAFFIC
AM PEAK HOUR
THE VILLAGE AT CAMAS MEADOWS

FIGURE

1b

FILE NAME: 1521flow.dwg

PLOT DATE: 05.15.15

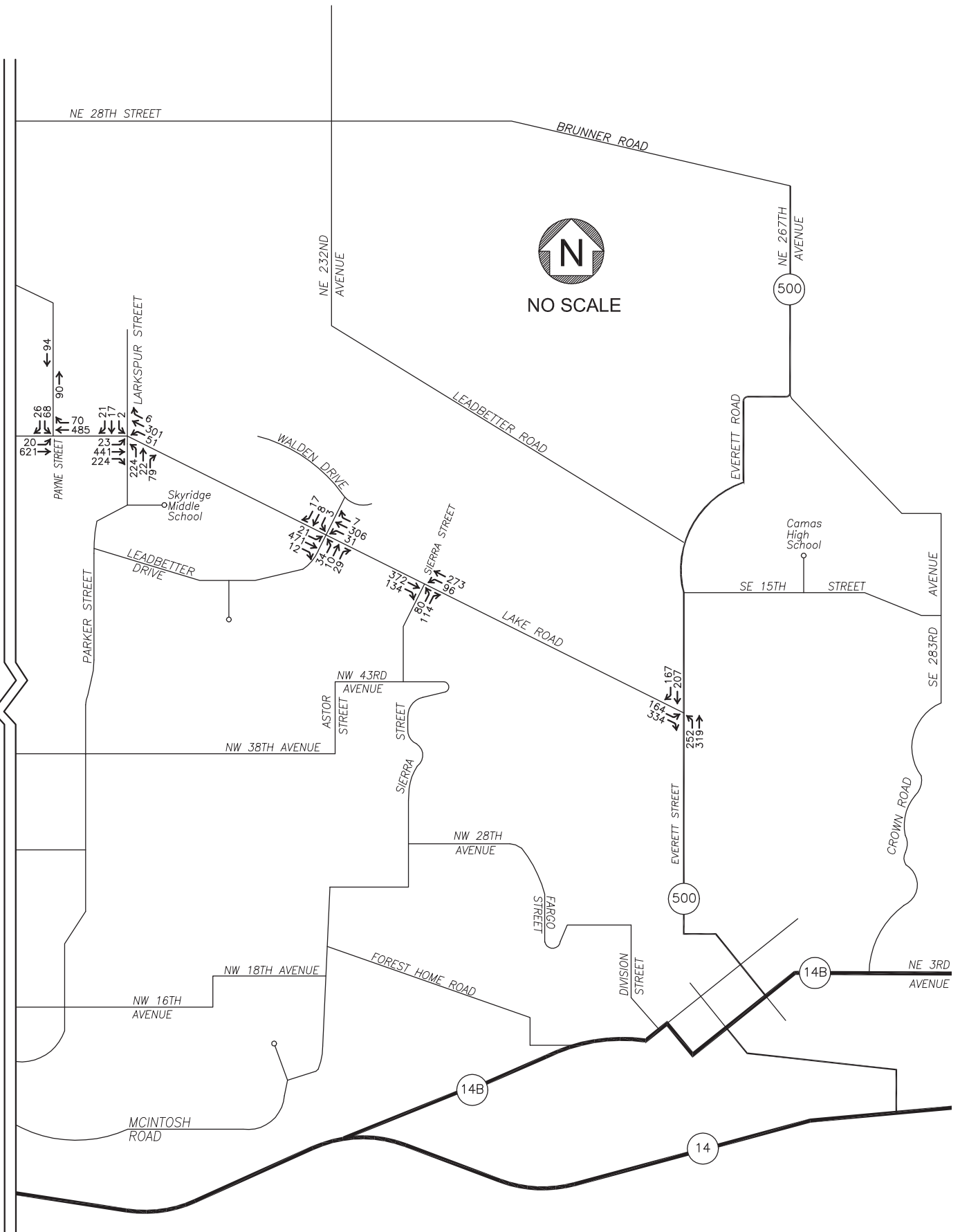


SEE FIGURE 2b

SEE FIGURE 2b

SEE FIGURE 2a

SEE FIGURE 2a



CHARBONNEAU
ENGINEERING LLC

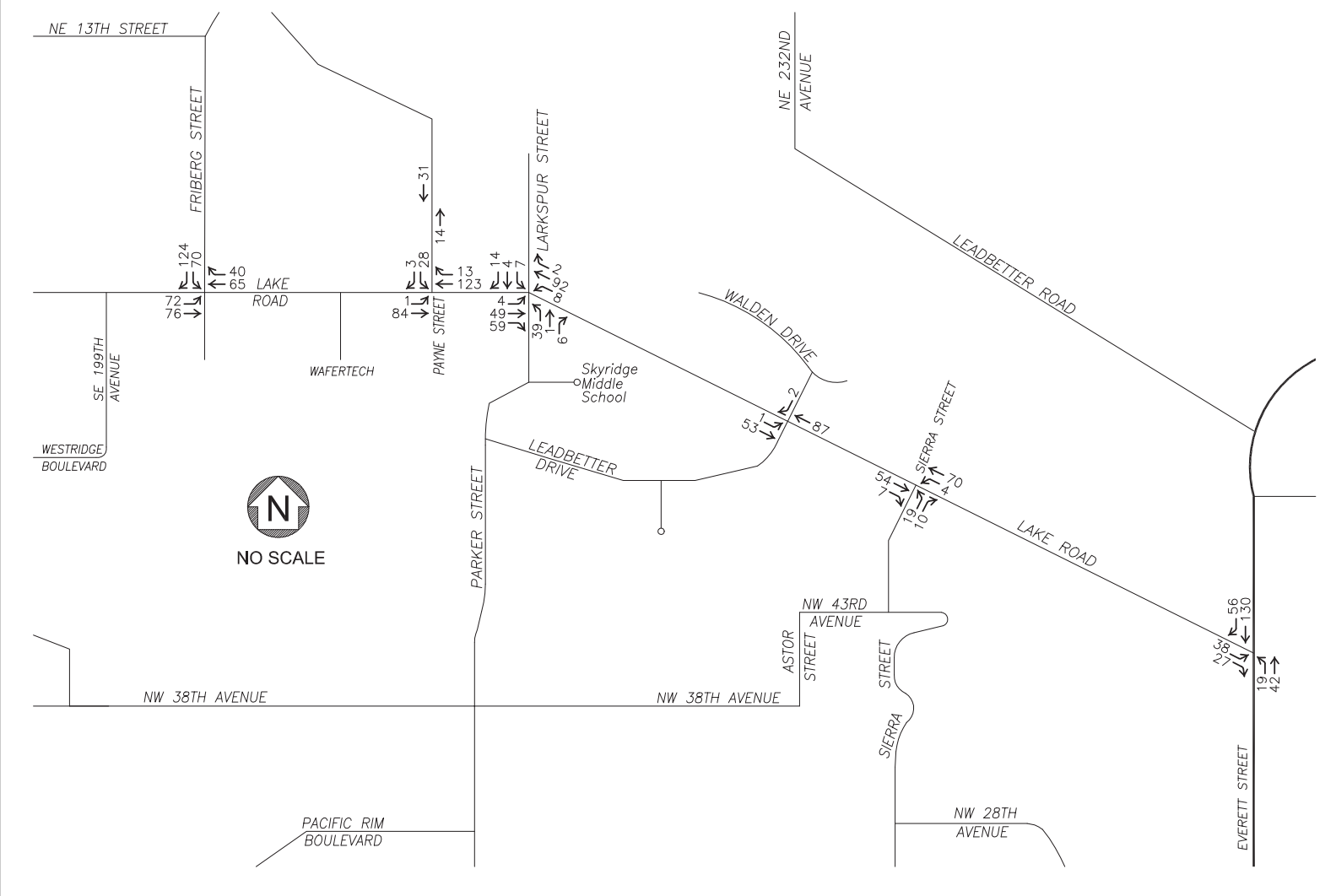
PROJECT: 15-21

NOTES:

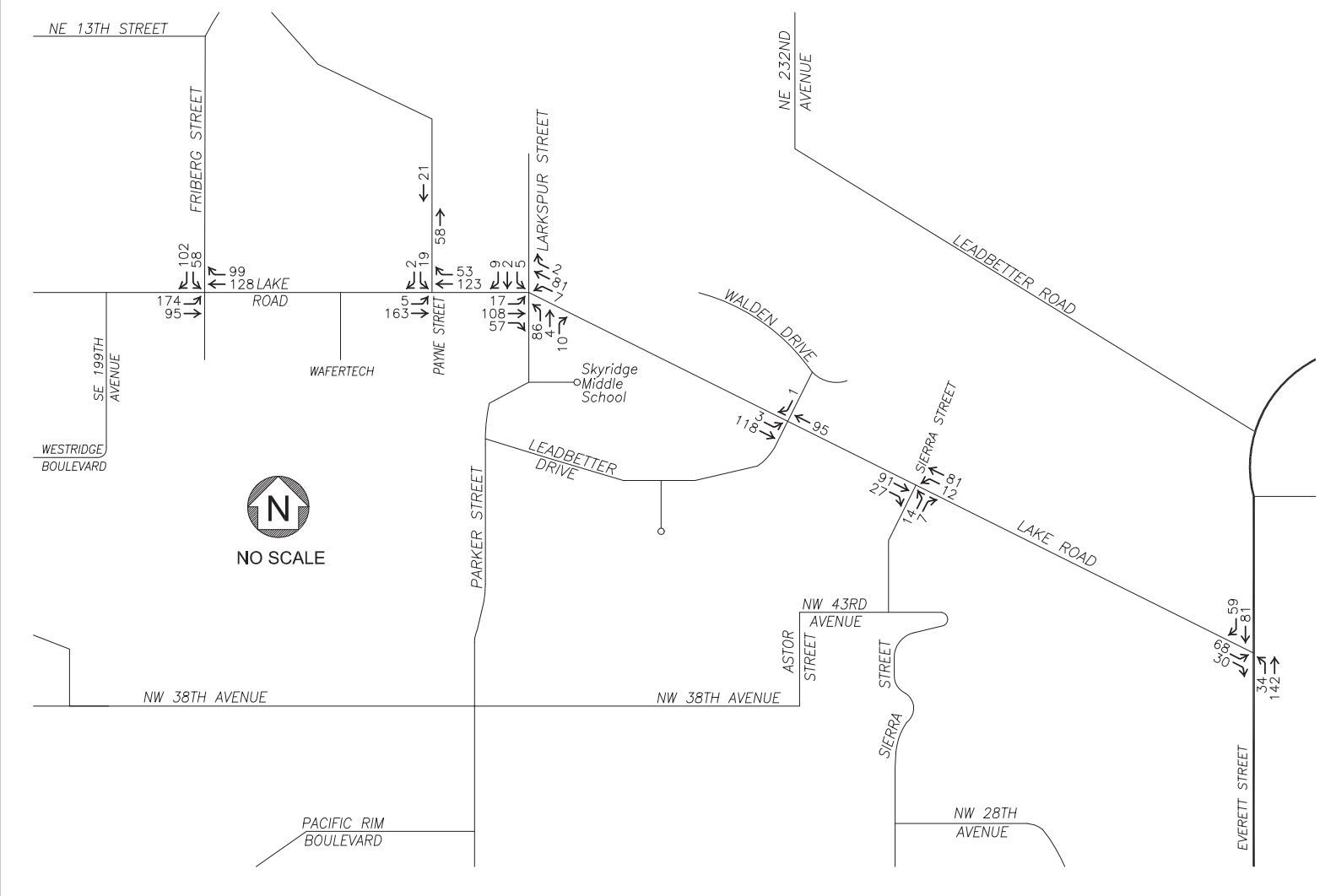
2014 EXISTING TRAFFIC
PM PEAK HOUR
THE VILLAGE AT CAMAS MEADOWS

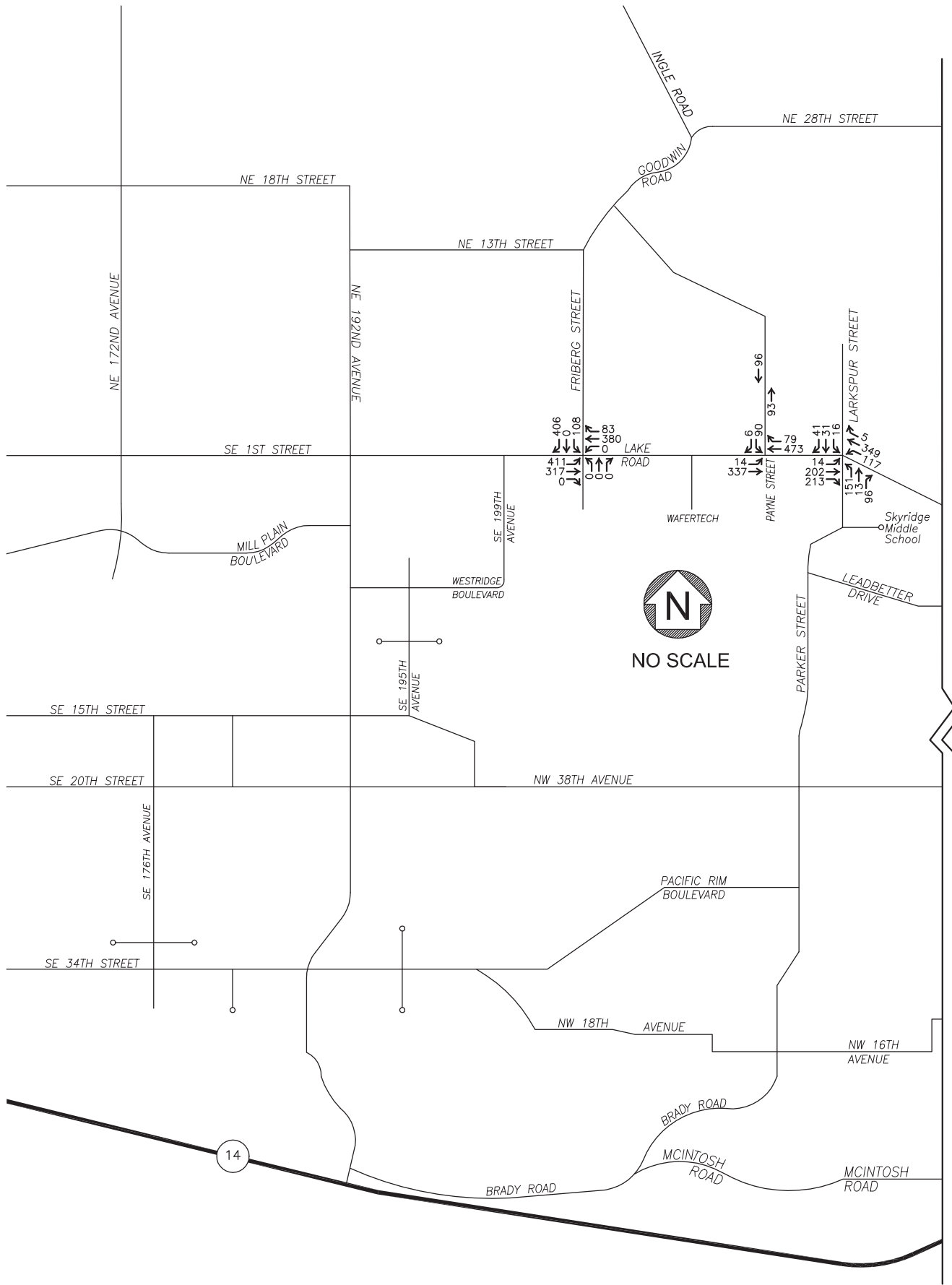
FIGURE

2b




 NO SCALE





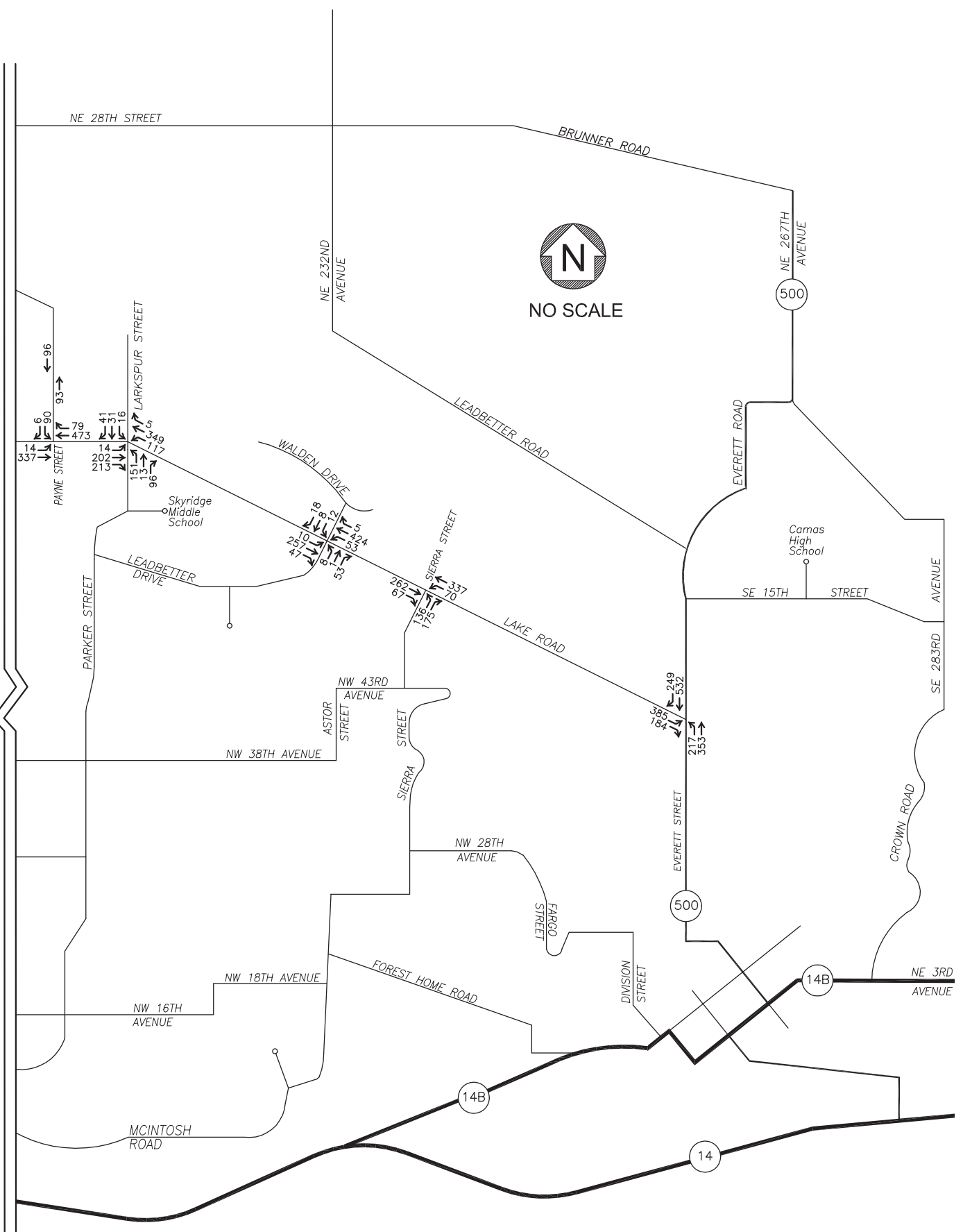
SEE FIGURE 5b

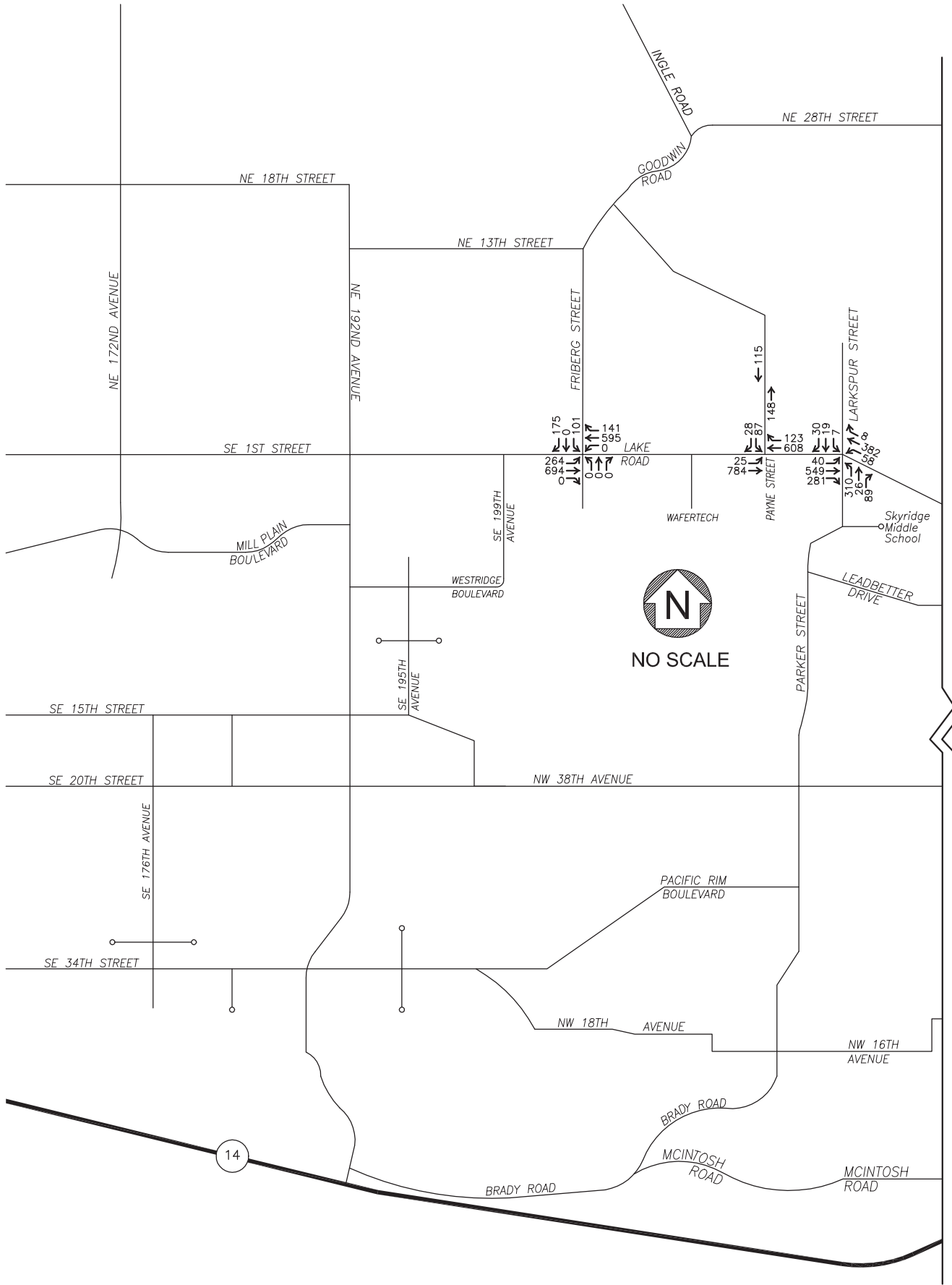
SEE FIGURE 5b

SEE FIGURE 5a

SEE FIGURE 5a

*





SEE FIGURE 6b

SEE FIGURE 6b



**CHARBONNEAU
ENGINEERING LLC**
PROJECT: 15-21

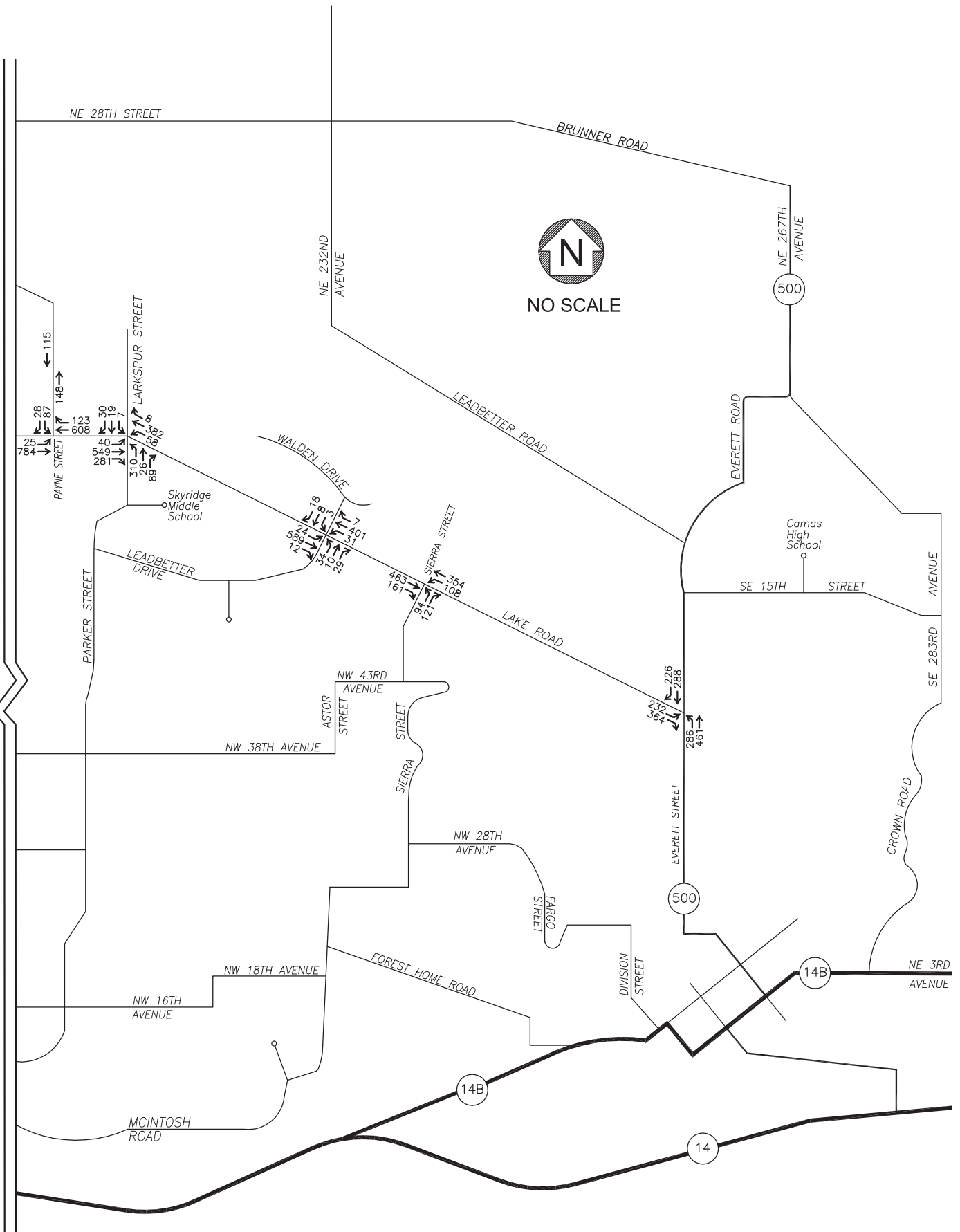
NOTES: 2018 Background Traffic=
2014 Existing Traffic +
In-Process Traffic.

**2018 BACKGROUND TRAFFIC
PM PEAK HOUR
THE VILLAGE AT CAMAS MEADOWS**

**FIGURE
6a**

SEE FIGURE 6a

SEE FIGURE 6a



CHARBONNEAU
ENGINEERING LLC

PROJECT: 15-21

NOTES: 2018 Background Traffic=
2014 Existing Traffic +
In-Process Traffic.

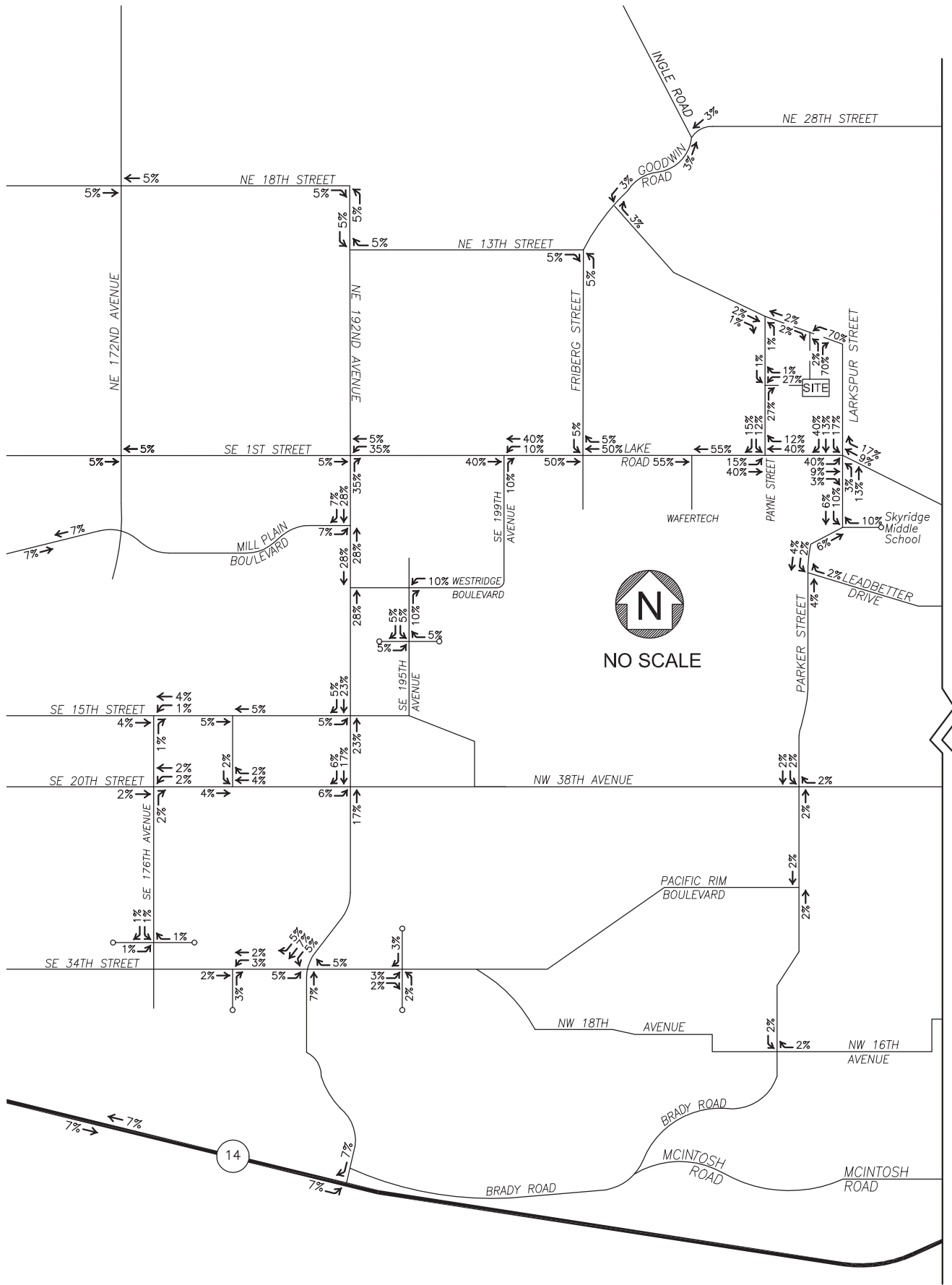
2018 BACKGROUND TRAFFIC
PM PEAK HOUR
THE VILLAGE AT CAMAS MEADOWS

FIGURE

6b

NOTES: Trip distribution based on existing traffic patterns and engineering judgement.

**TRIP DISTRIBUTION
AM PEAK HOUR
THE VILLAGE AT CAMAS MEADOWS**

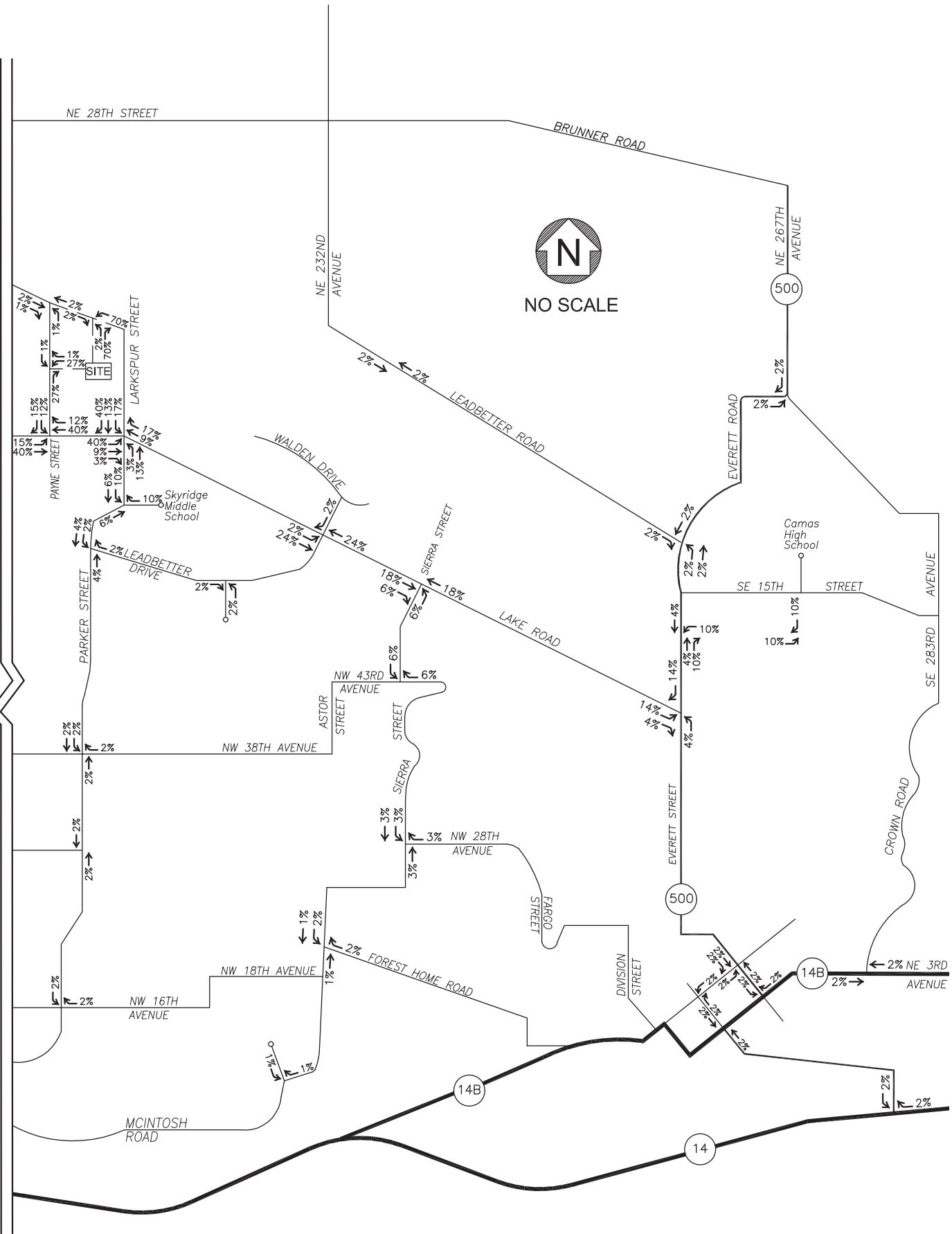


SEE FIGURE 7b

SEE FIGURE 7b

SEE FIGURE 7a

SEE FIGURE 7a



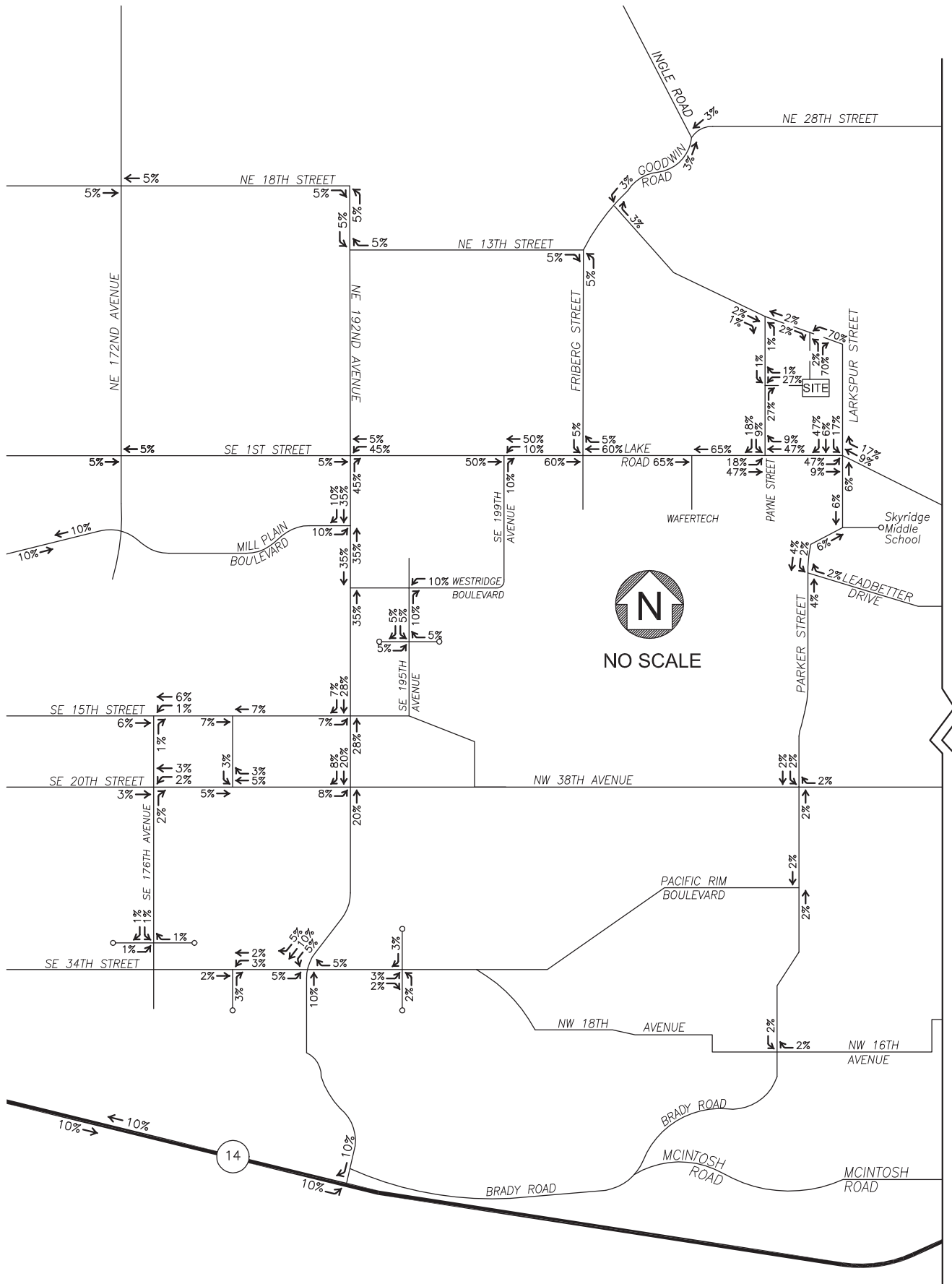
NOTES: Trip distribution based on existing traffic patterns and engineering judgement.

TRIP DISTRIBUTION
AM PEAK HOUR
THE VILLAGE AT CAMAS MEADOWS

FIGURE
7b

NOTES: Trip distribution based on existing traffic patterns and engineering judgement.

**TRIP DISTRIBUTION
PM PEAK HOUR
THE VILLAGE AT CAMAS MEADOWS**

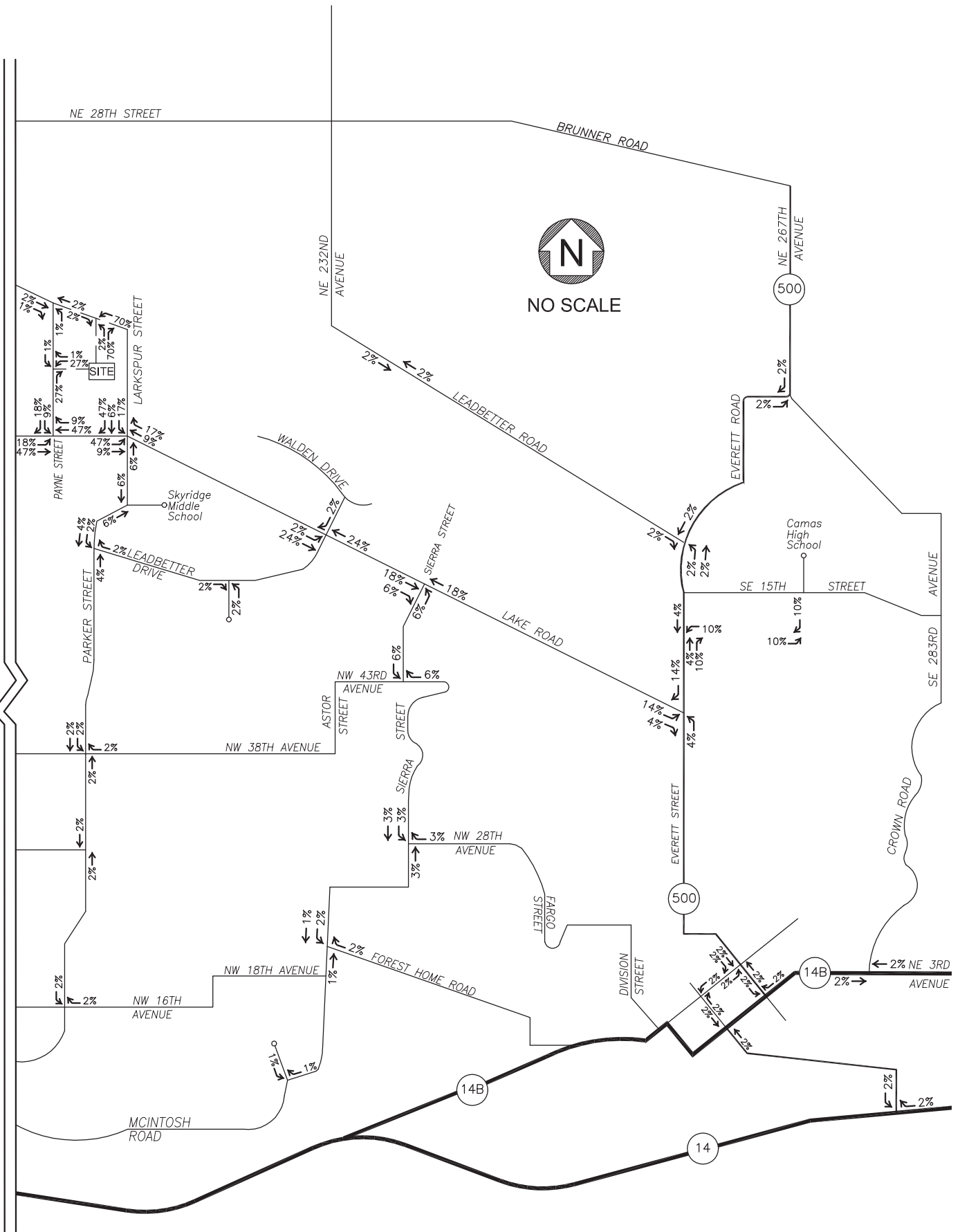


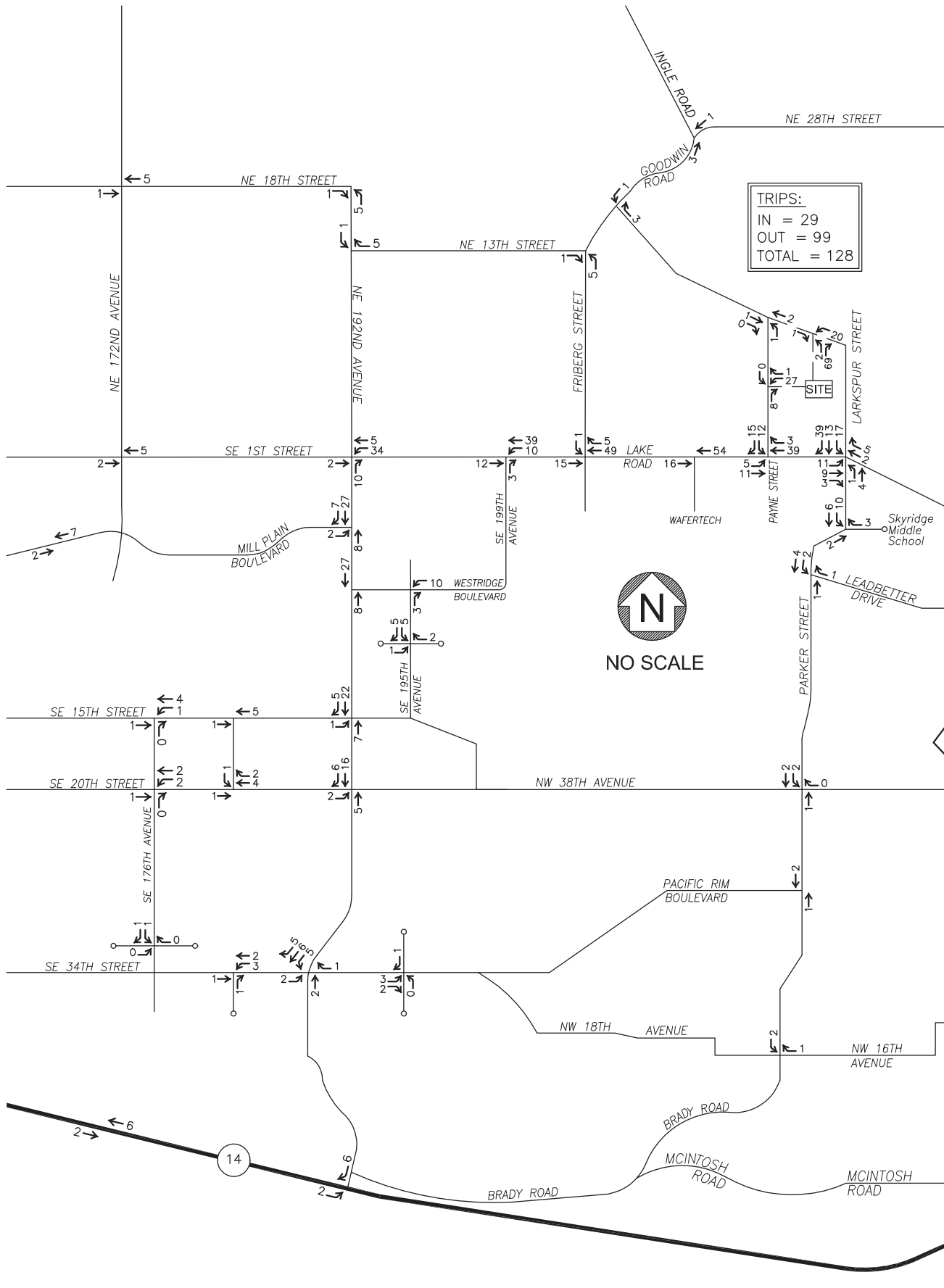
SEE FIGURE 8b

SEE FIGURE 8b

SEE FIGURE 8a

SEE FIGURE 8a





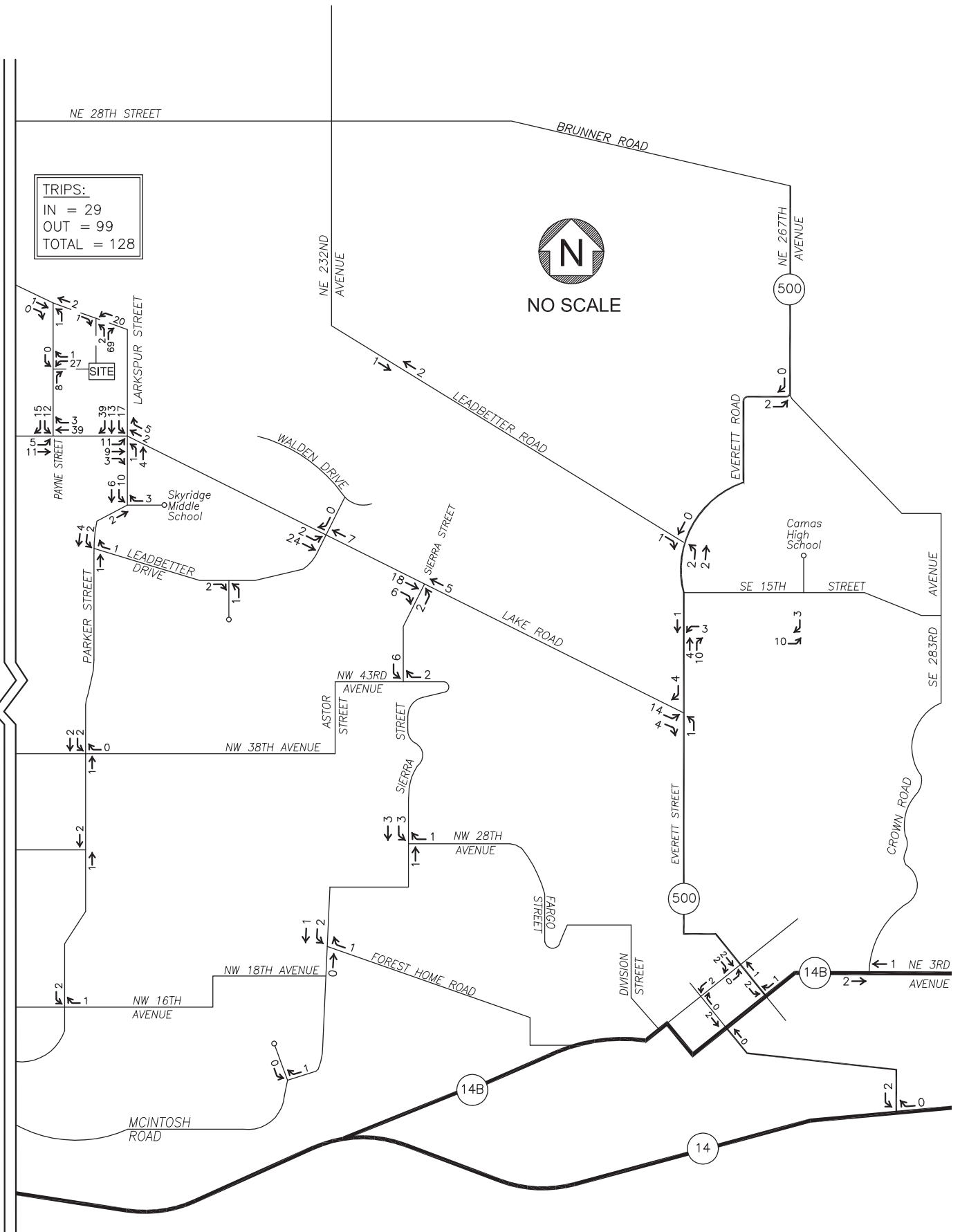
TRIPS:
 IN = 29
 OUT = 99
 TOTAL = 128

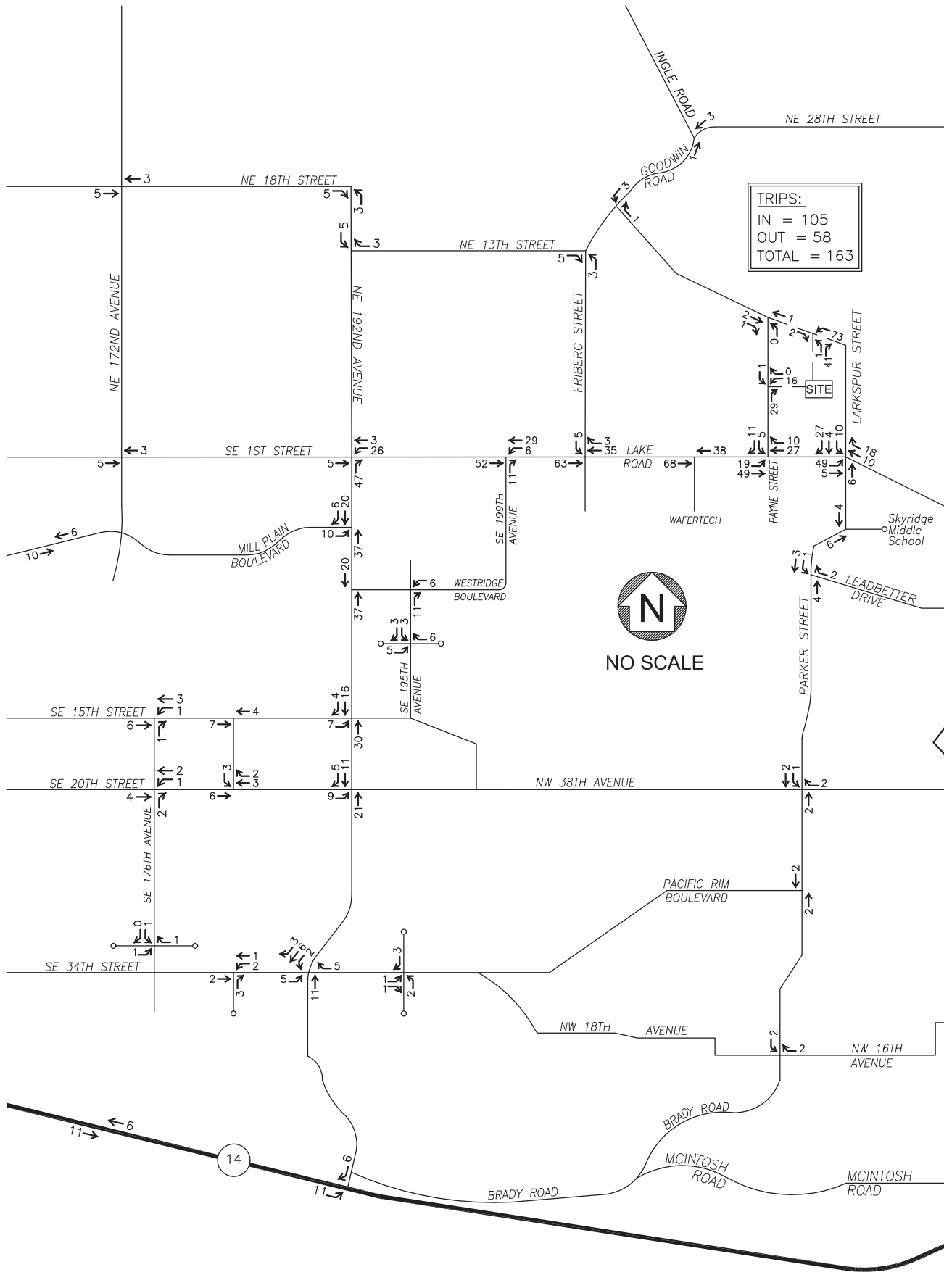


NO SCALE

SEE FIGURE 9a

SEE FIGURE 9a





TRIPS:
IN = 105
OUT = 58
TOTAL = 163



NO SCALE

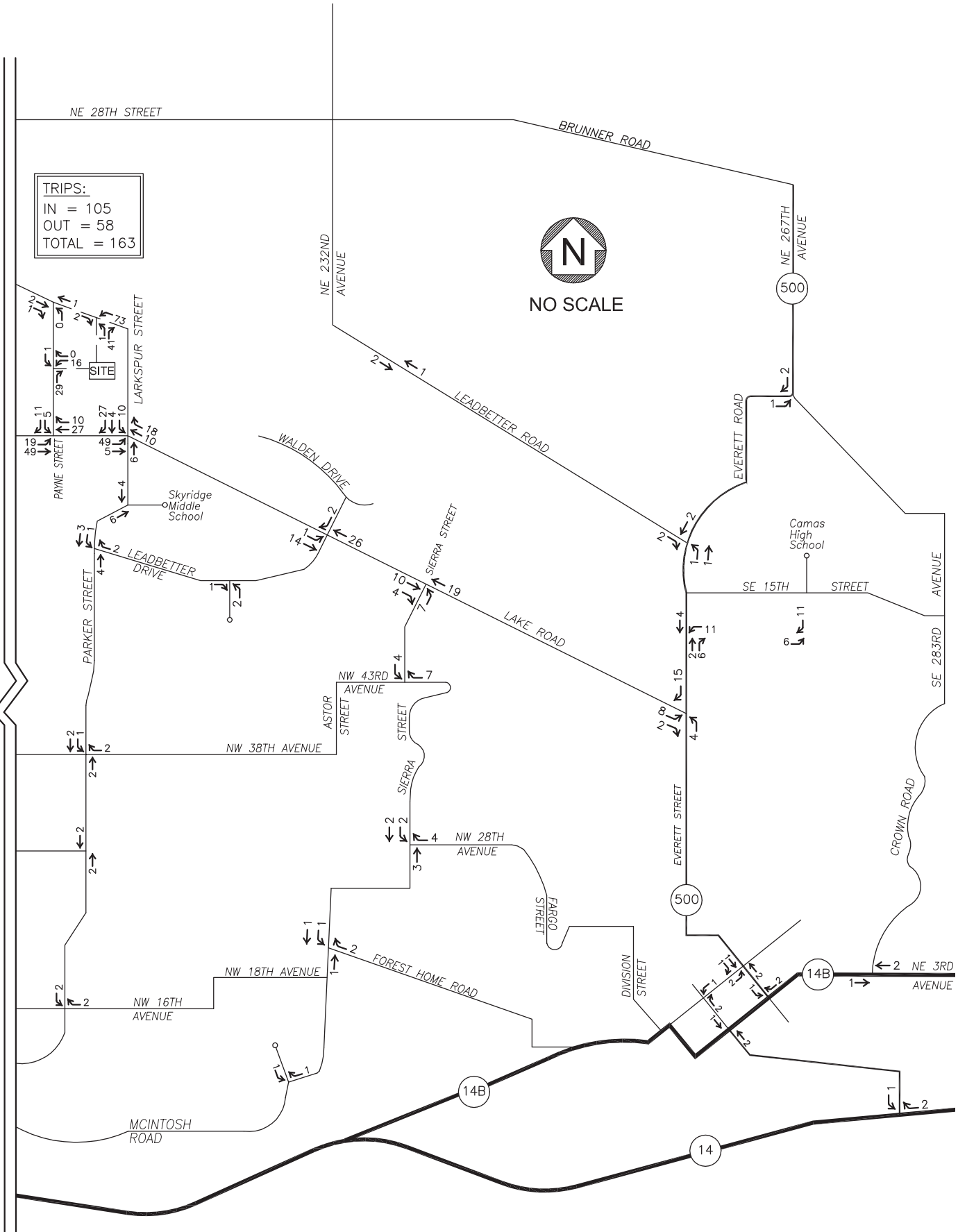
SEE FIGURE 10b

SEE FIGURE 10b

TRIPS:
 IN = 105
 OUT = 58
 TOTAL = 163

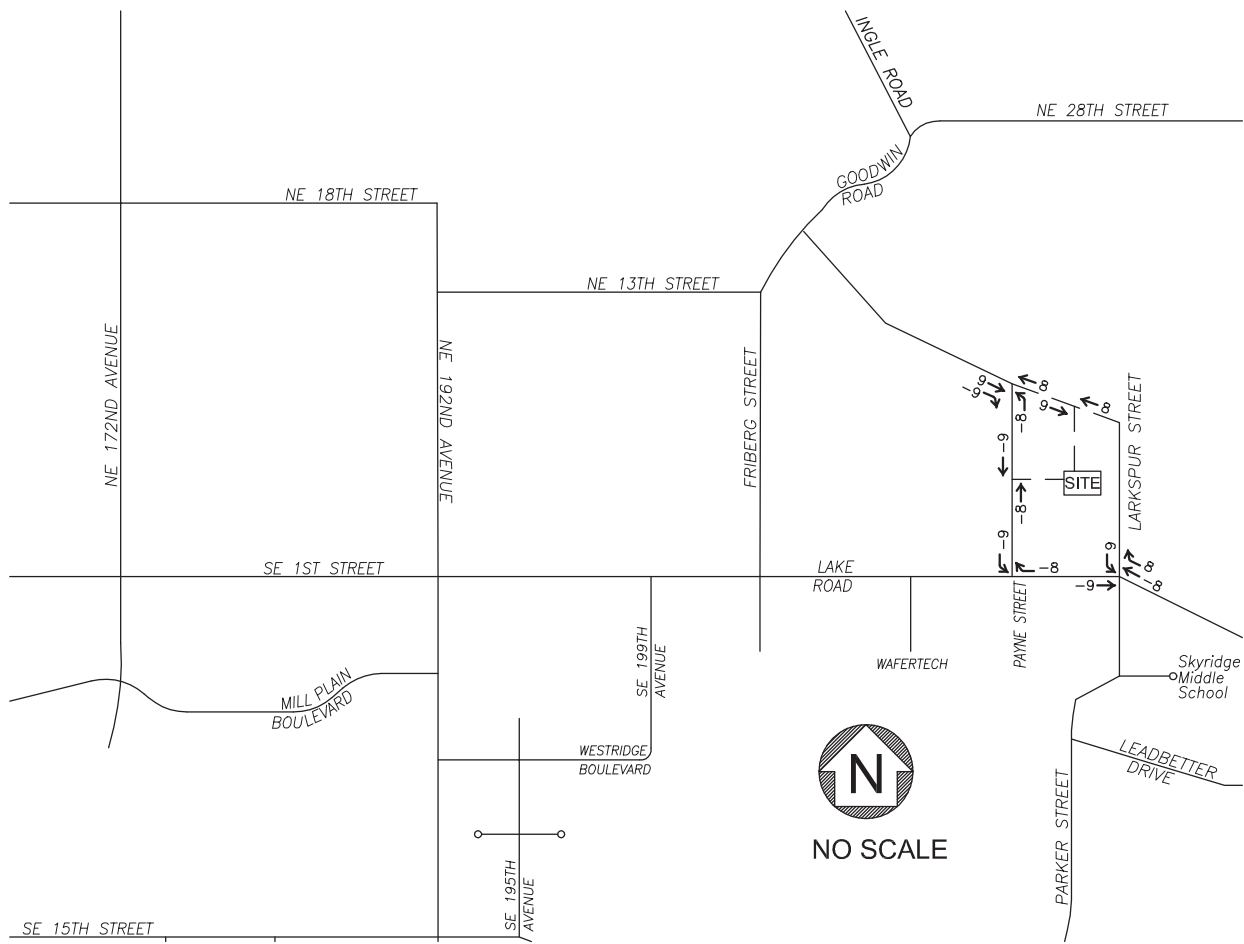
SEE FIGURE 10a

SEE FIGURE 10a

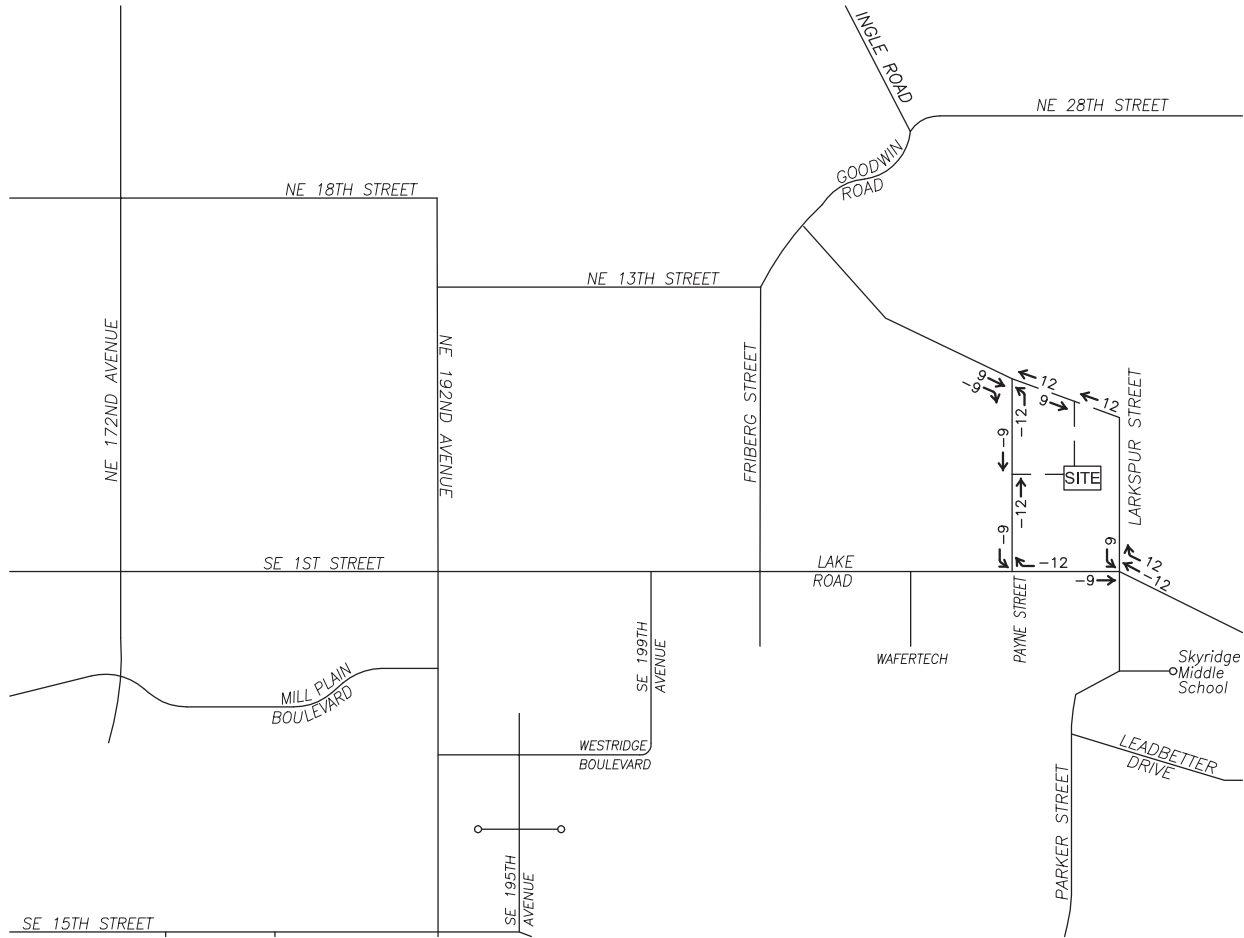


FILE NAME: 1521flow.dwg

PLOT DATE: 05.20.15



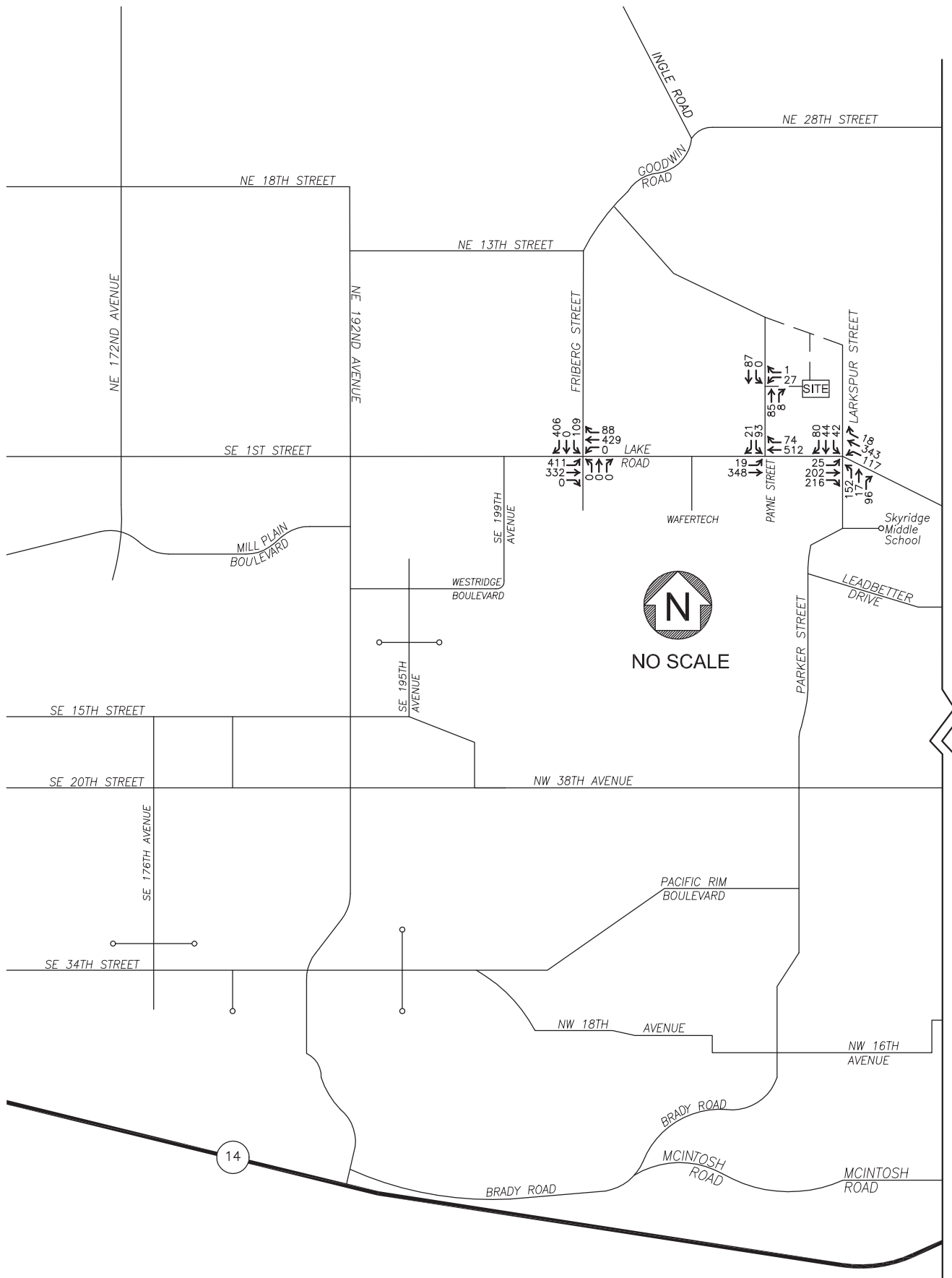
AM
PEAK
HOUR



PM
PEAK
HOUR

FILE NAME: 1521flow.dwg

PLOT DATE: 05.17.15

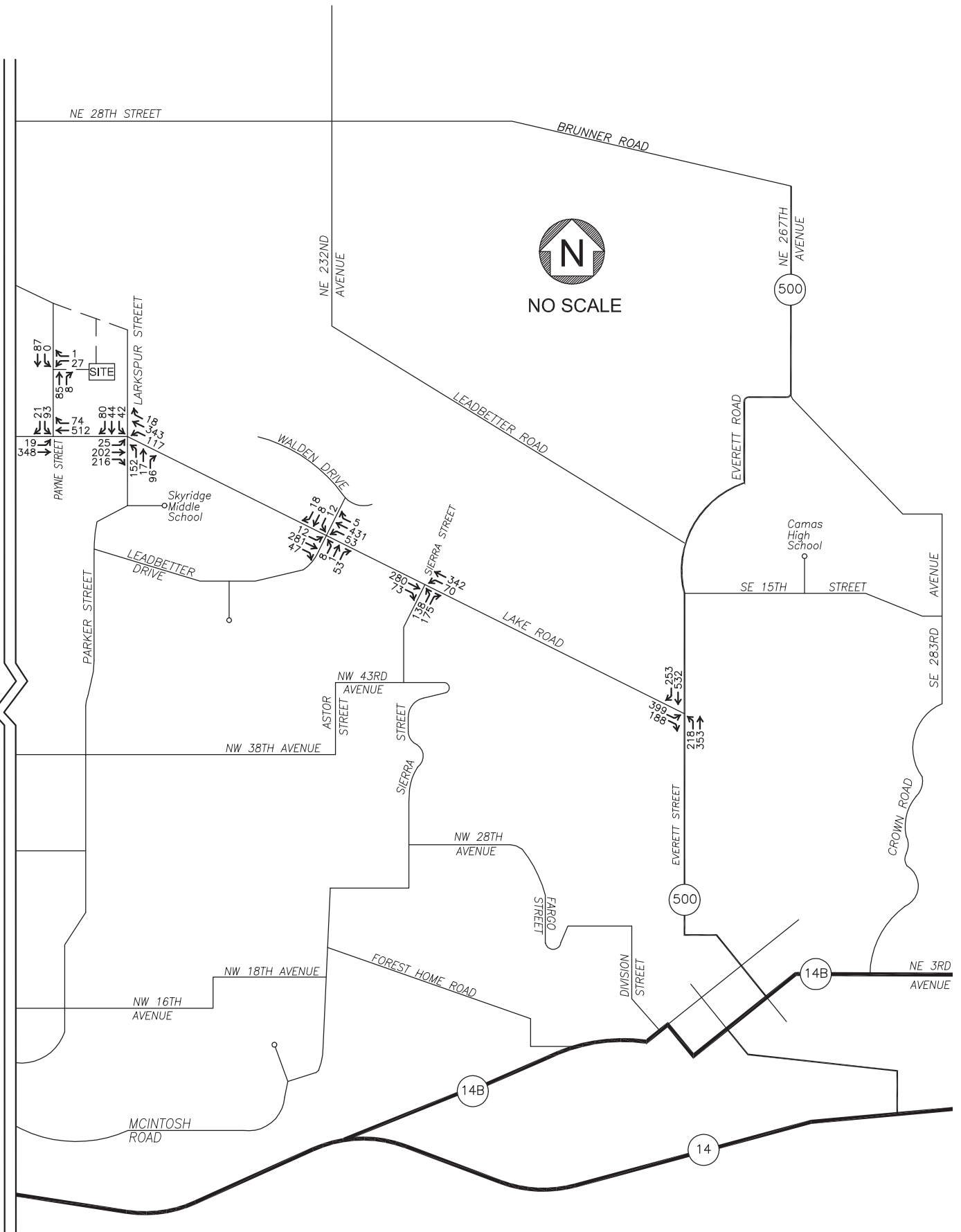


SEE FIGURE 12b

SEE FIGURE 12b

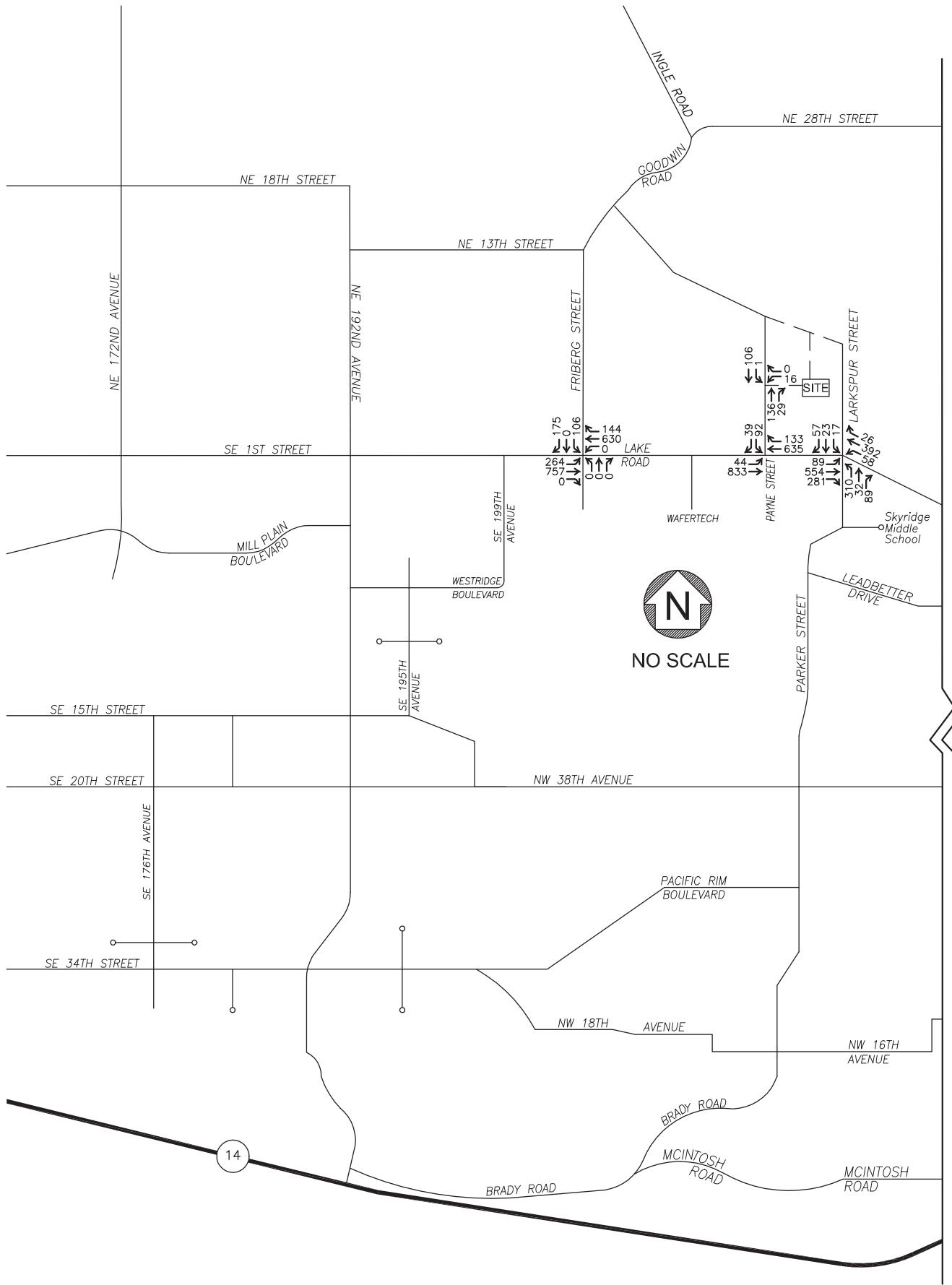
SEE FIGURE 12a

SEE FIGURE 12a



FILE NAME: 1521flow.dwg

PLOT DATE: 05.17.15

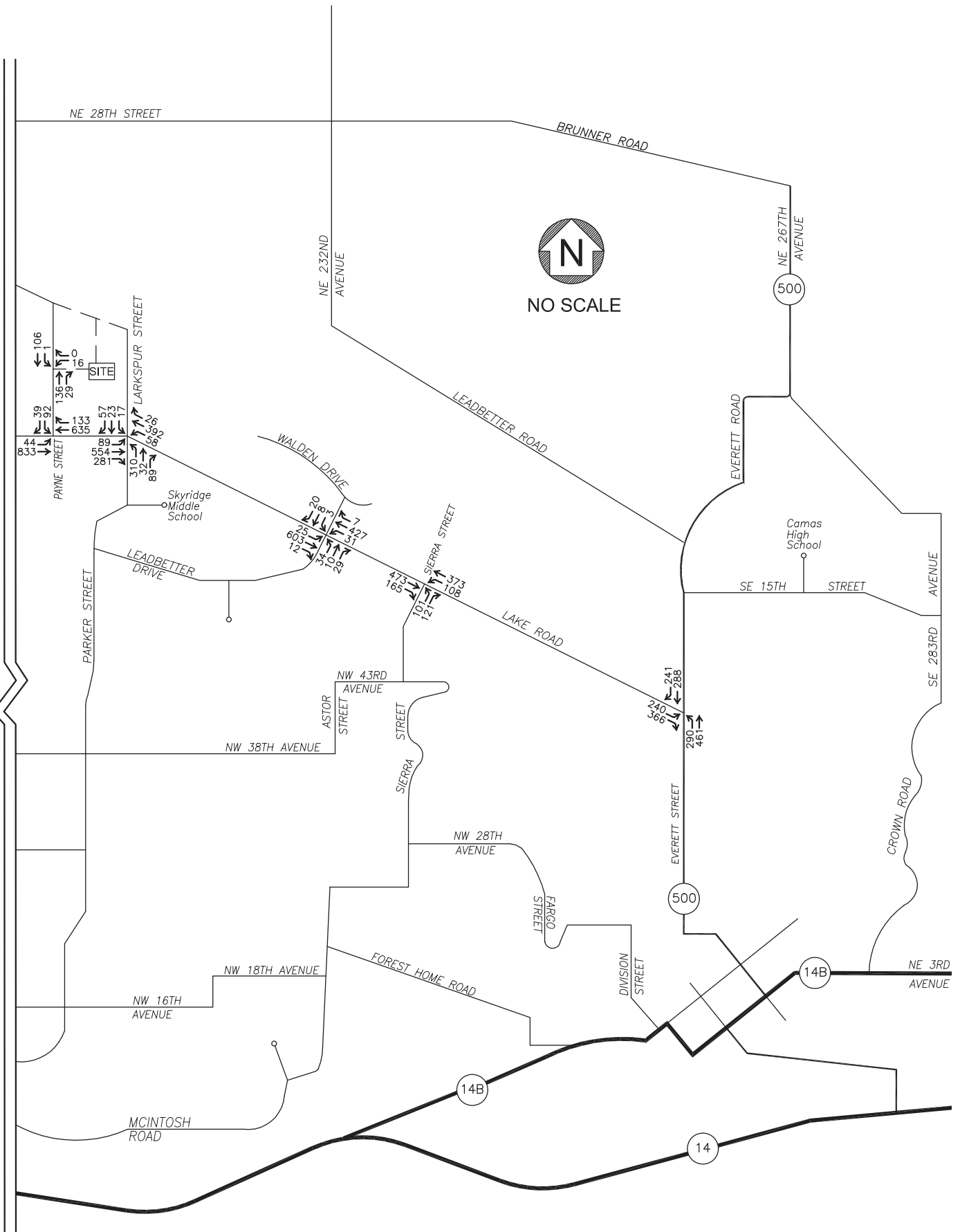


SEE FIGURE 13b

SEE FIGURE 13b

SEE FIGURE 13a

SEE FIGURE 13a



CHARBONNEAU
ENGINEERING LLC

PROJECT: 15-21

NOTES: 2021 Total Traffic =
2021 Background Traffic +
Trip Assignment.

2018 TOTAL TRAFFIC
PM PEAK HOUR
THE VILLAGE AT CAMAS MEADOWS

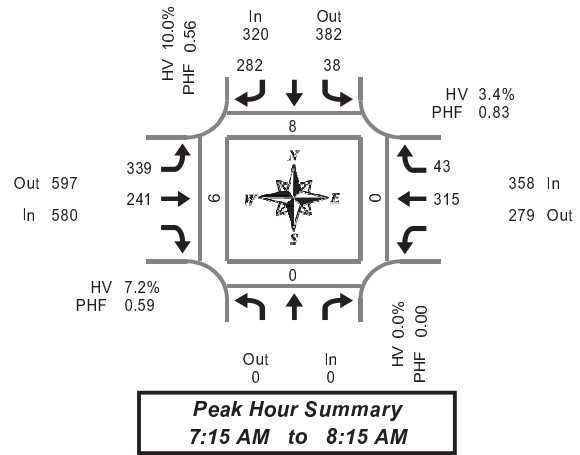
FIGURE

13b

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Friberg St & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Friberg St				Southbound NW Friberg St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	L	T	Bikes	T	R	Bikes	North	South	East		West			
7:00 AM	0	7	7	0	28	49	1				46	8	0	145	0	0	0	0			
7:15 AM	0	8	52	0	110	34	0				63	13	0	280	0	0	0	2			
7:30 AM	0	11	131	0	176	70	1				86	16	0	490	2	0	0	2			
7:45 AM	0	12	92	0	39	83	1				102	6	0	334	0	0	0	1			
8:00 AM	0	7	7	0	14	54	1				64	8	0	154	6	0	0	1			
8:15 AM	0	2	13	0	10	51	2				50	1	0	127	1	0	0	0			
8:30 AM	0	1	8	0	25	41	2				62	3	0	140	0	0	0	1			
8:45 AM	0	5	24	0	10	54	0				86	7	0	186	1	0	0	0			
Total Survey	0	53	334	0	412	436	8				559	62	0	1,856	10	0	0	7			

Peak Hour Summary 7:15 AM to 8:15 AM

By Approach	Northbound NW Friberg St				Southbound NW Friberg St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	320	382	702	0	580	597	1,177	3	358	279	637	0	1,258	8	0	0	6
%HV	0.0%				10.0%				7.2%				3.4%				6.8%				
PHF	0.00				0.56				0.59				0.83				0.64				

By Movement	Northbound NW Friberg St				Southbound NW Friberg St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	Total	L	R	Bikes	Total	L	T	Bikes	Total	L	T	Bikes	Total	T	R	Bikes	
Volume	0	38	282	320	339	241	580	3	358	315	43	358	1,258				
%HV	NA	5.3%	10.6%	10.0%	8.8%	5.0%	NA	7.2%	NA	3.2%	4.7%	3.4%	6.8%				
PHF	0.00	0.79	0.54	0.56	0.48	0.73	0.59		0.77	0.67	0.83	0.64					

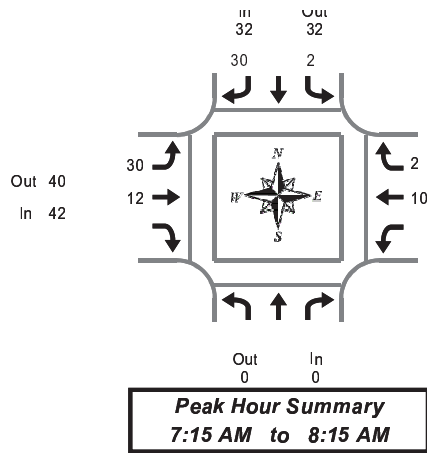
Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Friberg St				Southbound NW Friberg St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	L	T	Bikes	T	R	Bikes	North	South	East		West			
7:00 AM	0	38	282	0	353	236	3				297	43	0	1,249	2	0	0	5			
7:15 AM	0	38	282	0	339	241	3				315	43	0	1,258	8	0	0	6			
7:30 AM	0	32	243	0	239	258	5				302	31	0	1,105	9	0	0	4			
7:45 AM	0	22	120	0	88	229	6				278	18	0	755	7	0	0	3			
8:00 AM	0	15	52	0	59	200	5				262	19	0	607	8	0	0	2			

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Friberg St & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Friberg St			Southbound NW Friberg St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	
	Total	L	R	Total	L	R	Total	L	T	Total	T	R		Total
7:00 AM	0	2	0	2	1	2	3			3	1	0	1	6
7:15 AM	0	0	9	9	25	0	25			4	1	5	39	
7:30 AM	0	0	19	19	5	5	10			4	0	4	33	
7:45 AM	0	1	2	3	0	4	4			0	1	1	8	
8:00 AM	0	1	0	1	0	3	3			2	0	2	6	
8:15 AM	0	0	0	0	0	0	0			3	0	3	3	
8:30 AM	0	0	0	0	1	4	5			1	0	1	6	
8:45 AM	0	0	2	2	0	6	6			6	1	7	15	
Total Survey	0	4	32	36	32	24	56			21	3	24	116	

Heavy Vehicle Peak Hour Summary 7:15 AM to 8:15 AM

By Approach	Northbound NW Friberg St			Southbound NW Friberg St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	32	32	64	42	40	82	12	14	26	86
PHF	0.00			0.26			0.27			0.27			0.27

By Movement	Northbound NW Friberg St			Southbound NW Friberg St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total	
	Total	L	R	Total	L	R	Total	L	T	Total	T	R		Total
Volume	0	2		30	32		30	12		42	10	2	12	86
PHF	0.00	0.25		0.25	0.26		0.24	0.25		0.27	0.25	0.25	0.27	0.27

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Friberg St			Southbound NW Friberg St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total
	Total	L	R	Total	L	R	Total	L	T	Total	T	R	
7:00 AM	0	3	30	33	31	11	42			9	2	11	86
7:15 AM	0	2	30	32	30	12	42			10	2	12	86
7:30 AM	0	2	21	23	5	12	17			9	1	10	50
7:45 AM	0	2	2	4	1	11	12			6	1	7	23
8:00 AM	0	1	2	3	1	13	14			12	1	13	30

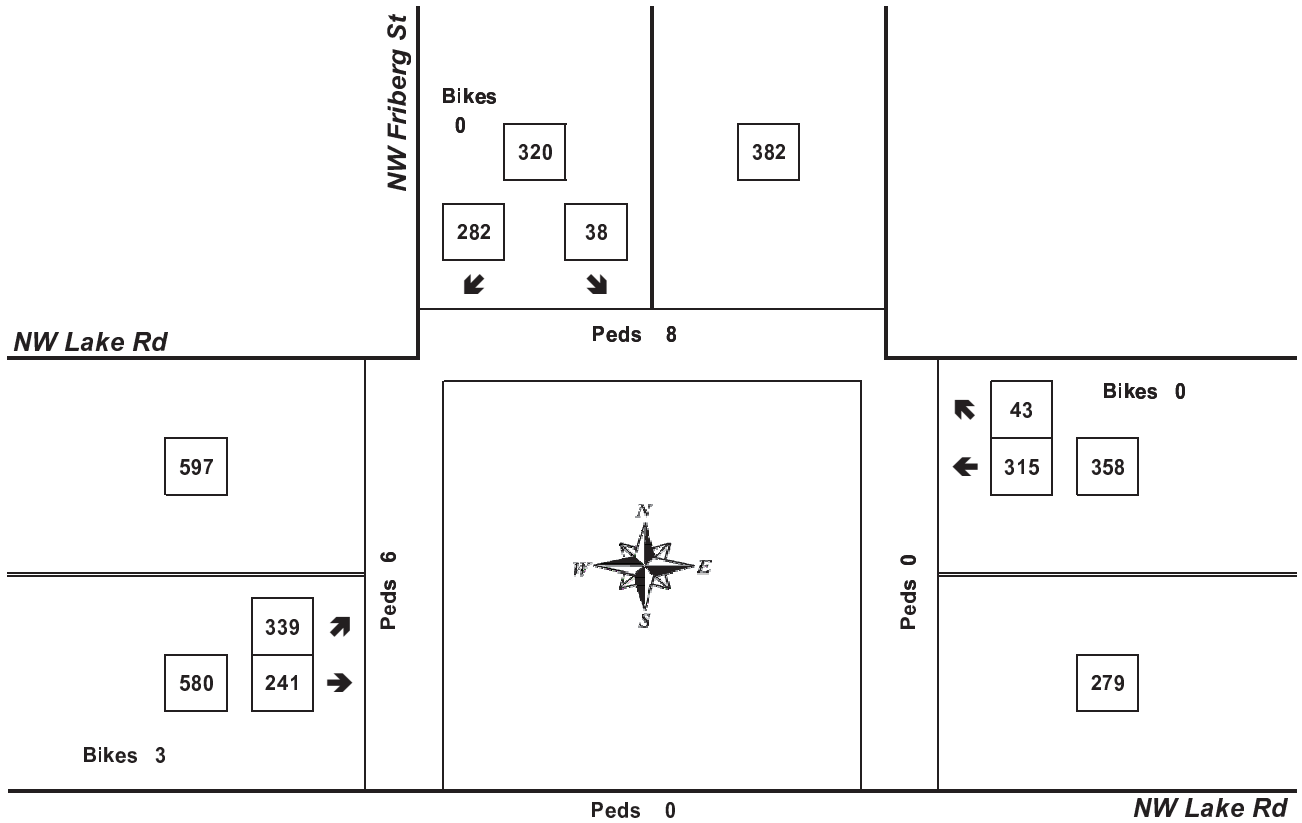
Peak Hour Summary



Clay Carney
(503) 833-2740

NW Friberg St & NW Lake Rd

7:15 AM to 8:15 AM
Wednesday, May 14, 2014



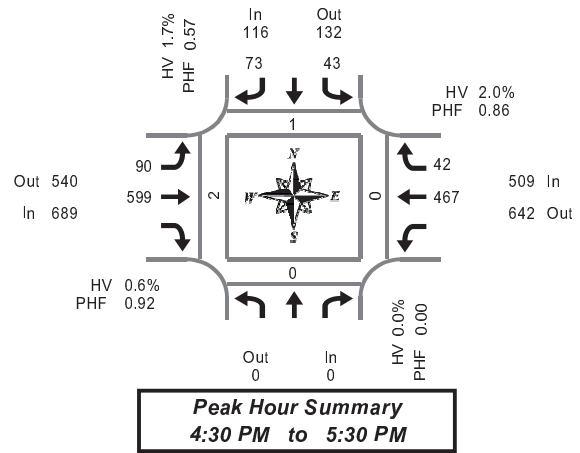
Approach	PHF	HV%	Volume
EB	0.59	7.2%	580
WB	0.83	3.4%	358
NB	0.00	0.0%	0
SB	0.56	10.0%	320
Intersection	0.64	6.8%	1,258

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Friberg St & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Friberg St				Southbound NW Friberg St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	L	T	Bikes	T	R	Bikes	North	South	East		West			
4:00 PM	0	7	27	0	22	122	1	94	10	1	282	0	0	0	2						
4:15 PM	0	8	16	0	22	113	0	98	10	0	267	0	0	0	0						
4:30 PM	0	11	12	0	24	140	0	127	12	1	326	0	0	0	0						
4:45 PM	0	12	39	1	30	136	1	94	5	0	316	0	0	0	2						
5:00 PM	0	7	15	0	19	153	3	135	13	2	342	0	0	0	0						
5:15 PM	0	13	7	0	17	170	2	111	12	2	330	1	0	0	0						
5:30 PM	0	17	21	0	28	151	1	97	11	1	325	0	0	0	0						
5:45 PM	0	6	19	0	27	146	4	109	7	0	314	0	0	0	0						
Total Survey	0	81	156	1	189	1,131	12	865	80	7	2,502	1	0	0	4						

Peak Hour Summary

4:30 PM to 5:30 PM

By Approach	Northbound NW Friberg St				Southbound NW Friberg St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	116	132	248	1	689	540	1,229	6	509	642	1,151	5	1,314	1	0	0	2
%HV	0.0%				1.7%				0.6%				2.0%				1.2%				
PHF	0.00				0.57				0.92				0.86				0.96				

By Movement	Northbound NW Friberg St				Southbound NW Friberg St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	Total	L	R	Bikes	Total	L	T	Bikes	Total	L	T	Bikes	Total	T	R	Total	
Volume	0	43	73	116	90	599	689	467	42	509	1,314	NA	NA	NA	2.0%	1.2%	
%HV	NA	2.3%	1.4%	1.7%	0.0%	0.7%	0.6%	2.1%	0.0%	2.0%	1.2%	NA	NA	0.0%	2.0%	1.2%	
PHF	0.00	0.83	0.47	0.57	0.75	0.88	0.92	0.86	0.81	0.86	0.96						

Rolling Hour Summary

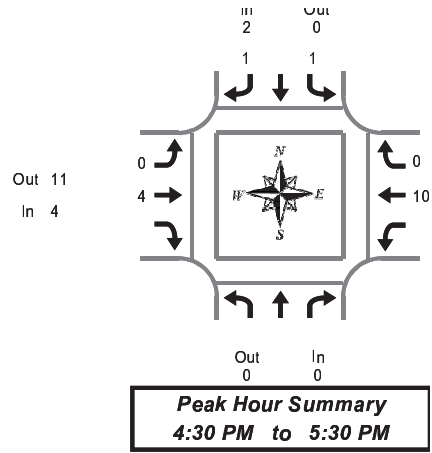
4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Friberg St				Southbound NW Friberg St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	L	T	Bikes	T	R	Bikes	North	South	East		West			
4:00 PM	0	38	94	1	98	511	2	413	37	2	1,191	0	0	0	4						
4:15 PM	0	38	82	1	95	542	4	454	40	3	1,251	0	0	0	2						
4:30 PM	0	43	73	1	90	599	6	467	42	5	1,314	1	0	0	2						
4:45 PM	0	49	82	1	94	610	7	437	41	5	1,313	1	0	0	2						
5:00 PM	0	43	62	0	91	620	10	452	43	5	1,311	1	0	0	0						

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Friberg St & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Friberg St			Southbound NW Friberg St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	
			Total	L	R	Total	L	T	Total	T	R	Total		
4:00 PM			0	0	0	0	0	4	4		6	0	6	10
4:15 PM			0	0	0	0	0	2	2		1	0	1	3
4:30 PM			0	0	0	0	0	3	3		5	0	5	8
4:45 PM			0	1	1	2	0	1	1		3	0	3	6
5:00 PM			0	0	0	0	0	0	0		1	0	1	1
5:15 PM			0	0	0	0	0	0	0		1	0	1	1
5:30 PM			0	0	0	0	0	0	0		0	0	0	0
5:45 PM			0	0	0	0	1	0	1		1	0	1	2
Total Survey			0	1	1	2	1	10	11		18	0	18	31

Heavy Vehicle Peak Hour Summary 4:30 PM to 5:30 PM

By Approach	Northbound NW Friberg St			Southbound NW Friberg St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	2	0	2	4	11	15	10	5	15	16
PHF	0.00			0.25			0.11			0.21			0.19

By Movement	Northbound NW Friberg St			Southbound NW Friberg St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total	
			Total	L	R	Total	L	T	Total	T	R	Total		
Volume			0	1	1	2	0	4	4		10	0	10	16
PHF			0.00	0.25	0.25	0.25	0.00	0.11	0.11		0.21	0.00	0.21	0.19

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Friberg St			Southbound NW Friberg St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	
			Total	L	R	Total	L	T	Total	T	R	Total		
4:00 PM			0	1	1	2	0	10	10		15	0	15	27
4:15 PM			0	1	1	2	0	6	6		10	0	10	18
4:30 PM			0	1	1	2	0	4	4		10	0	10	16
4:45 PM			0	1	1	2	0	1	1		5	0	5	8
5:00 PM			0	0	0	0	1	0	1		3	0	3	4

Peak Hour Summary

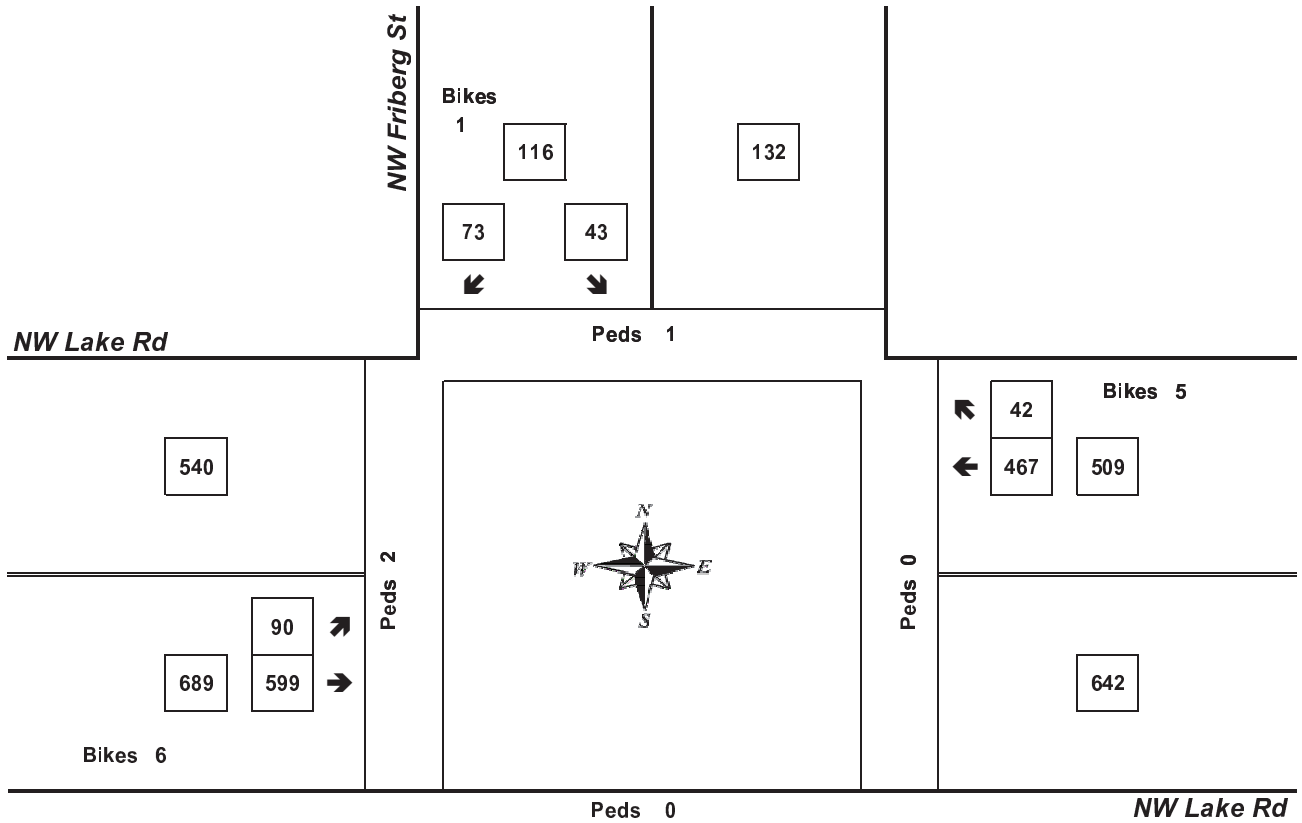


Clay Carney
(503) 833-2740

NW Friberg St & NW Lake Rd

4:30 PM to 5:30 PM

Tuesday, May 13, 2014



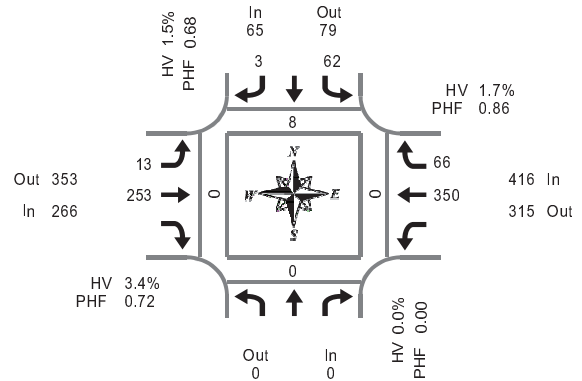
Approach	PHF	HV%	Volume
EB	0.92	0.6%	689
WB	0.86	2.0%	509
NB	0.00	0.0%	0
SB	0.57	1.7%	116
Intersection	0.96	1.2%	1,314

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

NW Payne St & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Payne St				Southbound NW Payne St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	L	T	Bikes	T	R	Bikes	North	South	East		West			
7:00 AM	0	13	4	0	3	49	2	0	45	9	0	123	0	0	0	0					
7:15 AM	0	8	2	0	4	37	0	0	84	14	1	149	0	0	0	0					
7:30 AM	0	22	0	0	3	73	0	0	99	22	0	219	0	0	0	0					
7:45 AM	0	24	0	0	2	91	0	0	97	21	1	235	2	0	0	0					
8:00 AM	0	8	1	0	4	52	0	0	70	9	1	144	6	0	0	0					
8:15 AM	0	11	1	0	2	49	0	0	47	17	0	127	1	0	0	0					
8:30 AM	0	8	3	0	0	42	1	0	64	5	0	122	0	0	0	0					
8:45 AM	0	8	3	0	5	50	0	0	98	15	0	179	0	0	0	0					
Total Survey	0	102	14	0	23	443	3	0	604	112	3	1,298	9	0	0	0					

Peak Hour Summary

7:15 AM to 8:15 AM

By Approach	Northbound NW Payne St				Southbound NW Payne St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk				
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West	
Volume	0	0	0	0	65	79	144	0	266	353	619	0	416	315	731	3	747	8	0	0	0	
%HV	0.0%				1.5%				3.4%				1.7%				2.3%					
PHF	0.00				0.68				0.72				0.86				0.79					

By Movement	Northbound NW Payne St				Southbound NW Payne St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	Total	L	R	Total	L	T	Total	L	T	Total	T	R	Total				
Volume	0	62	3	65	13	253	266	350	66	416	747						
%HV	NA	0.0%	0.0%	NA	33.3%	1.5%	0.0%	3.6%	NA	3.4%	1.7%	1.5%	1.7%	2.3%			
PHF	0.00	0.65	0.38	0.68	0.81	0.70	0.72	0.88	0.75	0.86	0.79						

Rolling Hour Summary

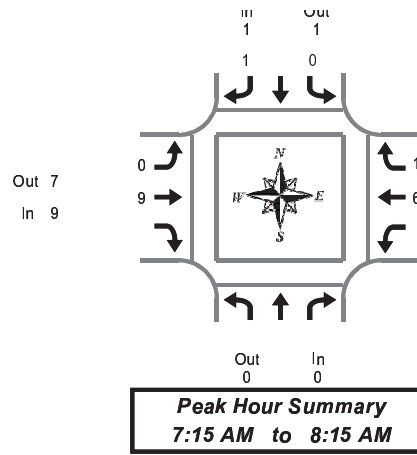
7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Payne St				Southbound NW Payne St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	L	T	Bikes	T	R	Bikes	North	South	East		West			
7:00 AM	0	67	6	0	12	250	2	0	325	66	2	726	2	0	0	0					
7:15 AM	0	62	3	0	13	253	0	0	350	66	3	747	8	0	0	0					
7:30 AM	0	65	2	0	11	265	0	0	313	69	2	725	9	0	0	0					
7:45 AM	0	51	5	0	8	234	1	0	278	52	2	628	9	0	0	0					
8:00 AM	0	35	8	0	11	193	1	0	279	46	1	572	7	0	0	0					

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Payne St & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Payne St			Southbound NW Payne St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	
	Total	L	R	Total	L	T	Total	L	T	Total	T	R		Total
7:00 AM	0	1	0	1	0	4	4	0	4	4	1	0	1	6
7:15 AM	0	0	1	1	0	0	0	0	0	0	4	1	5	6
7:30 AM	0	0	0	0	0	3	3	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	4	4	0	4	4	1	0	1	5
8:00 AM	0	0	0	0	0	2	2	0	2	2	1	0	1	3
8:15 AM	0	0	0	0	0	1	1	0	1	1	3	1	4	5
8:30 AM	0	0	0	0	0	3	3	0	3	3	3	0	3	6
8:45 AM	0	0	1	1	1	4	5	1	4	5	3	0	3	9
Total Survey	0	1	2	3	1	21	22				16	2	18	43

Heavy Vehicle Peak Hour Summary 7:15 AM to 8:15 AM

By Approach	Northbound NW Payne St			Southbound NW Payne St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	1	1	2	9	7	16	7	9	16	17
PHF	0.00			0.13			0.25			0.18			0.21

By Movement	Northbound NW Payne St			Southbound NW Payne St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total	
	Total	L	R	Total	L	T	Total	L	T	Total	T	R		Total
Volume	0	0	1	1	0	9	9	0	9	9	6	1	7	17
PHF	0.00	0.00	0.25	0.13	0.00	0.25	0.25	0.00	0.25	0.25	0.17	0.25	0.18	0.21

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Payne St			Southbound NW Payne St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	
	Total	L	R	Total	L	T	Total	L	T	Total	T	R		Total
7:00 AM	0	1	1	2	0	11	11	0	11	11	6	1	7	20
7:15 AM	0	0	1	1	0	9	9	0	9	9	6	1	7	17
7:30 AM	0	0	0	0	0	10	10	0	10	10	5	1	6	16
7:45 AM	0	0	0	0	0	10	10	0	10	10	8	1	9	19
8:00 AM	0	0	1	1	1	10	11	1	10	11	10	1	11	23

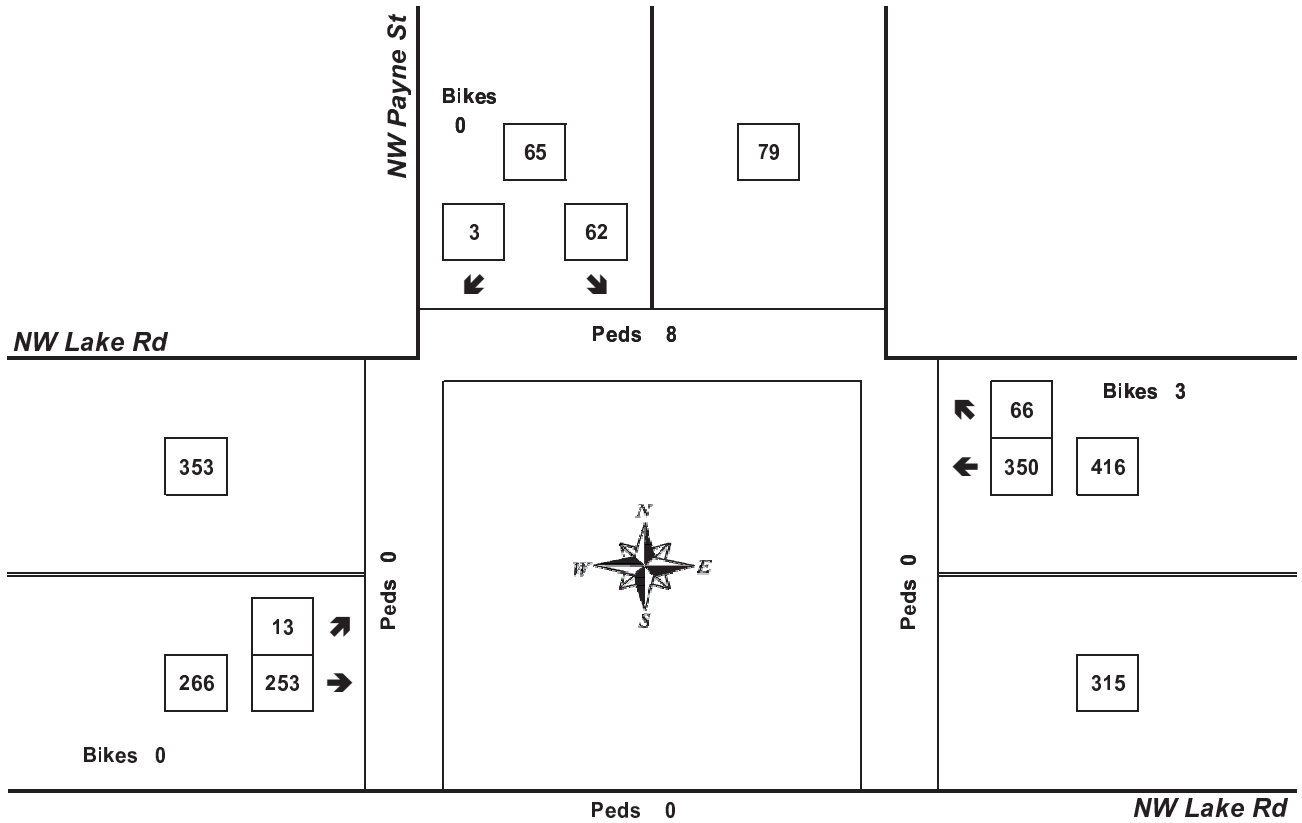
Peak Hour Summary



Clay Carney
(503) 833-2740

NW Payne St & NW Lake Rd

7:15 AM to 8:15 AM
Wednesday, May 14, 2014



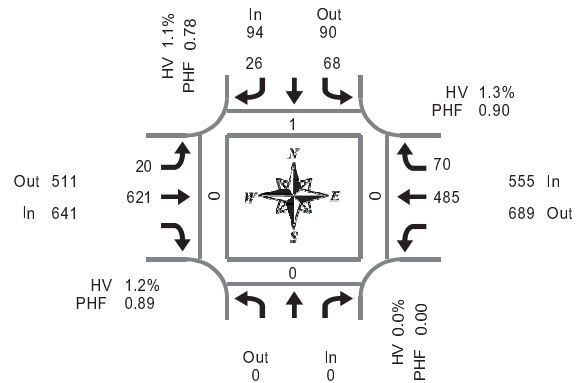
Approach	PHF	HV%	Volume
EB	0.72	3.4%	266
WB	0.86	1.7%	416
NB	0.00	0.0%	0
SB	0.68	1.5%	65
Intersection	0.79	2.3%	747

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
4:30 PM to 5:30 PM

NW Payne St & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Payne St				Southbound NW Payne St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	T	R	Bikes	North	South	East		West			
4:00 PM	0	12	2	0	2	119	0	113	10	2	258	0	0	0	0						
4:15 PM	0	12	3	0	2	124	0	94	16	0	251	0	0	0	0						
4:30 PM	0	11	7	0	4	149	0	136	15	3	322	0	0	0	0						
4:45 PM	0	19	2	0	6	143	0	101	15	0	286	0	0	0	0						
5:00 PM	0	22	8	1	8	151	0	133	21	2	343	1	0	0	0						
5:15 PM	0	16	9	1	2	178	0	115	19	3	339	0	0	0	0						
5:30 PM	0	13	2	0	3	166	0	104	15	1	303	0	0	0	0						
5:45 PM	0	12	2	0	4	147	0	111	10	3	286	2	0	0	0						
Total Survey	0	117	35	2	31	1,177	0	907	121	14	2,388	3	0	0	0						

Peak Hour Summary

4:30 PM to 5:30 PM

By Approach	Northbound NW Payne St				Southbound NW Payne St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	94	90	184	2	641	511	1,152	0	555	689	1,244	8	1	0	0	0	
%HV	0.0%				1.1%				1.2%				1.3%				1.2%				
PHF	0.00				0.78				0.89				0.90				0.94				

By Movement	Northbound NW Payne St				Southbound NW Payne St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	Total	L	R	Total	L	T	Total	L	T	Total	T	R	Total				
Volume	0	68	26	94	20	621	641	485	70	555	1,290						
%HV	NA	NA	NA	0.0%	0.0%	NA	3.8%	1.1%	0.0%	1.3%	NA	1.2%	NA	1.4%	0.0%	1.3%	1.2%
PHF	0.00	0.77	0.72	0.78	0.63	0.87	0.89	0.89	0.83	0.90	0.94						

Rolling Hour Summary

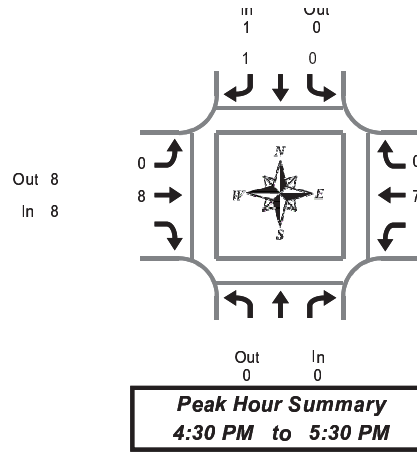
4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Payne St				Southbound NW Payne St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	Bikes	L	R	Bikes	L	T	Bikes	T	R	Bikes	T	R	Bikes	North	South	East		West			
4:00 PM	0	54	14	0	14	535	0	444	56	5	1,117	0	0	0	0						
4:15 PM	0	64	20	1	20	567	0	464	67	5	1,202	1	0	0	0						
4:30 PM	0	68	26	2	20	621	0	485	70	8	1,290	1	0	0	0						
4:45 PM	0	70	21	2	19	638	0	453	70	6	1,271	1	0	0	0						
5:00 PM	0	63	21	2	17	642	0	463	65	9	1,271	3	0	0	0						

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Payne St & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Payne St			Southbound NW Payne St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	
	Total	L	R	Total	L	T	Total	L	T	Total	T	R		Total
4:00 PM	0	1	0	1	0	2	2	0	2	2	4	0	4	7
4:15 PM	0	0	0	0	0	2	2	0	2	2	1	1	2	4
4:30 PM	0	0	1	1	0	5	5	0	5	5	4	0	4	10
4:45 PM	0	0	0	0	0	3	3	0	3	3	1	0	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	1	0	1	1	1	0	1	2
Total Survey	0	1	1	2	0	13	13	0	13	13	13	1	14	29

Heavy Vehicle Peak Hour Summary 4:30 PM to 5:30 PM

By Approach	Northbound NW Payne St			Southbound NW Payne St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	1	0	1	8	8	16	7	8	15	16
PHF	0.00			0.13			0.20			0.18			0.19

By Movement	Northbound NW Payne St			Southbound NW Payne St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total	
	Total	L	R	Total	L	T	Total	L	T	Total	T	R		Total
Volume	0	0	0	1	1	0	8	8	0	8	7	0	7	16
PHF	0.00	0.00		0.25	0.13	0.00	0.20		0.20	0.19	0.00	0.18	0.19	

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Payne St			Southbound NW Payne St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	
	Total	L	R	Total	L	T	Total	L	T	Total	T	R		Total
4:00 PM	0	1	0	1	2	0	12	12	0	12	10	1	11	25
4:15 PM	0	0	0	0	1	0	10	10	0	10	8	1	9	20
4:30 PM	0	0	1	1	0	8	8	0	8	8	7	0	7	16
4:45 PM	0	0	0	0	0	3	3	0	3	3	3	0	3	6
5:00 PM	0	0	0	0	0	1	1	0	1	1	3	0	3	4

Peak Hour Summary

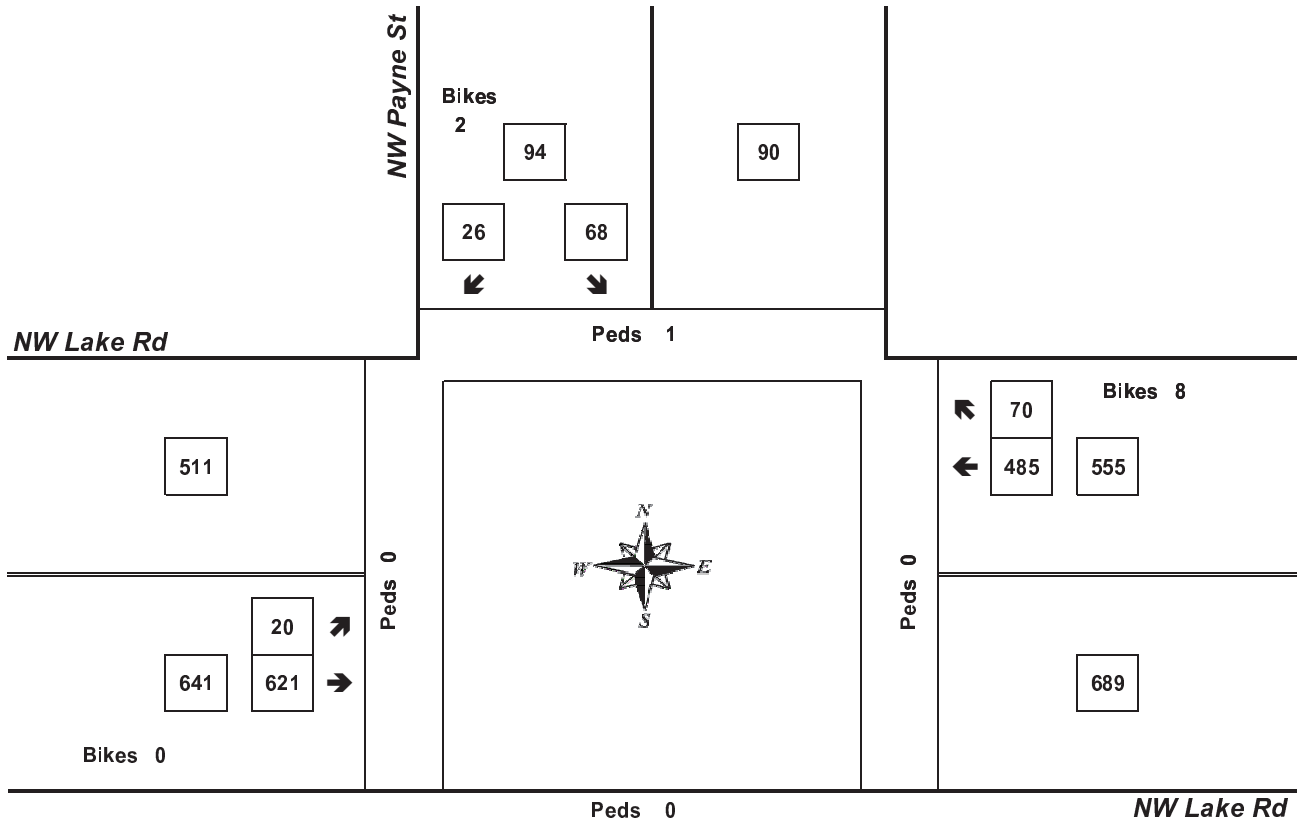


Clay Carney
(503) 833-2740

NW Payne St & NW Lake Rd

4:30 PM to 5:30 PM

Tuesday, May 13, 2014



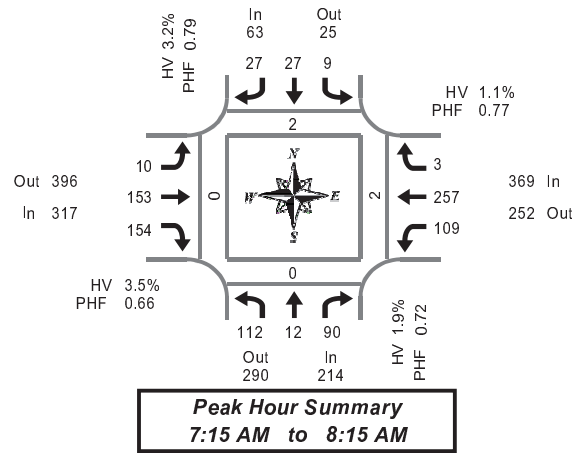
Approach	PHF	HV%	Volume
EB	0.89	1.2%	641
WB	0.90	1.3%	555
NB	0.00	0.0%	0
SB	0.78	1.1%	94
Intersection	0.94	1.2%	1,290

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Parker St & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	22	2	11	0	2	4	3	0	3	43	15	2	14	33	0	0	152	0	1	0	0
7:15 AM	28	0	9	1	5	8	7	0	2	24	18	0	15	63	0	0	179	0	0	0	0
7:30 AM	26	3	24	0	2	5	11	0	3	45	45	0	39	79	2	0	284	0	0	2	0
7:45 AM	32	4	38	0	2	10	3	0	2	54	64	0	41	71	1	0	322	2	0	0	0
8:00 AM	26	5	19	0	0	4	6	1	3	30	27	1	14	44	0	1	178	0	0	0	0
8:15 AM	16	1	6	0	0	5	9	0	3	38	20	1	13	36	0	0	147	6	1	0	1
8:30 AM	18	2	10	0	1	7	2	0	2	32	14	1	9	49	0	0	146	2	1	0	0
8:45 AM	19	2	8	0	0	6	4	0	0	40	17	0	17	92	1	0	206	0	0	0	0
Total Survey	187	19	125	1	12	49	45	1	18	306	220	5	162	467	4	1	1,614	10	3	2	1

Peak Hour Summary

7:15 AM to 8:15 AM

By Approach	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	214	290	504	1	63	25	88	1	317	396	713	1	369	252	621	1	963	2	0	2	0
%HV	1.9%				3.2%				3.5%				1.1%				2.2%				
PHF	0.72				0.79				0.66				0.77				0.75				

By Movement	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	112	12	90	214	9	27	27	63	10	153	154	317	109	257	3	369	963
%HV	1.8%	0.0%	2.2%	1.9%	0.0%	0.0%	7.4%	3.2%	10.0%	6.5%	0.0%	3.5%	0.0%	1.2%	33.3%	1.1%	2.2%
PHF	0.88	0.60	0.59	0.72	0.45	0.68	0.61	0.79	0.83	0.71	0.60	0.66	0.66	0.81	0.38	0.77	0.75

Rolling Hour Summary

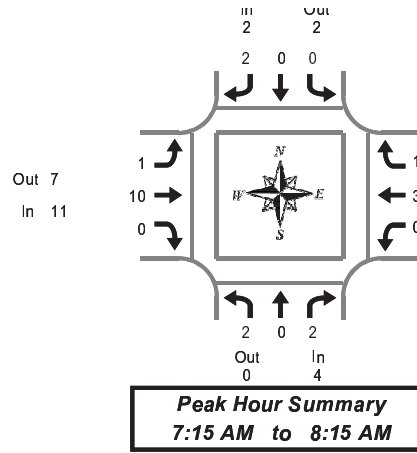
7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	108	9	82	1	11	27	24	0	10	166	142	2	109	246	3	0	937	2	1	2	0
7:15 AM	112	12	90	1	9	27	27	1	10	153	154	1	109	257	3	1	963	2	0	2	0
7:30 AM	100	13	87	0	4	24	29	1	11	167	156	2	107	230	3	1	931	8	1	2	1
7:45 AM	92	12	73	0	3	26	20	1	10	154	125	3	77	200	1	1	793	10	2	0	1
8:00 AM	79	10	43	0	1	22	21	1	8	140	78	3	53	221	1	1	677	8	2	0	1

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Parker St & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	1	1	0	0	0	0	0	3	1	4	0	1	0	1	6
7:15 AM	1	0	1	2	0	0	1	1	0	1	0	1	0	3	0	3	7
7:30 AM	0	0	1	1	0	0	0	0	1	2	0	3	0	0	0	0	4
7:45 AM	1	0	0	1	0	0	0	0	0	5	0	5	0	0	1	1	7
8:00 AM	0	0	0	0	0	0	1	1	0	2	0	2	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	2	2	0	1	0	1	1	1	0	2	5
8:30 AM	3	0	1	4	0	0	0	0	1	1	0	2	0	0	0	0	6
8:45 AM	0	0	3	3	0	0	0	0	0	2	1	3	1	4	0	5	11
Total Survey	5	0	7	12	0	0	4	4	2	17	2	21	2	9	1	12	49

Heavy Vehicle Peak Hour Summary 7:15 AM to 8:15 AM

By Approach	Northbound NW Parker St			Southbound NW Parker St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	0	4	2	2	4	11	7	18	4	12	16	21
PHF	0.14			0.17			0.28			0.14			0.24

By Movement	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	0	2	4	0	0	2	2	1	10	0	11	0	3	1	4	21
PHF	0.17	0.00	0.13	0.14	0.00	0.00	0.17	0.17	0.25	0.28	0.00	0.28	0.00	0.15	0.25	0.14	0.24

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	2	0	3	5	0	0	1	1	1	11	1	13	0	4	1	5	24
7:15 AM	2	0	2	4	0	0	2	2	1	10	0	11	0	3	1	4	21
7:30 AM	1	0	1	2	0	0	3	3	1	10	0	11	1	1	1	3	19
7:45 AM	4	0	1	5	0	0	3	3	1	9	0	10	1	1	1	3	21
8:00 AM	3	0	4	7	0	0	3	3	1	6	1	8	2	5	0	7	25

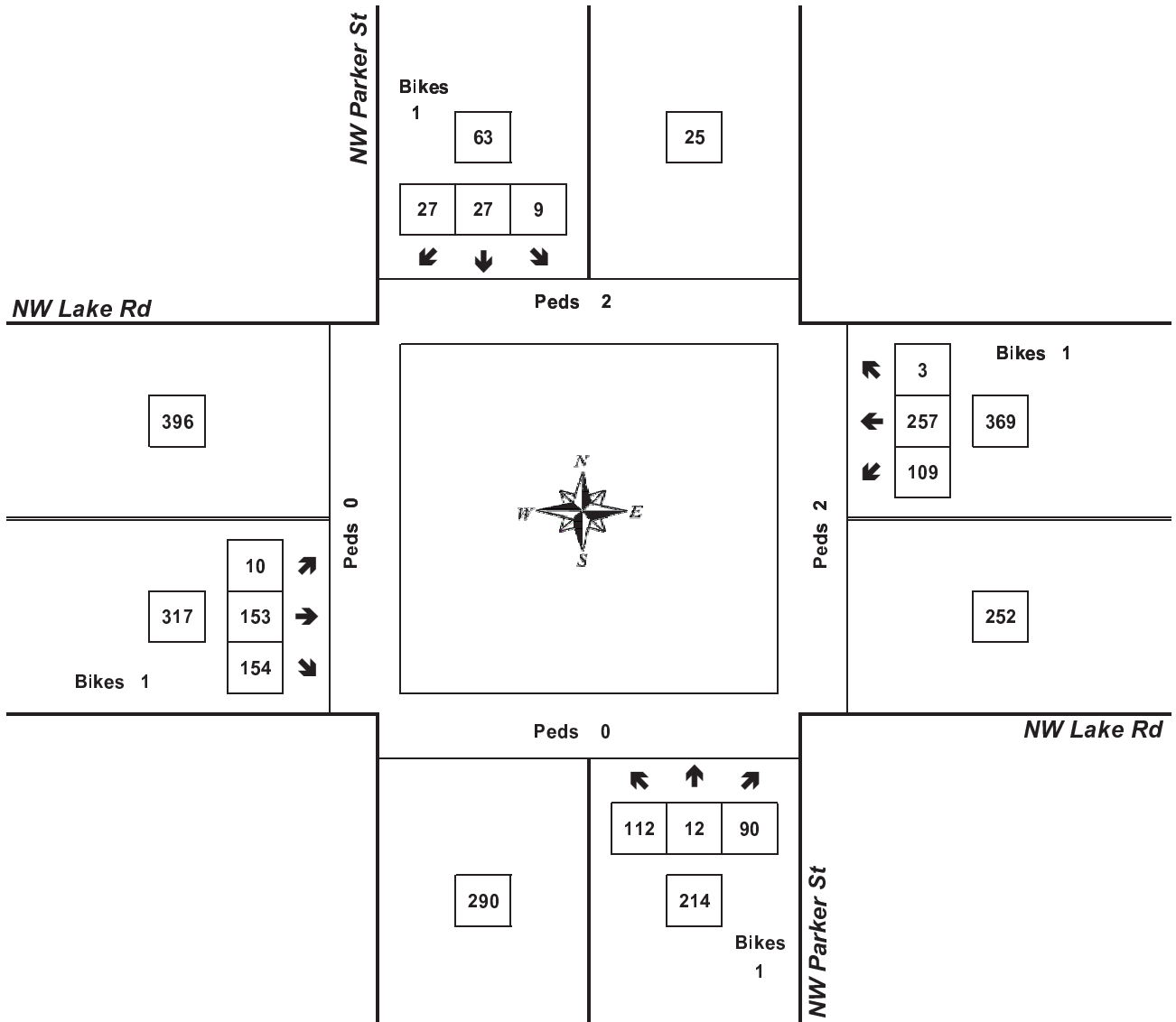
Peak Hour Summary



Clay Carney
(503) 833-2740

NW Parker St & NW Lake Rd

7:15 AM to 8:15 AM
Wednesday, May 14, 2014



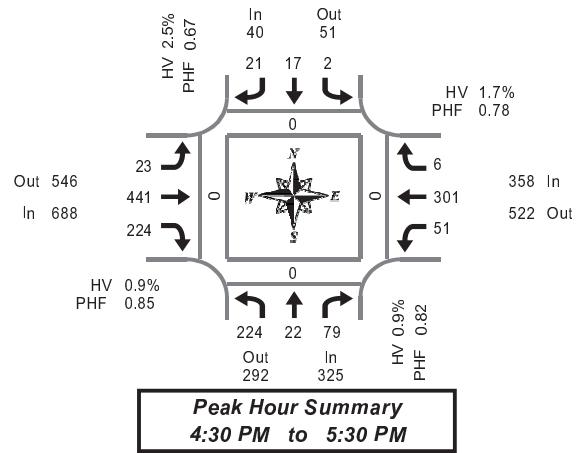
Approach	PHF	HV%	Volume
EB	0.66	3.5%	317
WB	0.77	1.1%	369
NB	0.72	1.9%	214
SB	0.79	3.2%	63
Intersection	0.75	2.2%	963

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Parker St & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	30	5	21	3	4	4	3	0	6	87	38	1	9	89	0	0	296	0	0	0	0
4:15 PM	36	3	13	0	2	2	4	0	6	85	49	0	9	72	3	0	284	0	0	0	0
4:30 PM	37	2	22	3	1	8	4	0	7	109	43	0	9	105	1	1	348	0	0	0	0
4:45 PM	52	13	18	1	0	2	4	0	3	103	52	1	10	61	1	1	319	0	0	0	0
5:00 PM	80	3	16	0	1	4	10	0	7	100	62	1	14	68	1	0	366	0	0	0	0
5:15 PM	55	4	23	3	0	3	3	0	6	129	67	4	18	67	3	0	378	0	0	0	0
5:30 PM	54	6	17	1	3	5	7	0	8	96	69	0	12	57	1	1	335	1	0	0	0
5:45 PM	60	7	17	1	1	4	1	0	1	105	56	3	7	53	2	3	314	0	0	0	0
Total Survey	404	43	147	12	12	32	36	0	44	814	436	10	88	572	12	6	2,640	1	0	0	0

Peak Hour Summary 4:30 PM to 5:30 PM

By Approach	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	325	292	617	7	40	51	91	0	688	546	1,234	6	358	522	880	2	1,411	0	0	0	0
%HV	0.9%				2.5%				0.9%				1.7%				1.1%				
PHF	0.82				0.67				0.85				0.78				0.93				

By Movement	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	224	22	79	325	2	17	21	40	23	441	224	688	51	301	6	358	1,411
%HV	0.4%	0.0%	2.5%	0.9%	0.0%	0.0%	4.8%	2.5%	4.3%	1.1%	0.0%	0.9%	2.0%	1.7%	0.0%	1.7%	1.1%
PHF	0.70	0.42	0.86	0.82	0.50	0.53	0.53	0.67	0.82	0.85	0.84	0.85	0.71	0.72	0.50	0.78	0.93

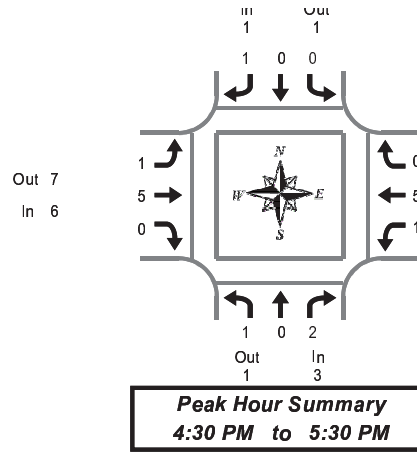
Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	155	23	74	7	7	16	15	0	22	384	182	2	37	327	5	2	1,247	0	0	0	0
4:15 PM	205	21	69	4	4	16	22	0	23	397	206	2	42	306	6	2	1,317	0	0	0	0
4:30 PM	224	22	79	7	2	17	21	0	23	441	224	6	51	301	6	2	1,411	0	0	0	0
4:45 PM	241	26	74	5	4	14	24	0	24	428	250	6	54	253	6	2	1,398	1	0	0	0
5:00 PM	249	20	73	5	5	16	21	0	22	430	254	8	51	245	7	4	1,393	1	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Parker St & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
4:00 PM	2	0	2	4	0	0	0	0	0	2	0	2	0	0	2	0	2	8
4:15 PM	1	0	0	1	0	0	0	0	0	2	1	3	1	2	0	3	7	
4:30 PM	1	0	1	2	0	0	0	0	1	3	0	4	0	3	0	3	9	
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3	
5:00 PM	0	0	1	1	0	0	1	1	0	0	0	0	0	1	0	1	3	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total Survey	5	0	4	9	0	0	1	1	1	9	1	11	2	9	0	11	32	

Heavy Vehicle Peak Hour Summary 4:30 PM to 5:30 PM

By Approach	Northbound NW Parker St			Southbound NW Parker St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	1	4	1	1	2	6	7	13	6	7	13	16
PHF	0.11			0.25			0.17			0.19			0.17

By Movement	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	0	2	3	0	0	1	1	1	5	0	6	1	5	0	6	16
PHF	0.06	0.00	0.17	0.11	0.00	0.00	0.25	0.25	0.25	0.18	0.00	0.17	0.25	0.18	0.00	0.19	0.17

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Parker St				Southbound NW Parker St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	4	0	3	7	0	0	0	0	1	9	1	11	1	8	0	9	27
4:15 PM	2	0	2	4	0	0	1	1	1	7	1	9	1	7	0	8	22
4:30 PM	1	0	2	3	0	0	1	1	1	5	0	6	1	5	0	6	16
4:45 PM	0	0	1	1	0	0	1	1	0	2	0	2	1	2	0	3	7
5:00 PM	1	0	1	2	0	0	1	1	0	0	0	0	1	1	0	2	5

Peak Hour Summary

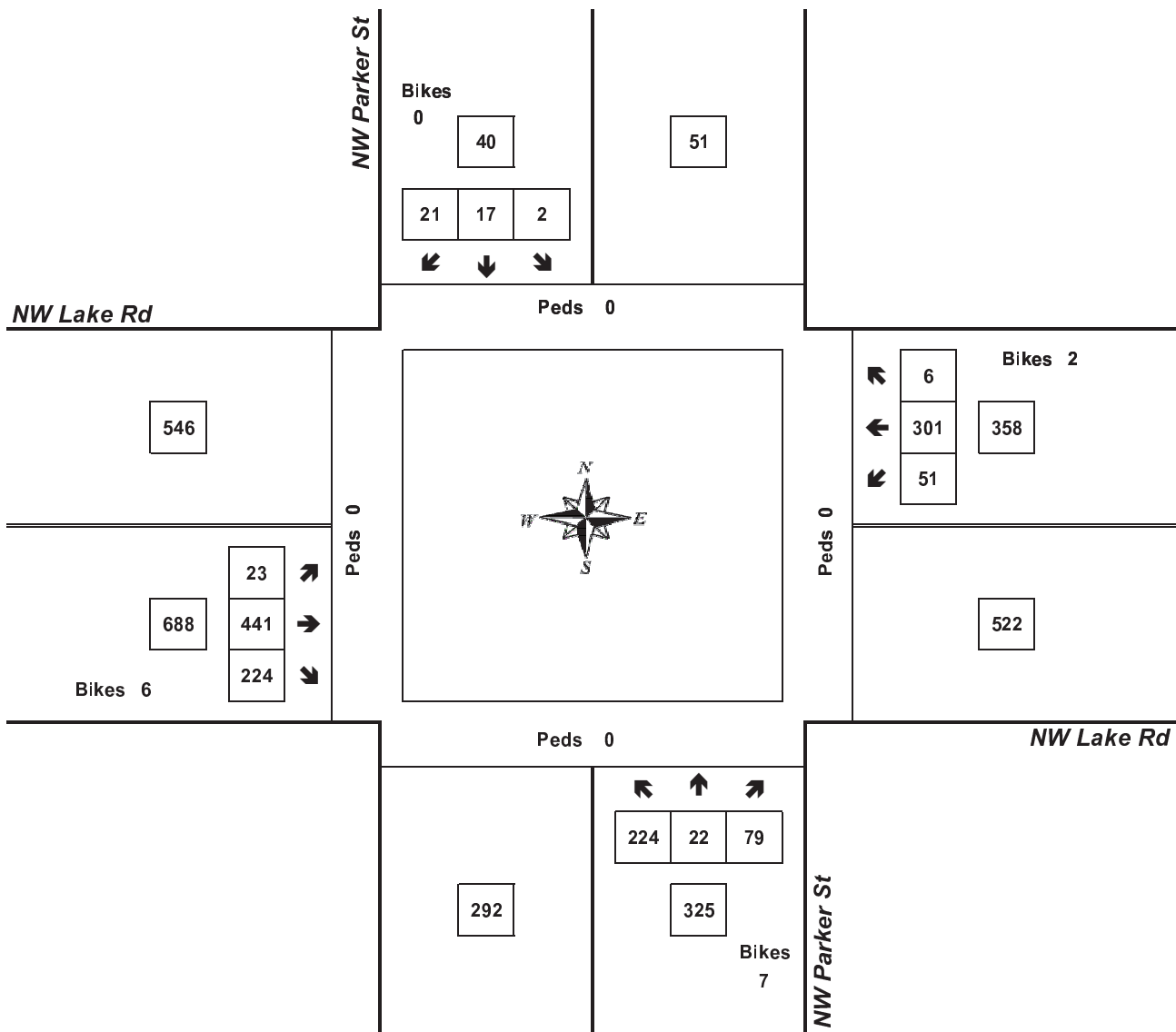


Clay Carney
(503) 833-2740

NW Parker St & NW Lake Rd

4:30 PM to 5:30 PM

Tuesday, May 13, 2014



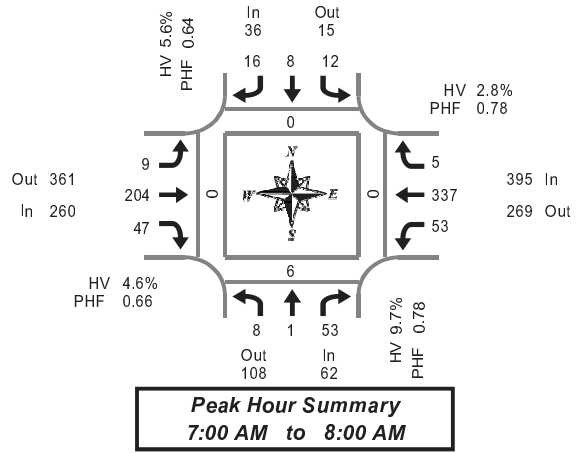
Approach	PHF	HV%	Volume
EB	0.85	0.9%	688
WB	0.78	1.7%	358
NB	0.82	0.9%	325
SB	0.67	2.5%	40
Intersection	0.93	1.1%	1,411

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Leadbetter Dr & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	0	19	0	2	3	3	0	2	42	14	1	10	47	0	0	143	0	3	0	0
7:15 AM	1	0	15	0	2	1	4	0	2	34	4	0	11	74	2	0	150	0	1	0	0
7:30 AM	3	1	7	0	5	3	6	0	0	53	10	0	15	111	0	2	214	0	1	0	0
7:45 AM	3	0	12	0	3	1	3	0	5	75	19	0	17	105	3	1	246	0	1	0	0
8:00 AM	2	1	6	0	1	1	5	0	4	44	8	2	13	50	1	1	136	2	0	0	0
8:15 AM	1	1	7	0	1	4	9	0	2	32	9	0	12	40	1	1	119	6	0	0	0
8:30 AM	4	1	4	0	5	1	3	0	0	35	4	0	5	47	2	0	111	0	0	0	1
8:45 AM	3	1	18	0	2	3	2	0	2	47	6	0	16	99	0	0	199	0	3	0	0
Total Survey	18	5	88	0	21	17	35	0	17	362	74	3	99	573	9	5	1,318	8	9	0	1

Peak Hour Summary

7:00 AM to 8:00 AM

By Approach	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	62	108	170	0	36	15	51	0	260	361	621	1	395	269	664	3	753	0	6	0	0
%HV	9.7%				5.6%				4.6%				2.8%				4.1%				
PHF	0.78				0.64				0.66				0.78				0.77				

By Movement	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	8	1	53	62	12	8	16	36	9	204	47	260	53	337	5	395	753
%HV	0.0%	0.0%	11.3%	9.7%	0.0%	12.5%	6.3%	5.6%	0.0%	5.9%	0.0%	4.6%	7.5%	1.5%	40.0%	2.8%	4.1%
PHF	0.67	0.25	0.70	0.78	0.60	0.67	0.67	0.64	0.45	0.68	0.62	0.66	0.78	0.76	0.42	0.78	0.77

Rolling Hour Summary

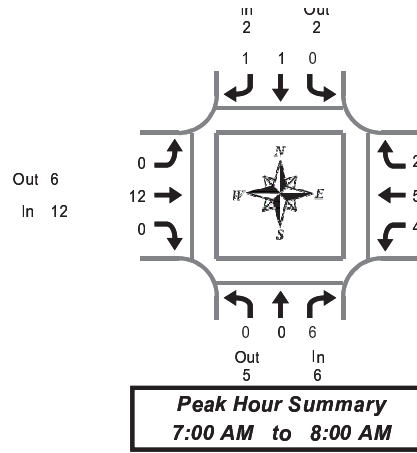
7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	8	1	53	0	12	8	16	0	9	204	47	1	53	337	5	3	753	0	6	0	0
7:15 AM	9	2	40	0	11	6	18	0	11	206	41	2	56	340	6	4	746	2	3	0	0
7:30 AM	9	3	32	0	10	9	23	0	11	204	46	2	57	306	5	5	715	8	2	0	0
7:45 AM	10	3	29	0	10	7	20	0	11	186	40	2	47	242	7	3	612	8	1	0	1
8:00 AM	10	4	35	0	9	9	19	0	8	158	27	2	46	236	4	2	565	8	3	0	1

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Leadbetter Dr & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	1	0	1	0	5	0	5	1	1	0	2	8
7:15 AM	0	0	0	0	0	0	1	1	0	1	0	1	0	3	2	5	7
7:30 AM	0	0	1	1	0	0	0	0	0	2	0	2	3	0	0	3	6
7:45 AM	0	0	5	5	0	0	0	0	0	4	0	4	0	1	0	1	10
8:00 AM	0	0	1	1	0	0	0	0	0	2	0	2	1	0	0	1	4
8:15 AM	0	1	3	4	1	0	1	2	1	1	0	2	1	1	1	3	11
8:30 AM	0	0	0	0	2	0	0	2	0	2	1	3	0	0	0	0	5
8:45 AM	0	0	11	11	0	0	0	0	0	6	0	6	2	4	0	6	23
Total Survey	0	1	21	22	3	1	2	6	1	23	1	25	8	10	3	21	74

Heavy Vehicle Peak Hour Summary 7:00 AM to 8:00 AM

By Approach	Northbound NW Leadbetter Dr			Southbound NW Leadbetter Dr			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	6	5	11	2	2	4	12	6	18	11	18	29	31
PHF	0.10			0.13			0.27			0.28			0.20

By Movement	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	6	6	0	1	1	2	0	12	0	12	4	5	2	11	31
PHF	0.00	0.00	0.11	0.10	0.00	0.25	0.25	0.13	0.00	0.33	0.00	0.27	0.25	0.25	0.25	0.28	0.20

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	6	6	0	1	1	2	0	12	0	12	4	5	2	11	31
7:15 AM	0	0	7	7	0	0	1	1	0	9	0	9	4	4	2	10	27
7:30 AM	0	1	10	11	1	0	1	2	1	9	0	10	5	2	1	8	31
7:45 AM	0	1	9	10	3	0	1	4	1	9	1	11	2	2	1	5	30
8:00 AM	0	1	15	16	3	0	1	4	1	11	1	13	4	5	1	10	43

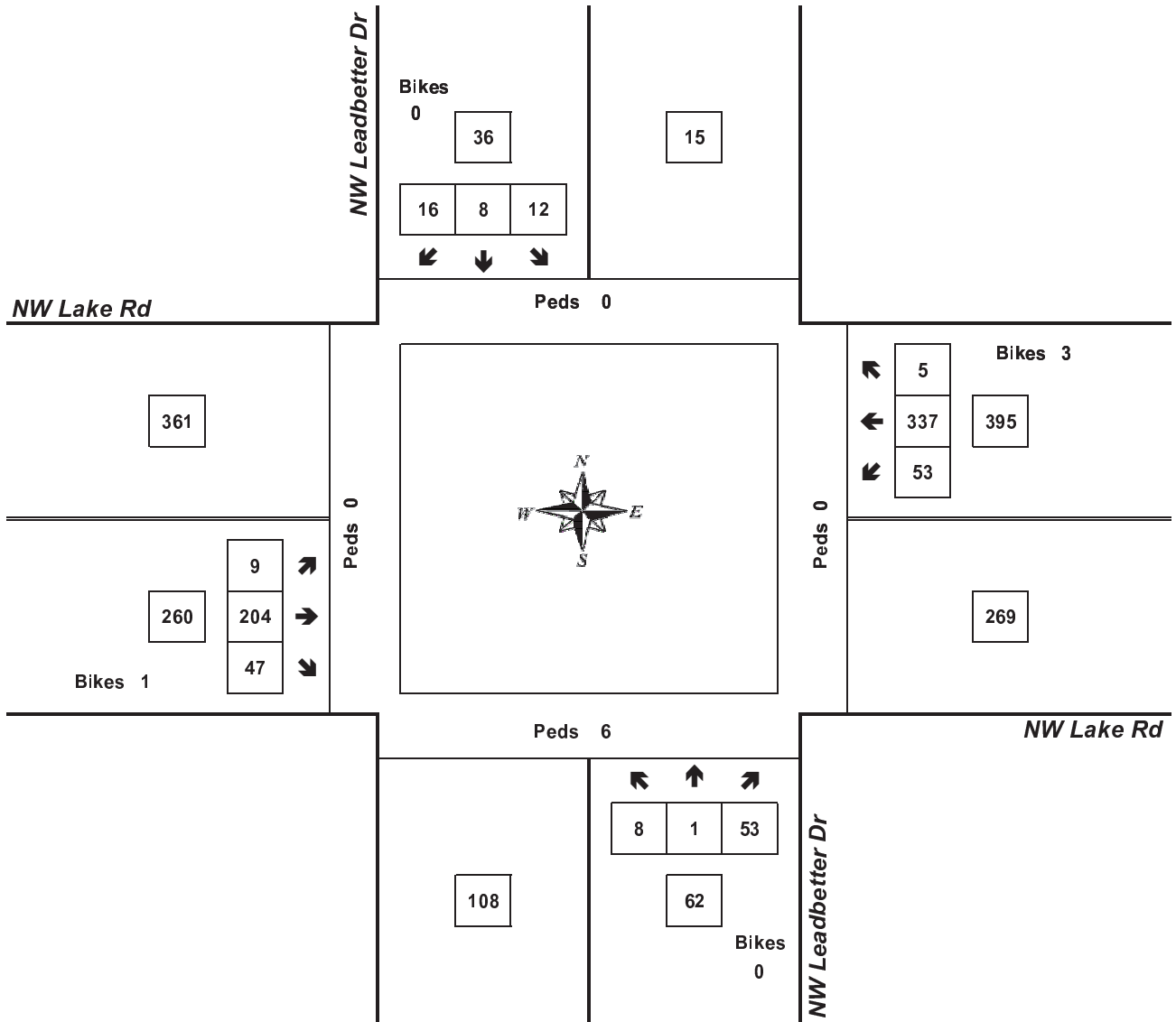
Peak Hour Summary



Clay Carney
(503) 833-2740

NW Leadbetter Dr & NW Lake Rd

7:00 AM to 8:00 AM
Wednesday, May 14, 2014



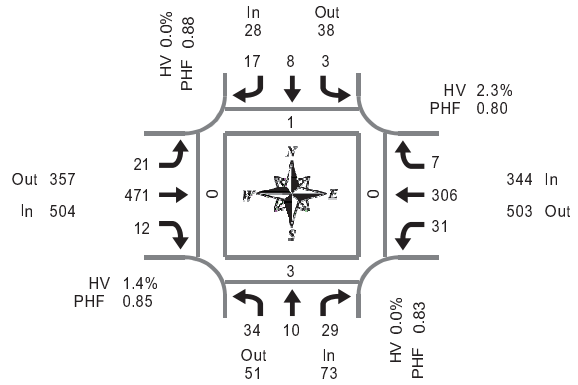
Approach	PHF	HV%	Volume
EB	0.66	4.6%	260
WB	0.78	2.8%	395
NB	0.78	9.7%	62
SB	0.64	5.6%	36
Intersection	0.77	4.1%	753

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Leadbetter Dr & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

Peak Hour Summary
4:30 PM to 5:30 PM

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	8	0	15	0	2	0	4	0	4	90	3	0	2	80	3	0	211	0	1	0	1
4:15 PM	6	2	3	0	1	0	3	1	9	93	2	2	4	75	1	1	199	0	3	0	0
4:30 PM	11	4	7	1	1	1	5	0	7	110	1	1	7	99	1	3	254	0	2	0	0
4:45 PM	4	3	8	1	2	2	4	0	6	114	1	2	14	66	3	0	227	0	0	0	0
5:00 PM	14	1	7	0	0	3	5	0	3	109	5	0	4	68	1	0	220	0	0	0	0
5:15 PM	5	2	7	0	0	2	3	0	5	138	5	4	6	73	2	1	248	1	1	0	0
5:30 PM	1	3	4	0	2	1	3	0	8	109	3	1	6	66	4	0	210	0	0	0	2
5:45 PM	3	1	2	4	2	0	0	0	5	106	2	5	1	57	0	1	179	0	0	0	2
Total Survey	52	16	53	6	10	9	27	1	47	869	22	15	44	584	15	6	1,748	1	7	0	5

Peak Hour Summary

4:30 PM to 5:30 PM

By Approach	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	73	51	124	2	28	38	66	0	504	357	861	7	344	503	847	4	949	1	3	0	0
%HV	0.0%				0.0%				1.4%				2.3%				1.6%				
PHF	0.83				0.88				0.85				0.80				0.93				

By Movement	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	34	10	29	73	3	8	17	28	21	471	12	504	31	306	7	344	949
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%	1.4%	0.0%	2.6%	0.0%	2.3%	1.6%
PHF	0.61	0.63	0.91	0.83	0.38	0.67	0.85	0.88	0.75	0.85	0.60	0.85	0.55	0.77	0.58	0.80	0.93

Rolling Hour Summary

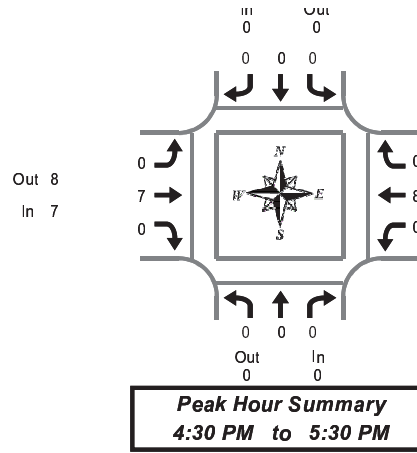
4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	29	9	33	2	6	3	16	1	26	407	7	5	27	320	8	4	891	0	6	0	1
4:15 PM	35	10	25	2	4	6	17	1	25	426	9	5	29	308	6	4	900	0	5	0	0
4:30 PM	34	10	29	2	3	8	17	0	21	471	12	7	31	306	7	4	949	1	3	0	0
4:45 PM	24	9	26	1	4	8	15	0	22	470	14	7	30	273	10	1	905	1	1	0	2
5:00 PM	23	7	20	4	4	6	11	0	21	462	15	10	17	264	7	2	857	1	1	0	4

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Leadbetter Dr & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	1	1	0	0	0	0	0	1	1	2	0	3	0	3	6
4:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	2	5
4:30 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	5	0	5	9
4:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	1	1	0	0	0	0	0	11	1	12	0	13	0	13	26

Heavy Vehicle Peak Hour Summary 4:30 PM to 5:30 PM

By Approach	Northbound NW Leadbetter Dr			Southbound NW Leadbetter Dr			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	7	8	15	8	7	15	15
PHF	0.00			0.00			0.18			0.20			0.19

By Movement	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	0	0	0	0	0	7	0	7	0	8	0	8	15
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.18	0.00	0.20	0.00	0.20	0.19

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Leadbetter Dr				Southbound NW Leadbetter Dr				Eastbound NW Lake Rd				Westbound NW Lake Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	1	1	0	0	0	0	0	11	1	12	0	11	0	11	24
4:15 PM	0	0	0	0	0	0	0	0	0	10	0	10	0	9	0	9	19
4:30 PM	0	0	0	0	0	0	0	0	0	7	0	7	0	8	0	8	15
4:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	3	0	3	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2

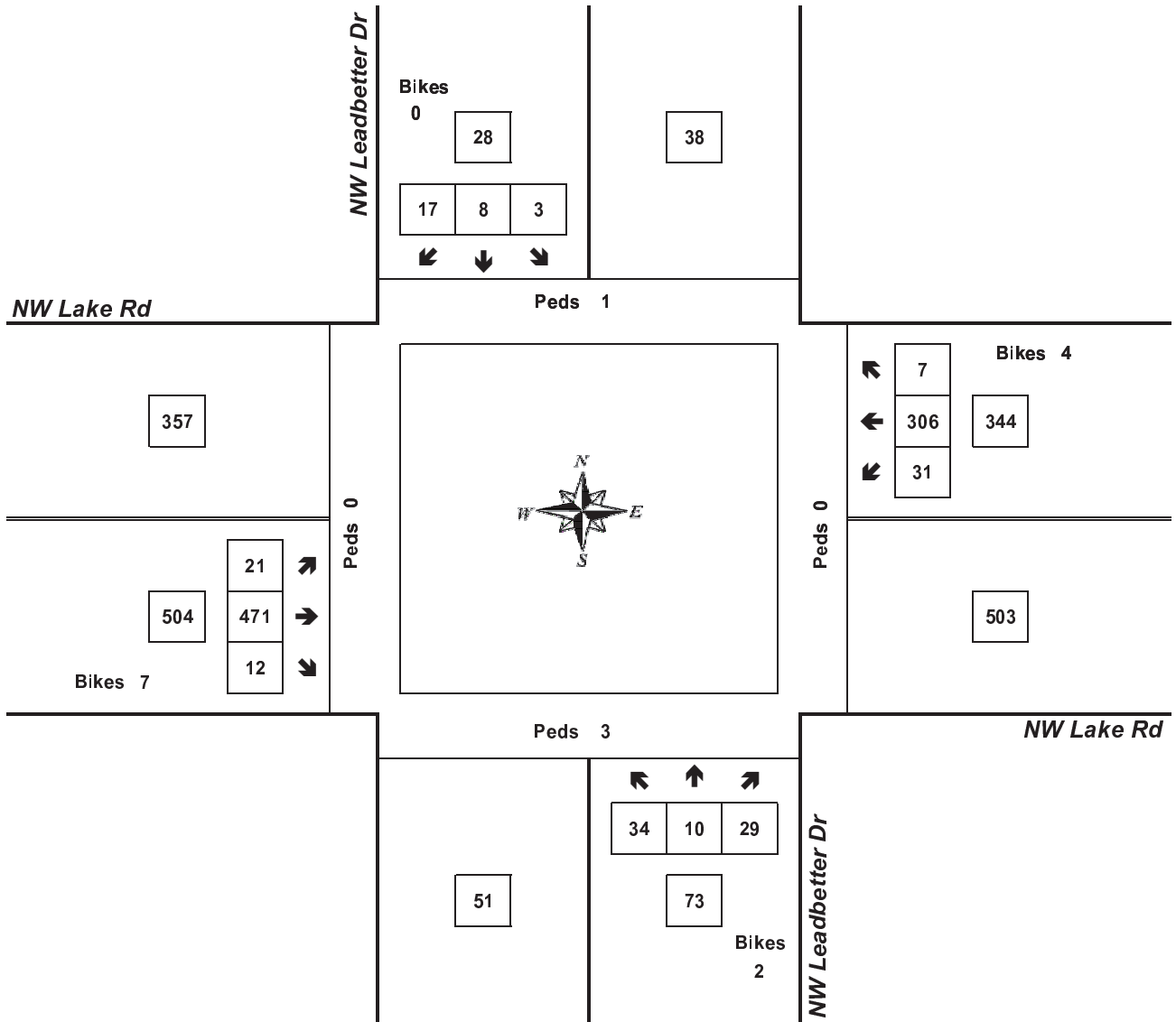
Peak Hour Summary



Clay Carney
(503) 833-2740

NW Leadbetter Dr & NW Lake Rd

4:30 PM to 5:30 PM
Tuesday, May 13, 2014



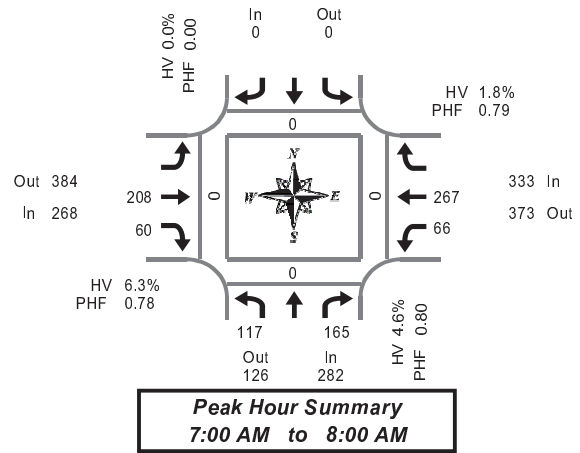
Approach	PHF	HV%	Volume
EB	0.85	1.4%	504
WB	0.80	2.3%	344
NB	0.83	0.0%	73
SB	0.88	0.0%	28
Intersection	0.93	1.6%	949

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Sierra St & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Sierra St				Southbound NW Sierra St				Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	14	50	0				0		60	4	0	14	38	0	0	0	0	0	
7:15 AM	32	56	0				0		44	6	0	16	58	0	0	0	0	0	
7:30 AM	37	42	0				0		51	17	0	15	90	2	0	0	0	0	
7:45 AM	34	17	1				0		53	33	0	21	81	0	0	0	0	0	
8:00 AM	23	11	5				0		34	16	1	11	43	0	0	0	0	0	
8:15 AM	16	11	0				0		34	7	0	15	33	0	0	0	0	0	
8:30 AM	18	27	0				0		36	10	1	24	40	0	0	0	0	0	
8:45 AM	32	20	0				0		47	18	0	29	80	0	0	0	0	0	
Total Survey	206	234	6				0		359	111	2	145	463	2	0	0	0	0	

Peak Hour Summary 7:00 AM to 8:00 AM

By Approach	Northbound NW Sierra St				Southbound NW Sierra St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk				
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West	
Volume	282	126	408	1	0	0	0	0	268	384	652	0	333	373	706	2	883	0	0	0	0	
%HV	4.6%				0.0%				6.3%				1.8%				4.1%					
PHF	0.80				0.00				0.78				0.79				0.88					

By Movement	Northbound NW Sierra St				Southbound NW Sierra St				Eastbound NW Lake Rd			Westbound NW Lake Rd				Total	
	L	R	Total	Bikes			Total	Bikes	T	R	Total	L	T	Total	Bikes		
Volume	117	165	282	1			0	0	208	60	268	66	267	333	2		
%HV	4.3%	NA	4.8%	4.6%	NA	NA	NA	0.0%	NA	6.3%	6.7%	6.3%	3.0%	1.5%	NA	1.8%	4.1%
PHF	0.79		0.74	0.80			0.00		0.87	0.45	0.78	0.79	0.74		0.79	0.88	

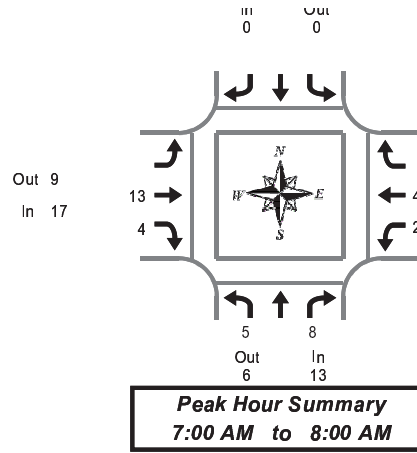
Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Sierra St				Southbound NW Sierra St				Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes				Bikes		T	R	Bikes	L	T	Bikes		North	South	East	West
7:00 AM	117	165	1				0		208	60	0	66	267	2	883	0	0	0	0
7:15 AM	126	126	6				0		182	72	1	63	272	2	841	0	0	0	0
7:30 AM	110	81	6				0		172	73	1	62	247	2	745	0	0	0	0
7:45 AM	91	66	6				0		157	66	2	71	197	0	648	0	0	0	0
8:00 AM	89	69	5				0		151	51	2	79	196	0	635	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Sierra St & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	0	4	4			0	3	1	4	1	1	2	10
7:15 AM	3		3			0	1	0	1	1	1	2	9
7:30 AM	2	1	3			0	3	0	3	0	1	1	7
7:45 AM	0	0	0			0	6	3	9	0	1	1	10
8:00 AM	0	0	0			0	2	1	3	0	1	1	4
8:15 AM	1	0	1			0	2	3	5	1	2	3	9
8:30 AM	0	2	2			0	1	3	4	0	0	0	6
8:45 AM	2	0	2			0	15	1	16	0	5	5	23
Total Survey	8		10			0	33	12	45	3	12	15	78

Heavy Vehicle Peak Hour Summary 7:00 AM to 8:00 AM

By Approach	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	13	6	19	0	0	0	17	9	26	6	21	27	36
PHF	0.25			0.00			0.17			0.19			0.24

By Movement	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	5	8	13			0	13	4	17	2	4	6	36
PHF	0.25	0.25	0.25			0.00	0.18	0.14	0.17	0.25	0.14	0.19	0.24

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
7:00 AM	5	8	13			0	13	4	17	2	4	6	36
7:15 AM	5	4	9			0	12	4	16	1	4	5	30
7:30 AM	3	1	4			0	13	7	20	1	5	6	30
7:45 AM	1	2	3			0	11	10	21	1	4	5	29
8:00 AM	3	2	5			0	20	8	28	1	8	9	42

Peak Hour Summary



Clay Carney
(503) 833-2740

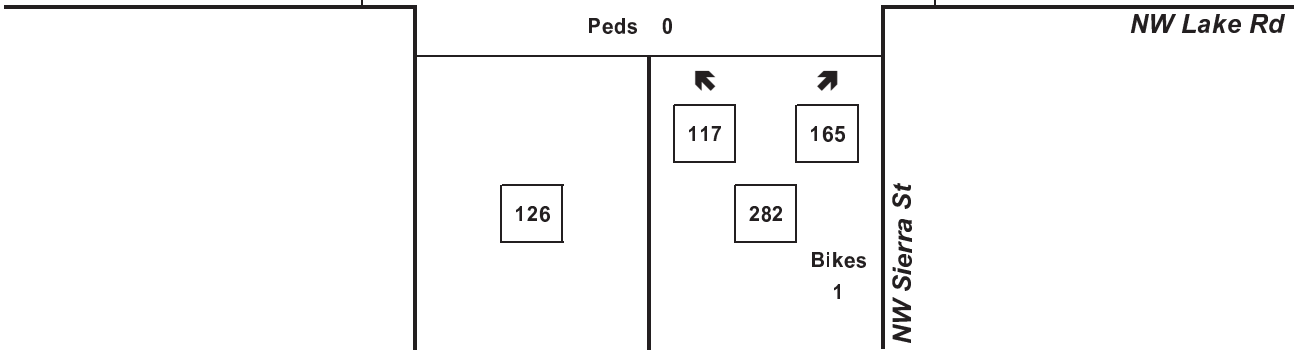
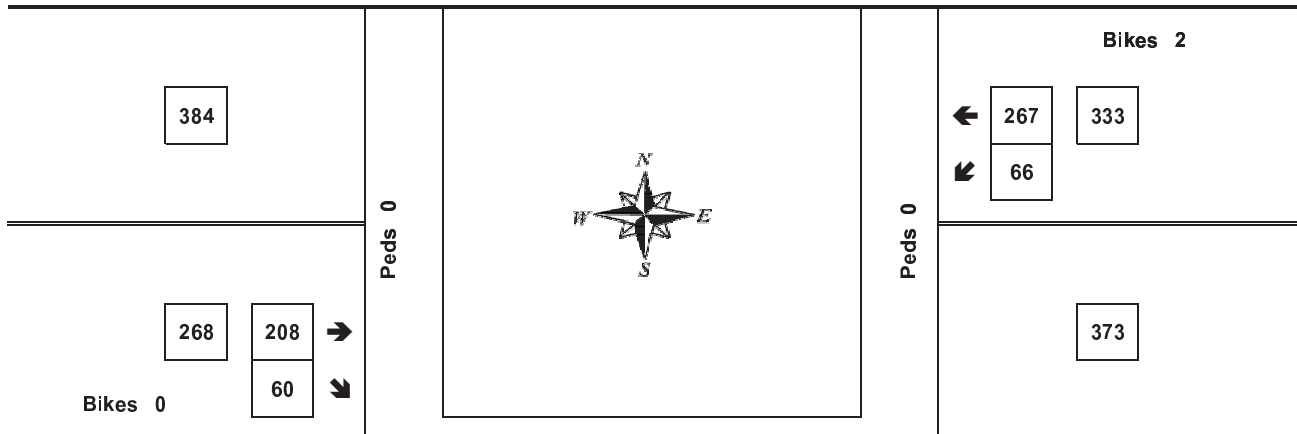
NW Sierra St & NW Lake Rd

7:00 AM to 8:00 AM
Wednesday, May 14, 2014

Bikes
0

NW Lake Rd

Peds 0



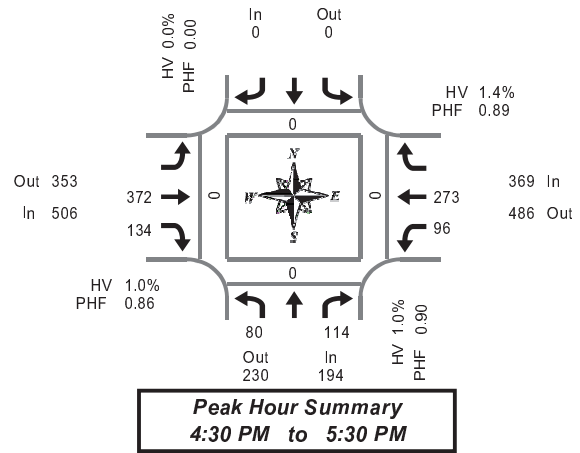
Approach	PHF	HV%	Volume
EB	0.78	6.3%	268
WB	0.79	1.8%	333
NB	0.80	4.6%	282
SB	0.00	0.0%	0
Intersection	0.88	4.1%	883

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Sierra St & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	21		0			0	85	22	0	26	64	0	239	0	0	0	0
4:15 PM	16		1			0	63	33	0	18	64	0	210	0	0	0	0
4:30 PM	23		2			0	82	35	1	20	84	1	275	0	0	0	0
4:45 PM	19		0			0	96	28	1	26	63	0	264	0	0	0	0
5:00 PM	18		0			0	89	29	0	23	62	0	248	0	0	0	0
5:15 PM	20		1			0	105	42	4	27	64	0	282	0	0	0	0
5:30 PM	19		0			0	87	28	1	15	47	1	238	0	0	0	0
5:45 PM	15		1			0	81	31	7	14	48	0	216	0	0	0	0
Total Survey	151		5			0	688	248	14	169	496	2	1,972	0	0	0	0

Peak Hour Summary

4:30 PM to 5:30 PM

By Approach	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total	Pedestrians Crosswalk					
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total		North	South	East	West		
Volume	194	230	424	3	0	0	506	353	859	6	369	486	855	1	1,069	0	0	0	0
%HV	1.0%			0.0%			1.0%			1.4%			1.1%						
PHF	0.90			0.00			0.86			0.89			0.95						

By Movement	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	80	114	194			0	372	134	506	96	273	369	
%HV	2.5%	NA	1.0%	NA	NA	0.0%	0.8%	1.5%	1.0%	0.0%	1.8%	1.4%	
PHF	0.87	0.89	0.90			0.00	0.89	0.80	0.86	0.89	0.81	0.89	

Rolling Hour Summary

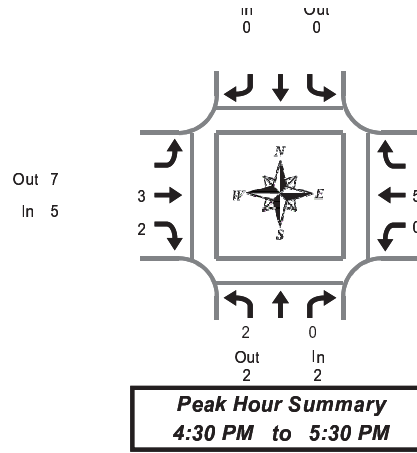
4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	Pedestrians Crosswalk			
	L	R	Bikes			Bikes	T	R	Bikes	L	T	Bikes		North	South	East	West
4:00 PM	79		3			0	326	118	2	90	275	1	988	0	0	0	0
4:15 PM	76		3			0	330	125	2	87	273	1	997	0	0	0	0
4:30 PM	80		3			0	372	134	6	96	273	1	1,069	0	0	0	0
4:45 PM	76		1			0	377	127	6	91	236	1	1,032	0	0	0	0
5:00 PM	72		2			0	362	130	12	79	221	1	984	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Sierra St & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	1	1	2			0	4	0	4	0	2	2	8
4:15 PM	0	0	0			0	0	3	3	0	2	2	5
4:30 PM	2	0	2			0	3	0	3	0	1	1	6
4:45 PM	0	0	0			0	0	2	2	0	2	2	4
5:00 PM	0	0	0			0	0	0	0	0	1	1	1
5:15 PM	0	0	0			0	0	0	0	0	1	1	1
5:30 PM	0	0	0			0	0	0	0	0	0	0	0
5:45 PM	0	0	0			0	0	0	0	0	0	0	0
Total Survey	3	1	4			0	7	5	12	0	9	9	25

Heavy Vehicle Peak Hour Summary 4:30 PM to 5:30 PM

By Approach	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	2	4	0	0	0	5	7	12	5	3	8	12
PHF	0.13			0.00			0.13			0.25			0.16

By Movement	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	L	R	Total			Total	T	R	Total	L	T	Total	
Volume	2	0	2			0	3	2	5	0	5	5	12
PHF	0.17	0.00	0.13			0.00	0.11	0.10	0.13	0.00	0.25	0.25	0.16

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Sierra St			Southbound NW Sierra St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total
	L	R	Total			Total	T	R	Total	L	T	Total	
4:00 PM	3	1	4			0	7	5	12	0	7	7	23
4:15 PM	2	0	2			0	3	5	8	0	6	6	16
4:30 PM	2	0	2			0	3	2	5	0	5	5	12
4:45 PM	0	0	0			0	0	2	2	0	4	4	6
5:00 PM	0	0	0			0	0	0	0	0	2	2	2

Peak Hour Summary



Clay Carney
(503) 833-2740

NW Sierra St & NW Lake Rd

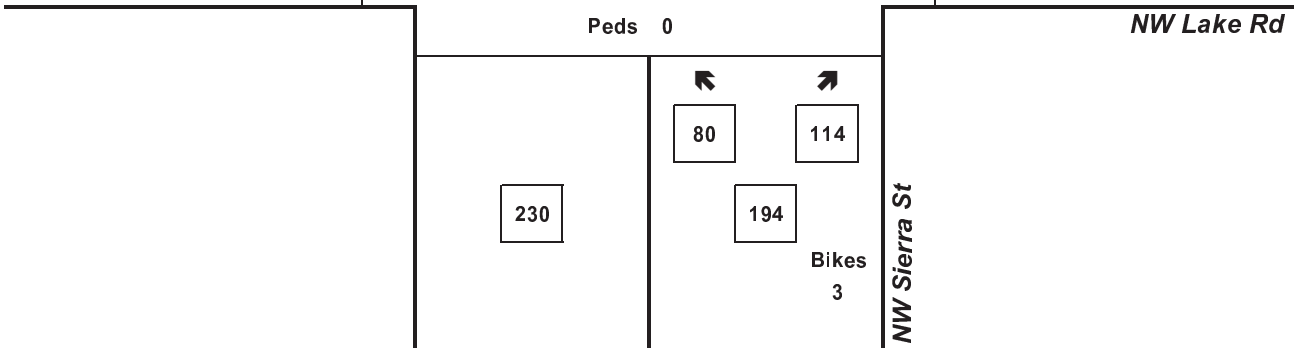
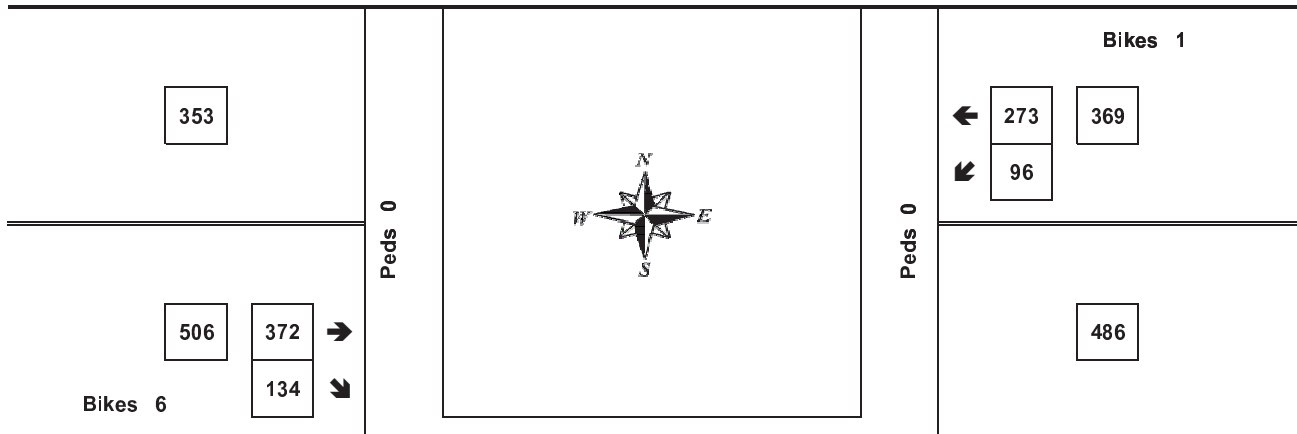
4:30 PM to 5:30 PM

Tuesday, May 13, 2014

Bikes
0

NW Lake Rd

Peds 0



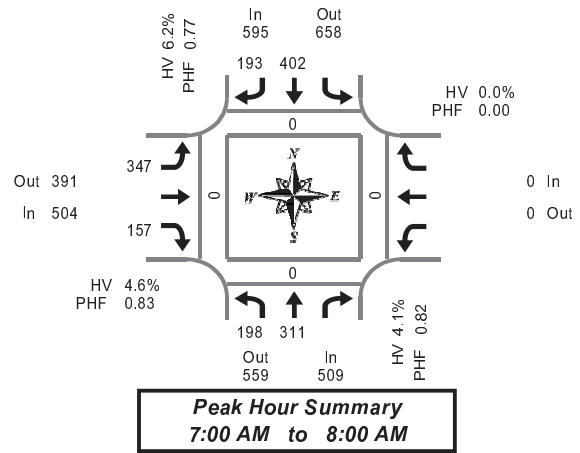
Approach	PHF	HV%	Volume
EB	0.86	1.0%	506
WB	0.89	1.4%	369
NB	0.90	1.0%	194
SB	0.00	0.0%	0
Intersection	0.95	1.1%	1,069

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Everett St & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes	In	Out	Bikes		North	South	East	West
7:00 AM	28	75	0	70	28	0	97	21	0	0	0	0	319	0	0	0	0
7:15 AM	43	112	0	106	42	0	135	17	0	0	0	0	455	0	0	0	0
7:30 AM	53	63	0	112	80	0	81	41	0	0	0	0	430	0	0	0	0
7:45 AM	74	61	0	114	43	0	34	78	0	0	0	0	404	0	0	0	0
8:00 AM	42	36	0	47	16	0	25	23	0	0	0	0	189	0	0	0	0
8:15 AM	28	41	0	50	26	0	16	21	0	0	0	0	182	0	0	0	0
8:30 AM	34	40	0	48	43	0	47	32	0	0	0	0	244	0	0	0	0
8:45 AM	49	33	0	93	64	0	31	62	0	0	0	0	332	0	0	0	0
Total Survey	351	461	0	640	342	0	466	295	0	0	0	0	2,555	0	0	0	0

Peak Hour Summary

7:00 AM to 8:00 AM

By Approach	Northbound NW Everett St				Southbound NW Everett St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	509	559	1,068	0	595	658	1,253	0	504	391	895	0	0	0	0	0	1,608	0	0	0	0
%HV	4.1%				6.2%				4.6%				0.0%				5.0%				
PHF	0.82				0.77				0.83				0.00				0.88				

By Movement	Northbound NW Everett St				Southbound NW Everett St				Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	L	T		Total	T	R	Total	L	R	Total			Total		
Volume	198	311		509	402	193	595	347	157	504			0	1,608	
%HV	2.0%	5.5%	NA	4.1%	8.5%	1.6%	6.2%	4.0%	5.7%	4.6%	NA	NA	0.0%	5.0%	
PHF	0.67	0.69		0.82	0.88	0.60	0.77	0.64	0.50	0.83			0.00	0.88	

Rolling Hour Summary

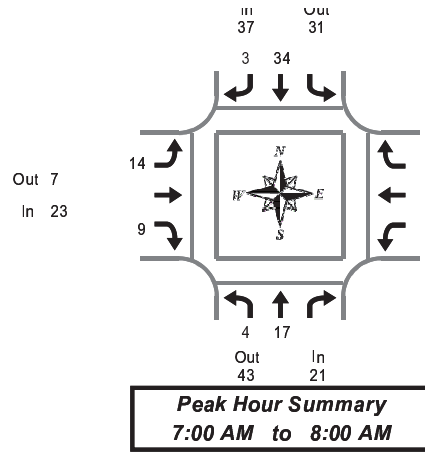
7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes	In	Out	Bikes		North	South	East	West
7:00 AM	198	311	0	402	193	0	347	157	0	0	0	0	1,608	0	0	0	0
7:15 AM	212	272	0	379	181	0	275	159	0	0	0	0	1,478	0	0	0	0
7:30 AM	197	201	0	323	165	0	156	163	0	0	0	0	1,205	0	0	0	0
7:45 AM	178	178	0	259	128	0	122	154	0	0	0	0	1,019	0	0	0	0
8:00 AM	153	150	0	238	149	0	119	138	0	0	0	0	947	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Everett St & NW Lake Rd

Wednesday, May 14, 2014
7:00 AM to 9:00 AM

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	4	5	9	0	0	0	3	1	4			0	13
7:15 AM	0	7	7	17	1	18	6	1	7			0	32
7:30 AM	0	1	1	10	1	11	4	1	5			0	17
7:45 AM	0	4	4	7	1	8	1	6	7			0	19
8:00 AM	2	1	3	1	1	2	1	0	1			0	6
8:15 AM	4	5	9	2	0	2	1	1	2			0	13
8:30 AM	1	2	3	5	1	6	1	4	5			0	14
8:45 AM	1	1	2	7	4	11	1	13	14			0	27
Total Survey	12	26	38	49	9	58	18	27	45			0	141

Heavy Vehicle Peak Hour Summary 7:00 AM to 8:00 AM

By Approach	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	21	43	64	37	31	68	23	7	30	0	0	0	81
PHF	0.31			0.25			0.27			0.00			0.30

By Movement	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	4	17	21	34	3	37	14	9	23			0	81
PHF	0.14	0.33	0.31	0.25	0.15	0.25	0.27	0.13	0.27			0.00	0.30

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
7:00 AM	4	17	21	34	3	37	14	9	23			0	81
7:15 AM	2	13	15	35	4	39	12	8	20			0	74
7:30 AM	6	11	17	20	3	23	7	8	15			0	55
7:45 AM	7	12	19	15	3	18	4	11	15			0	52
8:00 AM	8	9	17	15	6	21	4	18	22			0	60

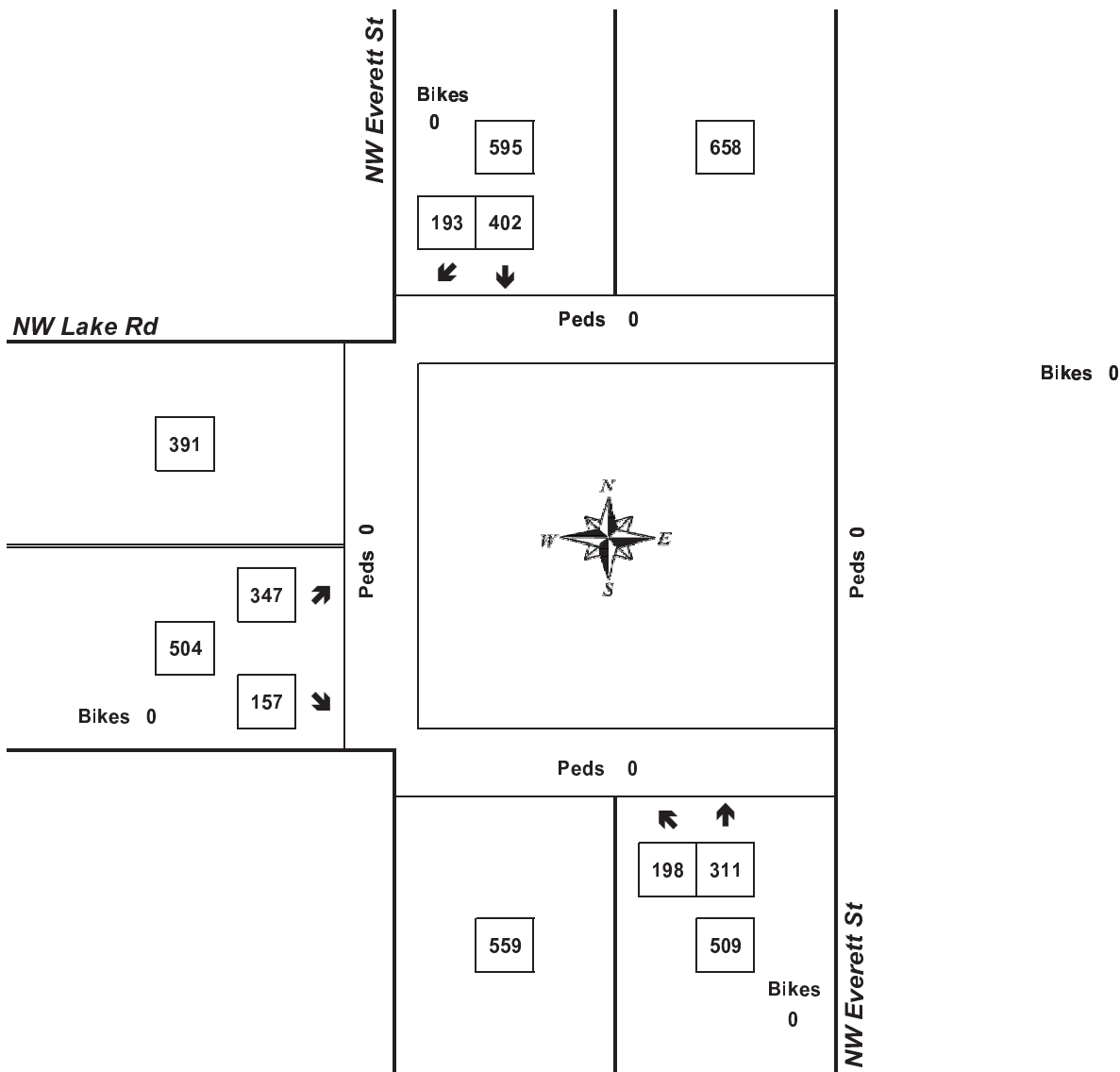
Peak Hour Summary



Clay Carney
(503) 833-2740

NW Everett St & NW Lake Rd

7:00 AM to 8:00 AM
Wednesday, May 14, 2014



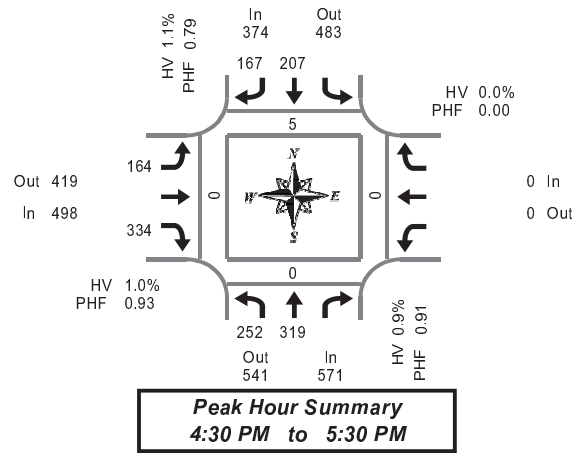
Approach	PHF	HV%	Volume
EB	0.83	4.6%	504
WB	0.00	0.0%	0
NB	0.82	4.1%	509
SB	0.77	6.2%	595
Intersection	0.88	5.0%	1,608

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



NW Everett St & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

Peak Hour Summary
4:30 PM to 5:30 PM

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	58	67	0	58	30	0	38	59	0			0	310	0	0	0	0
4:15 PM	56	75	0	60	33	0	32	59	0			0	315	0	0	0	0
4:30 PM	69	76	0	64	55	0	39	80	1			0	383	0	0	0	0
4:45 PM	52	81	0	49	40	1	43	91	1			0	356	3	0	0	0
5:00 PM	66	70	2	54	33	0	42	80	0			0	345	0	0	0	0
5:15 PM	65	92	0	40	39	1	40	83	4			0	359	2	0	0	0
5:30 PM	53	72	1	65	21	0	51	77	2			0	339	0	0	0	1
5:45 PM	49	99	1	41	28	0	47	75	1			0	339	0	0	0	0
Total Survey	468	632	4	431	279	2	332	604	9			0	2,746	5	0	0	1

Peak Hour Summary

4:30 PM to 5:30 PM

By Approach	Northbound NW Everett St				Southbound NW Everett St				Eastbound NW Lake Rd				Westbound NW Lake Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	571	541	1,112	2	374	483	857	2	498	419	917	6	0	0	0	0	1,443	5	0	0	0
%HV	0.9%				1.1%				1.0%				0.0%				1.0%				
PHF	0.91				0.79				0.93				0.00				0.94				

By Movement	Northbound NW Everett St				Southbound NW Everett St				Eastbound NW Lake Rd			Westbound NW Lake Rd				Total
	L	T		Total	T	R	Total	L	R	Total				Total		
Volume	252	319		571	207	167	374	164	334	498				0	1,443	
%HV	0.8%	0.9%	NA	0.9%	1.4%	0.6%	1.1%	1.2%	NA	0.9%	1.0%	NA	NA	NA	0.0%	1.0%
PHF	0.91	0.87		0.91	0.81	0.76	0.79	0.95	0.92	0.93				0.00	0.94	

Rolling Hour Summary

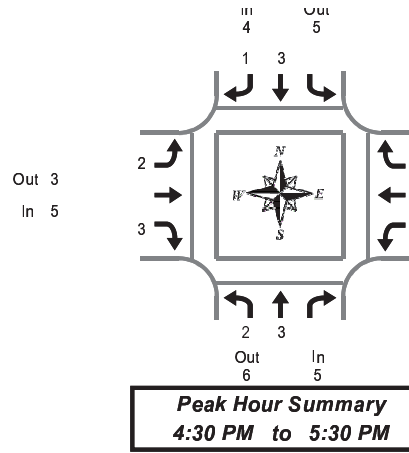
4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total	Pedestrians Crosswalk			
	L	T	Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
4:00 PM	235	299	0	231	158	1	152	289	2			0	1,364	3	0	0	0
4:15 PM	243	302	2	227	161	1	156	310	2			0	1,399	3	0	0	0
4:30 PM	252	319	2	207	167	2	164	334	6			0	1,443	5	0	0	0
4:45 PM	236	315	3	208	133	2	176	331	7			0	1,399	5	0	0	1
5:00 PM	233	333	4	200	121	1	180	315	7			0	1,382	2	0	0	1

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



NW Everett St & NW Lake Rd

Tuesday, May 13, 2014
4:00 PM to 6:00 PM

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	1	2	3	3	0	3	0	0	0			0	6
4:15 PM	2	1	3	4	0	4	1	1	2			0	9
4:30 PM	0	0	0	1	0	1	2	2	4			0	5
4:45 PM	0	1	1	1	1	2	0	1	1			0	4
5:00 PM	1	1	2	1	0	1	0	0	0			0	3
5:15 PM	1	1	2	0	0	0	0	0	0			0	2
5:30 PM	0	2	2	0	0	0	0	0	0			0	2
5:45 PM	0	1	1	0	0	0	0	0	0			0	1
Total Survey	5	9	14	10	1	11	3	4	7			0	32

Heavy Vehicle Peak Hour Summary 4:30 PM to 5:30 PM

By Approach	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	5	6	11	4	5	9	5	3	8	0	0	0	14
PHF	0.21			0.13			0.18			0.00			0.17

By Movement	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Total
	L	T	Total	T	R	Total	L	R	Total			Total	
Volume	2	3	5	3	1	4	2	3	5			0	14
PHF	0.17	0.19	0.21	0.09	0.25	0.13	0.17	0.19	0.18			0.00	0.17

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound NW Everett St			Southbound NW Everett St			Eastbound NW Lake Rd			Westbound NW Lake Rd			Interval Total
	L	T	Total	T	R	Total	L	R	Total			Total	
4:00 PM	3	4	7	9	1	10	3	4	7			0	24
4:15 PM	3	3	6	7	1	8	3	4	7			0	21
4:30 PM	2	3	5	3	1	4	2	3	5			0	14
4:45 PM	2	5	7	2	1	3	0	1	1			0	11
5:00 PM	2	5	7	1	0	1	0	0	0			0	8

Peak Hour Summary

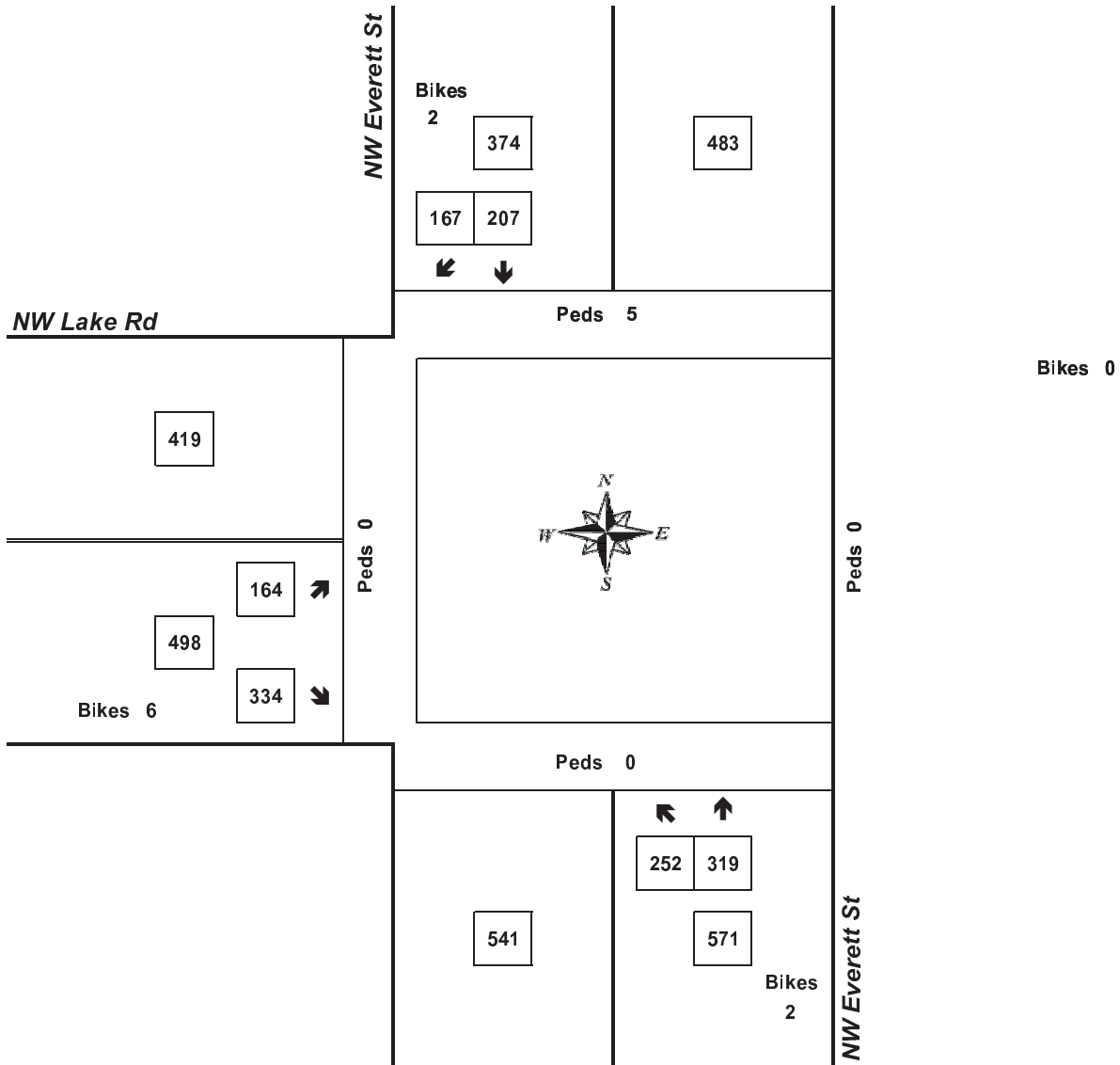


Clay Carney
(503) 833-2740

NW Everett St & NW Lake Rd

4:30 PM to 5:30 PM

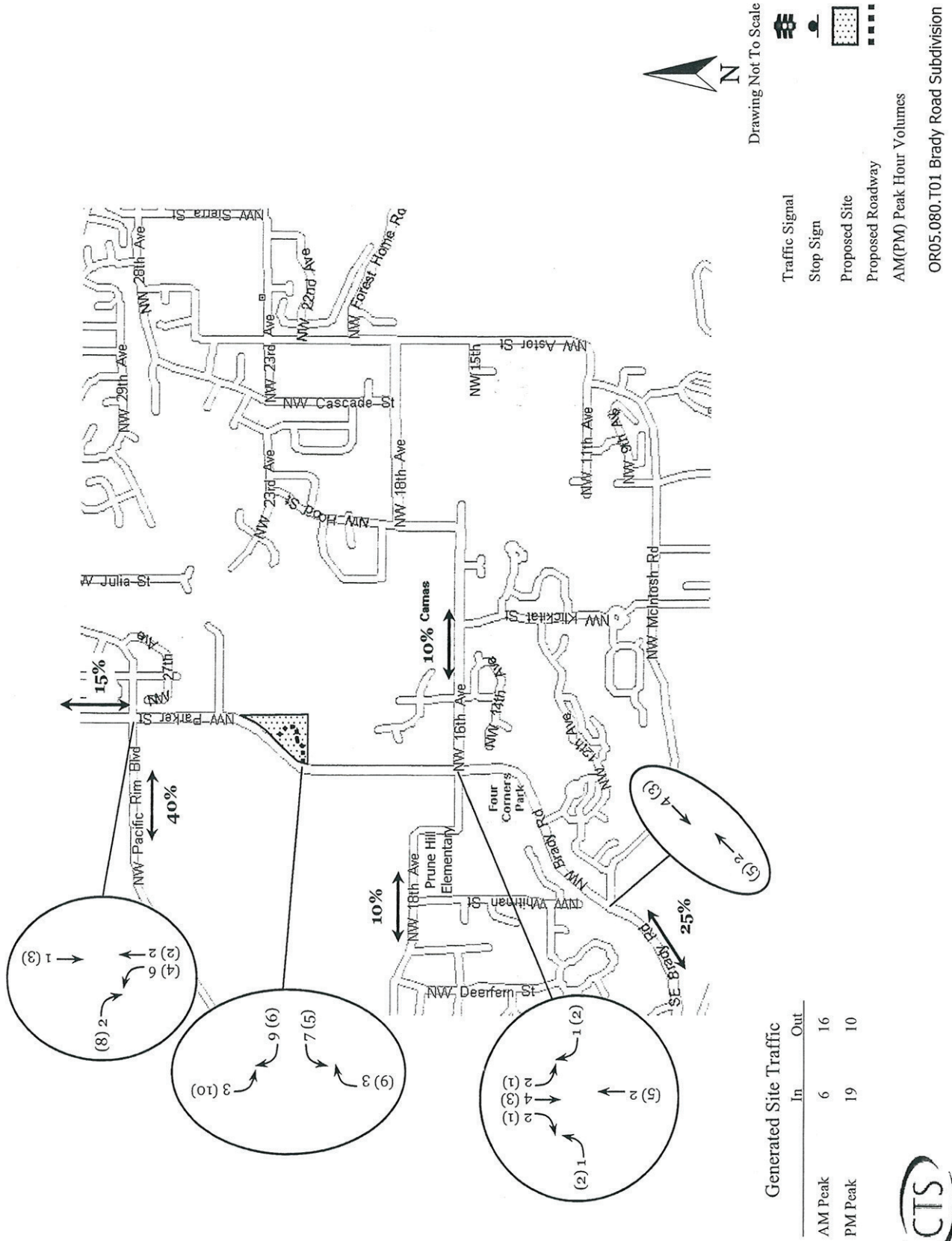
Tuesday, May 13, 2014



Approach	PHF	HV%	Volume
EB	0.93	1.0%	498
WB	0.00	0.0%	0
NB	0.91	0.9%	571
SB	0.79	1.1%	374
Intersection	0.94	1.0%	1,443

Count Period: 4:00 PM to 6:00 PM

Figure 8: Weekday Peak Hour Traffic Volumes Generated By Brady Road Subdivision



Generated Site Traffic	In		Out	
	AM Peak	PM Peak	AM Peak	PM Peak
	6	19	16	10



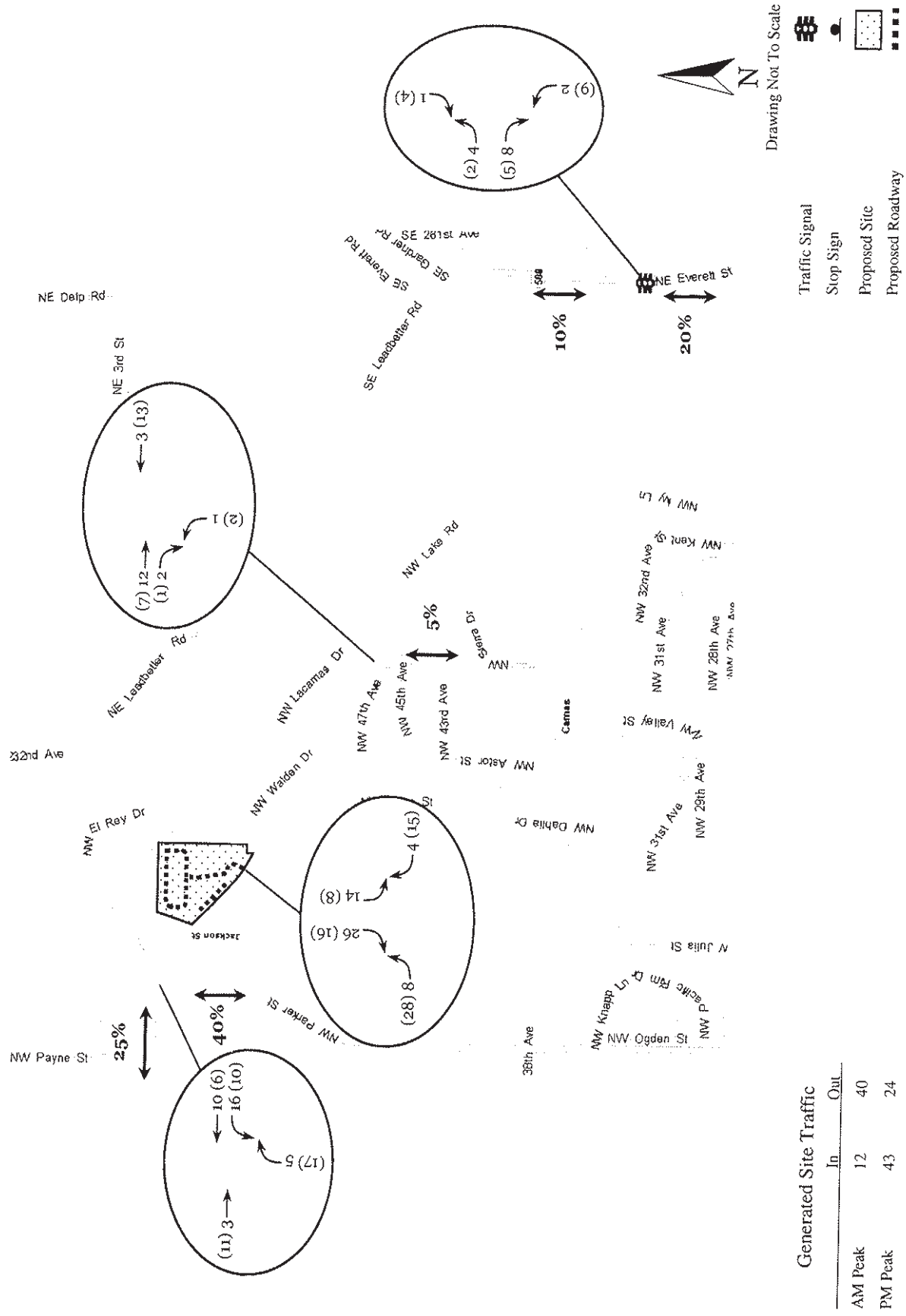
OR05.080.T01 Brady Road Subdivision

- Traffic Signal
- Stop Sign
- Proposed Site
- Proposed Roadway
- AM(PM) Peak Hour Volumes



Drawing Not To Scale

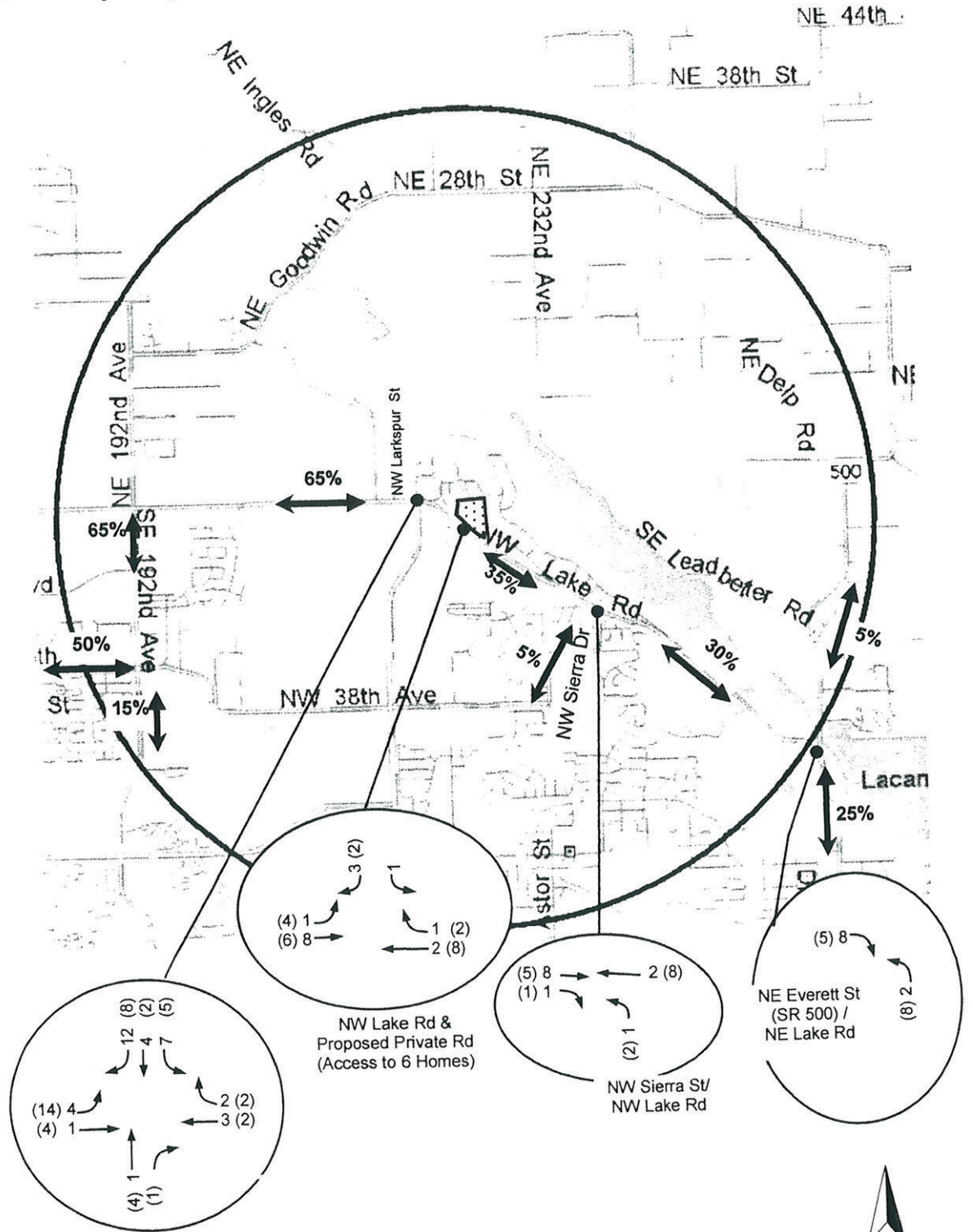
Figure 8: Weekday Peak Hour Traffic Volumes Generated By Lake Hills PRD



OR05.091.T01 Lake Hills PRD




Figure 8: Weekday Peak Hour Trip Assignment Of New Peak Hour Vehicle Trips Generated by Proposed Lake Hills Residential Development (2-mile Radius)



Lake Hills Peak Hour Trips

	In	Out
AM Peak	10	30
PM Peak	34	20

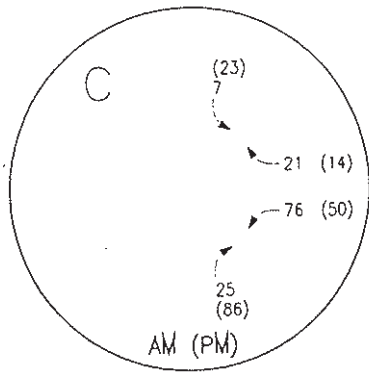

 Drawing Not To Scale

Proposed Site 
 AM (PM) Peak Hour Volumes

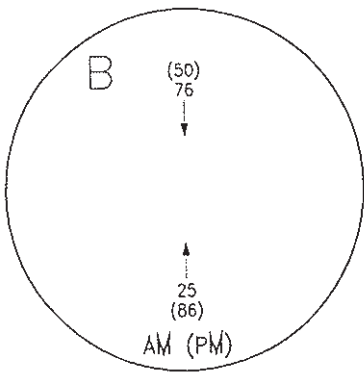
12.06.C01 Lake Hills Residential Development



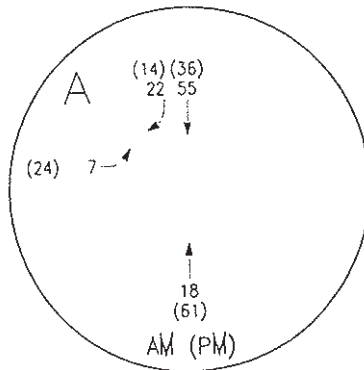
NE 43rd Ave/Everett Street






NE 38th Ave/Everett Street

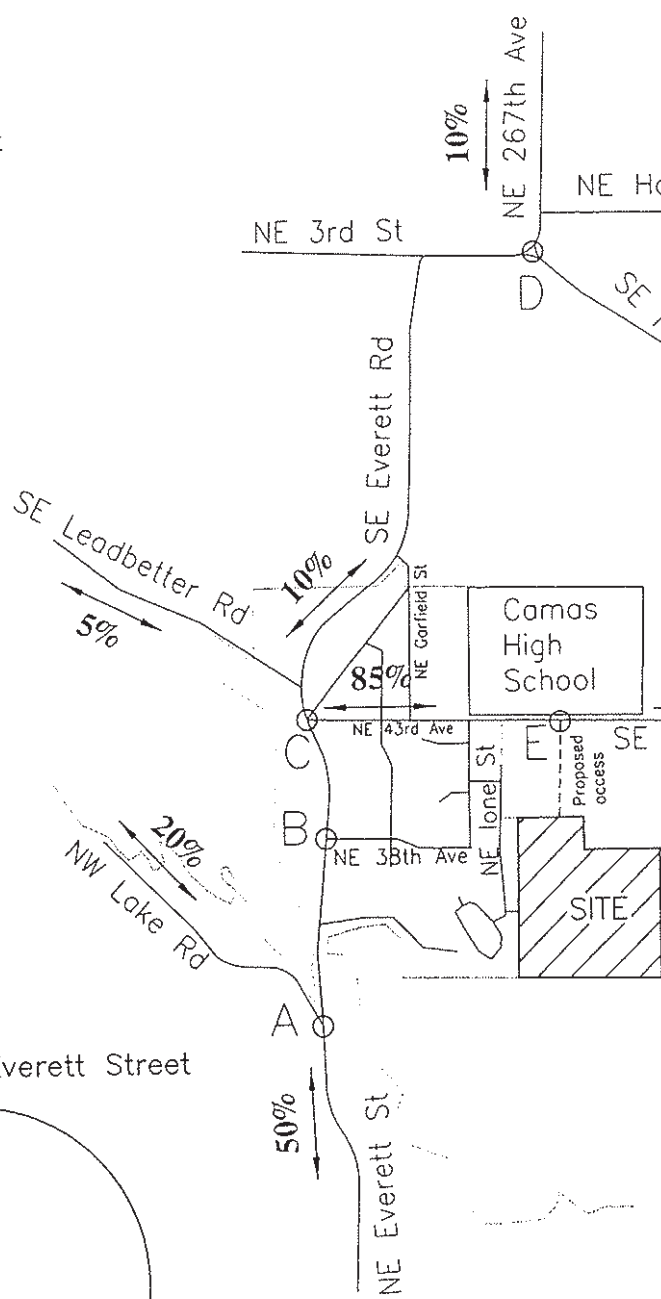


NW Lake Road/Everett Street



LEGEND

- AM (PM) AM, PM PEAK HR VOLUME
-  PROPOSED DEVELOPMENT
-  STUDY INTERSECTION
-  URBAN GROWTH BOUNDARY

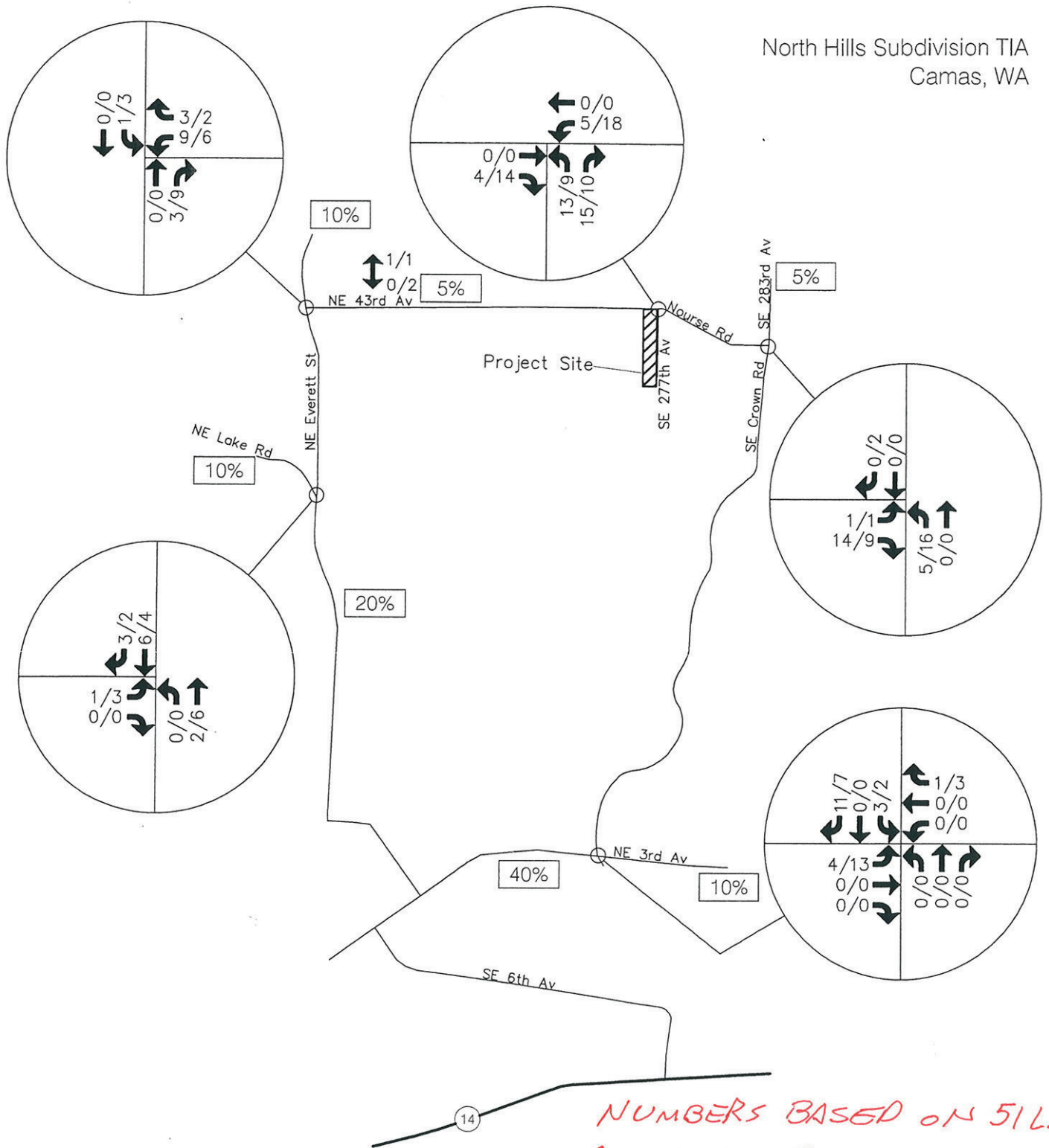


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314 W. 15th Street
 Vancouver, WA 98660-2927
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 (503) 924-4005
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 Internet: www.hdjengineers.com

North Hills Subdivision TIA
Camas, WA



LEGEND

100/128

AM/PM Peak Hour
Traffic Volumes

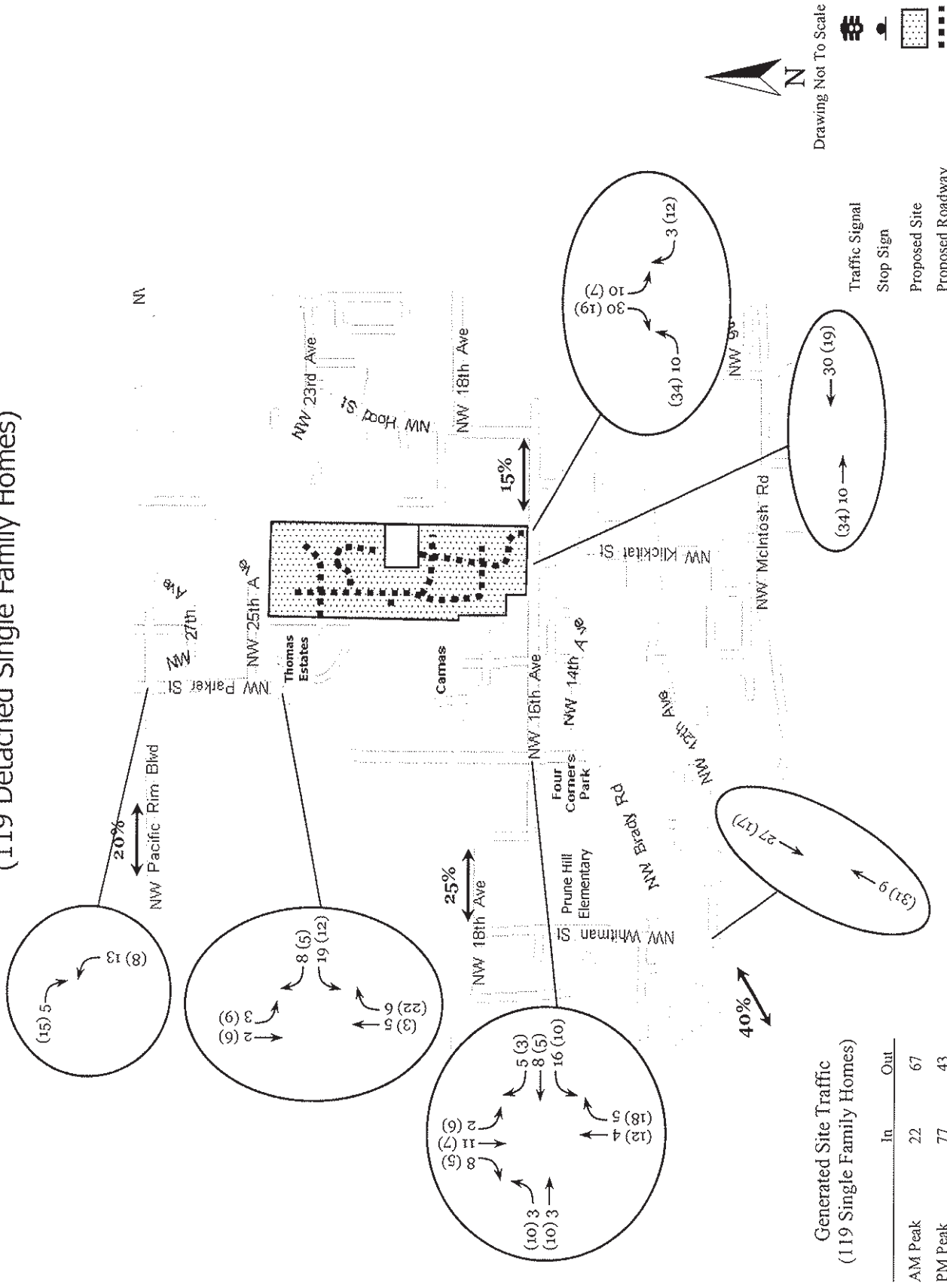
8%

Inbound Peak Hour Trip Distribution



FIGURE 6
Trip Distribution and Assignment for
Study Area Intersections

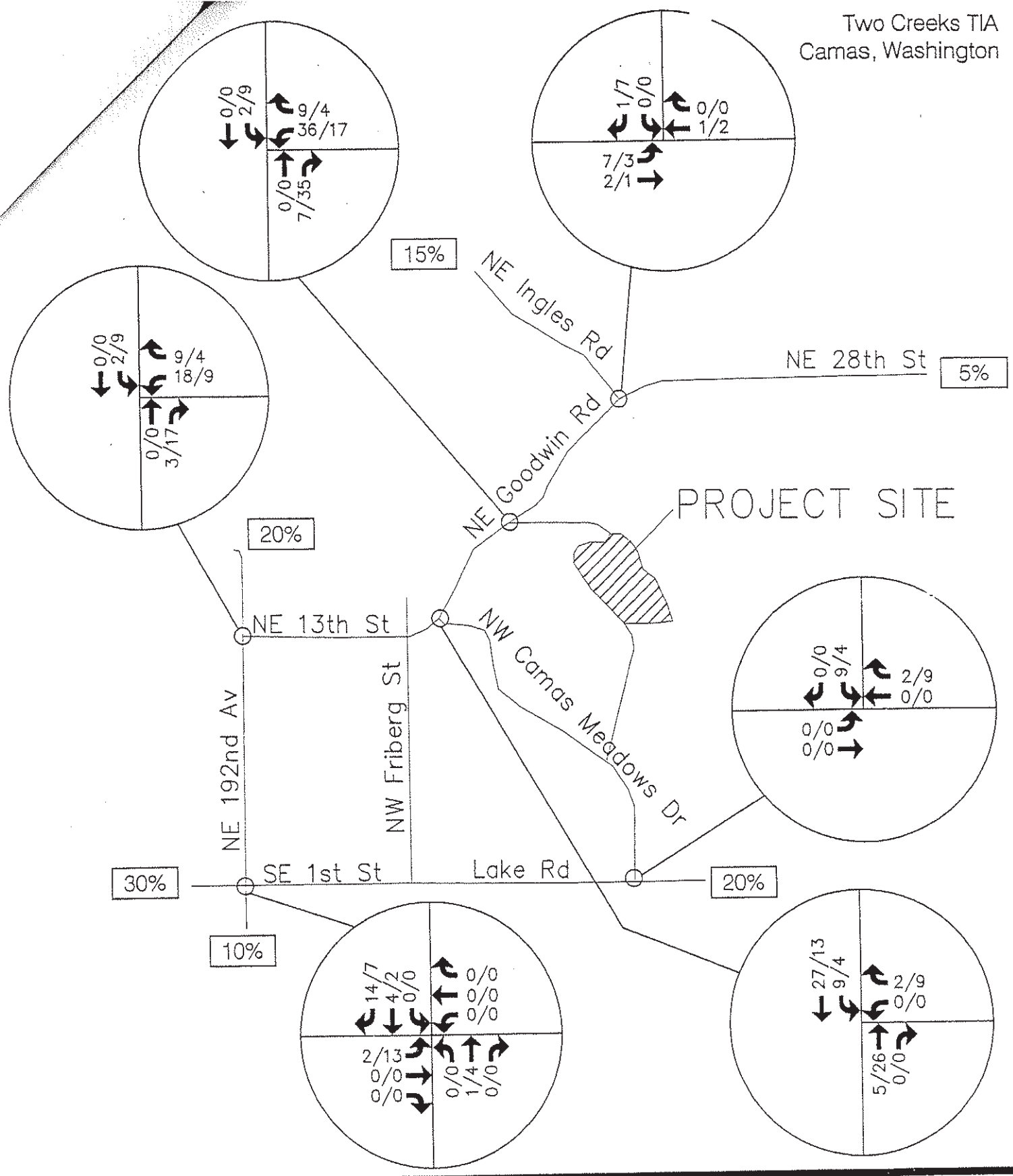
Figure 9: Weekday Peak Hour Traffic Volumes Generated The Summit at Columbia Vista
(119 Detached Single Family Homes)



Generated Site Traffic
(119 Single Family Homes)

	In	Out
AM Peak	22	67
PM Peak	77	43





LEGEND

5/10 A.M. and P.M. Peak Hour
Traffic Volumes

40% A.M. and P.M. Peak Hour Trip Distribution

NOT TO SCALE

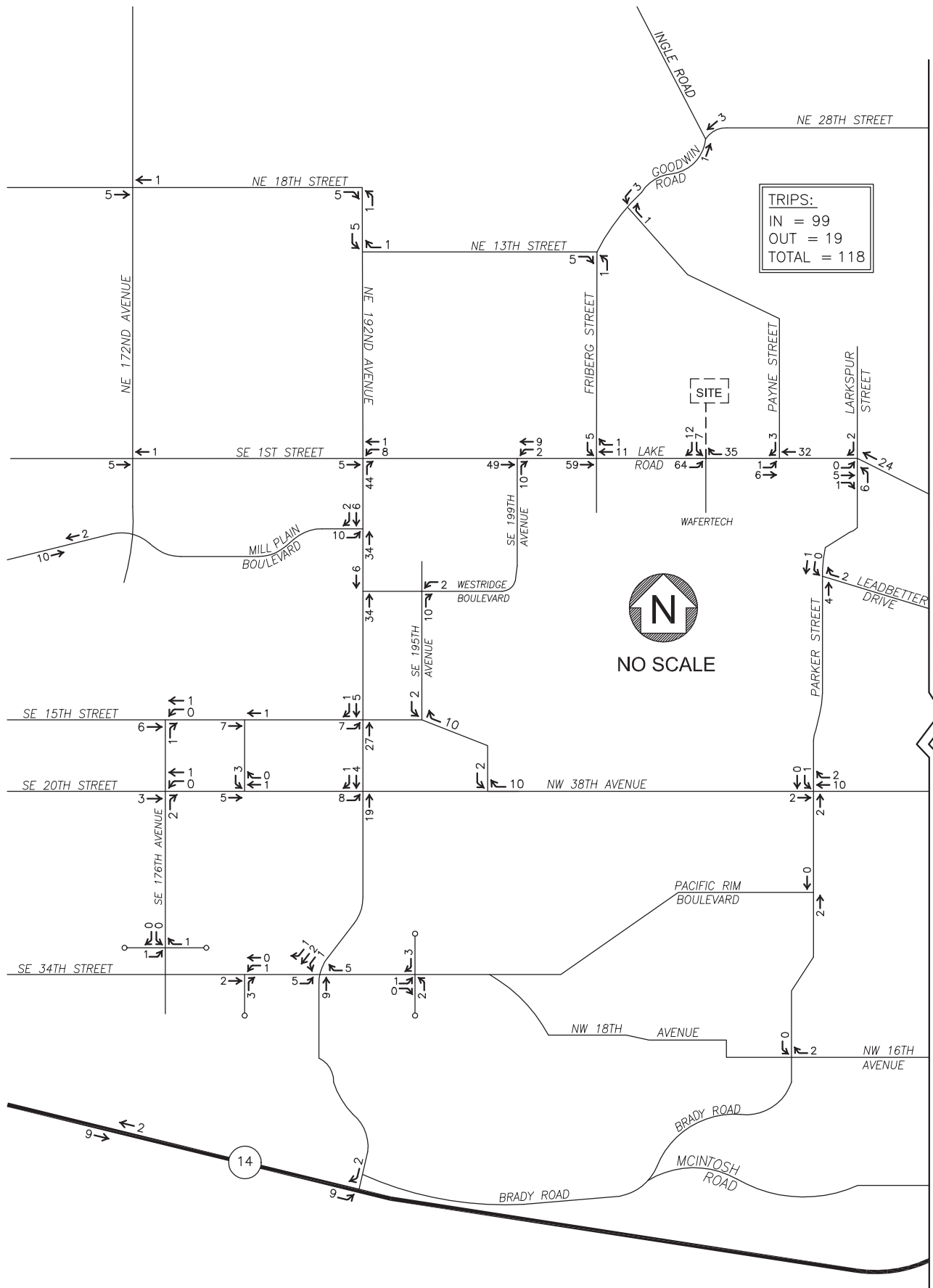
FIGURE 6
Trip Distribution and Assignment

Alternative 22
(123 UNITS)

ALT. #1 WAS 112 UNITS

NOTES: Trip generation based on Manufacturing (ITE 140), Warehouse (ITE 150), Shooting Range, and General Office (ITE 710) trip rates.

**TRIP ASSIGNMENT
AM PEAK HOUR
DWYER CREEK BUSINESS CENTER**

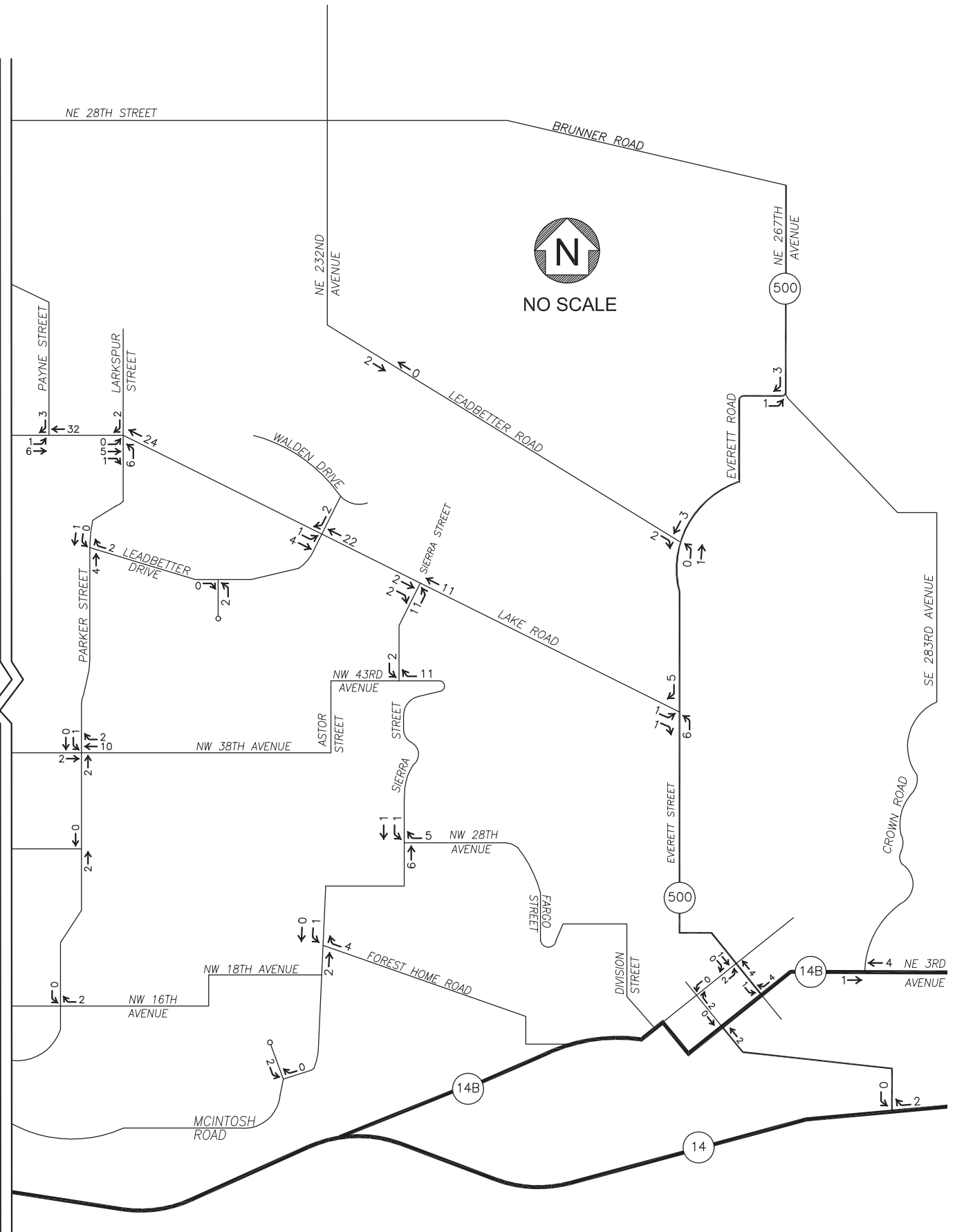


SEE FIGURE 7b

SEE FIGURE 7b

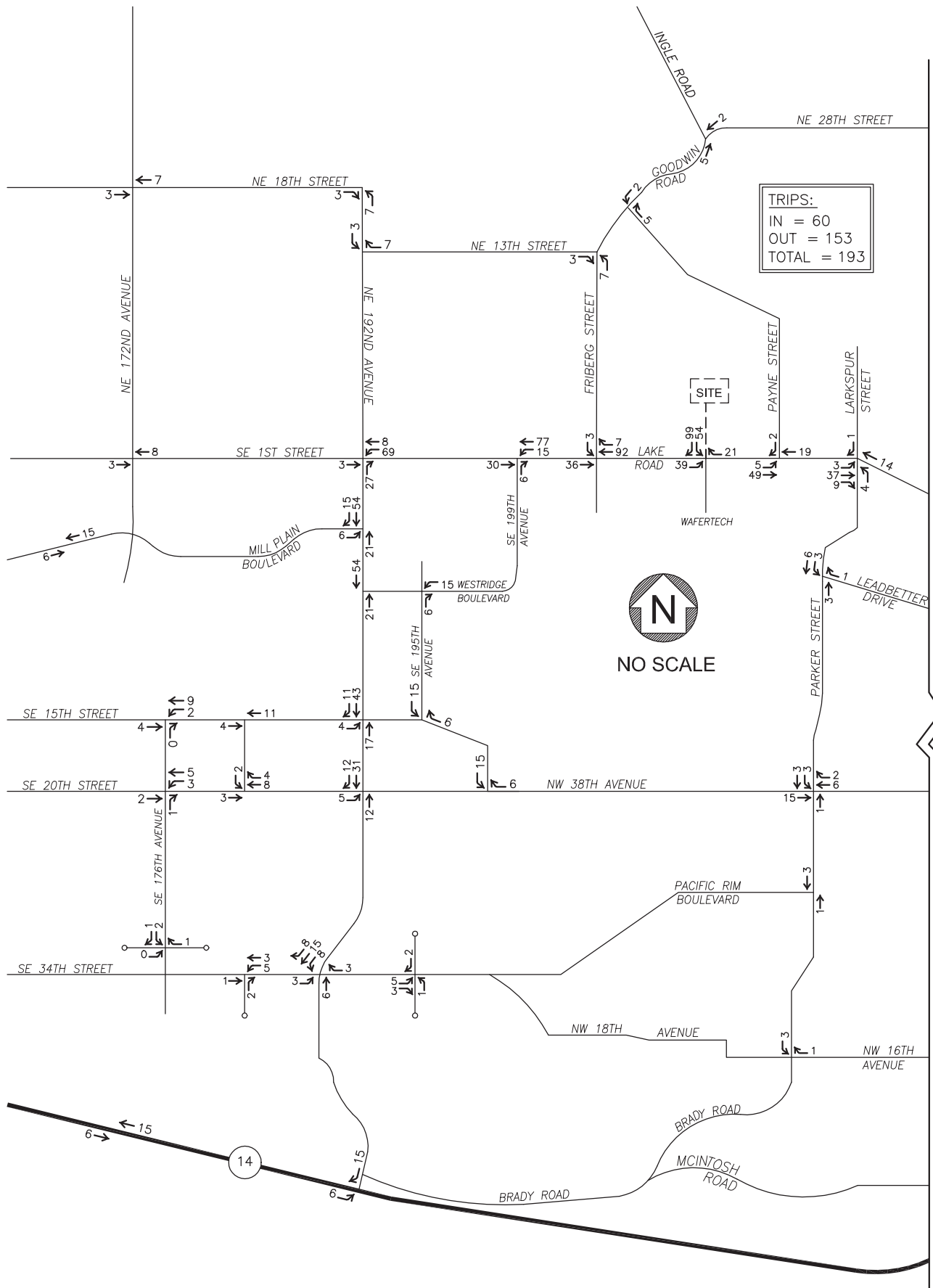
SEE FIGURE 7a

SEE FIGURE 7a



NOTES: Trip generation based on Manufacturing (ITE 140), Warehouse (ITE 150), Shooting Range, and General Office (ITE 710) trip rates.

**TRIP ASSIGNMENT
PM PEAK HOUR
DWYER CREEK BUSINESS CENTER**

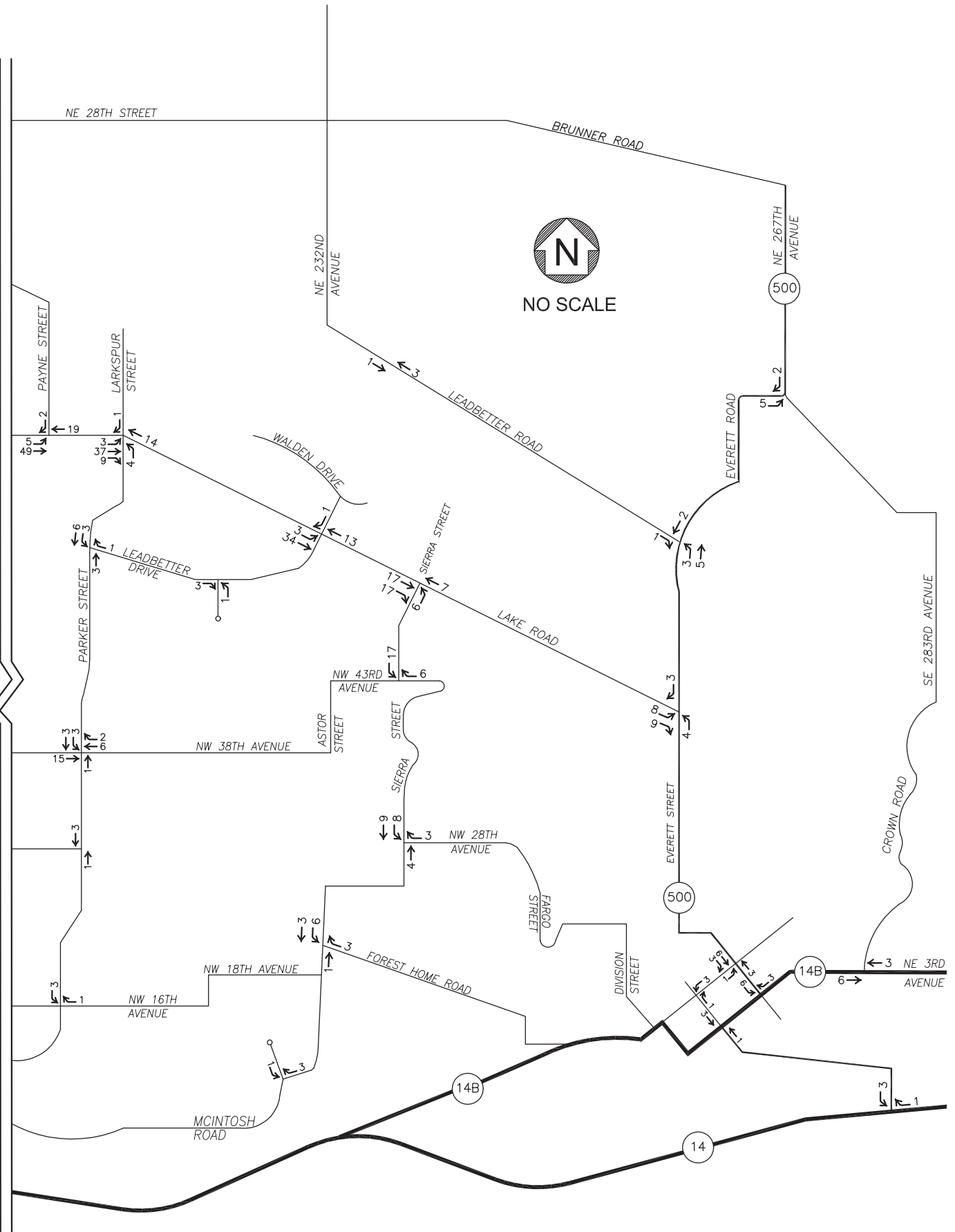


SEE FIGURE 8b

SEE FIGURE 8b

SEE FIGURE 8a

SEE FIGURE 8a



4. SITE DEVELOPMENT

TRIP GENERATION

Trip generation calculations were prepared using the ITE *Trip Generation* Report, 8th Edition. Trip generation estimates for the site were calculated based on fitted curve equations for Land Use Code 210, Single Family Detached Housing. The following table presents the anticipated trip generation for daily, AM peak hour of adjacent street traffic, and PM peak hour of adjacent street traffic periods based on the 297 new dwelling units proposed.

Land Use (ITE Code)	Dwelling Units	ADT	AM Peak Hour		PM Peak Hour	
			Enter	Exit	Enter	Exit
Single Family Detached Housing (210)	297	2,831	54	164	176	104

For purposes of this analysis, all trips are assumed to be automobile trips.

TRIP DISTRIBUTION AND ASSIGNMENT

Distribution of site trips is based on existing EMME/2 model data provided by RTC. Specifically, the trip assignment patterns from the existing model's Transportation Analysis Zone (TAZ) 483 are used. TAZ 483 includes all four subject parcels comprising the subdivision site.

From the site accesses on Leadbetter Road, it is estimated 35% of site trips will travel to and from the north/west and 65% to and from the south/east. Further distribution is estimated as follows, and as depicted on Figure 8.

- 20% to/from the west on NE Goodwin Road
- 10% to/from the northwest on NE Ingle Road
- 5% to/from the north on NE 242nd Avenue (SR 500)
- 5% to/from the northeast toward Everett Road (SR 500) via Leadbetter Road
- 10% to/from the east on NE 43rd Avenue, primarily to and from the schools
- 40% to/from the south on NE Everett Street (SR 500), between the subdivision and downtown Camas
- 5% to/from the neighborhoods southwest of NW Lake Road
- 5% to/from the west on NW Lake Road

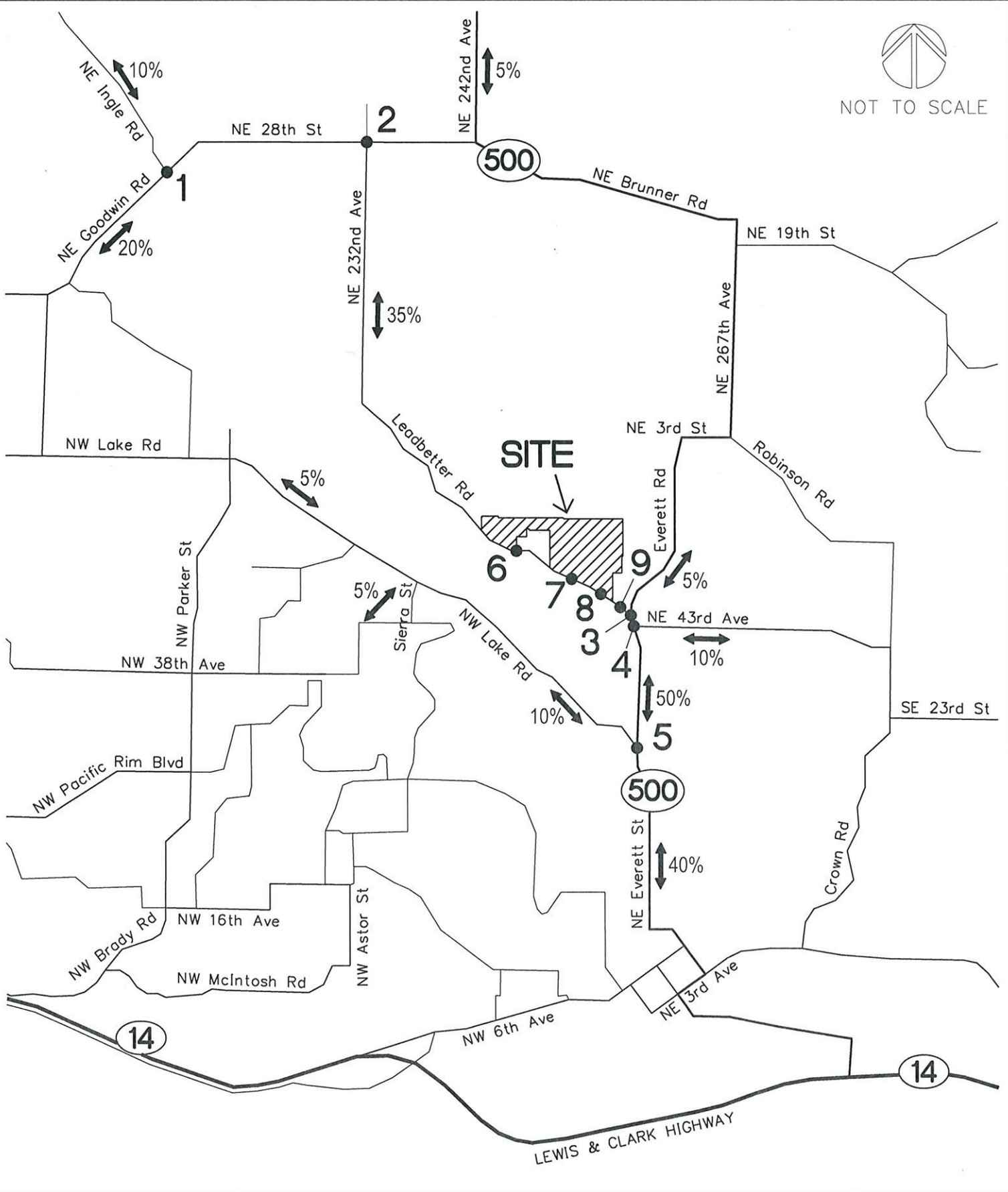
These distribution percentages are applied to the trip generation values to yield the site trip assignments. These are presented in Figure 9.

POST-DEVELOPMENT TRAFFIC

Post-development traffic is the sum of pre-development traffic volumes and site-generated traffic. Figure 10 presents 2018 post-development traffic volumes. Figure 12 presents 2030 future post-development traffic conditions, which add an additional 12 years of background growth to the 2018 post-development volumes.



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 DRAWN BY: DAH
 CHECKED BY: BTA
 JOB NO:
 2050186.01

SITE TRIP DISTRIBUTION

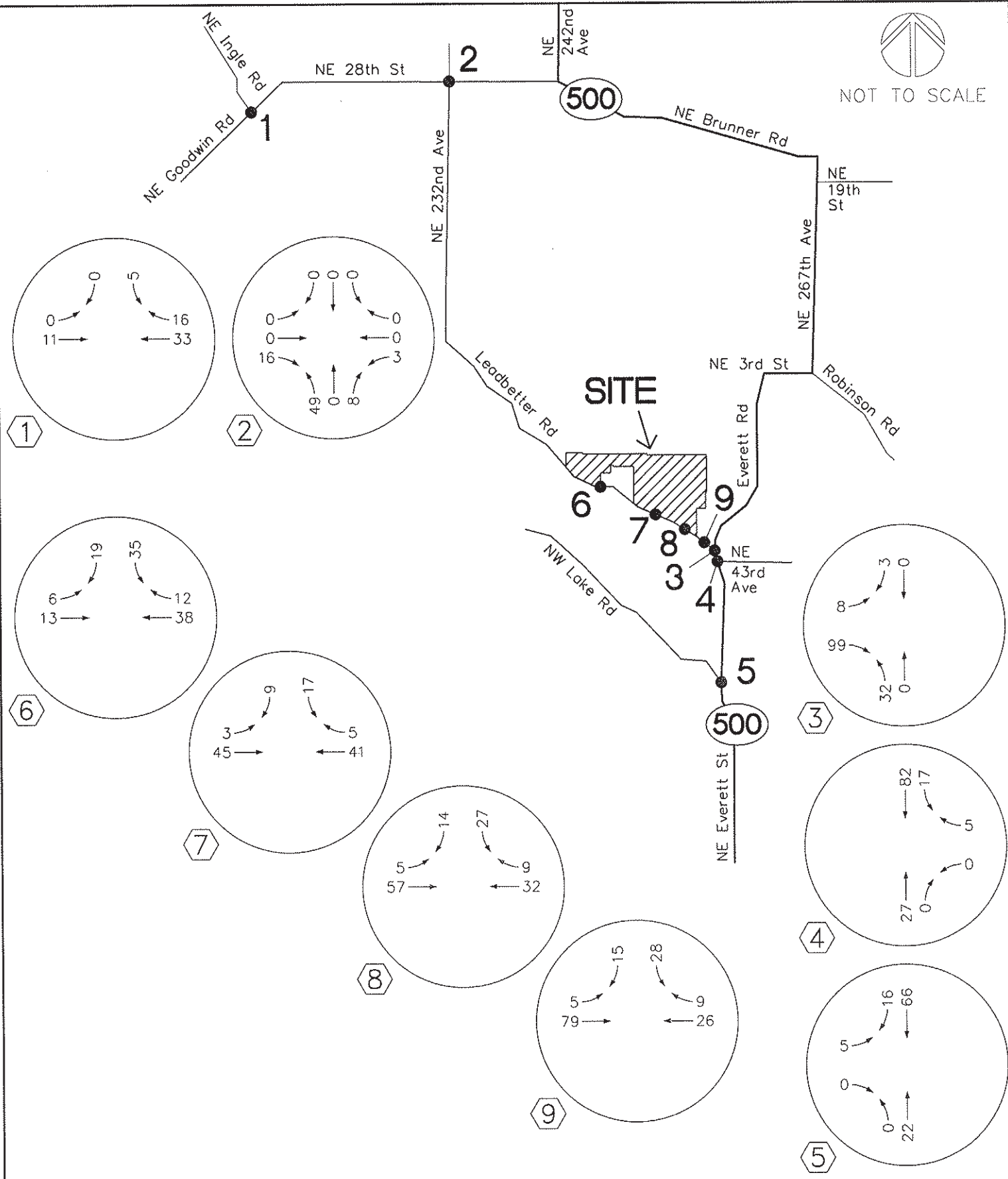
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 CAMAS, WASHINGTON**

**FIGURE
 8**

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 CHECKED BY: BTA
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 2050186.01

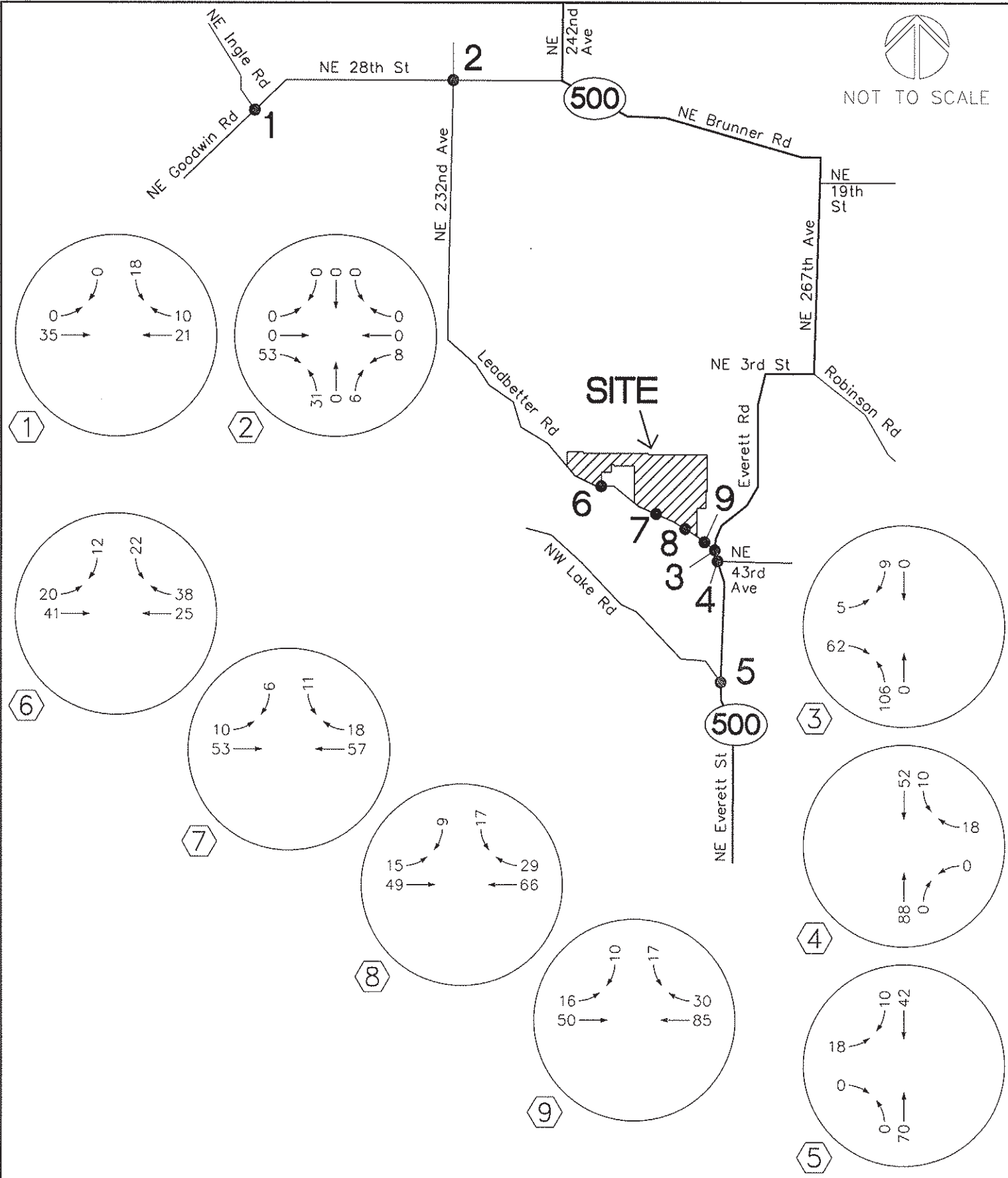
SITE TRIP ASSIGNMENTS - AM PEAK HOUR
 CJ DENS RESIDENTIAL SUBDIVISION
 CAMAS, WASHINGTON

FIGURE 9A

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DATE: 08.03.10
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 CHECKED BY: BTA
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 2050186.01

**SITE TRIP ASSIGNMENTS -
 PM PEAK HOUR**
 CJ DENS RESIDENTIAL SUBDIVISION
 CAMAS, WASHINGTON

**FIGURE
 9B**

Table 4: Trip Generation Estimate – Phase 1

Land Use	ITE Code	Size	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Single-Family Detached Housing	210	215 units	2,050	160	40	120	215	135	80

Table 5: Trip Generation Estimate – Build-out (Includes Phase 1)

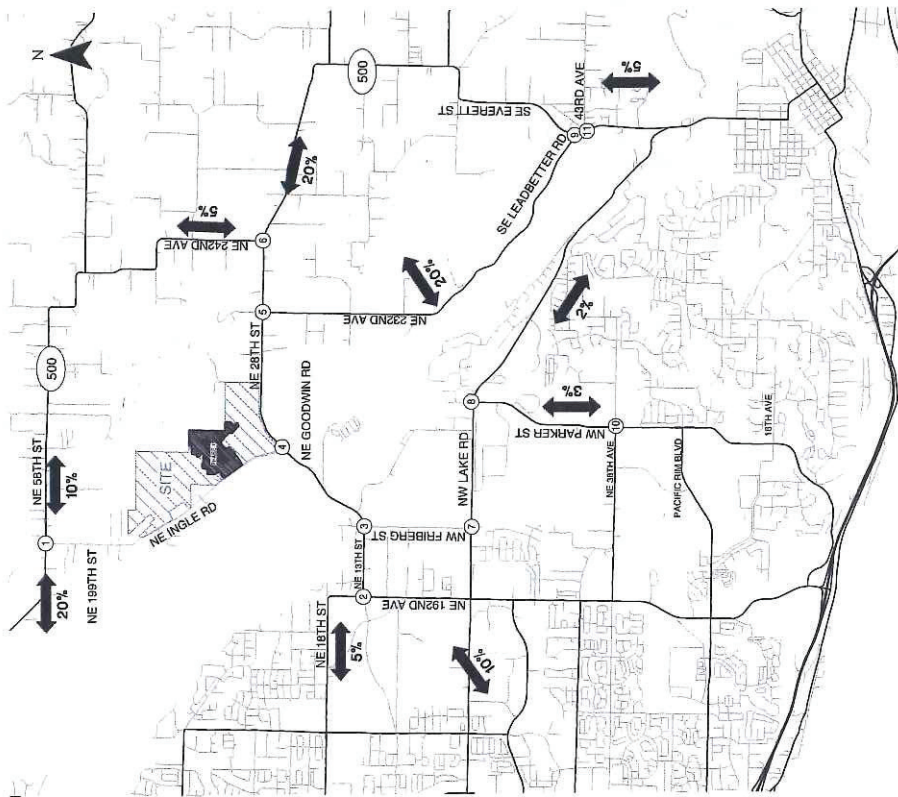
Land Use	ITE Code	Size	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour			
				Total	In	Out	Total	In	Out	
Apartment	220	536 units	3,570	275	55	220	330	215	115	
Single-Family Detached Housing	210	764 units	7,270	575	145	430	765	480	285	
Total Residential (1,300 units)			10,840	850	200	650	1,095	695	400	
<i>Internalization (6% Daily, 5% PM)</i>			630	0	0	0	60	30	30	
Shopping Center	820	90,000 square feet	6,340	145	90	55	560	270	290	
<i>Internalization (10% Daily, 11% PM)</i>			630	0	0	0	60	30	30	
<i>Pass-By Trips (34%)</i>			1,940	50	25	25	170	85	85	
Total Trips			17,180	995	290	705	1,655	965	690	
<i>Less Internalization</i>			1,260	0	0	0	120	60	60	
<i>Less Pass-by trips</i>			1,940	50	25	25	170	85	85	
Net New Trips for Full Build-out			13,980	945	265	680	1,365	820	545	

Trip Distribution

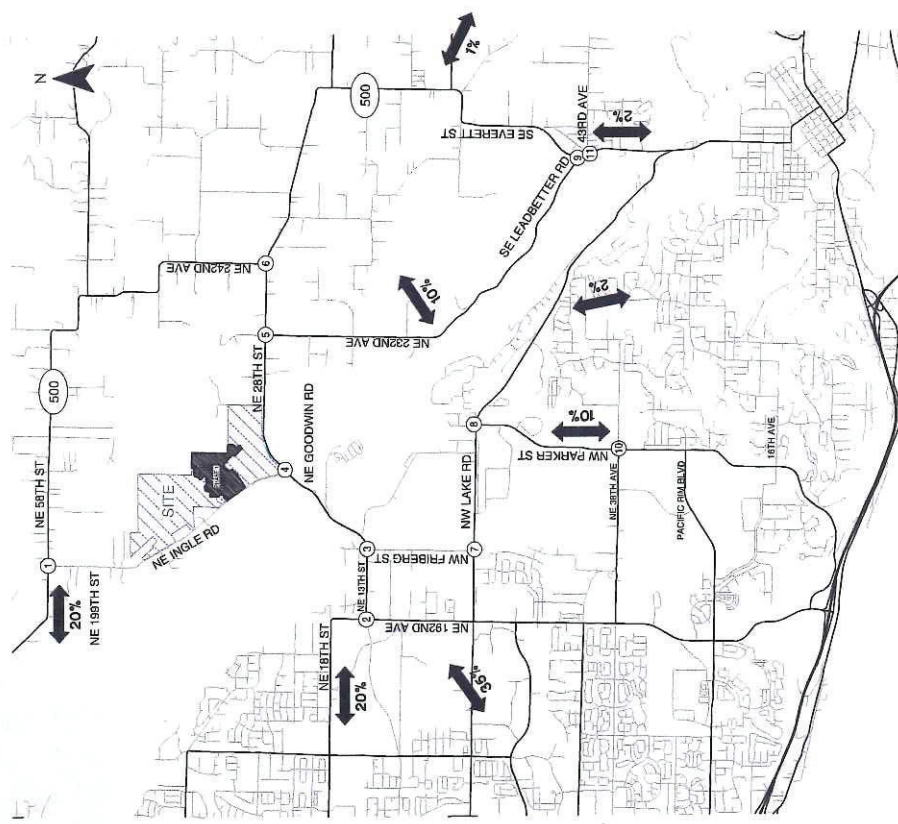
The distribution of site-generated trips onto the study area roadway system was estimated based on a review of surrounding roadway characteristics, existing uses, the 2035 travel demand model maintained by the Southwest Washington Regional Transportation Council (RTC), and review agency guidance. Trip distribution patterns were developed separately for the residential and retail trips. Figure 6 illustrates the trip distribution patterns for the residential and retail trips.

Trip Assignment

The weekday a.m. and p.m. peak hour site trips shown in Tables 4 and 5 were assigned to the roadway network based on the trip distribution patterns shown in Figure 6. Figures 7 through 10 show the assignment of site-generated trips during the weekday a.m. and p.m. peak hours for Phase 1 and at Build-out. Note that the site-generated build-out volumes shown in Figures 9 and 10 include the Phase 1 site-generated trips and thus reflect the total number of trips generated. A figure showing the assignment of pass-by trips is provided in Appendix "E".

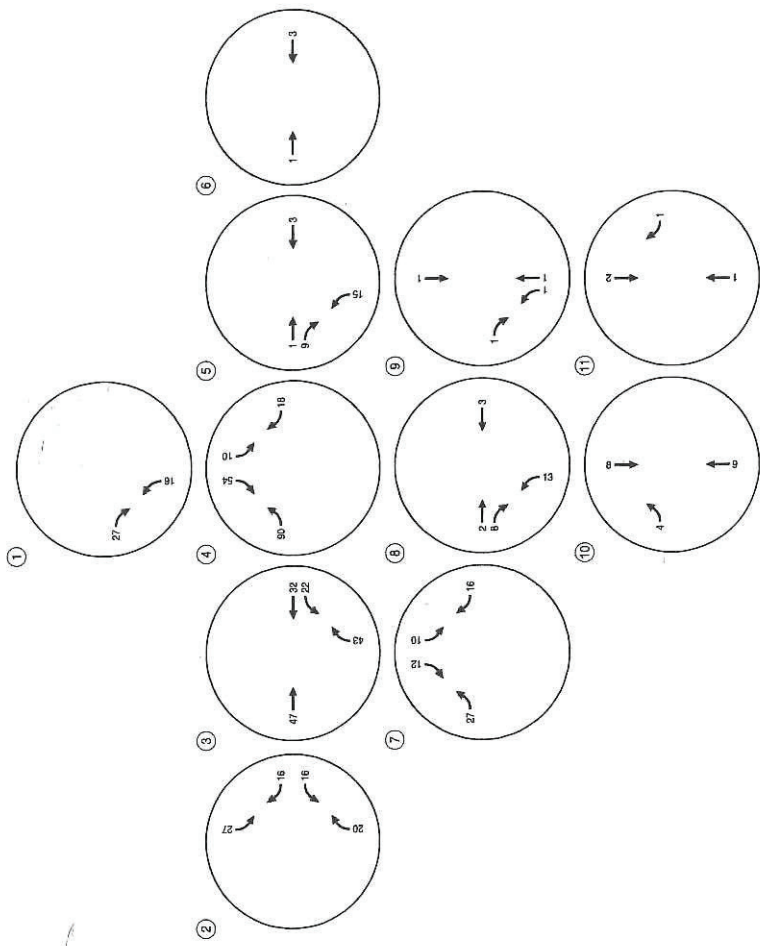
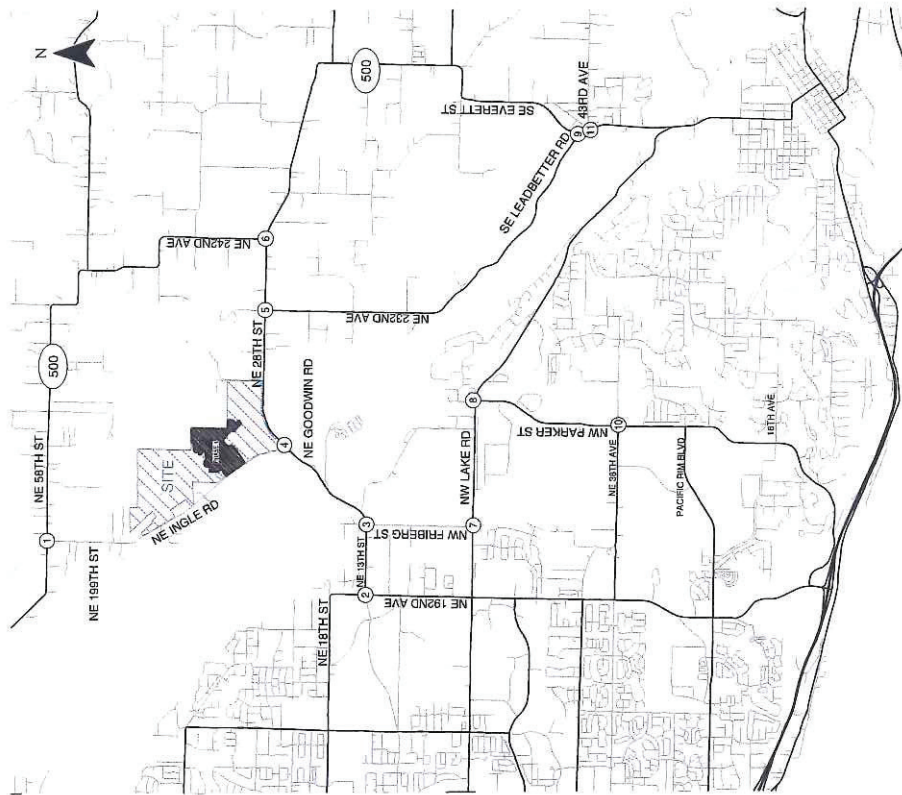


RETAIL DISTRIBUTION:



RESIDENTIAL DISTRIBUTION:

Estimated Trip Distribution Pattern
Camas, Washington
Figure 6



Total Estimated Trip Assignment - Phase 1
 Weekday PM Peak Hour
 Camas, Washington
 Figure 8

Traffic Volumes

The traffic counts in this report were conducted from 7:00 to 9:00 am and 4:00 to 6:00 pm during February 2014. The AM peak hour occurred between approximately 7:15 to 8:15 am and the PM peak hour occurred between approximately 4:30 to 5:30 pm. The peak hour is the one-hour time period when traffic volumes are the highest and congestion on the adjacent streets is most likely to occur. The existing traffic volumes are shown in Figures 3a and 3b. The raw traffic count data is shown in Appendix A.

Trip Generation/Distribution

The Green Mountain Estates subdivision could generate approximately 3,779 *new* trips per day, ITE Trip Generation Manual, 9th edition. A trip is a one-directional vehicle movement. Two hundred ninety-eight new trips could occur during the AM peak hour and 397 new trips could occur during the PM peak hour. The trip generation rates are shown in Table 1.

Table 1, Site Traffic Generation

Land Use	ITE code	Trip Generation	Units *	Trips/Day	Trips/AM Peak	Trips/PM Peak
Single-Family Detached Homes	210	9.52/dwell unit-Day 0.75/dwell unit-AM Peak Hour 1.00/dwell unit-PM Peak Hour	400 - 3 existing = 397 new	3,779	298 (in-74, out-224)	397 (in-250, out-147)

* credit for the 3 existing homes was accounted for in the existing traffic volumes

The directional distribution of traffic generated by the development was assigned to the study area intersections. This distribution was based on the existing traffic volumes and discussions with staff from the City of Camas. The site traffic distribution and assignment are shown in Figures 7a through 7d.

Year 2019 Traffic Volumes

The year 2019 traffic volumes at the study area intersections included in-process traffic from the Lacamas Prairie Estates PUD development. The Lacamas Prairie Estates PUD is a 176-lot development located at the NE 25th Street/NE 187th Avenue intersection in Clark County. The in-process traffic is shown in Figures 5a and 5b and was included to provide an analysis for build-out of the Green Mountain Estates subdivision, forecast year 2019 traffic conditions.

MATCH LINE SEE FIGURE 7d

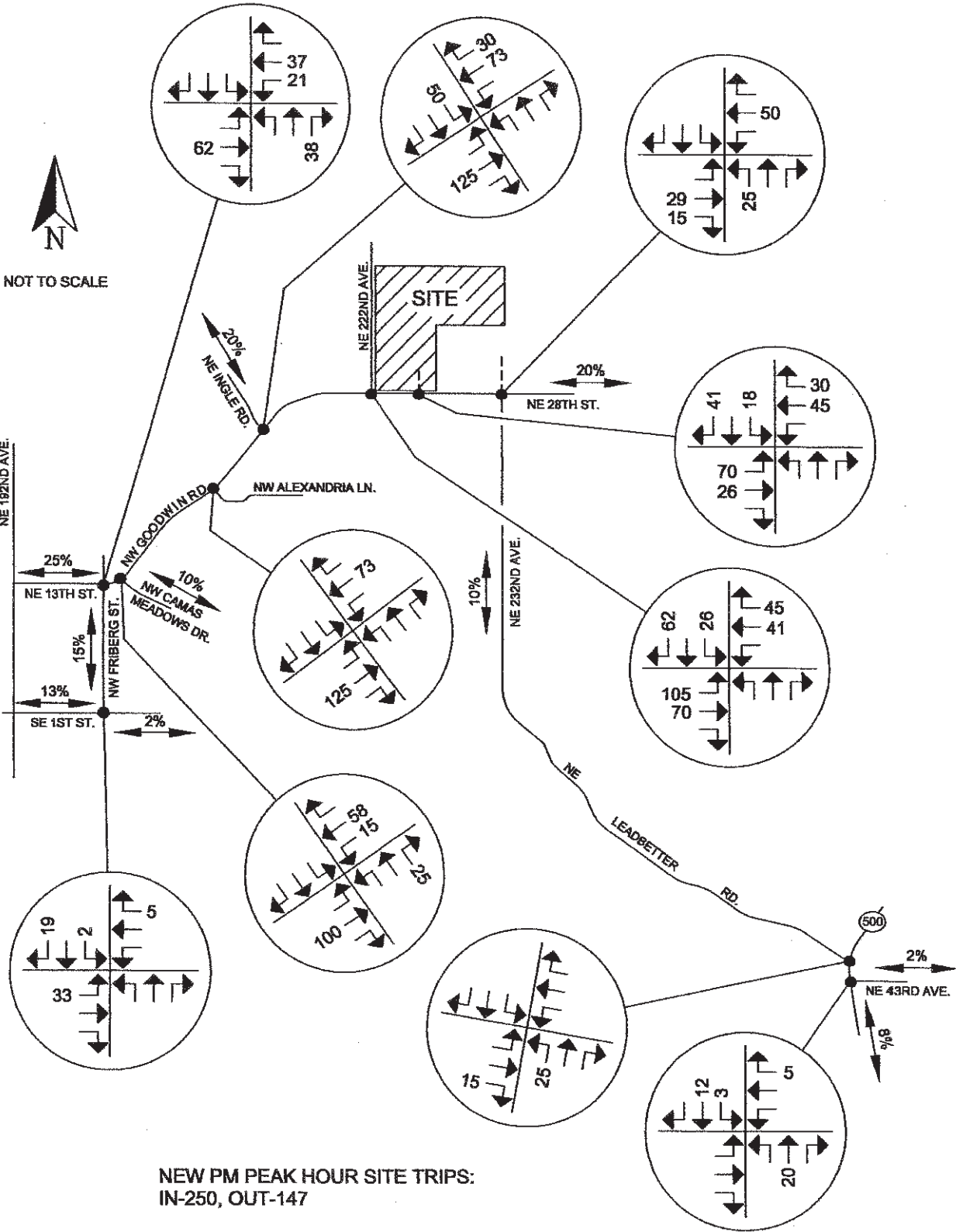
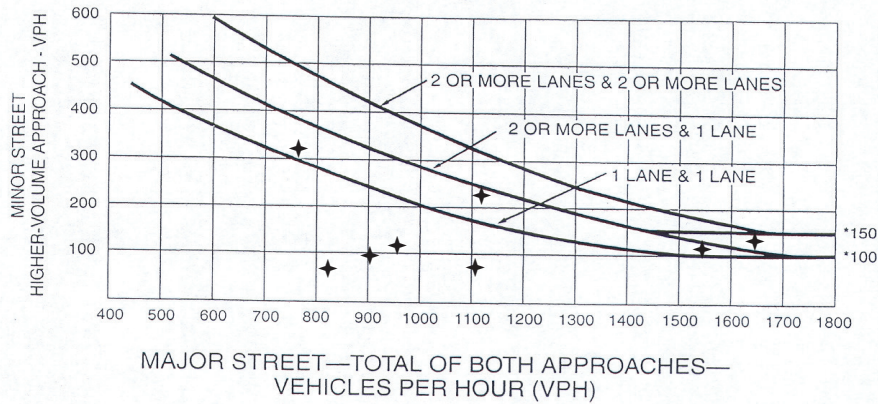


FIGURE 7c
SITE TRAFFIC DISTRIBUTION/
ASSIGNMENT, PM PEAK HOUR

KELLY ENGINEERING
316 E. Fourth Plain, A-2, Vancouver, WA 98663
Phone: 360-433-7530

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Peak hour volume warrant for signalization data.

Intersection	Analysis Period	Major Street Speed (mph)	Major Street		Minor Street High Volume Approach		Signal Warranted?
			Volume (vph)	Lanes (#)	Volume (vph)	Lanes (#)	
Payne Street and Lake Road	2018 Bkgd. Traffic - AM Peak	40	903	2	96	1	No
	2018 Bkgd. Traffic - PM Peak		1,540		115		No
	2018 Total Traffic - AM Peak		953		114		No
	2018 Total Traffic - PM Peak		1,645		131		Yes
Leadbetter Drive and Lake Road	2018 Total Traffic - AM Peak	40	829	1	62	1	No
	2018 Total Traffic - PM Peak		1,105		73		No
Sierra Street and Lake Road	2018 Total Traffic - AM Peak	40	765	1	313	2	No
	2018 Total Traffic - PM Peak		1,119		222		No
Site Access and Payne Street	2018 Total Traffic - AM Peak	25	180	1	28	1	No
	2018 Total Traffic - PM Peak		272		16		No

Source: Manual on Uniform Traffic Control Devices (MUTCD), 2003 Edition.



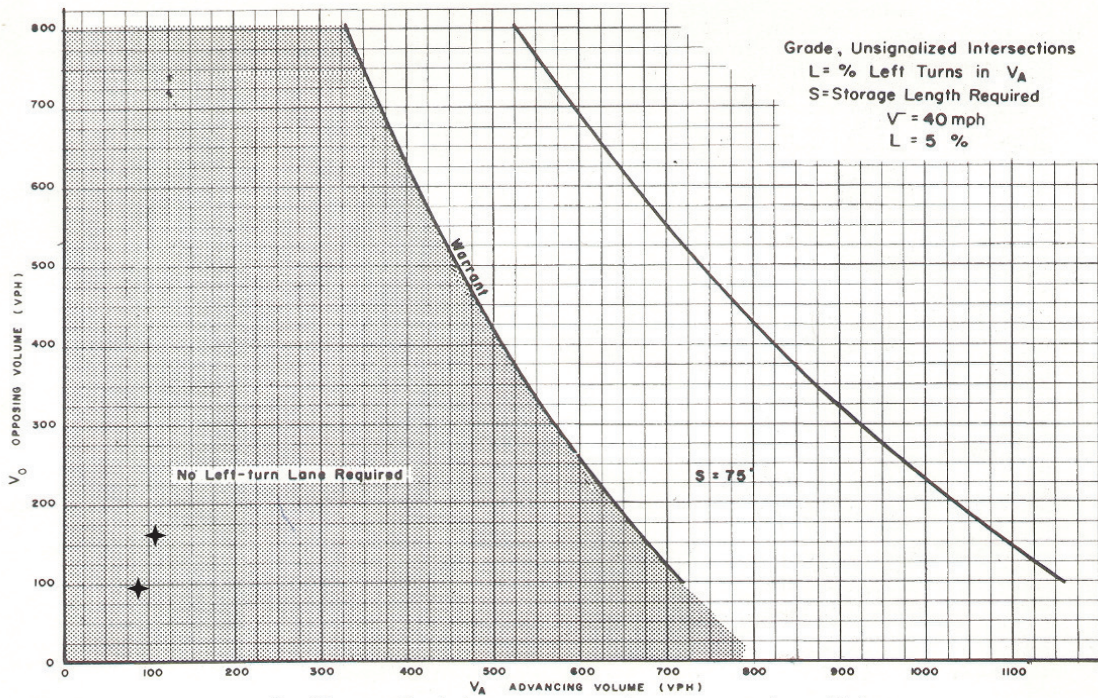


Figure 2. Warrant for left-turn storage lanes on two-lane highways.

Storage requirements for critical left-turn movements at unsignalized intersections on 2-lane roads.

Intersection	Mov't	Analysis Period	Speed V (mph)	Left Turns in Advancing Volume (vph)	Advancing Volume V_A (vph)	Opposing Volume V_O (vph)	% Left Turns in Advancing Volume L	Storage Req'd (ft)
Site Access and Payne Street	SB	2018 Total Traffic - AM Peak	25	0	87	93	0% → 5%	None
	LT	2018 Total Traffic - PM Peak		1	107	165	1% → 5%	None

Source: *Highway Research Record* #211, Harmelink, M. D.



REPORTED COLLISIONS THAT OCCURRED ON ALL ROADS IN THE CITY OF CAMAS and 3 CITY OF VANCOUVER INTERSECTIONS 1/1/2009 - 12/31/2013

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*REPORT NUMBER	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILE POST	DATE	MOST SEVERE INJURY TYPE	# INJ	# FATAL	# VESSEL	# PEDESTAL
E021024	NE LAKE RD	200		100	F	W	NE EVERETT ST		6/10/2009	No Injury	0	0	1	0
2983884	NW FRIBERG STRUNK ST	5900	NW LAKE RD SE 1 AVE						10/23/2009	No Injury	0	0	3	0
3240816	NW FRIBERG STRUNK RD	7000		2,500	F	N	SE 1 ST		11/9/2009	No Injury	0	0	2	0
2984254	NW FRIBERG STRUNK ST	7000		223	F	S	NE 202ND AVE		3/9/2011	No Injury	0	0	1	0
3327557	NW FRIBERG STRUNK ST	6200		500	F	N	SE 1ST ST		11/4/2013	No Injury	0	0	3	0
E158720	NW FRIBERG STRUNK ST	6200		170.4	F	N	SE 1ST ST		3/9/2012	No Injury	0	0	2	0
3240453	NW FRIBERG STRUNK WY	6201		150	F	N	SE 1 ST		9/3/2009	No Injury	0	0	2	0
2984279	NW LAKE RD			0.09	M	W	NW PARKER ST		1/11/2011	No Injury	0	0	1	0
3253047	NW LAKE RD	5400		100	F	E	NW FRIBERG ST		7/15/2009	No Injury	0	0	1	0
2984294	NW LAKE RD			100	F	W	NW PARKER ST		3/1/2011	No Injury	0	0	1	0
E020091	NW LAKE RD	5200		279	F	E	NW FRIBERG		5/18/2009	No Injury	0	0	1	0
3673257	NW LAKE RD	4600		0.25	M	E	SE 202ND AVE		6/18/2013	No Injury	0	0	1	0
E019416	NW LAKE RD	4000		40	F	E	NW PAYNE RD		4/30/2009	No Injury	0	0	1	0
3411747	NW LAKE RD		NW PAYNE ST						3/27/2013	Evident Injury	2	0	2	0
E198886	NW LAKE RD	2000	NW SIERRA ST						10/15/2012	Possible Injury	1	0	2	0
2984145	NW LAKE RD	2000	NW SIERRA ST						2/20/2010	No Injury	0	0	2	0
3673204	NW LAKE RD	2000	NW SIERRA ST						4/29/2013	No Injury	0	0	2	0
2984220	NW LEADBETTER BLVD	4700	NW LAKE RD						12/8/2010	Possible Injury	1	0	2	0
2984285	NW PARKER ST	5500	NW LAKE RD						1/21/2011	No Injury	0	0	2	0
3610111	NW SIERRA ST	4300	NW LAKE RD						9/13/2012	No Injury	0	0	2	0
2525039	SE 1 ST			1,000	F	E	NW FRIBERG STRUNK ST		8/25/2009	No Injury	0	0	1	0
2474220	500							17.85	9/26/2013	Evident Injury	1	0	2	0
3411780	500							17.88	11/20/2012	No Injury	0	0	2	0
2984141	500							17.90	2/7/2010	No Injury	0	0	2	0
3252987	500							17.90	2/13/2012	No Injury	0	0	2	0
2984162	500							17.90	5/22/2010	No Injury	0	0	2	0
3253038	500							17.90	2/24/2009	No Injury	0	0	2	0
3411754	500							17.90	11/22/2011	Possible Injury	2	0	3	0
E195299	500							17.94	9/30/2012	Possible Injury	1	0	2	0
3673290	500							17.94	3/8/2013	No Injury	0	0	4	0

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*REPORT NUMBER	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEH 1 ACTION
E021024	Not at Intersection and Not Related	Tree or Stump (stationary)	Going Straight Ahead
2983884	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead
3240816	Not at Intersection and Not Related	From same direction - both going straight - both moving - rear-end	Going Straight Ahead
2984254	Not at Intersection and Not Related	Fire Hydrant	Going Straight Ahead
3327557	Driveway Related but Not at Driveway	From same direction - both going straight - both moving - sideswipe	Changing Lanes
E158720	Not at Intersection and Not Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead
3240453	Not at Intersection and Not Related	From same direction - both going straight - both moving - rear-end	Going Straight Ahead
2984279	Not at Intersection and Not Related	Tree or Stump (stationary)	Going Straight Ahead
3253047	Not at Intersection and Not Related	Tree or Stump (stationary)	Going Straight Ahead
2984294	Not at Intersection and Not Related	Tree or Stump (stationary)	Going Straight Ahead
E020091	Intersection Related but Not at Intersection	Wood Sign Post	Making Left Turn
3673257	Not at Intersection and Not Related	Tree or Stump (stationary)	Going Straight Ahead
E019416	Not at Intersection and Not Related	Vehicle Strikes Deer	Going Straight Ahead
3411747	At Intersection and Related	From same direction - one right turn - one straight	Going Straight Ahead
E198886	At Intersection and Related	Entering at angle	Making Left Turn
2984145	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn
3673204	At Intersection and Related	From same direction - all others	Backing
2984220	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead
2984285	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn
3610111	At Intersection and Related	From same direction - all others	Backing
2525039	Not at Intersection and Not Related	Street Light Pole or Base	Going Straight Ahead
2474220	At Driveway	Entering at angle	Making Left Turn
3411780	Not at Intersection and Not Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead
2984141	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn
3252987	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn
2984162	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn
3253038	At Intersection and Related	Same direction -- both turning right -- both moving -- sideswipe	Making Right Turn
3411754	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn
E195299	Not at Intersection and Not Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead
3673290	At Driveway	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead

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*REPORT NUMBER	VEH 2 ACTION	MV DRIVER CONT CIRC 1 (UNIT 1)	VEH 1 COMP DIR FROM	VEH 1 COMP DIR TO	VEH 2 COMP DIR FROM	VEH 2 COMP DIR TO
E021024		Exceeding Reas. Safe Speed	East	West		
2983884	Stopped for Traffic	Follow Too Closely	North	South	North	Vehicle Stopped
3240816	Slowing	Follow Too Closely	South	North	South	North
2984254		Inattention	South	North		
3327557	Going Straight Ahead	Inattention	South	Northeast	South	North
E158720	Stopped for Traffic	Inattention	North	South	North	Vehicle Stopped
3240453	Slowing	Follow Too Closely	North	South	North	South
2984279		Under Influence of Drugs	West	East		
3253047		Other	East	West		
2984294		Apparently Fatigued	West	East		
E020091		Exceeding Reas. Safe Speed	North	East		
3673257		Apparently Asleep	East	West		
E019416		None	East	West		
3411747	Making Right Turn	Driver Operating Hands-free Wireless Tel	East	West	East	North
E198886	Going Straight Ahead	Did Not Grant RW to Vehicle	South	West	West	East
2984145	Going Straight Ahead	Did Not Grant RW to Vehicle	East	South	West	East
3673204	Stopped for Traffic	Improper Backing	East	Vehicle Backing	East	Vehicle Stopped
2984220	Stopped at Signal or Stop Sign	Follow Too Closely	South	North	South	Vehicle Stopped
2984285	Going Straight Ahead	Did Not Grant RW to Vehicle	South	West	North	South
3610111	Stopped for Traffic	Improper Backing	North	Vehicle Backing	South	Vehicle Stopped
2525039		Apparently Asleep	East	West		
2474220	Going Straight Ahead	Did Not Grant RW to Vehicle	East	South	South	North
3411780	Stopped for Traffic	Inattention	North	South	North	Vehicle Stopped
2984141	Going Straight Ahead	Did Not Grant RW to Vehicle	South	West	North	South
3252987	Going Straight Ahead	Did Not Grant RW to Vehicle	South	West	North	South
2984162	Going Straight Ahead	Did Not Grant RW to Vehicle	South	West	North	South
3253038	Making Right Turn	Improper Passing	West	South	West	South
3411754	Going Straight Ahead	Did Not Grant RW to Vehicle	Southwest	Northwest	Northeast	Southwest
E195299	Stopped for Traffic	Follow Too Closely	North	South	North	Vehicle Stopped
3673290	Stopped for Traffic	Follow Too Closely	North	South	North	Vehicle Stopped

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*REPORT NUMBER	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILE POST	DATE	MOST SEVERE INJURY TYPE	# INJ	# FATALS	# VEHICLES	# PEDESTRIANS
3253080	500							17.96	1/18/2009	Evident Injury	2	0	1	0
3411764	500							17.96	1/9/2012	No Injury	0	0	2	0
3411766	500							17.98	1/13/2012	No Injury	0	0	3	0
E031441	500							17.99	10/30/2009	No Injury	0	0	1	0
3411781	500							17.99	11/23/2012	No Injury	0	0	2	0
2984184	500							18.02	5/7/2010	No Injury	0	0	2	0
E132865	NE 192 AV		SE 1 ST						10/24/2011	Evident Injury	1	0	1	1
3327608	SE 192 AV		SE 1 ST						7/6/2011	Possible Injury	1	0	3	0
2993117	SE 192ND AVE		SE 1ST ST						9/23/2013	Evident Injury	4	0	4	0
3432092	SE 192ND AVE		SE 1ST ST						8/24/2013	Evident Injury	1	0	2	0
3240952	SE 1 ST		SE 192 AV						7/28/2009	No Injury	0	0	2	0
3598355	SE 1ST ST		SE 192ND AVE						11/23/2012	Evident Injury	1	0	1	1
3598314	SE 1ST ST	19000		405	F	W	SE 192ND AVE		10/3/2012	No Injury	0	0	1	0
3471966	SE 15TH ST	19400	SE 195TH AVE						3/8/2013	No Injury	0	0	1	0
3240705	SE 15 ST			21	F	W	SE 195 AV		8/9/2009	No Injury	0	0	3	0

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*REPORT NUMBER	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEH 1 ACTION
3253080	Not at Intersection and Not Related	All other non-collision	Going Straight Ahead
3411764	Not at Intersection and Not Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead
3411766	Driveway Related but Not at Driveway	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead
E031441	Not at Intersection and Not Related	Vehicle overturned	Going Straight Ahead
3411781	Not at Intersection and Not Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead
2984184	At Driveway	Entering at angle	Making Left Turn
E132865	At Intersection and Related	Vehicle turning right hits pedestrian	Making Right Turn
3327608	At Intersection and Related	Entering at angle	Going Straight Ahead
2993117	At Intersection and Related	Entering at angle	Going Straight Ahead
3432092	At Intersection and Related	Entering at angle	Going Straight Ahead
3240952	At Intersection and Related	From opposite direction - one left turn - one straight	Going Straight Ahead
3598355	At Intersection and Related	Vehicle turning right hits pedestrian	Making Right Turn
3598314	Not at Intersection and Not Related	Utility Pole	Going Straight Ahead
3471966	At Intersection and Related	Fence	Making Left Turn
3240705	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead

REPORTED COLLISIONS THAT OCCURRED ON ALL ROADS IN THE CITY OF CAMAS and 3 CITY OF VANCOUVER INTERSECTIONS 1/1/2009 - 12/31/2013

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*REPORT NUMBER	VEH 2 ACTION	MV DRIVER CONT CIRC 1 (UNIT 1)	VEH 1 COMP DIR FROM	VEH 1 COMP DIR TO	VEH 2 COMP DIR FROM	VEH 2 COMP DIR TO
3253080		None	South	North		
3411764	Stopped for Traffic	Inattention	North	South	North	Vehicle Stopped
3411766	Stopped for Traffic	Follow Too Closely	North	South	North	Vehicle Stopped
E031441		Other	South	North		
3411781	Stopped for Traffic	Follow Too Closely	North	South	North	Vehicle Stopped
2984184	Stopped for Traffic	Did Not Grant RW to Vehicle	Northeast	Southeast	Northwest	Vehicle Stopped
E132865		Fail to Yield Row to Pedestrian	East	North		
3327608	Making Left Turn	Disregard Stop and Go Light	North	South	East	South
2993117	Going Straight Ahead	Inattention	North	South	West	East
3432092	Going Straight Ahead	Disregard Stop and Go Light	South	North	East	West
3240952	Making Left Turn	Disregard Stop and Go Light	West	East	East	South
3598355		Fail to Yield Row to Pedestrian	East	North		
3598314		Operating Defective Equipment	East	West		
3471966		Operating Defective Equipment	West	North		
3240705	Stopped for Traffic	Follow Too Closely	West	East	West	Vehicle Stopped

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2014 Existing Traffic, Weekday AM Peak Hour

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Friberg Street and Lake Road
Cycle (sec): 90 Critical Vol./Cap. (X): 0.826
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 33.2
Optimal Cycle: 80 Level of Service: C
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1! 0 0 0 1 0 0 1 1 0 1 1 0
Volume Module:
Base Vol: 0 0 0 38 0 282 339 241 0 0 315 43
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 38 0 282 339 241 0 0 315 43
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64
PHF Volume: 0 0 0 59 0 441 530 377 0 0 492 67
Reduced Vol: 0 0 0 59 0 441 530 377 0 0 492 67
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 0 0 0 59 0 441 530 377 0 0 492 67
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 0.76 1.00 0.85 0.95 1.00 1.00 1.00 0.98 0.98
Lanes: 0.00 1.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 1.00 1.76 0.24
Final Sat.: 0 1900 0 1452 0 1615 1805 3800 0 1900 3283 448
Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.04 0.00 0.27 0.29 0.10 0.00 0.00 0.15 0.15
Crit Moves: ****
Green/Cycle: 0.00 0.00 0.00 0.33 0.00 0.33 0.36 0.54 0.00 0.00 0.18 0.18
Volume/Cap: 0.00 0.00 0.00 0.12 0.00 0.83 0.83 0.18 0.00 0.00 0.83 0.83
Delay/Veh: 0.0 0.0 0.0 21.2 0.0 38.0 35.2 10.8 0.0 0.0 43.7 43.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 0.0 0.0 21.2 0.0 38.0 35.2 10.8 0.0 0.0 43.7 43.7
DesignQueue: 0 0 0 2 0 16 18 9 0 0 21 3

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2014 Existing Traffic, Weekday AM Peak Hour

Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Payne Street and Lake Road
Average Delay (sec/veh): 16.5 Worst Case Level Of Service: C
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 0 0 0 1 1 0
Volume Module:
Base Vol: 0 0 0 62 0 3 13 253 0 0 350 66
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 62 0 3 13 253 0 0 350 66
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79
PHF Volume: 0 0 0 78 0 4 16 320 0 0 443 84
Reduced Vol: 0 0 0 78 0 4 16 320 0 0 443 84
Final Vol.: 0 0 0 78 0 4 16 320 0 0 443 84
Critical Gap Module:
Critical Gp: xxxxx xxxxx xxxxx 6.8 xxxxx 6.9 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim: xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx
Capacity Module:
Cnflct Vol: xxxxx xxxxx xxxxx 678 xxxxx 263 527 xxxxx xxxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxxx xxxxx xxxxx 390 xxxxx 741 1051 xxxxx xxxxx xxxxx xxxxx xxxxx
Move Cap.: xxxxx xxxxx xxxxx 386 xxxxx 741 1051 xxxxx xxxxx xxxxx xxxxx xxxxx
Level Of Service Module:
Stopped Del: xxxxx xxxxx xxxxx xxxxx xxxxx 8.5 xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx 394 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx 16.5 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * C * * * * *
ApproachDel: xxxxxx 16.5 xxxxxx xxxxxx
ApproachLOS: * C * * *

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2014 Existing Traffic, Weekday AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 Parker/Larkspur Street and Lake Road

Cycle (sec): 60 Critical Vol./Cap. (X): 0.398
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 15.3
Optimal Cycle: 33 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 0 1 0 1 0 0 1 0 1 1 0

Volume Module:
Base Vol: 112 12 90 9 27 27 10 153 154 109 257 3
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 112 12 90 9 27 27 10 153 154 109 257 3
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75
PHF Volume: 149 16 120 12 36 36 13 204 205 145 343 4
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 149 16 120 12 36 36 13 204 205 145 343 4
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 149 16 120 12 36 36 13 204 205 145 343 4

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.71 0.87 0.87 0.67 0.93 0.93 0.95 1.00 0.85 0.95 0.95 0.95
Lanes: 1.00 0.12 0.88 1.00 0.50 0.50 1.00 1.00 1.00 1.00 1.98 0.02
Final Sat.: 1349 194 1455 1264 879 879 1805 1900 1615 1805 3561 42

Capacity Analysis Module:
Vol/Sat: 0.11 0.08 0.08 0.01 0.04 0.04 0.01 0.11 0.13 0.08 0.10 0.10
Crit Moves: ****
Green/Cycle: 0.28 0.28 0.28 0.28 0.28 0.28 0.04 0.32 0.32 0.20 0.48 0.48
Volume/Cap: 0.40 0.30 0.30 0.03 0.15 0.15 0.20 0.34 0.40 0.40 0.20 0.20
Delay/Veh: 18.3 17.4 17.4 15.8 16.4 16.4 29.5 15.9 16.4 21.5 8.9 8.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 18.3 17.4 17.4 15.8 16.4 16.4 29.5 15.9 16.4 21.5 8.9 8.9
DesignQueue: 4 0 3 0 1 1 0 5 5 4 6 0

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2014 Existing Traffic, Weekday AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 Leadbetter Drive and Lake Road

Average Delay (sec/veh): 18.3 Worst Case Level Of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 1 0 0 1 0

Volume Module:
Base Vol: 8 1 53 12 8 16 9 204 47 53 337 5
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 8 1 53 12 8 16 9 204 47 53 337 5
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77
PHF Volume: 10 1 69 16 10 21 12 265 61 69 438 6
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 10 1 69 16 10 21 12 265 61 69 438 6

Critical Gap Module:
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxxx 4.1 xxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:
Cnflct Vol: 913 901 295 932 928 441 444 xxxx xxxxx 326 xxxx xxxxx
Potent Cap.: 256 280 749 249 270 621 1127 xxxx xxxxx 1245 xxxx xxxxx
Move Cap.: 228 262 749 214 252 621 1127 xxxx xxxxx 1245 xxxx xxxxx

Level Of Service Module:
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 8.2 xxxx xxxxx 8.1 xxxx xxxxx
LOS by Move: *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 565 xxxxx xxxxx 317 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx 12.4 xxxxx xxxxx 18.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * B * * C * * * * * * * * * * * *
ApproachDel: 12.4 18.3 xxxxxxx xxxxxxx
ApproachLOS: B C * * * * *

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2014 Existing Traffic, Weekday AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 Sierra Street and Lake Road
Average Delay (sec/veh): 14.7 Worst Case Level Of Service: B
Approach: North Bound South Bound East Bound West Bound
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Volume Module: Base Vol: 117 0 165 0 0 0 0 208 60 66 267 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 117 0 165 0 0 0 0 208 60 66 267 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
PHF Volume: 133 0 188 0 0 0 0 236 68 75 303 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 133 0 188 0 0 0 0 236 68 75 303 0
Critical Gap Module: Critical Gap: 6.4 xxx 6.2 xxx xxx xxx xxx xxx 4.1 xxx xxx
FollowUpTim: 3.5 xxx 3.3 xxx xxx xxx xxx xxx xxx 2.2 xxx xxx
Capacity Module: Cnflct Vol: 724 xxx 270 xxx xxx xxx xxx xxx 305 xxx xxx
Potent Cap.: 396 xxx 773 xxx xxx xxx xxx xxx 1268 xxx xxx
Move Cap.: 378 xxx 773 xxx xxx xxx xxx xxx 1268 xxx xxx
Level Of Service Module: Stopped Del: 19.6 xxx 11.1 xxx xxx xxx xxx xxx 8.0 xxx xxx
LOS by Move: C * B * * * * * A * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx
Shrd StpDel: xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx
Shared LOS: * * * * * * * * * * * * * * * *
ApproachDel: 14.7 xxx xxx xxx xxx
ApproachLOS: B * * * *

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2014 Existing Traffic, Weekday AM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Everett Street (SR 500) and Lake Road
Cycle (sec): 90 Critical Vol./Cap. (X): 0.825
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 31.0
Optimal Cycle: 80 Level Of Service: C
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 0 0 0 0 0 1 0 1 0 0 0 0 0 0
Volume Module: Base Vol: 198 311 0 0 402 193 347 0 157 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 198 311 0 0 402 193 347 0 157 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
PHF Volume: 225 353 0 0 457 219 394 0 178 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 225 353 0 0 457 219 394 0 178 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 225 353 0 0 457 219 394 0 178 0 0 0
Saturation Flow Module: Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 1.00 1.00 1.00 0.96 0.96 0.95 1.00 0.85 1.00 1.00 1.00
Lanes: 1.00 1.00 0.00 0.00 0.68 0.32 1.00 0.00 1.00 0.00 0.00 0.00
Final Sat.: 1805 1900 0 0 1227 589 1805 0 1615 0 0 0
Capacity Analysis Module: Vol/Sat: 0.12 0.19 0.00 0.00 0.37 0.37 0.22 0.00 0.11 0.00 0.00 0.00
Crit Moves: **** ****
Green/Cycle: 0.15 0.60 0.00 0.00 0.45 0.45 0.26 0.00 0.26 0.00 0.00 0.00
Volume/Cap: 0.83 0.31 0.00 0.00 0.83 0.83 0.83 0.00 0.42 0.00 0.00 0.00
Delay/Veh: 55.3 8.9 0.0 0.0 28.5 28.5 42.4 0.0 28.0 0.0 0.0 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 55.3 8.9 0.0 0.0 28.5 28.5 42.4 0.0 28.0 0.0 0.0 0.0
DesignQueue: 10 7 0 0 14 7 15 0 7 0 0 0

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2014 Existing Traffic, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Friberg Street and Lake Road
Cycle (sec): 60 Critical Vol./Cap. (X): 0.300
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 9.5
Optimal Cycle: 30 Level Of Service: A
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1! 0 0 0 1 0 0 1 1 0 1 0 1 1 0
Volume Module:
Base Vol: 0 0 0 43 0 73 90 599 0 0 467 42
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 43 0 73 90 599 0 0 467 42
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96
PHF Volume: 0 0 0 45 0 76 94 624 0 0 486 44
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 0 0 0 45 0 76 94 624 0 0 486 44
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 0.73 1.00 0.85 0.95 1.00 1.00 1.00 0.99 0.99
Lanes: 0.00 1.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 1.00 1.83 0.17
Final Sat.: 0 1900 0 1393 0 1615 1805 3800 0 1900 3445 310
Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.03 0.00 0.05 0.05 0.16 0.00 0.00 0.14 0.14
Crit Moves: *****
Green/Cycle: 0.00 0.00 0.00 0.16 0.00 0.16 0.17 0.64 0.00 0.00 0.47 0.47
Volume/Cap: 0.00 0.00 0.00 0.21 0.00 0.30 0.30 0.26 0.00 0.00 0.30 0.30
Delay/Veh: 0.0 0.0 0.0 22.5 0.0 23.1 22.2 4.6 0.0 0.0 9.9 9.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 0.0 0.0 22.5 0.0 23.1 22.2 4.6 0.0 0.0 9.9 9.9
DesignQueue: 0 0 0 1 0 2 3 8 0 0 9 1

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2014 Existing Traffic, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Payne Street and Lake Road
Average Delay (sec/veh): 21.1 Worst Case Level Of Service: C
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 0 0 0 1 1 0
Volume Module:
Base Vol: 0 0 0 68 0 26 20 621 0 0 485 70
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 68 0 26 20 621 0 0 485 70
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 0 0 72 0 28 21 661 0 0 516 74
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 0 0 72 0 28 21 661 0 0 516 74
Critical Gap Module:
Critical Gp: xxxxx xxxxx xxxxx 6.8 xxxxx 6.9 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim: xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx
Capacity Module:
Cnflct Vol: xxxxx xxxxx xxxxx 926 xxxxx 295 590 xxxxx xxxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxxx xxxxx xxxxx 271 xxxxx 707 995 xxxxx xxxxx xxxxx xxxxx xxxxx
Move Cap.: xxxxx xxxxx xxxxx 267 xxxxx 707 995 xxxxx xxxxx xxxxx xxxxx xxxxx
Level Of Service Module:
Stopped Del: xxxxx xxxxx xxxxx xxxxx xxxxx 8.7 xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx 322 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx 21.1 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * C * * * * *
ApproachDel: xxxxxx 21.1 xxxxxx xxxxxx
ApproachLOS: * C * * *

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2014 Existing Traffic, Weekday PM Peak Hour

Level of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 Parker/Larkspur Street and Lake Road

Cycle (sec): 60 Critical Vol./Cap. (X): 0.566
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 14.7
Optimal Cycle: 42 Level of Service: B

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 0 1 0 1 0 0 1 0 1 0

Volume Module:
Base Vol: 224 22 79 2 17 21 23 441 224 51 301 6
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 224 22 79 2 17 21 23 441 224 51 301 6
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 241 24 85 2 18 23 25 474 241 55 324 6
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 241 24 85 2 18 23 25 474 241 55 324 6

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.73 0.88 0.88 0.68 0.92 0.92 0.95 1.00 0.85 0.95 0.95 0.95
Lanes: 1.00 0.22 0.78 1.00 0.45 0.55 1.00 1.00 1.00 1.00 1.96 0.04
Final Sat.: 1395 365 1312 1298 779 963 1805 1900 1615 1805 3529 70

Capacity Analysis Module:
Vol/Sat: 0.17 0.06 0.06 0.00 0.02 0.02 0.01 0.25 0.15 0.03 0.09 0.09
Crit Moves: ****
Green/Cycle: 0.31 0.31 0.31 0.31 0.31 0.31 0.06 0.44 0.44 0.05 0.43 0.43
Volume/Cap: 0.57 0.21 0.21 0.01 0.08 0.08 0.21 0.57 0.34 0.57 0.21 0.21
Delay/Veh: 19.3 15.7 15.7 14.5 14.9 14.9 27.6 13.4 11.3 35.3 10.8 10.8
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 19.3 15.7 15.7 14.5 14.9 14.9 27.6 13.4 11.3 35.3 10.8 10.8
DesignQueue: 6 1 2 0 0 1 1 9 5 2 6 0

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
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Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 Leadbetter Drive and Lake Road

Average Delay (sec/veh): 21.9 Worst Case Level of Service: C
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1! 0 0 0 0 1! 0 0 1 0 0 1 0 1 0 0 1 0

Volume Module:
Base Vol: 34 10 29 3 8 17 21 471 12 31 306 7
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 34 10 29 3 8 17 21 471 12 31 306 7
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 37 11 31 3 9 18 23 506 13 33 329 8
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 37 11 31 3 9 18 23 506 13 33 329 8

Critical Gap Module:
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxxx 4.1 xxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:
Cnflct Vol: 971 961 513 978 964 333 337 xxxx xxxxx 519 xxxx xxxxx
Potent Cap.: 234 258 565 231 257 714 1234 xxxx xxxxx 1057 xxxx xxxxx
Move Cap.: 214 245 565 203 245 714 1234 xxxx xxxxx 1057 xxxx xxxxx

Level of Service Module:
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 8.0 xxxx xxxxx 8.5 xxxx xxxxx
LOS by Move: *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 291 xxxxx xxxxx 393 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx 21.9 xxxxx xxxxx 14.9 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * C *
ApproachDel: 21.9 14.9 xxxxxxx xxxxxxx
ApproachLOS: C B * * * * *

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2014 Existing Traffic, Weekday PM Peak Hour

Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 Sierra Street and Lake Road
Average Delay (sec/veh): 17.4 Worst Case Level Of Service: C
Approach: North Bound South Bound East Bound West Bound
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Volume Module: Base Vol: 80 0 114 0 0 0 0 372 134 96 273 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 80 0 114 0 0 0 0 372 134 96 273 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 84 0 120 0 0 0 0 392 141 101 287 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 84 0 120 0 0 0 0 392 141 101 287 0
Critical Gap Module: Critical Gap: 6.4 xxx 6.2 xxx xxx xxx xxx xxx 4.1 xxx xxx
FollowUpTim: 3.5 xxx 3.3 xxx xxx xxx xxx xxx xxx 2.2 xxx xxx
Capacity Module: Cnflct Vol: 952 xxx 462 xxx xxx xxx xxx xxx 533 xxx xxx
Potent Cap.: 290 xxx 604 xxx xxx xxx xxx xxx 1045 xxx xxx
Move Cap.: 269 xxx 604 xxx xxx xxx xxx xxx 1045 xxx xxx
Level Of Service Module: Stopped Del: 24.4 xxx 12.4 xxx xxx xxx xxx xxx 8.8 xxx xxx
LOS by Move: C * B * * * * * A * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx
Shrd StpDel: xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx
Shared LOS: * * * * * * * * * * * * * * *
ApproachDel: 17.4 xxx xxx xxx xxx
ApproachLOS: C * * * *

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
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Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Everett Street (SR 500) and Lake Road
Cycle (sec): 60 Critical Vol./Cap. (X): 0.739
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.3
Optimal Cycle: 56 Level Of Service: C
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0
Volume Module: Base Vol: 252 319 0 0 207 167 164 0 334 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 252 319 0 0 207 167 164 0 334 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 268 339 0 0 220 178 174 0 355 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 268 339 0 0 220 178 174 0 355 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 268 339 0 0 220 178 174 0 355 0 0 0
Saturation Flow Module: Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 1.00 1.00 1.00 0.94 0.94 0.95 1.00 0.85 1.00 1.00 1.00
Lanes: 1.00 1.00 0.00 0.00 0.55 0.45 1.00 0.00 1.00 0.00 0.00 0.00
Final Sat.: 1805 1900 0 0 989 797 1805 0 1615 0 0 0
Capacity Analysis Module: Vol/Sat: 0.15 0.18 0.00 0.00 0.22 0.22 0.10 0.00 0.22 0.00 0.00 0.00
Crit Moves: ****
Green/Cycle: 0.20 0.50 0.00 0.00 0.30 0.30 0.30 0.00 0.30 0.00 0.00 0.00
Volume/Cap: 0.74 0.36 0.00 0.00 0.74 0.74 0.32 0.00 0.74 0.00 0.00 0.00
Delay/Veh: 30.3 9.3 0.0 0.0 24.2 24.2 16.7 0.0 25.0 0.0 0.0 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 30.3 9.3 0.0 0.0 24.2 24.2 16.7 0.0 25.0 0.0 0.0 0.0
DesignQueue: 7 6 0 0 5 4 4 0 9 0 0 0

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Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Friberg Street and Lake Road
Cycle (sec): 120 Critical Vol./Cap. (X): 1.049
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 73.4
Optimal Cycle: 180 Level Of Service: E
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1! 0 0 0 1 0 0 1 1 0 1 0 1 1 0
Volume Module:
Base Vol: 0 0 0 108 0 406 411 317 0 0 380 83
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 108 0 406 411 317 0 0 380 83
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64 0.64
PHF Volume: 0 0 0 169 0 634 642 495 0 0 594 130
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 0 0 169 0 634 642 495 0 0 594 130
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 0 0 0 169 0 634 642 495 0 0 594 130
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 0.71 1.00 0.85 0.95 1.00 1.00 1.00 0.97 0.97
Lanes: 0.00 1.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 1.00 1.64 0.36
Final Sat.: 0 1900 0 1357 0 1615 1805 3800 0 1900 3035 663
Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.12 0.00 0.39 0.36 0.13 0.00 0.00 0.20 0.20
Crit Moves: ****
Green/Cycle: 0.00 0.00 0.00 0.37 0.00 0.37 0.34 0.53 0.00 0.00 0.19 0.19
Volume/Cap: 0.00 0.00 0.00 0.33 0.00 1.05 1.05 0.25 0.00 0.00 1.05 1.05
Delay/Veh: 0.0 0.0 0.0 27.2 0.0 87.7 89.6 15.6 0.0 0.0 96.7 96.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 0.0 0.0 27.2 0.0 87.7 89.6 15.6 0.0 0.0 96.7 96.7
DesignQueue: 0 0 0 7 0 29 31 16 0 0 34 7

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Payne Street and Lake Road
Average Delay (sec/veh): 26.2 Worst Case Level Of Service: D
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 0 0 0 1 1 0
Volume Module:
Base Vol: 0 0 0 90 0 6 14 337 0 0 473 79
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 90 0 6 14 337 0 0 473 79
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79
PHF Volume: 0 0 0 114 0 8 18 427 0 0 599 100
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 0 0 114 0 8 18 427 0 0 599 100
Critical Gap Module:
Critical Gp: xxxxx xxxxx xxxxx 6.8 xxxxx 6.9 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim: xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx
Capacity Module:
Cnflct Vol: xxxxx xxxxx xxxxx 897 xxxxx 349 699 xxxxx xxxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxxx xxxxx xxxxx 283 xxxxx 653 907 xxxxx xxxxx xxxxx xxxxx xxxxx
Move Cap.: xxxxx xxxxx xxxxx 279 xxxxx 653 907 xxxxx xxxxx xxxxx xxxxx xxxxx
Level Of Service Module:
Stopped Del: xxxxx xxxxx xxxxx xxxxx xxxxx 9.0 xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx 289 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx 26.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * D * * * * *
ApproachDel: xxxxxx 26.2 xxxxxx xxxxxx
ApproachLOS: * * * * *

The Village at Camas Meadows
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Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 Parker/Larkspur Street and Lake Road

Cycle (sec): 60 Critical Vol./Cap. (X): 0.519
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 15.7
Optimal Cycle: 39 Level of Service: B

Table with columns for Approach (North Bound, South Bound, East Bound, West Bound) and Movement (L-T-R). Rows include Control (Permitted, Protected), Rights (Include), Min. Green, and Lanes.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Vol. Rows include various traffic volume and adjustment factors.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat. Rows include saturation flow and adjustment factors.

Capacity Analysis Module table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, and DesignQueue. Rows include capacity analysis metrics.

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Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 Leadbetter Drive and Lake Road

Average Delay (sec/veh): 22.7 Worst Case Level Of Service: C
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control table with columns for Stop Sign, Stop Sign, Uncontrolled, Uncontrolled. Rows include Rights (Include) and Lanes.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol. Rows include various traffic volume and adjustment factors.

Critical Gap Module table with columns for Critical Gp, FollowUpTim. Rows include critical gap and follow-up time metrics.

Capacity Module table with columns for Cnflct Vol, Potent Cap., Move Cap. Rows include conflict volume, potential capacity, and move capacity.

Level Of Service Module table with columns for Stopped Del, LOS by Move, Movement, Shared Cap., Shrd StpDel, Shared LOS, ApproachDel, and ApproachLOS. Rows include level of service metrics.

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Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 Sierra Street and Lake Road
Average Delay (sec/veh): 19.2 Worst Case Level Of Service: C
Approach: North Bound South Bound East Bound West Bound
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Volume Module: Base Vol: 136 0 175 0 0 0 0 262 67 70 337 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 136 0 175 0 0 0 0 262 67 70 337 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
PHF Volume: 155 0 199 0 0 0 0 298 76 80 383 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 155 0 199 0 0 0 0 298 76 80 383 0
Critical Gap Module: Critical Gap: 6.4 xxx 6.2 xxx xxx xxx xxx xxx 4.1 xxx xxx
FollowUpTim: 3.5 xxx 3.3 xxx xxx xxx xxx xxx xxx 2.2 xxx xxx
Capacity Module: Cnflct Vol: 878 xxx 336 xxx xxx xxx xxx xxx xxx 374 xxx xxx
Potent Cap.: 321 xxx 711 xxx xxx xxx xxx xxx xxx 1196 xxx xxx
Move Cap.: 305 xxx 711 xxx xxx xxx xxx xxx xxx 1196 xxx xxx
Level Of Service Module: Stopped Del: 28.4 xxx 12.0 xxx xxx xxx xxx xxx xxx 8.2 xxx xxx
LOS by Move: D * B * * * * * * * A * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx
Shrd StpDel: xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx
Shared LOS: * * * * * * * * * * * * * * * *
ApproachDel: 19.2 xxx xxx xxx xxx
ApproachLOS: C * * * *

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Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Everett Street (SR 500) and Lake Road
Cycle (sec): 120 Critical Vol./Cap. (X): 0.963
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 52.2
Optimal Cycle: 172 Level Of Service: D
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
Volume Module: Base Vol: 217 353 0 0 532 249 385 0 184 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 217 353 0 0 532 249 385 0 184 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
PHF Volume: 247 401 0 0 605 283 438 0 209 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 247 401 0 0 605 283 438 0 209 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 247 401 0 0 605 283 438 0 209 0 0 0
Saturation Flow Module: Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 1.00 1.00 1.00 0.96 0.96 0.95 1.00 0.85 1.00 1.00 1.00
Lanes: 1.00 1.00 0.00 0.00 0.68 0.32 1.00 0.00 1.00 0.00 0.00 0.00
Final Sat.: 1805 1900 0 0 1239 580 1805 0 1615 0 0 0
Capacity Analysis Module: Vol/Sat: 0.14 0.21 0.00 0.00 0.49 0.49 0.24 0.00 0.13 0.00 0.00 0.00
Crit Moves: **** **** ****
Green/Cycle: 0.14 0.65 0.00 0.00 0.51 0.51 0.25 0.00 0.25 0.00 0.00 0.00
Volume/Cap: 0.96 0.33 0.00 0.00 0.96 0.96 0.96 0.00 0.51 0.00 0.00 0.00
Delay/Veh: 97.2 9.6 0.0 0.0 49.7 49.7 77.2 0.0 39.7 0.0 0.0 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 97.2 9.6 0.0 0.0 49.7 49.7 77.2 0.0 39.7 0.0 0.0 0.0
DesignQueue: 15 10 0 0 23 11 23 0 11 0 0 0

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Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Friberg Street and Lake Road
Cycle (sec): 60 Critical Vol./Cap. (X): 0.591
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 14.5
Optimal Cycle: 43 Level of Service: B
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1! 0 0 0 1 0 0 1 1 0 1 1 0
Volume Module:
Base Vol: 0 0 0 101 0 175 264 694 0 0 595 141
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 101 0 175 264 694 0 0 595 141
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96
PHF Volume: 0 0 0 105 0 182 275 723 0 0 620 147
Reduced Vol: 0 0 0 105 0 182 275 723 0 0 620 147
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 0 0 0 105 0 182 275 723 0 0 620 147
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 0.71 1.00 0.85 0.95 1.00 1.00 1.00 0.97 0.97
Lanes: 0.00 1.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 1.00 1.62 0.38
Final Sat.: 0 1900 0 1357 0 1615 1805 3800 0 1900 2983 707
Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.08 0.00 0.11 0.15 0.19 0.00 0.00 0.21 0.21
Crit Moves: *****
Green/Cycle: 0.00 0.00 0.00 0.19 0.00 0.19 0.26 0.61 0.00 0.00 0.35 0.35
Volume/Cap: 0.00 0.00 0.00 0.41 0.00 0.59 0.59 0.31 0.00 0.00 0.59 0.59
Delay/Veh: 0.0 0.0 0.0 22.3 0.0 25.2 21.5 5.7 0.0 0.0 16.7 16.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 0.0 0.0 22.3 0.0 25.2 21.5 5.7 0.0 0.0 16.7 16.7
DesignQueue: 0 0 0 3 0 5 7 10 0 0 14 3

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Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Payne Street and Lake Road
Average Delay (sec/veh): 40.6 Worst Case Level Of Service: E
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 0 0 0 1 1 0
Volume Module:
Base Vol: 0 0 0 87 0 28 25 784 0 0 608 123
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 87 0 28 25 784 0 0 608 123
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 0 0 93 0 30 27 834 0 0 647 131
Reduced Vol: 0 0 0 93 0 30 27 834 0 0 647 131
Final Vol.: 0 0 0 93 0 30 27 834 0 0 647 131
Critical Gap Module:
Critical Gp: xxxxx xxxx xxxxx 6.8 xxxxx 6.9 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim: xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx
Capacity Module:
Cnflct Vol: xxxxx xxxxx xxxxx 1182 xxxxx 389 778 xxxxx xxxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxxx xxxxx xxxxx 185 xxxxx 616 848 xxxxx xxxxx xxxxx xxxxx xxxxx
Move Cap.: xxxxx xxxxx xxxxx 181 xxxxx 616 848 xxxxx xxxxx xxxxx xxxxx xxxxx
Level Of Service Module:
Stopped Del: xxxxx xxxxx xxxxx xxxxx xxxxx 9.4 xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx 219 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx 40.6 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * E * * * * *
ApproachDel: xxxxxx 40.6 xxxxxxxx xxxxxxxx
ApproachLOS: E * * * *

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Payne Street and Lake Road-MIT: Separate SB LT & SB RT lanes
Average Delay (sec/veh): 36.0 Worst Case Level Of Service: E

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 1 0 0 0 1 0 0 1 1 0

Volume Module:
Base Vol: 0 0 0 87 0 28 25 784 0 0 608 123
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 87 0 28 25 784 0 0 608 123
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 0 0 93 0 30 27 834 0 0 647 131
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 0 0 93 0 30 27 834 0 0 647 131

Critical Gap Module:
Critical Gp: xxxxx xxxx xxxxx 6.8 xxxx 6.9 4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim: xxxxx xxxx xxxxx 3.5 xxxx 3.3 2.2 xxxx xxxxx xxxxx xxxx xxxxx

Capacity Module:
Cnflct Vol: xxxxx xxxx xxxxx 1182 xxxx 389 778 xxxx xxxxx xxxxx xxxx xxxxx
Potent Cap.: xxxxx xxxx xxxxx 185 xxxx 616 848 xxxx xxxxx xxxxx xxxx xxxxx
Move Cap.: xxxxx xxxx xxxxx 181 xxxx 616 848 xxxx xxxxx xxxxx xxxx xxxxx

Level Of Service Module:
Stopped Del: xxxxx xxxx xxxxx 44.0 xxxx 11.1 9.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: * * * E * B A * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd StpDel: xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS: * * * * * * * * * * * * * * * *
ApproachDel: xxxxxx 36.0 xxxxxxxx xxxxxxxx
ApproachLOS: * E * * * * * * * * * * * * * * * *

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Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Payne Street and Lake Road-MIT: Install signal
Cycle (sec): 60 Critical Vol./Cap. (X): 0.403
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 8.7
Optimal Cycle: OPTIMIZED Level Of Service: A

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 1 1 0

Volume Module:
Base Vol: 0 0 0 87 0 28 25 784 0 0 608 123
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 87 0 28 25 784 0 0 608 123
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 0 0 93 0 30 27 834 0 0 647 131
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 0 0 93 0 30 27 834 0 0 647 131
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 0 0 0 93 0 30 27 834 0 0 647 131

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 0.74 1.00 0.74 0.95 0.95 1.00 1.00 0.93 0.93
Lanes: 0.00 0.00 0.00 0.76 0.00 0.24 1.00 2.00 0.00 0.00 1.66 0.34
Final Sat.: 0 0 0 1070 0 344 1805 3610 0 0 2928 592

Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.09 0.00 0.09 0.01 0.23 0.00 0.00 0.22 0.22
Crit Moves: **** ****
Green/Cycle: 0.00 0.00 0.00 0.21 0.00 0.21 0.04 0.59 0.00 0.00 0.55 0.55
Volume/Cap: 0.00 0.00 0.00 0.40 0.00 0.40 0.40 0.39 0.00 0.00 0.40 0.40
Delay/Veh: 0.0 0.0 0.0 21.1 0.0 21.1 32.2 6.8 0.0 0.0 8.0 8.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 0.0 0.0 21.1 0.0 21.1 32.2 6.8 0.0 0.0 8.0 8.0
DesignQueue: 0 0 0 2 0 1 1 12 0 0 10 2

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Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 Parker/Larkspur Street and Lake Road
Cycle (sec): 60 Critical Vol./Cap. (X): 0.734
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 18.2
Optimal Cycle: 55 Level of Service: B
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 0 1 0 1 0 0 1 0 1 0
Volume Module:
Base Vol: 310 26 89 7 19 30 40 549 281 58 382 8
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 310 26 89 7 19 30 40 549 281 58 382 8
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 333 28 96 8 20 32 43 590 302 62 411 9
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 333 28 96 8 20 32 43 590 302 62 411 9
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 333 28 96 8 20 32 43 590 302 62 411 9
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.73 0.88 0.88 0.67 0.91 0.91 0.95 1.00 0.85 0.95 0.95 0.95
Lanes: 1.00 0.23 0.77 1.00 0.39 0.61 1.00 1.00 1.00 1.00 1.96 0.04
Final Sat.: 1378 380 1300 1279 669 1056 1805 1900 1615 1805 3525 74
Capacity Analysis Module:
Vol/Sat: 0.24 0.07 0.07 0.01 0.03 0.03 0.02 0.31 0.19 0.03 0.12 0.12
Crit Moves: ****
Green/Cycle: 0.33 0.33 0.33 0.33 0.33 0.33 0.08 0.42 0.42 0.05 0.39 0.39
Volume/Cap: 0.73 0.22 0.22 0.02 0.09 0.09 0.30 0.73 0.44 0.73 0.30 0.30
Delay/Veh: 23.9 14.8 14.8 13.6 14.0 14.0 27.2 18.0 12.7 56.1 12.7 12.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 23.9 14.8 14.8 13.6 14.0 14.0 27.2 18.0 12.7 56.1 12.7 12.7
DesignQueue: 8 1 2 0 0 1 1 12 6 2 9 0

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Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 Leadbetter Drive and Lake Road
Average Delay (sec/veh): 32.7 Worst Case Level Of Service: D
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1! 0 0 0 0 1! 0 0 1 0 0 1 0 1 0 0 1 0
Volume Module:
Base Vol: 34 10 29 3 8 18 24 589 12 31 401 7
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 34 10 29 3 8 18 24 589 12 31 401 7
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 37 11 31 3 9 19 26 633 13 33 431 8
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 37 11 31 3 9 19 26 633 13 33 431 8
Critical Gap Module:
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxxx 4.1 xxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx 2.2 xxxx xxxxx
Capacity Module:
Cnflct Vol: 1207 1197 640 1214 1199 435 439 xxxx xxxxx 646 xxxx xxxxx
Potent Cap.: 162 188 479 160 187 625 1132 xxxx xxxxx 949 xxxx xxxxx
Move Cap.: 144 177 479 136 176 625 1132 xxxx xxxxx 949 xxxx xxxxx
Level Of Service Module:
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx 8.3 xxxx xxxxx 8.9 xxxx xxxxx
LOS by Move: * * * * * A * * * * * A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 207 xxxxx xxxxx 301 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx 32.7 xxxxx xxxxx 18.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * D * * C * * * * * * * * * *
ApproachDel: 32.7 18.3 xxxxxxx xxxxxxx
ApproachLOS: D C * * *

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Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 Leadbetter Dr. & Lake Rd-MIT:Restripe south app. with LT & TH/RT
Average Delay (sec/veh): 27.1 Worst Case Level Of Service: D

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), Lanes (1 0 0 1 0)

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol across four approaches.

Critical Gap Module table with columns for Critical Gap, FollowUpTim across four approaches.

Capacity Module table with columns for Cnflct Vol, Potent Cap., Move Cap. across four approaches.

Level of Service Module table with columns for Stopped Del, LOS by Move, Movement, Shared Cap., Shrd StpDel, Shared LOS, ApproachDel, ApproachLOS across four approaches.

The Village at Camas Meadows
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Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 Sierra Street and Lake Road
Average Delay (sec/veh): 25.9 Worst Case Level Of Service: D

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), Lanes (1 0 0 0 1)

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol across four approaches.

Critical Gap Module table with columns for Critical Gap, FollowUpTim across four approaches.

Capacity Module table with columns for Cnflct Vol, Potent Cap., Move Cap. across four approaches.

Level of Service Module table with columns for Stopped Del, LOS by Move, Movement, Shared Cap., Shrd StpDel, Shared LOS, ApproachDel, ApproachLOS across four approaches.

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Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Everett Street (SR 500) and Lake Road

Cycle (sec): 60 Critical Vol./Cap. (X): 0.893
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 29.6
Optimal Cycle: 80 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Table with 4 columns: Control, Rights, Min. Green, Lanes. Rows include Protected/Include and various traffic signal settings.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Vol.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, DesignQueue.

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Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Friberg Street and Lake Road

Cycle (sec): 120 Critical Vol./Cap. (X): 1.074
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 79.2
Optimal Cycle: 180 Level Of Service: E

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Table with 4 columns: Control, Rights, Min. Green, Lanes. Rows include Permitted/Include and various traffic signal settings.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Vol.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, DesignQueue.

The Village at Camas Meadows
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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Payne Street and Lake Road
Average Delay (sec/veh): 30.3 Worst Case Level Of Service: D
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 0 0 0 1 1 0
Volume Module:
Base Vol: 0 0 0 93 0 21 19 348 0 0 512 74
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 93 0 21 19 348 0 0 512 74
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79 0.79
PHF Volume: 0 0 0 118 0 27 24 441 0 0 648 94
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 0 0 118 0 27 24 441 0 0 648 94
Critical Gap Module:
Critical Gp:xxxx xxx xxxxxx 6.8 xxx 6.9 4.1 xxx xxxxxx xxxxxx xxxxxx xxxxxx
FollowUpTim:xxxxxxx xxx xxxxxx 3.5 xxx 3.3 2.2 xxx xxxxxx xxxxxx xxxxxx xxxxxx
Capacity Module:
Cnflct Vol: xxx xxx xxxxxx 963 xxx 371 742 xxx xxxxxx xxx xxx xxxxxx xxxxxx
Potent Cap.: xxx xxx xxxxxx 257 xxx 632 874 xxx xxxxxx xxx xxx xxxxxx xxxxxx
Move Cap.: xxx xxx xxxxxx 251 xxx 632 874 xxx xxxxxx xxx xxx xxxxxx xxxxxx
Level Of Service Module:
Stopped Del:xxxxxxx xxx xxxxxx xxxxxx xxx xxxxxx 9.2 xxx xxxxxx xxxxxx xxxxxx xxxxxx
LOS by Move: * * * * * A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxx xxx xxxxxx xxx 283 xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx
Shrd StpDel:xxxxxxx xxx xxxxxx xxxxxx 30.3 xxx xxx xxx xxx xxx xxx xxx xxx xxx
Shared LOS: * * * * * D * * * * *
ApproachDel: xxxxxx 30.3 xxxxxx xxxxxx
ApproachLOS: * D * *

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Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 Parker/Larkspur Street and Lake Road
Cycle (sec): 60 Critical Vol./Cap. (X): 0.539
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 16.3
Optimal Cycle: 40 Level Of Service: B
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0
Volume Module:
Base Vol: 152 17 96 42 44 80 25 202 216 117 343 18
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 152 17 96 42 44 80 25 202 216 117 343 18
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75
PHF Volume: 203 23 128 56 59 107 33 269 288 156 457 24
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 203 23 128 56 59 107 33 269 288 156 457 24
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 203 23 128 56 59 107 33 269 288 156 457 24
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.64 0.87 0.87 0.66 0.90 0.90 0.95 1.00 0.85 0.95 0.94 0.94
Lanes: 1.00 0.15 0.85 1.00 0.35 0.65 1.00 1.00 1.00 1.00 1.00 1.00
Final Sat.: 1216 250 1409 1245 609 1107 1805 1900 1615 1805 3406 179
Capacity Analysis Module:
Vol/Sat: 0.17 0.09 0.09 0.04 0.10 0.10 0.02 0.14 0.18 0.09 0.13 0.13
Crit Moves: ****
Green/Cycle: 0.31 0.31 0.31 0.31 0.31 0.31 0.06 0.33 0.33 0.16 0.43 0.43
Volume/Cap: 0.54 0.29 0.29 0.15 0.31 0.31 0.31 0.43 0.54 0.54 0.31 0.31
Delay/Veh: 18.8 16.1 16.1 15.2 16.2 16.2 28.7 16.1 17.5 25.2 11.3 11.3
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 18.8 16.1 16.1 15.2 16.2 16.2 28.7 16.1 17.5 25.2 11.3 11.3
DesignQueue: 5 1 3 1 1 3 1 6 7 4 9 0

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Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 Leadbetter Drive and Lake Road

Average Delay (sec/veh): 24.1 Worst Case Level Of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1! 0 0 0 0 1! 0 0 1 0 0 1 0 1 0

Volume Module:
Base Vol: 8 1 53 12 8 18 12 281 47 53 431 5
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Critical Gap Module:
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxxx xxxxx 2.2 xxxxx xxxxx

Capacity Module:
Cnflct Vol: 1144 1131 395 1162 1158 563 566 xxxxx xxxxx 426 xxxxx xxxxx
Potent Cap.: 178 205 658 173 198 530 1016 xxxxx xxxxx 1144 xxxxx xxxxx
Move Cap.: 154 190 658 146 183 530 1016 xxxxx xxxxx 1144 xxxxx xxxxx

Level Of Service Module:
Stopped Del: xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx 8.6 xxxxx xxxxxx 8.3 xxxxx xxxxxx
LOS by Move: * * * * * A * * * * A * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 450 xxxxxx xxxxx 237 xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx
Shrd StpDel: xxxxxx 14.7 xxxxxx xxxxxx 24.1 xxxxxx xxxxxx xxxxx xxxxx xxxxxx
Shared LOS: * B * * * C * * * * * * * *
ApproachDel: 14.7 24.1 xxxxxx xxxxxx
ApproachLOS: B C * *

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Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 Sierra Street and Lake Road

Average Delay (sec/veh): 20.4 Worst Case Level Of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 1 0 0 0 1 0 0 0 0 0 0 0 1 0 1 0 1 0 0 0

Volume Module:
Base Vol: 138 0 175 0 0 0 0 0 280 73 70 342 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Critical Gap Module:
Critical Gp: 6.4 xxxxx 6.2 xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxx 4.1 xxxxx xxxxxx
FollowUpTim: 3.5 xxxxx 3.3 xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxx 2.2 xxxxx xxxxxx

Capacity Module:
Cnflct Vol: 907 xxxxx 360 xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx 401 xxxxx xxxxxx
Potent Cap.: 308 xxxxx 689 xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx 1168 xxxxx xxxxxx
Move Cap.: 292 xxxxx 689 xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx 1168 xxxxx xxxxxx

Level Of Service Module:
Stopped Del: 30.7 xxxxx 12.3 xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx 8.3 xxxxx xxxxxx
LOS by Move: D * B * * * * * * * * A * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx
Shrd StpDel: xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxx xxxxxx
Shared LOS: * * * * * * * * * * * * * *
ApproachDel: 20.4 xxxxxx xxxxxx
ApproachLOS: C * * *

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Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Everett Street (SR 500) and Lake Road

Cycle (sec): 120 Critical Vol./Cap. (X): 0.977
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 54.9
Optimal Cycle: 180 Level Of Service: D

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 0 0 0 0 1 1 0 0 0 0

Volume Module:
Base Vol: 218 353 0 0 532 253 399 0 188 0 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 218 353 0 0 532 253 399 0 188 0 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
PHF Volume: 248 401 0 0 605 288 453 0 214 0 0 0 0
Reduced Vol: 0 0 0 0 605 288 453 0 214 0 0 0 0
Reduced Vol: 248 401 0 0 605 288 453 0 214 0 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 248 401 0 0 605 288 453 0 214 0 0 0 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 1.00 1.00 1.00 0.96 0.96 0.95 1.00 0.85 1.00 1.00 1.00
Lanes: 1.00 1.00 0.00 0.00 0.68 0.32 1.00 0.00 1.00 0.00 0.00 0.00
Final Sat.: 1805 1900 0 0 1232 586 1805 0 1615 0 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.14 0.21 0.00 0.00 0.49 0.49 0.25 0.00 0.13 0.00 0.00 0.00
Crit Moves: ****
Green/Cycle: 0.14 0.64 0.00 0.00 0.50 0.50 0.26 0.00 0.26 0.00 0.00 0.00
Volume/Cap: 0.98 0.33 0.00 0.00 0.98 0.98 0.98 0.00 0.51 0.00 0.00 0.00
Delay/Veh: 101.2 9.9 0.0 0.0 53.3 53.3 79.8 0.0 39.3 0.0 0.0 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 101.2 9.9 0.0 0.0 53.3 53.3 79.8 0.0 39.3 0.0 0.0 0.0
DesignQueue: 15 10 0 0 23 11 24 0 11 0 0 0 0

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Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #10 Site Access and Payne Street

Average Delay (sec/veh): 9.7 Worst Case Level Of Service: A

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 1 0 0

Volume Module:
Base Vol: 0 85 8 0 0 87 0 0 0 0 0 27 0 1
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 85 8 0 0 87 0 0 0 0 0 27 0 1
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 0 94 9 0 0 97 0 0 0 0 0 30 0 1
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 94 9 0 0 97 0 0 0 0 0 30 0 1

Critical Gap Module:
Critical Gp: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 6.4 xxxxx 6.2
FollowUpTim: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx 3.3

Capacity Module:
Cnflct Vol: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 196 xxxxx 99
Potent Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 798 xxxxx 962
Move Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 798 xxxxx 962

Level Of Service Module:
Stopped Del: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 803 xxxxx
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 9.7 xxxxx
Shared LOS: * * * * * A *
ApproachDel: xxxxxx xxxxxx xxxxxx 9.7
ApproachLOS: * * * A

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Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Friberg Street and Lake Road

Cycle (sec): 60 Critical Vol./Cap. (X): 0.604
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 14.4
Optimal Cycle: 44 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 1! 0 0 0 1 0 0 1 1 0 1 0 1 1 0

Volume Module:
Base Vol: 0 0 0 106 0 175 264 757 0 0 630 144
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 106 0 175 264 757 0 0 630 144
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96
PHF Volume: 0 0 0 110 0 182 275 789 0 0 656 150
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 0 0 110 0 182 275 789 0 0 656 150
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 0 0 0 110 0 182 275 789 0 0 656 150

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 0.71 1.00 0.85 0.95 1.00 1.00 1.00 0.97 0.97
Lanes: 0.00 1.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 1.00 1.63 0.37
Final Sat.: 0 1900 0 1357 0 1615 1805 3800 0 1900 3006 687

Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.08 0.00 0.11 0.15 0.21 0.00 0.00 0.22 0.22
Crit Moves: *****
Green/Cycle: 0.00 0.00 0.00 0.19 0.00 0.19 0.25 0.61 0.00 0.00 0.36 0.36
Volume/Cap: 0.00 0.00 0.00 0.44 0.00 0.60 0.60 0.34 0.00 0.00 0.60 0.60
Delay/Veh: 0.0 0.0 0.0 22.8 0.0 25.8 22.1 5.7 0.0 0.0 16.5 16.5
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 0.0 0.0 22.8 0.0 25.8 22.1 5.7 0.0 0.0 16.5 16.5
DesignQueue: 0 0 0 3 0 5 7 11 0 0 15 3

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Payne Street and Lake Road

Average Delay (sec/veh): 58.9 Worst Case Level Of Service: F

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 0 0 1! 0 0 1 0 2 0 0 0 0 0 1 1 0

Volume Module:
Base Vol: 0 0 0 92 0 39 44 833 0 0 635 133
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 92 0 39 44 833 0 0 635 133
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 0 0 98 0 41 47 886 0 0 676 141
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 0 0 98 0 41 47 886 0 0 676 141

Critical Gap Module:
Critical Gp: xxxxx xxxx xxxxx 6.8 xxxxx 6.9 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim: xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:
Cnflct Vol: xxxxx xxxxx xxxxx 1283 xxxxx 409 817 xxxxx xxxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxxx xxxxx xxxxx 160 xxxxx 598 820 xxxxx xxxxx xxxxx xxxxx xxxxx
Move Cap.: xxxxx xxxxx xxxxx 153 xxxxx 598 820 xxxxx xxxxx xxxxx xxxxx xxxxx

Level Of Service Module:
Stopped Del: xxxxx xxxxx xxxxx xxxxx xxxxx 9.7 xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx 196 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx 58.9 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * F * * * * *
ApproachDel: xxxxx 58.9 xxxxx xxxxx
ApproachLOS: * * * * *

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Payne Street and Lake Road-MIT: Separate SB LT & SB RT lanes

Average Delay (sec/veh): 47.9 Worst Case Level Of Service: E

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 0 0 1 0 0 0 1 1 0 2 0 0 0 0 1 1 0
Volume Module:
Base Vol: 0 0 0 92 0 39 44 833 0 0 635 133
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 92 0 39 44 833 0 0 635 133
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 0 0 98 0 41 47 886 0 0 676 141
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 0 0 98 0 41 47 886 0 0 676 141
Critical Gap Module:
Critical Gp:xxxx xxx xxxxxx 6.8 xxx 6.9 4.1 xxx xxxxxx xxxxxx xxxxxx xxxxxx
FollowUpTim:xxxxx xxx xxxxxx 3.5 xxx 3.3 2.2 xxx xxxxxx xxxxxx xxxxxx xxxxxx
Capacity Module:
Cnflct Vol: xxx xxx xxxxxx 1283 xxx 409 817 xxx xxxxxx xxx xxx xxxxxx xxxxxx
Potent Cap.: xxx xxx xxxxxx 160 xxx 598 820 xxx xxxxxx xxx xxx xxxxxx xxxxxx
Move Cap.: xxx xxx xxxxxx 153 xxx 598 820 xxx xxxxxx xxx xxx xxxxxx xxxxxx
Level Of Service Module:
Stopped Del:xxxxx xxx xxxxxx 63.3 xxx 11.5 9.7 xxx xxxxxx xxxxxx xxxxxx xxxxxx
LOS by Move: * * * F * B A * * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxx xxx xxxxxx xxx xxx xxxxxx xxx xxx xxxxxx xxx xxx xxxxxx xxxxxx
Shrd StpDel:xxxxx xxx xxxxxx xxx xxx xxxxxx xxx xxx xxxxxx xxx xxx xxxxxx xxxxxx
Shared LOS: *
ApproachDel: xxxxxx 47.9 xxxxxx xxxxxx
ApproachLOS: * E *

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2018 Total Traffic, Weekday PM Peak Hour

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #4 Payne Street and Lake Road-MIT: Install signal

Cycle (sec): 60 Critical Vol./Cap. (X): 0.445
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 9.6
Optimal Cycle:OPTIMIZED Level Of Service: A

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 0 1 1 0
Volume Module:
Base Vol: 0 0 0 92 0 39 44 833 0 0 635 133
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 92 0 39 44 833 0 0 635 133
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 0 0 0 98 0 41 47 886 0 0 676 141
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 0 0 98 0 41 47 886 0 0 676 141
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 0 0 0 98 0 41 47 886 0 0 676 141
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 0.75 1.00 0.75 0.95 0.95 1.00 1.00 0.93 0.93
Lanes: 0.00 0.00 0.00 0.70 0.00 0.30 1.00 2.00 0.00 0.00 1.65 0.35
Final Sat.: 0 0 0 1002 0 425 1805 3610 0 0 2907 609
Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.10 0.00 0.10 0.03 0.25 0.00 0.00 0.23 0.23
Crit Moves: **** *
Green/Cycle: 0.00 0.00 0.00 0.22 0.00 0.22 0.06 0.58 0.00 0.00 0.52 0.52
Volume/Cap: 0.00 0.00 0.00 0.44 0.00 0.44 0.44 0.42 0.00 0.00 0.44 0.44
Delay/Veh: 0.0 0.0 0.0 21.3 0.0 21.3 30.3 7.1 0.0 0.0 9.1 9.1
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 0.0 0.0 21.3 0.0 21.3 30.3 7.1 0.0 0.0 9.1 9.1
DesignQueue: 0 0 0 3 0 1 1 13 0 0 11 2

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2018 Total Traffic, Weekday PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #5 Parker/Larkspur Street and Lake Road

Cycle (sec): 60 Critical Vol./Cap. (X): 0.748
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 19.2
Optimal Cycle: 57 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Permitted Permitted Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 0 1 0 1 0 0 1 0 1 0

Volume Module:
Base Vol: 310 32 89 17 23 57 89 554 281 58 392 26
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 310 32 89 17 23 57 89 554 281 58 392 26
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 333 34 96 18 25 61 96 596 302 62 422 28
Reduced Vol: 333 34 96 18 25 61 96 596 302 62 422 28
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 333 34 96 18 25 61 96 596 302 62 422 28

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.70 0.89 0.89 0.67 0.89 0.89 0.95 1.00 0.85 0.95 0.94 0.94
Lanes: 1.00 0.26 0.74 1.00 0.29 0.71 1.00 1.00 1.00 1.00 1.88 0.12
Final Sat.: 1330 447 1244 1271 488 1209 1805 1900 1615 1805 3355 223

Capacity Analysis Module:
Vol/Sat: 0.25 0.08 0.08 0.01 0.05 0.05 0.05 0.31 0.19 0.03 0.13 0.13
Crit Moves: ****
Green/Cycle: 0.33 0.33 0.33 0.33 0.33 0.33 0.14 0.42 0.42 0.05 0.33 0.33
Volume/Cap: 0.75 0.23 0.23 0.04 0.15 0.15 0.38 0.75 0.45 0.75 0.38 0.38
Delay/Veh: 24.6 14.6 14.6 13.5 14.1 14.1 24.5 18.7 12.9 59.0 15.7 15.7
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 24.6 14.6 14.6 13.5 14.1 14.1 24.5 18.7 12.9 59.0 15.7 15.7
DesignQueue: 8 1 2 0 1 1 3 13 6 2 10 1

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2018 Total Traffic, Weekday PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 Leadbetter Drive and Lake Road

Average Delay (sec/veh): 35.8 Worst Case Level Of Service: E

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 1 0 0 1 0

Volume Module:
Base Vol: 34 10 29 3 8 20 25 603 12 31 427 7
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 34 10 29 3 8 20 25 603 12 31 427 7
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume: 37 11 31 3 9 22 27 648 13 33 459 8
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 37 11 31 3 9 22 27 648 13 33 459 8
Critical Gap Module:
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxxx 4.1 xxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:
Cnflct Vol: 1253 1242 655 1259 1245 463 467 xxxx xxxxx 661 xxxx xxxxx
Potent Cap.: 150 176 470 149 176 603 1105 xxxx xxxxx 937 xxxx xxxxx
Move Cap.: 133 166 470 126 165 603 1105 xxxx xxxxx 937 xxxx xxxxx

Level Of Service Module:
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx 8.3 xxxx xxxxx 9.0 xxxx xxxxx
LOS by Move: *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 193 xxxxx xxxxx 294 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx 35.8 xxxxx xxxxx 18.8 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * E * * C * * * * * * * * * * * * * * * *
ApproachDel: 35.8 18.8 xxxxxxx xxxxxxx
ApproachLOS: E C * * * * *

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2018 Total Traffic, Weekday PM Peak Hour

Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 Leadbetter Dr. & Lake Rd-MIT:Restripe south app. with LT & TH/RT
Average Delay (sec/veh): 29.2 Worst Case Level Of Service: D

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), Lanes (1 0 0 1 0)

Volume Module table with 10 columns: Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol

Critical Gap Module table with 10 columns: Critical Gp, FollowUpTim

Capacity Module table with 10 columns: Cnflct Vol, Potent Cap., Move Cap.

Level Of Service Module table with 10 columns: Stopped Del, LOS by Move, Movement, Shared Cap., Shrd StpDel, Shared LOS, ApproachDel, ApproachLOS

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2018 Total Traffic, Weekday PM Peak Hour

Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 Sierra Street and Lake Road
Average Delay (sec/veh): 29.4 Worst Case Level Of Service: D

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L-T-R), Control (Stop Sign, Uncontrolled), Rights (Include), Lanes (1 0 0 1 0)

Volume Module table with 10 columns: Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol

Critical Gap Module table with 10 columns: Critical Gp, FollowUpTim

Capacity Module table with 10 columns: Cnflct Vol, Potent Cap., Move Cap.

Level Of Service Module table with 10 columns: Stopped Del, LOS by Move, Movement, Shared Cap., Shrd StpDel, Shared LOS, ApproachDel, ApproachLOS

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2018 Total Traffic, Weekday PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #9 Everett Street (SR 500) and Lake Road

Cycle (sec): 60 Critical Vol./Cap. (X): 0.910
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 31.4
Optimal Cycle: 84 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 0 0 0 0 1 0 0 0 0 1 0 0 0 0 0

Volume Module:
Base Vol: 290 461 0 0 288 241 240 0 366 0 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 290 461 0 0 288 241 240 0 366 0 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 309 490 0 0 306 256 255 0 389 0 0 0 0
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 309 490 0 0 306 256 255 0 389 0 0 0 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 1.00 1.00 1.00 0.94 0.94 0.95 1.00 0.85 1.00 1.00 1.00
Lanes: 1.00 1.00 0.00 0.00 0.54 0.46 1.00 0.00 1.00 0.00 0.00 0.00
Final Sat.: 1805 1900 0 0 970 812 1805 0 1615 0 0 0 0

Capacity Analysis Module:
Vol/Sat: 0.17 0.26 0.00 0.00 0.32 0.32 0.14 0.00 0.24 0.00 0.00 0.00
Crit Moves: ****
Green/Cycle: 0.19 0.53 0.00 0.00 0.35 0.35 0.27 0.00 0.27 0.00 0.00 0.00
Volume/Cap: 0.91 0.48 0.00 0.00 0.91 0.91 0.53 0.00 0.91 0.00 0.00 0.00
Delay/Veh: 51.2 9.1 0.0 0.0 36.2 36.2 20.0 0.0 44.5 0.0 0.0 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 51.2 9.1 0.0 0.0 36.2 36.2 20.0 0.0 44.5 0.0 0.0 0.0
DesignQueue: 9 8 0 0 7 6 6 0 10 0 0 0 0

The Village at Camas Meadows
Charbonneau Engineering LLC, Project #15-21
2018 Total Traffic, Weekday PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #10 Site Access and Payne Street

Average Delay (sec/veh): 10.2 Worst Case Level Of Service: B
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0

Volume Module:
Base Vol: 0 136 29 1 106 0 0 0 0 0 0 16 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 136 29 1 106 0 0 0 0 0 0 16 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 0 151 32 1 118 0 0 0 0 0 0 18 0 0 0
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 151 32 1 118 0 0 0 0 0 0 18 0 0 0

Critical Gap Module:
Critical Gp: xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx 6.4 xxxxx xxxxx
FollowUpTim: xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx xxxxx

Capacity Module:
Cnflct Vol: xxxxx xxxxx xxxxx 183 xxxxx xxxxx xxxxx xxxxx xxxxx 287 xxxxx xxxxx
Potent Cap.: xxxxx xxxxx xxxxx 1404 xxxxx xxxxx xxxxx xxxxx xxxxx 707 xxxxx xxxxx
Move Cap.: xxxxx xxxxx xxxxx 1404 xxxxx xxxxx xxxxx xxxxx xxxxx 707 xxxxx xxxxx

Level Of Service Module:
Stopped Del: xxxxx xxxxx xxxxx 7.6 xxxxx xxxxx xxxxx xxxxx xxxxx 10.2 xxxxx xxxxx
LOS by Move: * * * A * * * * * * * B * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel: xxxxx xxxxx xxxxx 7.6 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * A * * * * * * * * * * *
ApproachDel: xxxxx xxxxx xxxxx 10.2
ApproachLOS: * * * B

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MEO	Intersection	Payne Street & Lake Road
Agency/Co.	Charbonneau Engineering	Jurisdiction	City of Camas
Date Performed	5/20/2015	Analysis Year	2018 Total Traffic
Analysis Time Period	AM Peak Hour		

Project Description #15-21 The Village at Camas Meadows

East/West Street: Lake Road	North/South Street: Payne Street
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	19	348	0	0	512	74
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Hourly Flow Rate (veh/h)	24	440	0	0	648	93
Proportion of heavy vehicles, P _{HV}	3	--	--	0	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	93	0	21
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Hourly Flow Rate (veh/h)	0	0	0	117	0	26
Proportion of heavy vehicles, P _{HV}	0	0	0	2	0	2
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
Volume, v (vph)	24						143	
Capacity, c _m (vph)	855						278	
v/c ratio	0.03						0.51	
Queue length (95%)	0.09						2.73	
Control Delay (s/veh)	9.3						30.9	
LOS	A						D	
Approach delay (s/veh)	--	--					30.9	
Approach LOS	--	--					D	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MEO	Intersection	Payne Street & Lake Road
Agency/Co.	Charbonneau Engineering	Jurisdiction	City of Camas
Date Performed	5/20/2015	Analysis Year	2018 Total Traffic
Analysis Time Period	PM Peak Hour		

Project Description #15-21 The Village at Camas Meadows	
East/West Street: Lake Road	North/South Street: Payne Street
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	44	833	0	0	635	133
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate (veh/h)	46	886	0	0	675	141
Proportion of heavy vehicles, P _{HV}	1	--	--	0	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T			T	TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	92	0	39
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate (veh/h)	0	0	0	97	0	41
Proportion of heavy vehicles, P _{HV}	0	0	0	1	0	1
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Control Delay, Queue Length, Level of Service								
Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L						LR	
Volume, v (vph)	46						138	
Capacity, c _m (vph)	814						193	
v/c ratio	0.06						0.72	
Queue length (95%)	0.18						4.54	
Control Delay (s/veh)	9.7						60.1	
LOS	A						F	
Approach delay (s/veh)	--	--					60.1	
Approach LOS	--	--					F	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MEO	Intersection	Leadbetter Drive & Lake Road
Agency/Co.	Charbonneau Engineering	Jurisdiction	City of Camas
Date Performed	5/20/2015	Analysis Year	2018 Total Traffic
Analysis Time Period	AM Peak Hour		

Project Description #15-21 The Village at Camas Meadows

East/West Street: Lake Road	North/South Street: Leadbetter Drive
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	12	281	47	53	431	5
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77
Hourly Flow Rate (veh/h)	15	364	61	68	559	6
Proportion of heavy vehicles, P _{HV}	5	--	--	3	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	8	1	53	12	8	18
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77
Hourly Flow Rate (veh/h)	10	1	68	15	10	23
Proportion of heavy vehicles, P _{HV}	10	10	10	6	6	6
Percent grade (%)		0			0	
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
Volume, v (vph)	15	68		79			48	
Capacity, c _m (vph)	992	1129		441			234	
v/c ratio	0.02	0.06		0.18			0.21	
Queue length (95%)	0.05	0.19		0.65			0.75	
Control Delay (s/veh)	8.7	8.4		14.9			24.3	
LOS	A	A		B			C	
Approach delay (s/veh)	--	--		14.9			24.3	
Approach LOS	--	--		B			C	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MEO	Intersection	Leadbetter Drive & Lake Road
Agency/Co.	Charbonneau Engineering	Jurisdiction	City of Camas
Date Performed	5/20/2015	Analysis Year	2018 Total Traffic
Analysis Time Period	PM Peak Hour		

Project Description #15-21 The Village at Camas Meadows	
East/West Street: Lake Road	North/South Street: Leadbetter Drive
Intersection Orientation: East-West	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	25	603	12	31	427	7
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Hourly Flow Rate (veh/h)	26	648	12	33	459	7
Proportion of heavy vehicles, P _{HV}	1	--	--	2	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	1	1	0	1	1	0
Configuration	L		TR	L		TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	34	10	29	3	8	20
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Hourly Flow Rate (veh/h)	36	10	31	3	8	21
Proportion of heavy vehicles, P _{HV}	0	0	0	0	0	0
Percent grade (%)		0			0	
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service								
Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
Volume, v (vph)	26	33		77			32	
Capacity, c _m (vph)	1101	928		195			302	
v/c ratio	0.02	0.04		0.39			0.11	
Queue length (95%)	0.07	0.11		1.75			0.35	
Control Delay (s/veh)	8.3	9.0		35.0			18.3	
LOS	A	A		E			C	
Approach delay (s/veh)	--	--		35.0			18.3	
Approach LOS	--	--		E			C	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MEO	Intersection	Site Access & Payne Street
Agency/Co.	Charbonneau Engineering	Jurisdiction	City of Camas
Date Performed	5/20/2015	Analysis Year	2018 Total Traffic
Analysis Time Period	AM Peak Hour		
Project Description #15-21 The Village at Camas Meadows			
East/West Street: Site Access		North/South Street: Payne Street	
Intersection Orientation: North-South		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	85	8	0	87	0
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	94	8	0	96	0
Percent Heavy Vehicles	0	--	--	6	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	27	0	1	0	0	0
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	30	0	1	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (vph)		0		31				
C (m) (vph)		1465		803				
v/c		0.00		0.04				
95% queue length		0.00		0.12				
Control Delay		7.5		9.7				
LOS		A		A				
Approach Delay	--	--	9.7					
Approach LOS	--	--	A					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	MEO	Intersection	Site Access & Payne Street
Agency/Co.	Charbonneau Engineering	Jurisdiction	City of Camas
Date Performed	5/20/2015	Analysis Year	2018 Total Traffic
Analysis Time Period	PM Peak Hour		
Project Description #15-21 The Village at Camas Meadows			
East/West Street: Site Access		North/South Street: Payne Street	
Intersection Orientation: North-South		Study Period (hrs): 0.25	

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	136	29	1	106	0
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	151	32	1	117	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	16	0	0	0	0	0
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	17	0	0	0	0	0
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (vph)		1		17				
C (m) (vph)		1404		708				
v/c		0.00		0.02				
95% queue length		0.00		0.07				
Control Delay		7.6		10.2				
LOS		A		B				
Approach Delay	--	--	10.2					
Approach LOS	--	--	B					

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Exhibit 1A. Trip Distribution for Corridor Intersections.

<u>Corridor:</u> Andresen Road		<u>Limits:</u> Mill Plain Boulevard to SR-500										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Mill Plain Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
E. 18th Street/N.E. 18th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 25th Street	----	0%	0%	0%	----	0%	0%	0%	----	----	----	----
Fourth Plain Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SR-500	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

<u>Corridor:</u> Andresen Road		<u>Limits:</u> SR-500 to NE 78th Street										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
SR-500	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 40th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vancouver Mall Drive	----	0%	0%	0%	----	0%	0%	0%	----	----	----	----
NE 58th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Minnehaha/NE 63rd Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 78th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

<u>Corridor:</u> Fourth Plain Boulevard		<u>Limits:</u> Mill Plain Boulevard to I-5										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Mill Plain Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fruit Valley Road/Kotobuki Way	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Kauffman Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Main Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
I-5 southbound off-/on-ramps	0%	----	0%	0%	0%	----	----	----	----	----	0%	0%
I-5 northbound off-/on-ramps	----	----	----	0%	0%	----	0%	0%	0%	----	0%	0%

<u>Corridor:</u> Fourth Plain Boulevard		<u>Limits:</u> I-5 to Andresen Road										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
I-5 northbound off-/on-ramps	----	----	----	0%	0%	----	0%	0%	0%	----	0%	0%
St. Johns Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fort Vancouver Way	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Grand Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Falk Road	0%	----	0%	0%	0%	----	----	----	----	----	0%	0%
Stapleton Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Andresen Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Exhibit 1A. Trip Distribution for Corridor Intersections. (continued)

Corridor: Fourth Plain Boulevard				Limits: Andresen Road to I-205								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Andresen Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 86th Avenue	----	----	----	----	0%	0%	0%	----	0%	0%	0%	----
Thurston Way	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
I-205 SB on-ramp/Oak View Drive	----	----	----	0%	0%	0%	0%	0%	0%	0%	0%	0%
I-205 SB off-ramp/Van Mall Drive	0%	0%	0%	0%	0%	----	0%	0%	0%	----	0%	0%
I-205 NB on-ramp/NE 54th Street	0%	0%	0%	0%	0%	0%	----	----	----	0%	0%	0%

Corridor: Fourth Plain Boulevard (SR-500)				Limits: I-205 to NE 162nd Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
I-205 NB on-ramp/NE 54th Street	0%	0%	0%	0%	0%	0%	----	----	----	0%	0%	0%
NE 109th Avenue/Gher Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 112th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 117th Avenue (SR 503/500)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 121st Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 137th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ward Road	0%	----	0%	0%	0%	----	----	----	----	----	0%	0%
NE 162nd Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Corridor: Mill Plain Boulevard				Limits: Fourth Plain Boulevard to I-5								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Fourth Plain Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Kauffman Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Main Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
I-5 southbound on-/off-ramps	0%	0%	0%	----	0%	0%	----	----	----	0%	0%	----
I-5 northbound on-/off-ramps	----	----	----	0%	0%	----	0%	0%	0%	----	0%	0%

Corridor: Mill Plain Boulevard				Limits: I-5 to Andresen Road								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
I-5 northbound on-/off-ramps	----	----	----	0%	0%	----	0%	0%	0%	----	0%	0%
Fort Vancouver Way	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Grand Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MacArthur Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Andresen Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Exhibit 1A. Trip Distribution for Corridor Intersections. (continued)

Corridor: Mill Plain Boulevard				Limits: Andresen Road to I-205								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Andresen Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Leiser Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 97th/98th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
I-205 southbound on-/off-ramps	0%	----	0%	0%	0%	----	----	----	----	0%	0%	----
I-205 northbound on-/off-ramps	0%	----	----	0%	0%	----	0%	----	----	----	0%	0%

Corridor: Mill Plain Boulevard				Limits: I-205 to NE 136th Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
I-205 northbound on-/off-ramps	0%	----	----	0%	0%	----	0%	----	----	----	0%	0%
Chkalov Drive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE/SE 117th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE/SE 120th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SE 123rd/NE 124th Avenue	0%	0%	2%	2%	0%	1%	1%	0%	0%	0%	0%	0%
SE 126th Avenue	0%	----	0%	0%	3%	----	----	----	----	----	3%	0%
Park Plaza Dr/SE 131st Av	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	3%	0%
NE/SE 136th Avenue	0%	0%	0%	0%	3%	2%	2%	0%	0%	0%	3%	0%

Corridor: Mill Plain Boulevard				Limits: NE 136th Avenue to NE 164th Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE/SE 136th Avenue	0%	0%	0%	0%	3%	2%	2%	0%	0%	0%	3%	0%
SE 139th Avenue	----	----	----	----	5%	0%	0%	----	0%	0%	5%	----
Olympia Drive	----	----	----	----	5%	0%	0%	----	0%	0%	5%	----
Hearthwood Blvd/Park Crest Av	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	5%	0%
SE 148th Avenue	0%	----	0%	0%	5%	----	----	----	----	----	5%	0%
SE 155th Avenue	0%	----	0%	0%	7%	----	----	----	----	----	7%	0%
SE 157th Avenue	0%	----	0%	0%	7%	----	----	----	----	----	7%	0%
SE 160th Avenue	----	----	----	----	7%	0%	0%	----	0%	0%	7%	----
SE 164th Avenue	0%	0%	0%	0%	7%	3%	3%	0%	0%	0%	7%	0%

Corridor: Mill Plain Boulevard				Limits: NE 164th Avenue to NE 192nd Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
SE 164th Avenue	0%	0%	0%	0%	7%	3%	3%	0%	0%	0%	7%	0%
SE 168th Avenue	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	10%	0%
SE 172nd Av/Tech Center Dr	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	10%	0%
SE 177th Avenue	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	10%	0%
SE 192nd Avenue	10%	35%	0%	0%	0%	0%	0%	35%	0%	0%	0%	10%

Exhibit 1A. Trip Distribution for Corridor Intersections. (continued)

Corridor: NE 18th Street				Limits: NE 112th Avenue to NE 138th Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 112th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 125th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 138th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Corridor: NE 18th Street				Limits: NE 138th Avenue to NE 162nd Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 138th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 148th Avenue	----	----	----	----	0%	0%	0%	----	0%	0%	0%	----
NE 155th Avenue	0%	0%	2%	1%	0%	1%	0%	0%	0%	0%	0%	0%
NE 162nd Avenue	0%	0%	3%	3%	2%	0%	0%	0%	0%	0%	2%	0%

Corridor: Burton Road/NE 28th Street				Limits: NE 18th Street to NE 112th Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 18th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 86th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 98th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 112th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Corridor: Burton Road/NE 28th Street				Limits: NE 112th Avenue and NE 138th Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 112th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 119th Avenue/Four Seasons	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 124th Avenue (South)	----	----	----	----	0%	0%	0%	----	0%	0%	0%	----
NE 124th Avenue (North)	0%	----	0%	0%	0%	----	----	----	----	0%	0%	0%
NE 129th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 138th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Corridor: NE 28th Street				Limits: NE 138th Avenue to NE 162nd Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 136th/138th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 148th Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 152nd Avenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 162nd Avenue	0%	2%	0%	0%	0%	0%	0%	2%	1%	1%	0%	0%

Exhibit 1A. Trip Distribution for Corridor Intersections. (continued)

Corridor: Ft. Vancouver Way/St. Johns Boulevard				Limits: Mill Plain Boulevard to NE 63rd Street								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Mill Plain Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
McLoughlin Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fourth Plain Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
St. Johns Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
E 33rd Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SR 500	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 44th Street	----	----	----	0%	0%	----	0%	0%	0%	----	0%	0%
Minnehaha/NE 63rd Street	----	----	----	0%	0%	----	0%	0%	0%	----	0%	0%

Corridor: NE 112th Avenue (also Chkalov Drive)				Limits: Mill Plain Boulevard to Burton Road/NE 28th Street								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Mill Plain Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 9th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 18th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Burton Road/NE 28th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Corridor: NE 112th Avenue				Limits: Burton Road/NE 28th Street to NE 51st Street								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Burton Road/NE 28th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 49th Street	----	0%	0%	0%	----	0%	0%	----	----	----	----	----
NE 51st Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Corridor: NE 136th/138th Avenue				Limits: Mill Plain Boulevard to NE 28th Street								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Mill Plain Boulevard	0%	0%	0%	0%	3%	2%	2%	0%	0%	0%	3%	0%
NE 4th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 18th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 28th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Corridor: NE 137th/138th Avenue				Limits: NE 28th Street to Fourth Plain Boulevard								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 28th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 39th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 49th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fourth Plain Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%



Exhibit 1A. Trip Distribution for Corridor Intersections. (continued)

Corridor: SE 164th Avenue				Limits: SR-14 to SE 1st Street								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
SR-14 eastbound ramps	----	0%	0%	----	----	----	0%	0%	----	0%	0%	0%
SR-14 westbound ramps	0%	0%	----	0%	0%	0%	----	0%	0%	----	----	----
Cascade Park Dr/SE 34th St	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Village Loop/SE 29th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
McGillivray Boulevard	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Village Loop/SE 20th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SE 15th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SE 12th Court/Tech Center Drive	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mill Plain Boulevard	0%	0%	0%	0%	7%	3%	3%	0%	0%	0%	7%	0%
SE 1st Street	0%	0%	2%	2%	3%	0%	0%	0%	0%	0%	3%	0%

Corridor: NE 162nd/SE 164th Avenue				Limits: SE 1st Street to Fourth Plain Road								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
SE 1st Street	0%	0%	2%	2%	3%	0%	0%	0%	0%	0%	3%	0%
NE 11th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NE 18th Street	0%	0%	3%	3%	2%	0%	0%	0%	0%	0%	2%	0%
NE 28th Street	0%	2%	0%	0%	0%	0%	0%	2%	1%	1%	0%	0%
NE 34th Street	0%	2%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%
NE 39th Street	0%	1%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%
Poplar Street/NE 45th Street	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%
NE 65th Street	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fourth Plain Road	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Corridor: NE/SE 192nd Avenue				Limits: SR-14 to NE 18th Street								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
SR-14 eastbound ramps	----	0%	0%	----	----	----	0%	0%	----	0%	0%	10%
SR-14 westbound ramps	10%	0%	----	0%	0%	0%	----	0%	0%	----	----	----
Brady Road	----	10%	0%	0%	----	0%	0%	10%	----	----	----	----
SE 34th Street/Pacific Rim Blvd	5%	10%	5%	5%	0%	0%	0%	10%	0%	0%	0%	5%
SE 31st Street	----	20%	0%	0%	----	0%	0%	20%	----	----	----	----
SE 20th Street	8%	20%	0%	0%	0%	0%	0%	20%	0%	0%	0%	8%
SE 15th Street	7%	28%	0%	0%	0%	0%	0%	28%	0%	0%	0%	7%
SE 12th Way	0%	35%	----	----	----	----	----	35%	0%	0%	----	0%
Westridge Boulevard	----	35%	0%	0%	----	0%	0%	35%	----	----	----	----
Mill Plain Boulevard	10%	35%	0%	0%	0%	0%	0%	35%	0%	0%	0%	10%
SE 1st Street	0%	0%	0%	0%	5%	45%	45%	0%	0%	0%	5%	0%
NE 6th Street	----	0%	0%	0%	----	0%	0%	0%	----	----	----	----
NE 9th Street	0%	0%	----	----	----	----	----	0%	0%	0%	----	0%
NE 11th Street	----	0%	0%	0%	----	0%	0%	0%	----	----	----	----
NE 13th Street	----	0%	5%	5%	----	0%	0%	0%	----	----	----	----
NE 18th Street	----	----	----	----	0%	0%	0%	----	5%	5%	0%	----



Exhibit 1B. Trip Assignment for Corridor Intersections.

Corridor: Andresen Road		Limits: Mill Plain Boulevard to SR-500											
Intersecting Roadway	Traffic Movement												
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Mill Plain Boulevard	0	0	0	0	0	0	0	0	0	0	0	0	
E. 18th Street/N.E. 18th Street	0	0	0	0	0	0	0	0	0	0	0	0	
NE 25th Street	----	0	0	0	----	0	0	0	----	----	----	----	
Fourth Plain Boulevard	0	0	0	0	0	0	0	0	0	0	0	0	
SR-500	0	0	0	0	0	0	0	0	0	0	0	0	

Corridor: Andresen Road		Limits: SR-500 to NE 78th Street											
Intersecting Roadway	Traffic Movement												
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
SR-500	0	0	0	0	0	0	0	0	0	0	0	0	
NE 40th Street	0	0	0	0	0	0	0	0	0	0	0	0	
Vancouver Mall Drive	----	0	0	0	----	0	0	0	----	----	----	----	
NE 58th Street	0	0	0	0	0	0	0	0	0	0	0	0	
Minnehaha/NE 63rd Street	0	0	0	0	0	0	0	0	0	0	0	0	
NE 78th Street	0	0	0	0	0	0	0	0	0	0	0	0	

Corridor: Fourth Plain Boulevard		Limits: Mill Plain Boulevard to I-5											
Intersecting Roadway	Traffic Movement												
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
Mill Plain Boulevard	0	0	0	0	0	0	0	0	0	0	0	0	
Fruit Valley Road/Kotobuki Way	0	0	0	0	0	0	0	0	0	0	0	0	
Kauffman Avenue	0	0	0	0	0	0	0	0	0	0	0	0	
Main Street	0	0	0	0	0	0	0	0	0	0	0	0	
I-5 southbound off-/on-ramps	0	----	0	0	0	----	----	----	----	----	0	0	
I-5 northbound off-/on-ramps	----	----	----	0	0	----	0	0	0	----	0	0	

Corridor: Fourth Plain Boulevard		Limits: I-5 to Andresen Road											
Intersecting Roadway	Traffic Movement												
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND			
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
I-5 northbound off-/on-ramps	----	----	----	0	0	----	0	0	0	----	0	0	
St. Johns Boulevard	0	0	0	0	0	0	0	0	0	0	0	0	
Fort Vancouver Way	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Boulevard	0	0	0	0	0	0	0	0	0	0	0	0	
Falk Road	0	----	0	0	0	----	----	----	----	----	0	0	
Stapleton Road	0	0	0	0	0	0	0	0	0	0	0	0	
Andresen Road	0	0	0	0	0	0	0	0	0	0	0	0	



Exhibit 1B. Trip Assignment for Corridor Intersections. (continued)

Corridor: Fourth Plain Boulevard				Limits: Andresen Road to I-205								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Andresen Road	0	0	0	0	0	0	0	0	0	0	0	0
NE 86th Avenue	----	----	----	----	0	0	0	----	0	0	0	----
Thurston Way	0	0	0	0	0	0	0	0	0	0	0	0
I-205 SB on-ramp/Oak View Drive	----	----	----	0	0	0	0	0	0	0	0	0
I-205 SB off-ramp/Van Mall Drive	0	0	0	0	0	----	0	0	0	----	0	0
I-205 NB on-ramp/NE 54th Street	0	0	0	0	0	0	----	----	----	0	0	0

Corridor: Fourth Plain Boulevard (SR-500)				Limits: I-205 to NE 162nd Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
I-205 NB on-ramp/NE 54th Street	0	0	0	0	0	0	----	----	----	0	0	0
NE 109th Avenue/Gher Road	0	0	0	0	0	0	0	0	0	0	0	0
NE 112th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 117th Avenue (SR 503/500)	0	0	0	0	0	0	0	0	0	0	0	0
NE 121st Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 137th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
Ward Road	0	----	0	0	0	----	----	----	----	----	0	0
NE 162nd Avenue	0	0	0	0	0	0	0	0	0	0	0	0

Corridor: Mill Plain Boulevard				Limits: Fourth Plain Boulevard to I-5								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Fourth Plain Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
Kauffman Avenue	0	0	0	0	0	0	0	0	0	0	0	0
Main Street	0	0	0	0	0	0	0	0	0	0	0	0
I-5 southbound on-/off-ramps	0	0	0	----	0	0	----	----	----	0	0	----
I-5 northbound on-/off-ramps	----	----	----	0	0	----	0	0	0	----	0	0

Corridor: Mill Plain Boulevard				Limits: I-5 to Andresen Road								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
I-5 northbound on-/off-ramps	----	----	----	0	0	----	0	0	0	----	0	0
Fort Vancouver Way	0	0	0	0	0	0	0	0	0	0	0	0
Grand Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
MacArthur Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
Andresen Road	0	0	0	0	0	0	0	0	0	0	0	0

Exhibit 1B. Trip Assignment for Corridor Intersections. (continued)

Corridor: Mill Plain Boulevard		Limits: Andresen Road to I-205										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Andresen Road	0	0	0	0	0	0	0	0	0	0	0	0
Leiser Road	0	0	0	0	0	0	0	0	0	0	0	0
NE 97th/98th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
I-205 southbound on-/off-ramps	0	----	0	0	0	----	----	----	----	0	0	----
I-205 northbound on-/off-ramps	0	----	----	0	0	----	0	----	----	----	0	0

Corridor: Mill Plain Boulevard		Limits: I-205 to NE 136th Avenue										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
I-205 northbound on-/off-ramps	0	----	----	0	0	----	0	----	----	----	0	0
Chkalov Drive	0	0	0	0	0	0	0	0	0	0	0	0
NE/SE 117th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE/SE 120th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
SE 123rd/NE 124th Avenue	0	0	2	1	0	1	1	0	0	0	0	0
SE 126th Avenue	0	----	0	0	2	----	----	----	----	----	3	0
Park Plaza Dr/SE 131st Av	0	0	0	0	3	0	0	0	0	0	5	0
NE/SE 136th Avenue	0	0	0	0	2	1	2	0	0	0	3	0

Corridor: Mill Plain Boulevard		Limits: NE 136th Avenue to NE 164th Avenue										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE/SE 136th Avenue	0	0	0	0	2	1	2	0	0	0	3	0
SE 139th Avenue	----	----	----	----	3	0	0	----	0	0	5	----
Olympia Drive	----	----	----	----	3	0	0	----	0	0	5	----
Hearthwood Blvd/Park Crest Av	0	0	0	0	3	0	0	0	0	0	5	0
SE 148th Avenue	0	----	0	0	3	----	----	----	----	----	5	0
SE 155th Avenue	0	----	0	0	4	----	----	----	----	----	7	0
SE 157th Avenue	0	----	0	0	4	----	----	----	----	----	7	0
SE 160th Avenue	----	----	----	----	4	0	0	----	0	0	7	----
SE 164th Avenue	0	0	0	0	4	2	3	0	0	0	7	0

Corridor: Mill Plain Boulevard		Limits: NE 164th Avenue to NE 192nd Avenue										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
SE 164th Avenue	0	0	0	0	4	2	3	0	0	0	7	0
SE 168th Avenue	0	0	0	0	6	0	0	0	0	0	10	0
SE 172nd Av/Tech Center Dr	0	0	0	0	6	0	0	0	0	0	10	0
SE 177th Avenue	0	0	0	0	6	0	0	0	0	0	10	0
SE 192nd Avenue	6	20	0	0	0	0	0	37	0	0	0	10

Exhibit 1B. Trip Assignment for Corridor Intersections. (continued)

Corridor: NE 18th Street				Limits: NE 112th Avenue to NE 138th Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 112th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 125th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 138th Avenue	0	0	0	0	0	0	0	0	0	0	0	0

Corridor: NE 18th Street				Limits: NE 138th Avenue to NE 162nd Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 138th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 148th Avenue	----	----	----	----	0	0	0	----	0	0	0	----
NE 155th Avenue	0	0	2	1	0	0	0	0	0	0	0	0
NE 162nd Avenue	0	0	3	2	1	0	0	0	0	0	2	0

Corridor: Burton Road/NE 28th Street				Limits: NE 18th Street to NE 112th Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 18th Street	0	0	0	0	0	0	0	0	0	0	0	0
NE 86th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 98th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 112th Avenue	0	0	0	0	0	0	0	0	0	0	0	0

Corridor: Burton Road/NE 28th Street				Limits: NE 112th Avenue and NE 138th Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 112th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 119th Avenue/Four Seasons	0	0	0	0	0	0	0	0	0	0	0	0
NE 124th Avenue (South)	----	----	----	----	0	0	0	----	0	0	0	----
NE 124th Avenue (North)	0	----	0	0	0	----	----	----	----	0	0	0
NE 129th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 138th Avenue	0	0	0	0	0	0	0	0	0	0	0	0

Corridor: NE 28th Street				Limits: NE 138th Avenue to NE 162nd Avenue								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 136th/138th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 148th Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 152nd Avenue	0	0	0	0	0	0	0	0	0	0	0	0
NE 162nd Avenue	0	2	0	0	0	0	0	2	0	1	0	0

Exhibit 1B. Trip Assignment for Corridor Intersections. (continued)

Corridor: Ft. Vancouver Way/St. Johns Boulevard		Limits: Mill Plain Boulevard to NE 63rd Street										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Mill Plain Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
McLoughlin Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
Fourth Plain Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
St. Johns Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
E 33rd Street	0	0	0	0	0	0	0	0	0	0	0	0
SR 500	0	0	0	0	0	0	0	0	0	0	0	0
NE 44th Street	----	----	----	0	0	----	0	0	0	----	0	0
Minnehaha/NE 63rd Street	----	----	----	0	0	----	0	0	0	----	0	0

Corridor: NE 112th Avenue (also Chkalov Drive)		Limits: Mill Plain Boulevard to Burton Road/NE 28th Street										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Mill Plain Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
NE 9th Street	0	0	0	0	0	0	0	0	0	0	0	0
NE 18th Street	0	0	0	0	0	0	0	0	0	0	0	0
Burton Road/NE 28th Street	0	0	0	0	0	0	0	0	0	0	0	0

Corridor: NE 112th Avenue		Limits: Burton Road/NE 28th Street to NE 51st Street										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Burton Road/NE 28th Street	0	0	0	0	0	0	0	0	0	0	0	0
NE 49th Street	----	0	0	0	----	0	0	0	----	----	----	----
NE 51st Street	0	0	0	0	0	0	0	0	0	0	0	0

Corridor: NE 136th/138th Avenue		Limits: Mill Plain Boulevard to NE 28th Street										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
Mill Plain Boulevard	0	0	0	0	2	1	2	0	0	0	3	0
NE 4th Street	0	0	0	0	0	0	0	0	0	0	0	0
NE 18th Street	0	0	0	0	0	0	0	0	0	0	0	0
NE 28th Street	0	0	0	0	0	0	0	0	0	0	0	0

Corridor: NE 137th/138th Avenue		Limits: NE 28th Street to Fourth Plain Boulevard										
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
NE 28th Street	0	0	0	0	0	0	0	0	0	0	0	0
NE 39th Street	0	0	0	0	0	0	0	0	0	0	0	0
NE 49th Street	0	0	0	0	0	0	0	0	0	0	0	0
Fourth Plain Road	0	0	0	0	0	0	0	0	0	0	0	0

Exhibit 1B. Trip Assignment for Corridor Intersections. (continued)

Corridor: SE 164th Avenue				Limits: SR-14 to SE 1st Street								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
SR-14 eastbound ramps	----	0	0	----	----	----	0	0	----	0	0	0
SR-14 westbound ramps	0	0	----	0	0	0	----	0	0	----	----	----
Cascade Park Dr/SE 34th St	0	0	0	0	0	0	0	0	0	0	0	0
Village Loop/SE 29th Street	0	0	0	0	0	0	0	0	0	0	0	0
McGillivray Boulevard	0	0	0	0	0	0	0	0	0	0	0	0
Village Loop/SE 20th Street	0	0	0	0	0	0	0	0	0	0	0	0
SE 15th Street	0	0	0	0	0	0	0	0	0	0	0	0
SE 12th Court/Tech Center Drive	0	0	0	0	0	0	0	0	0	0	0	0
Mill Plain Boulevard	0	0	0	0	4	2	3	0	0	0	7	0
SE 1st Street	0	0	2	1	2	0	0	0	0	0	3	0

Corridor: NE 162nd/SE 164th Avenue				Limits: SE 1st Street to Fourth Plain Road								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
SE 1st Street	0	0	2	1	2	0	0	0	0	0	3	0
NE 11th Street	0	0	0	0	0	0	0	0	0	0	0	0
NE 18th Street	0	0	3	2	1	0	0	0	0	0	2	0
NE 28th Street	0	2	0	0	0	0	0	2	0	1	0	0
NE 34th Street	0	2	0	0	0	0	0	2	0	0	0	0
NE 39th Street	0	1	0	0	0	0	0	1	1	1	0	0
Poplar Street/NE 45th Street	0	0	0	0	0	0	0	0	1	1	0	0
NE 65th Street	0	0	0	0	0	0	0	0	0	0	0	0
Fourth Plain Road	0	0	0	0	0	0	0	0	0	0	0	0

Corridor: NE/SE 192nd Avenue				Limits: SR-14 to NE 18th Street								
Intersecting Roadway	Traffic Movement											
	SOUTHBOUND			WESTBOUND			NORTHBOUND			EASTBOUND		
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
SR-14 eastbound ramps	----	0	0	----	----	----	0	0	----	0	0	11
SR-14 westbound ramps	6	0	----	0	0	0	----	11	0	----	----	----
Brady Road	----	6	0	0	----	0	0	11	----	----	----	----
SE 34th Street/Pacific Rim Blvd	3	6	2	5	0	0	0	11	0	0	0	5
SE 31st Street	----	11	0	0	----	0	0	21	----	----	----	----
SE 20th Street	5	11	0	0	0	0	0	21	0	0	0	9
SE 15th Street	4	16	0	0	0	0	0	30	0	0	0	7
SE 12th Way	0	20	----	----	----	----	----	37	0	0	----	0
Westridge Boulevard	----	20	0	0	----	0	0	37	----	----	----	----
Mill Plain Boulevard	6	20	0	0	0	0	0	37	0	0	0	10
SE 1st Street	0	0	0	0	3	26	47	0	0	0	5	0
NE 6th Street	----	0	0	0	----	0	0	0	----	----	----	----
NE 9th Street	0	0	----	----	----	----	----	0	0	0	----	0
NE 11th Street	----	0	0	0	----	0	0	0	----	----	----	----
NE 13th Street	----	0	5	3	----	0	0	0	----	----	----	----
NE 18th Street	----	----	----	----	0	0	0	----	3	5	0	----