

 **TRAFFIC IMPACT ANALYSIS**

FEIZBAKSH PRD

JURISDICTION: CITY OF MARYSVILLE, WA
LOCATION: 3211 83RD AVENUE NE

Prepared for:
Keystone Land, LLC
13805 Smokey Point Boulevard
Suite 102
Marysville, Washington 98271

Prepared by:
Kimley»»Horn

February 2024
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Prepared for:

Keystone Land, LLC

13805 Smokey Point Boulevard

Suite 102

Marysville, Washington 98271

Prepared by:

Kimley-Horn and Associates, Inc.

2828 Colby Avenue

Suite 200

Everett, Washington 98201

(425) 708-8275



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1. DEVELOPMENT IDENTIFICATION

Kimley-Horn and Associates, Inc. (Kimley-Horn) has been retained to provide a traffic impact analysis for Feizbakhsh PRD Development (Development). This report is intended to provide the City of Marysville (City) and Snohomish County (County) with the necessary traffic generation, trip distribution, and mitigation fee determination to facilitate their review of the Development. The Development is located on the east side of 83rd Avenue NE, north of Soper Hill Road. A site vicinity map is included in **Figure 1**. The Development is proposed to consist of 14 single-family detached residential units. The site is currently listed as unoccupied and vacant per the *Snohomish County Online Property Information (SCOPI)* web map. The Development will primarily access the City street network via one existing private road to 83rd Avenue NE opposite 32nd Place NE.

Matthew Palmer, responsible for this report and traffic analysis, is a licensed professional engineer (Civil) in the State of Washington and member of the Washington State section of the Institute of Transportation Engineers (ITE).



FIGURE 1 - SITE VICINITY MAP

FEIZBAKHSH PRD - CITY OF MARYSVILLE, WA KH #090223209

2. TRIP GENERATION

The trip generation calculations have been performed using data published by the ITE *Trip Generation Manual, 11st Edition (2021)* and the City rate of 1.0 PM peak-hour trips per single-family residential unit. The average trip generation rates for ITE Land Use Codes (LUC) 210, Single-Family Detached Housing, have been used for the trip generation calculations. The trip generation calculations for the Development are summarized in **Table 1**.

Table 1: Trip Generation Summary

14 Units Single-Family Detached Housing	Average Daily Trips (ADTs)			AM Peak-Hour Trips			PM Peak-Hour Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Generation Rate	9.43 trips per unit			0.70 trips per unit			1.00 trips per unit		
Splits	50%	50%	100%	25%	75%	100%	63%	37%	100%
Trips	66	66	132	3	7	10	9	5	14

The Development is anticipated to generate approximately 132 new ADTs with approximately 10 new AM peak-hour trips and approximately 14 new PM peak-hour trips. The trip generation calculations are provided in **Appendix A**.

3. TRIP DISTRIBUTION

The trip distribution for the Development is based on the Whiskey Ridge East distributions established by the City which have similar values for the opening-year and horizon-year. The trip distributions for the Development during the opening-year are:

- 58% to and from the east
 - 50% to and from the south on SR-9
 - 5% to and from the east on SR-92
 - 3% to and from the east on Soper Hill Road
- 33% to and from the north
 - 25% to and from 83rd Avenue NE
 - 5% to and from 44th Street NE
 - 3% to and from 87th Avenue NE
- 9% to and from the west
 - 8% to and from the south on Sunnyside Boulevard
 - 1% to and from the west on Sunnyside Boulevard

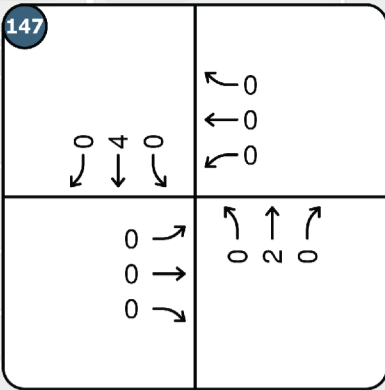
The trip distributions for the Development during the horizon-year are:

- 55% to and from the west
 - 47% to and from the south on SR-9
 - 5% to and from the east on SR-92
 - 3% to and from the east on Soper Hill Road
- 36% to and from the north
 - 22% to and from 83rd Avenue NE
 - 14% to and from 44th Street NE
- 9% to and from the west
 - 8% to and from the south on Sunnyside Boulevard
 - 1% to and from the west on Sunnyside Boulevard

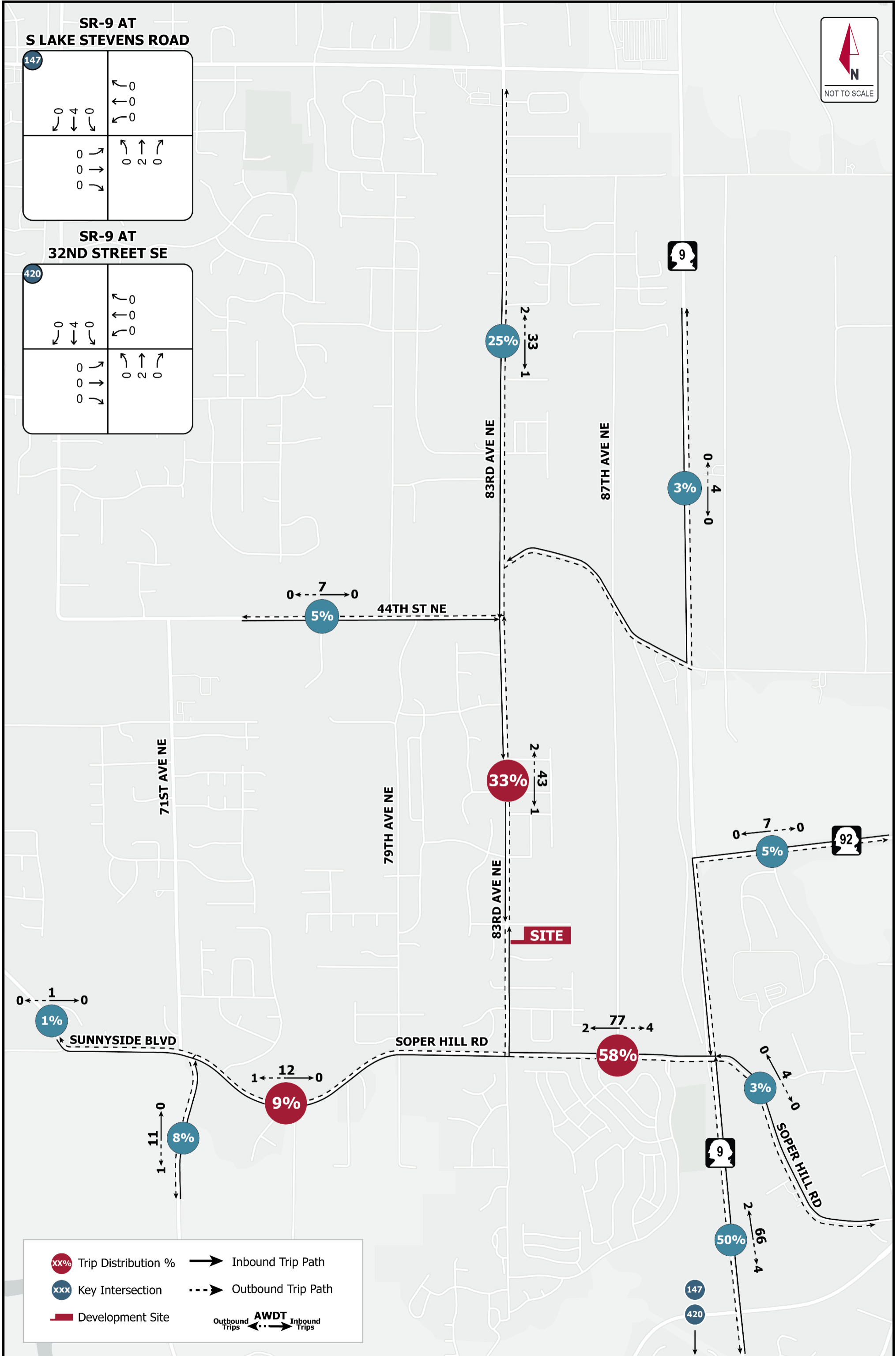
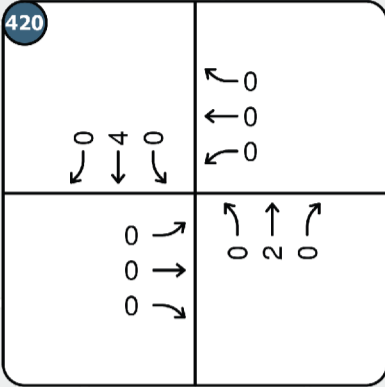
Detailed trip distributions for the AM and PM peak-hour for the opening-year are shown in **Figure 2** and **Figure 3**, and for the horizon-year are shown in **Figure 4** and **Figure 5**, respectively. The established distributions are provided in **Appendix B**.

The trip distribution shows that there are not any intersections that are impacted by 25 PM peak-hour trips generated by the Development. The City should therefore not require intersection level of service.

**SR-9 AT
S LAKE STEVENS ROAD**



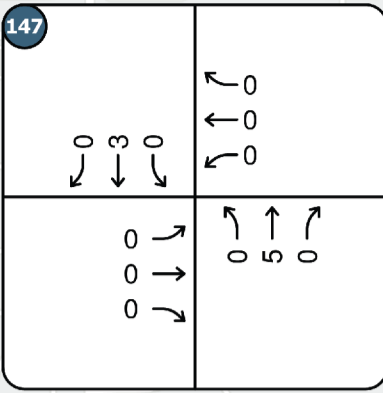
**SR-9 AT
32ND STREET SE**



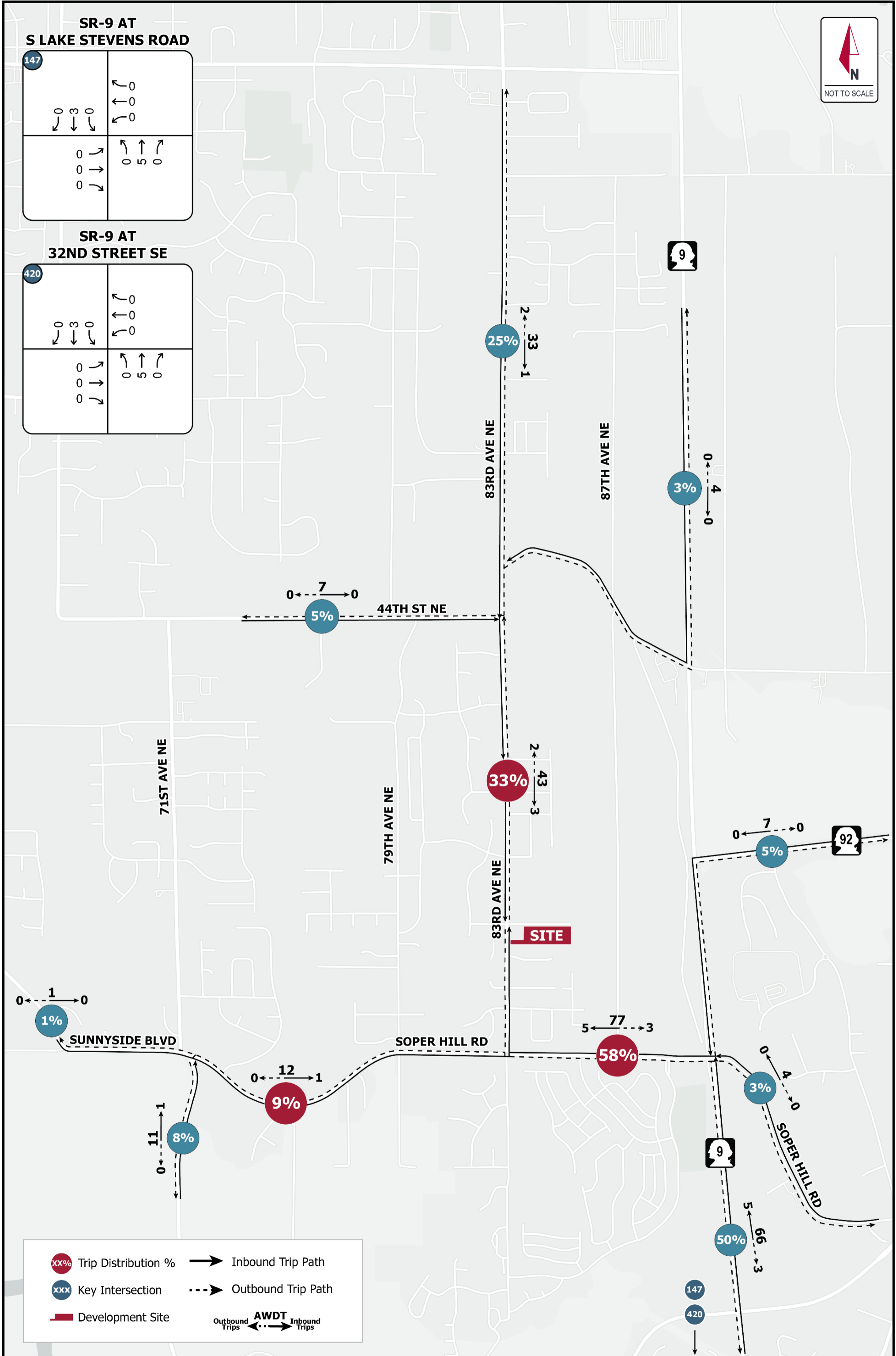
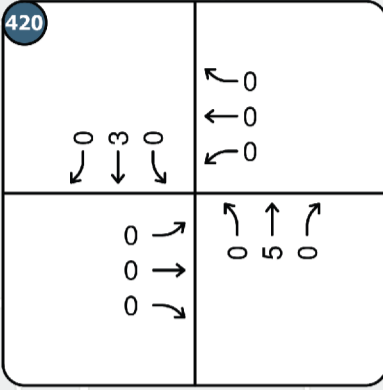
	Trip Distribution %		Inbound Trip Path
	Key Intersection		Outbound Trip Path
	Development Site		AWDT
			Outbound Trips
			Inbound Trips

FIGURE 2 - AM PEAK HOUR OPENING YEAR TRIP DISTRIBUTION
FEIZBAKSH PRD - CITY OF MARYSVILLE, WA KH #090223209

**SR-9 AT
S LAKE STEVENS ROAD**

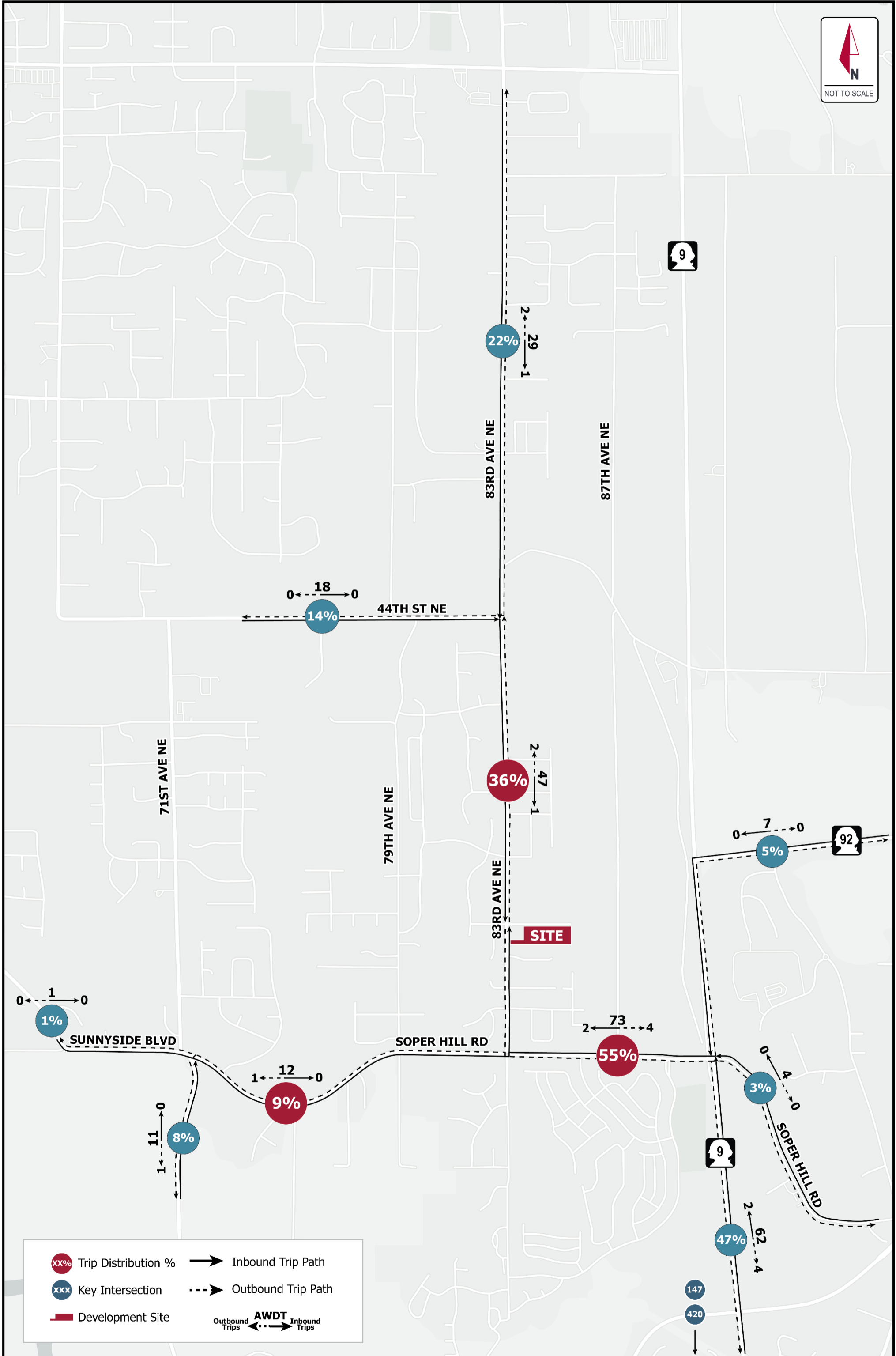


**SR-9 AT
32ND STREET SE**



	Trip Distribution %		Inbound Trip Path
	Key Intersection		Outbound Trip Path
	Development Site		AWDT
			Outbound Trips
			Inbound Trips

FIGURE 3 - PM PEAK HOUR OPENING YEAR TRIP DISTRIBUTION
FEIZBAKSH PRD - CITY OF MARYSVILLE, WA KH #090223209



● Trip Distribution %	\rightarrow Inbound Trip Path
● Key Intersection	\dashrightarrow Outbound Trip Path
■ Development Site	
AWDT Outbound Trips \leftarrow Inbound Trips	

FIGURE 4 - AM PEAK HOUR HORIZON YEAR TRIP DISTRIBUTION
 FEIZBAKSH PRD - CITY OF MARYSVILLE, WA KH #090223209

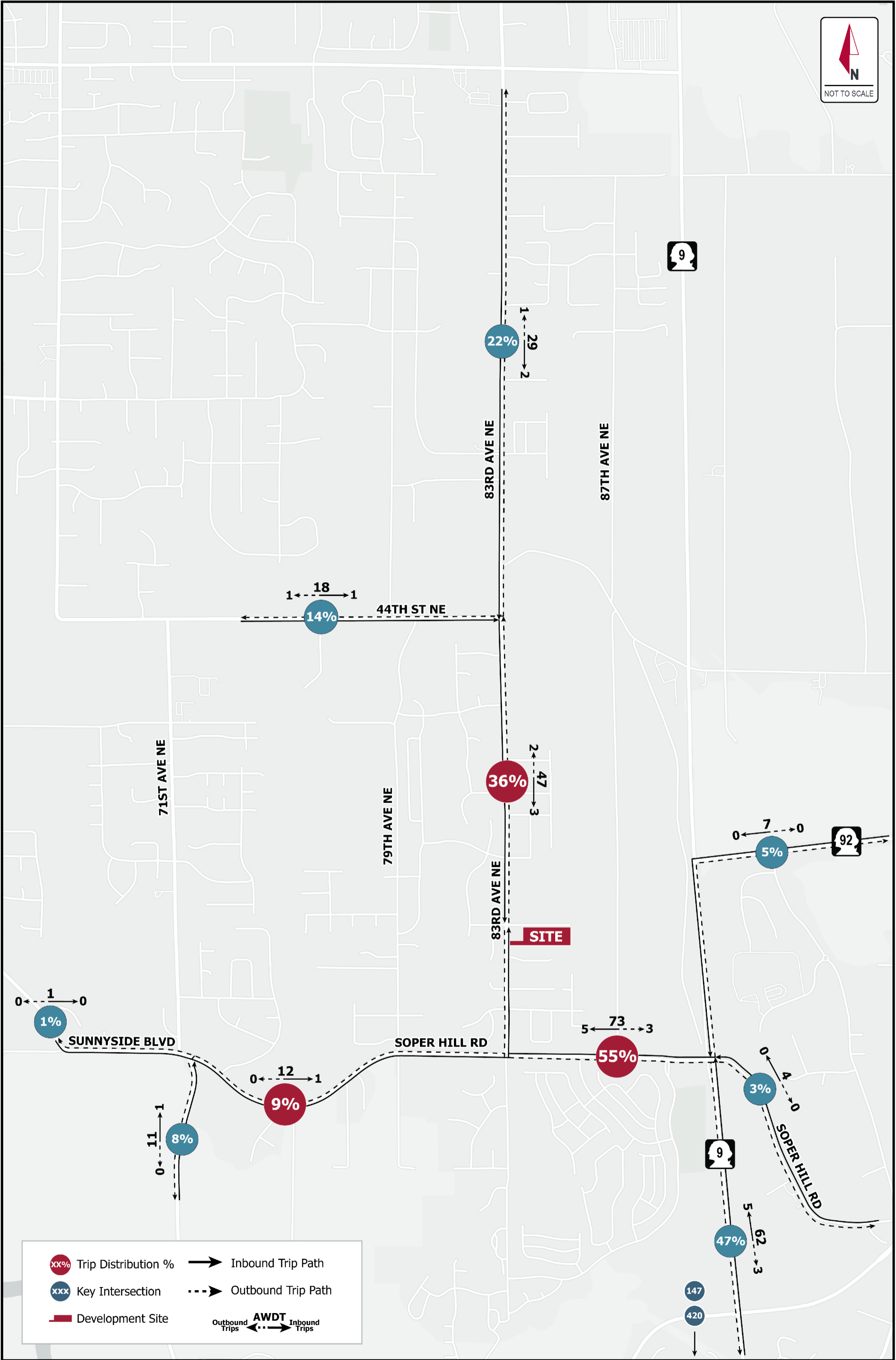


FIGURE 5 - PM PEAK HOUR HORIZON YEAR TRIP DISTRIBUTION
FEIZBAKHSH PRD - CITY OF MARYSVILLE, WA KH #090223209

3.1. Snohomish County Intersections

The interlocal agreement between the City and County requires detailed development trip turning movement data at County key intersections impacted with three or more directional trips on an approach or departure. The trips generated by the Development will impact two key intersections during the AM and PM Peak-hour. The AM peak-hour key intersection impacts are shown in tabular form in **Table 2** and the PM peak-hour key intersection impacts are shown in tabular form in **Table 3**.

Table 2: Key Intersection Volumes – AM Peak Hour

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#147: SR-9 at S Lake Stevens Road	0	0	0	0	0	0	0	2	0	0	4	0
#420: SR-9 at 32 nd Street SE	0	0	0	0	0	0	0	2	0	0	4	0

Table 3: Key Intersection Volumes – PM Peak Hour

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#147: SR-9 at S Lake Stevens Road	0	0	0	0	0	0	0	5	0	0	3	0
#420: SR-9 at 32 nd Street SE	0	0	0	0	0	0	0	5	0	0	3	0

The key intersection impacts are also shown in graphical form in **Figure 2** and **Figure 3** for the AM and PM peak-hours, respectively. The number and direction of trips impacting the key intersections is the same in Opening Year and Horizon Year.

4. SITE ACCESS

The Development is proposed to have access to a private roadway along the northern property line that will connect to 83rd Avenue NE and is aligned with 32nd Place NE. It is anticipated that the majority of the trips generated by the Development will travel to and from the north and south along 83rd Avenue NE. The site access is anticipated to have at least 155 feet of stopping sight distance in both directions, and up to 280 feet of entering sight distance in both directions.

5. TRANSPORTATION IMPACT FEES

The City has interlocal agreements with the County and Washington State Department of Transportation (WSDOT) for transportation impact fees. These transportation impact fees are based on the area wide traffic mitigation fee or actual impacts to improvement projects.

5.1. City of Marysville

The City traffic mitigation fees have been calculated using the residential rates of \$6,300 per new unit. The Development will consist of 14 total single-family residential units. The 14 new single-family residential units should result in City traffic mitigation fees of \$88,200.00.

5.2. Snohomish County

The City and County have an interlocal agreement that provides for the payment of traffic mitigation for impacts to County roadways by City developments. Traffic mitigation fees are based on predetermined area impacts or impacts to actual improvement projects. The only County improvement project in the area is along 88th Street NE, between approximately 44th Drive NE to 66th Drive NE. This improvement project is not anticipated to be impacted by three directional PM peak-hour trips from the Development. County traffic mitigation fees should therefore not be required for the Development.

5.3. Washington State Department of Transportation

The WSDOT mitigation fees are based on impacts to improvement projects identified in the Exhibit C List included in the interlocal agreement between the County and WSDOT. There are not any WSDOT intersections on the Exhibit C List that will be impacted by three directional PM peak-hour trips generated by the Development. WSDOT transportation impact fees should therefore not be required for the Development.

6. CONCLUSIONS

The Development is proposed to consist of 14 single-family detached residential units. The site is currently listed as unoccupied and vacant per the *SCOP* web map. The Development is anticipated to generate approximately 132 new ADTs with approximately 10 new AM peak-hour trips and approximately 14 new PM peak-hour trips. The trips generated by the Development will impact two key intersections during the AM and PM peak-hours. The City transportation impact mitigation fees total \$88,200.00. County and WSDOT traffic mitigation fees should not be required for the Development.

APPENDIX A
TRIP GENERATION

Trip Generation for: **Weekday**
(a.k.a.): **Average Weekday Daily Trips (AWDT)**

		NET EXTERNAL TRIPS BY TYPE																		
		IN BOTH DIRECTIONS										DIRECTIONAL ASSIGNMENTS								
		Gross Trips					Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Single-Family Detached Housing	14 units	210	9.43	50%	50%	132	0%	0	132	0%	0	0%	0	132	0	0	0	0	66	66
Total						132		0	132		0		0	132	0	0	0	0	66	66

Trip Generation for: **Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 7 and 9 AM**
(a.k.a.): **Weekday AM Peak Hour**

LAND USES		VARIABLE	ITE LU code	NET EXTERNAL TRIPS BY TYPE																			
				Gross Trips					Internal Crossover		IN BOTH DIRECTIONS							DIRECTIONAL ASSIGNMENTS					
				Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	TOTAL In+Out (Total)	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW			
							% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out						
Single-Family Detached Housing		14 units	210	0.70	25%	75%	10	0%	0	10	0%	0	0%	0	10	0	0	0	0	3	7		
Total							10		0	10		0		0	10	0	0	0	0	3	7		

Trip Generation for: Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 4 and 6 PM
(a.k.a.): Weekday PM Peak Hour

LAND USES		VARIABLE	ITE LU code	Gross Trips					Internal Crossover		NET EXTERNAL TRIPS BY TYPE									
				Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	TOTAL In+Out (Total)	IN BOTH DIRECTIONS				DIRECTIONAL ASSIGNMENTS					
											PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW
% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out										
Single-Family Detached Housing	14 units	210	1.00	63%	37%	14	0%	0	14	0%	0	0%	0	14	0	0	0	0	9	5
Total						14		0	14		0		0	14	0	0	0	0	9	5

APPENDIX B
CITY TRIP DISTRIBUTION

WHISKEY RIDGE EAST - EXISTING



City of Marysville

November 2017

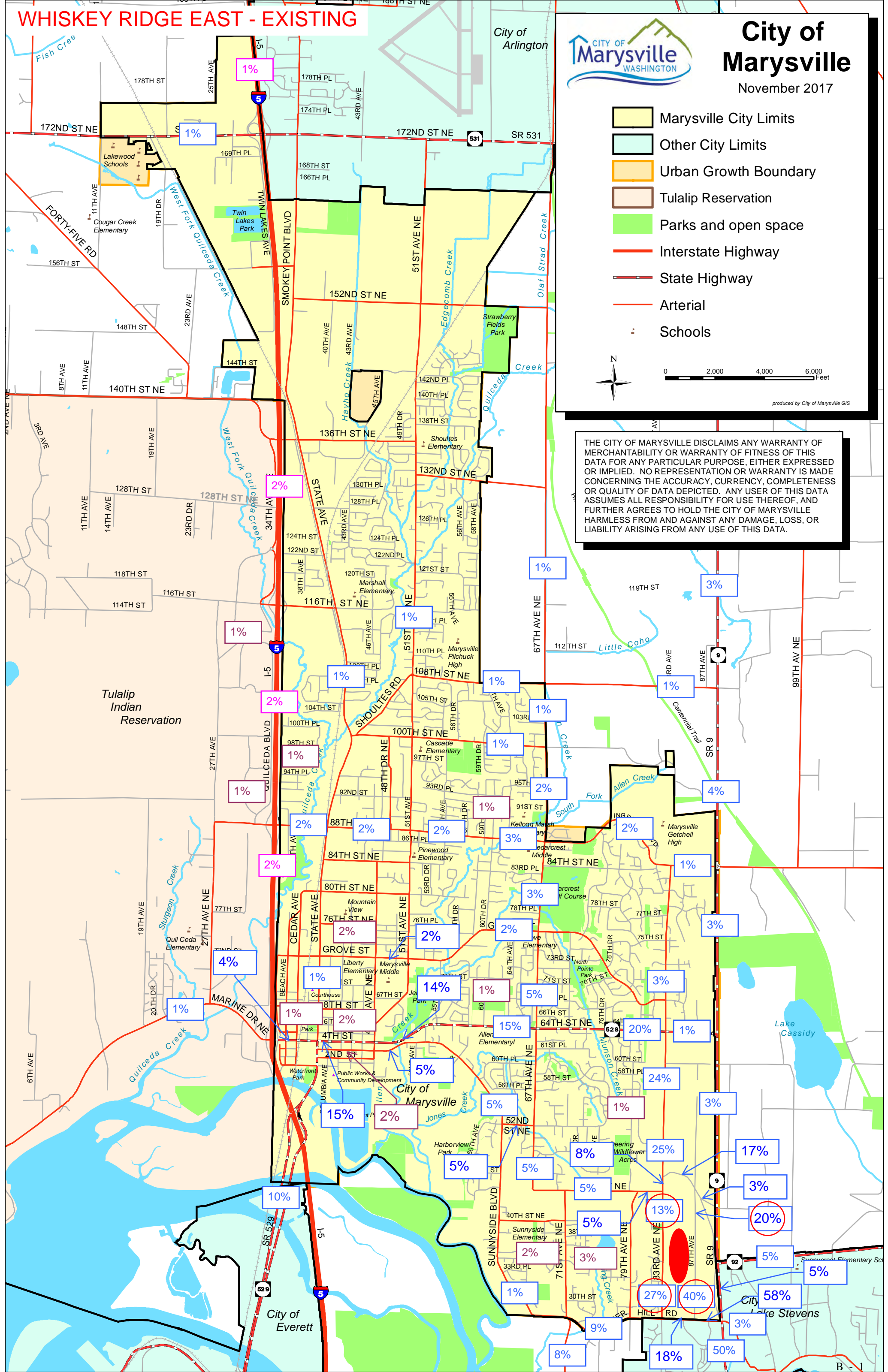
- Marysville City Limits
- Other City Limits
- Urban Growth Boundary
- Tulalip Reservation
- Parks and open space
- Interstate Highway
- State Highway
- Arterial
- Schools



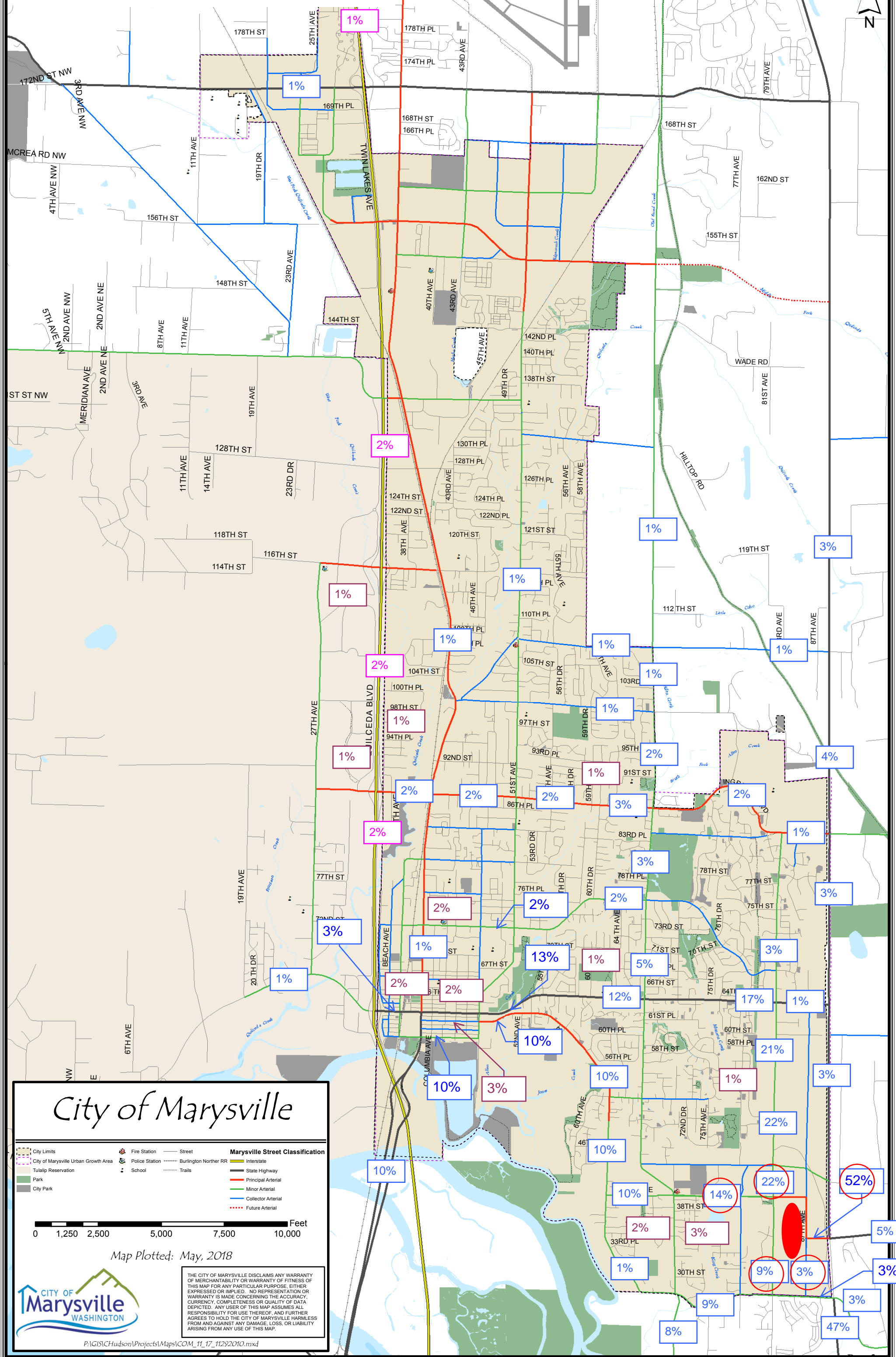
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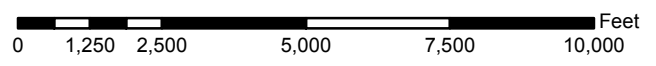


WHISKEY RIDGE WEST - HORIZON



City of Marysville

			Marysville Street Classification



Map Plotted: May, 2018



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