

Traffic Impact Analysis

MARYSVILLE INDUSTRIAL

Prepared for:
PacTrust

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Prepared by:



12131 113th Avenue NE, Suite 203
Kirkland, WA 98034
Phone: 425-821-3665
Fax: 425-825-8434
www.transpogroup.com

1.20320.00

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Introduction

The purpose of this transportation impact analysis (TIA) is to identify potential transportation-related impacts to the surrounding street network associated with the development of the proposed Industrial project in Marysville, WA.

Project Description

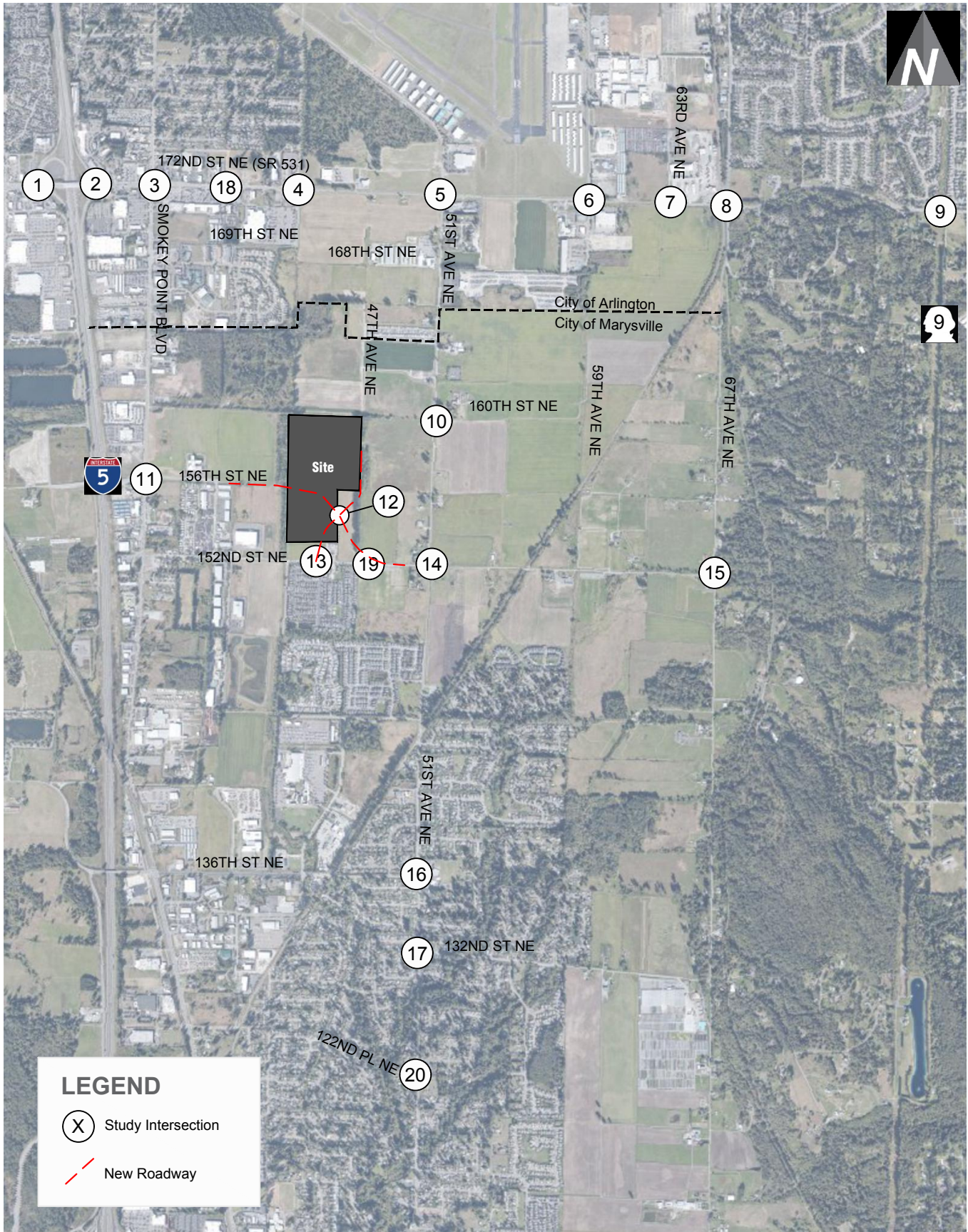
The proposed project would develop approximately 745,250 square feet of Industrial Park. The development includes areas north and south of 156th Street NE. The site vicinity is shown in Figure 1. Access to the development is proposed driveways along 47th Avenue NE and 156th Street NE. Figure 2 illustrates the preliminary site plan. It is anticipated that the development would be constructed and occupied by 2025.

Study Scope

The scope of this analysis is based on anticipated impacts to City of Arlington and WSDOT facilities as well as the 25-trip threshold in the City of Marysville. Given the interim and future buildout conditions of the network, additional intersections were added under future 2025 and 2031 conditions that don't exist under existing conditions. Based on anticipated travel patterns for project-generated vehicle traffic, the following intersections were selected for study during the designated years:

<u>Study Intersection</u>	<u>Evaluation Years</u>
• 1 I-5 SB/172nd St NE	Existing, 2025, 2031
• 2 I-5 NB/172nd St NE	Existing, 2025, 2031
• 3 Smokey Point Blvd/172nd St NE	Existing, 2025, 2031
• 4 43rd Ave NE/172nd St NE	Existing, 2025, 2031
• 5 51st Ave NE/172nd St NE	Existing, 2025, 2031
• 6 59th Ave NE/172nd St NE	Existing, 2025, 2031
• 7 63rd Ave NE/172nd St NE	2025, 2031
• 8 67th Ave NE/172nd St NE	Existing, 2025, 2031
• 9 SR 9/172nd St NE	Existing, 2025, 2031
• 10 51st Ave NE/160th St NE	2025, 2031
• 11 Smokey Point Blvd/156th St NE	Existing, 2025, 2031
• 12 47th Ave NE/156th St NE	2031
• 13 44th Ave NE/152nd St NE	2031
• 14 51st Ave NE/152nd St NE	Existing, 2025, 2031
• 15 67th Ave NE/152nd St NE	Existing, 2025, 2031
• 16 51st Ave NE/136th St NE	Existing, 2025, 2031
• 17 51st Ave NE/132nd St NE	Existing, 2025, 2031
• 18 40th Ave NE/172nd St NE	Existing, 2025, 2031
• 19 152nd St NE/156th St NE	2031
• 20 51st Ave NE/122nd PI NE	Existing, 2025, 2031

The scope of the analysis included a review of the weekday PM peak hour conditions. The analysis includes a review of existing conditions in the vicinity of the project site, including the street network, non-motorized facilities, transit service, existing and future (2025 and 2031) without-project peak hour traffic volumes, traffic operations, and traffic safety. Future (2025 and 2031) with-project conditions are evaluated by adding site-generated traffic to future (2025 and 2031) without-project volumes and were then compared to future (2025 and 2031) without-project conditions to identify the relative impacts the proposed project has on the surrounding transportation system.

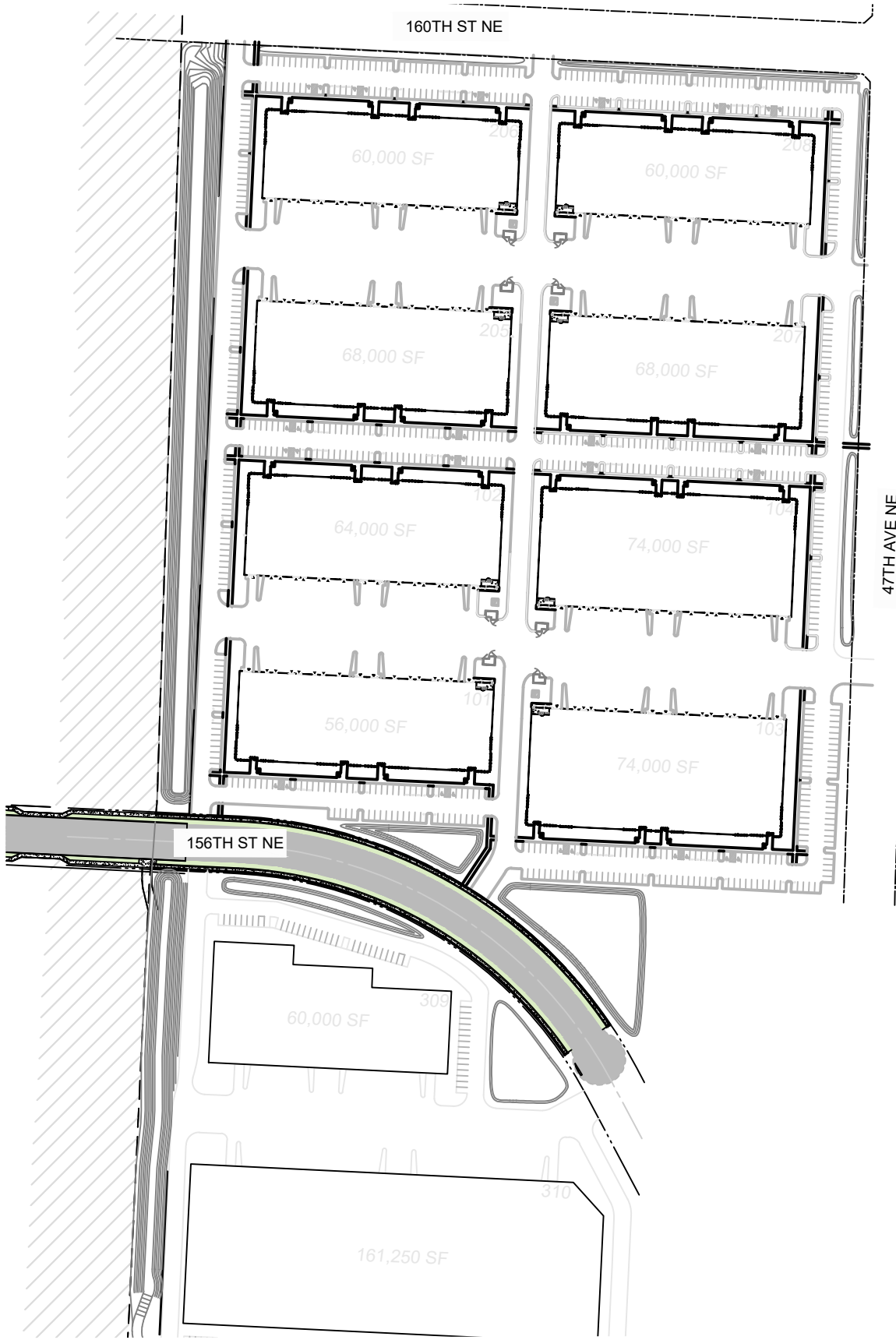


Site Vicinity & Study Intersections

Marysville Light Industrial

FIGURE

1



Preliminary Site Plan

Marysville Light Industrial

FIGURE

2



Existing & Future Without-Project Conditions

This section describes existing and future (2025 and 2031) without-project conditions within the study area. Study area characteristics are provided for the existing street network, non-motorized facilities, transit service, existing and future without-project peak hour traffic volumes, traffic operations, and traffic safety.

Street System

The following describes the existing street network within the vicinity of the proposed project and any anticipated changes resulting from planned improvements.

Existing Inventory

Characteristics of the existing street system in the project vicinity are described in Table 1.

Table 1. Study Area Existing Roadway Network Summary

Roadway	Roadway Classification	Posted Speed Limit	Number of Travel Lanes	Parking?	Sidewalks?	Bicycle Facilities?
Interstate 5 (I-5)	Interstate	60 to 70 mph ¹	6	No	No	No
172nd Street NE (SR 531)	Other Principal Arterial/ Minor Arterial ²	35 mph	2 to 5	No	Intermittent	Intermittent
156th Street NE	Minor Arterial	25 mph ⁵	2 to 5	No	Yes	No
152nd Street NE	Major Collector	35 mph	2	No	Intermittent	No
Smokey Point Boulevard	Arterial	35 mph	5	No	Yes	No
40th Avenue NE	Local	No Limit Posted	3	No	Yes	No
43rd Avenue NE	Local	35 mph	2 to 3	No	Intermittent	No
51st Avenue NE	Arterial	35 mph	2 to 3	No	Intermittent	No
59th Avenue NE	Minor Arterial	No Limit Posted	2 to 3	No	Intermittent ³	No
67th Avenue NE	Minor Arterial	35 mph	2 to 3	No	Intermittent	No
122nd Place NE	Local	25 mph	2	No	No ⁴	No ⁴
SR 9	Other Freeway Expressway	35 mph	2	No	No ⁴	No ⁴

Note: mph = miles per hour

1. 60 mph south of SR 531 and 70 mph north of SR 531.
2. Other principal arterial between I-5 SB Ramps and Smokey Point Boulevard. Minor arterial between Smokey Point Boulevard and SR 9.
3. The Airport Trail is located west of 59th Avenue NE.
4. Paved shoulders are available.
5. Currently posted speed limit is 25 mph, the speed limit may be adjusted in the future following planned improvements.

As shown in Table 1, availability of sidewalks in the area are intermittent. The Airport Trail and Centennial Trail are also located in the area, providing recreational and commute possibilities. The Airport Trail is approximately a 6-mile walking trail located in the City of Arlington primarily around the Municipal Airport. The Centennial Trail is a 30-mile paved multiuse trail that starts in Snohomish County and ends in Skagit County running through the Cities of Marysville and Arlington. The improvements described below as well as frontage improvements as part of planned developments in the area include construction non-motorized facilities.

Planned Improvements

Based on a review of the Washington Department of Transportation (WSDOT) 2022-2025 Statewide Transportation Program (STIP), *City of Arlington Comprehensive Plan's Six Year Transportation Improvement Plan*, and the *City of Marysville 2022-2027 Transportation Improvement Plan* there are a number of improvements in the area that would impact both capacity at study intersections and travel patterns in the area. Given the longer-term horizon

year analysis, additional longer termed projects planned in the area are also included and summarized below.

In addition to the short- and long-term improvements planned as part of City or State planning, new roadways will be constructed as part of planned developments in the area. These roadways will be constructed as part of the of frontage improvements for each development in both Arlington and Marysville. The timing of the individual developments are not known; however, it was assumed that the new developments and resulting roadway network would be completed by the horizon year (2031). The following summarizes the short (2025) and long-term (2031) projects planned in the area.

2025 Planned Improvements

The following improvements were assumed to be complete by the 2025 opening year:

- **172nd Street NE (SR 531) Widening:** Widening of 172nd Street NE (SR 531) from 43rd Avenue NE to 67th Avenue NE to a four-lane facility with two travel lanes in each direction. The improvement project would include provision of roundabouts at the 43rd Avenue NE, 51st Avenue NE, 59th Avenue NE, and 67th Avenue NE intersections with 172nd Street NE (SR 531).
- **40th Avenue NE/172nd Street NE (SR 531) intersection signalization:** Provision of a traffic signal at the intersection including left-turn lanes in all directions and a northbound right-turn lane.
- **156th Street NE Widening:** Widen 156th Street NE from 3 lanes to 5 lanes from Smokey Point Boulevard to west of the Hayho Creek.
- **169th Street NE Extension:** Extension of 169th Street NE from Smokey Point Boulevard to 51st Avenue NE is anticipated to happen over 3 phases. The roadway would include a three-lane cross section with one travel lane in each direction and a center two-way left-turn lane.
- **51st Avenue NE Widening:** This project includes the widening of 51st Avenue NE in the Cities of Arlington and Marysville. The Arlington portion of 51st Avenue NE between 172nd Street NE (SR 531) and City limits would be widened to a five-lane roadway with two travel lanes in each direction and a two-way left-turn lane. In Marysville between the City limits and 152nd Street NE the roadway would be widened to three-lanes with one travel lane in each direction and a central two-way left-turn lane.
- **63rd Avenue NE Extension:** This is a four-phase project that would extend 63rd Avenue NE as a three-lane roadway between 172nd Street NE (SR 531) and 188th Street NE. Consistent with the Cascade Commerce Center a roundabout was assumed at the 63rd Avenue NE intersection with 172nd Street NE (SR 531).

2031 Planned Improvements

The following improvements were assumed to be complete by the 2031 horizon year:

- **152nd Street NE Widening:** Widen 152nd Street NE between Smokey Point Boulevard and 47th Avenue NE to three lanes including sidewalk and bike lanes. Widening would provide for one travel lane in each direction and a central two-way left-turn lane.
- **51st Avenue NE/152nd Street NE Signalization:** Construct a traffic signal at the intersection with additional intersection improvements. Intersection improvements would include construction of left-turn and right-turn lanes on all approaches. The resulting intersection would have a four-lane northbound/southbound cross section and a six-lane eastbound/westbound cross section.

- **152nd Street NE Extension:** Extension of 152nd Street NE from 67th Avenue NE to SR 9.
- **156th Street NE Extension:** Extension of 156th Street NE as a five-lane section from approximately 44th Avenue NE to 152nd Street NE.
- **168th Street Extension:** Complete the three-lane segment between 47th Avenue NE and 59th Avenue NE.
- **47th Avenue Construction:** Construction of a three-lane facility with one travel lane in each direction and a center two-way left-turn lane between 168th Street NE and 156th Street NE.
- **59th Avenue NE Widening:** Widen 59th Avenue NE between 172nd Street NE (SR 531) and 152nd Street NE to a three-lane segment.
- **160th Street NE Construction:** Construction of a new three-lane roadway (160th Street NE) between Smokey Point Boulevard and 59th Avenue NE.
- **New I-5 Interchange:** Construction of a new single point urban interchange (SPUI) at 156th Street NE and I-5. The construction of the new interchange is anticipated to result in traffic shifts away from the 172nd Street NE (SR 531) corridor.
- **51st Avenue NE/132nd Street NE Signalization:** Construct a traffic signal at the intersection with additional intersection improvements.
- **67th Avenue NE/152nd Street NE Signalization:** Widening of the intersection to include left-turn lanes and a signal or roundabout.

Transit Service

Transit service in the study area is provided by Community Transit and is primarily provided along 172nd Street NE (SR 531), Smokey Point Boulevard, and 152nd Street NE. The nearest bus stop is located on 152nd Street NE at 47th Avenue NE and is served by route 202. Route 202 provides service between the Smokey Point Transit Center in Arlington and the Lynwood Transit Center. Service is provided 7 days a week with AM and PM peak hour headways of approximately 15 minutes.

No planned transit improvements were identified. However, it is anticipated that transit service in the area may be adjusted to account for future growth.

Traffic Volumes

The following summarizes the traffic volumes for existing and future without-project conditions.

Existing Traffic Volumes

Existing traffic counts were obtained from previous projects completed in the area and were collected between 2016 and 2021. Traffic volumes data collected prior to 2021 were grown at an average annual growth rate of 3 percent to establish existing 2022 conditions. The annual average growth rate of 3 percent is consistent with the City of Marysville Covid-19 Traffic Count Policy and previous work completed in the area. Detailed traffic counts are provided in Appendix A.

Future Without-Project Traffic Volumes

The following sections describe the methodologies to develop the forecast 2025 and 2031 traffic volumes which represent the year of opening and the horizon year, respectively.

Opening Year 2025 Without-Project Volumes

Consistent with City requirements future (2025) without-project traffic volumes were forecasted by applying an annual growth rate to existing traffic volumes and adding traffic from “pipeline” development projects that would also contribute traffic to the study intersections. Two pipeline projects were identified in the vicinity of the project site. The two pipeline projects identified are Project Roxy and the Cascade Commerce Center.

Project Roxy would develop an approximately 2.82 million square foot fulfillment center warehouse located between 172nd Street NE (SR 531) and 169th Street NE, and 43rd Avenue NE and 51st Avenue NE in the City of Arlington. Project Roxy is anticipated to be constructed and occupied by the end of 2022.

The Cascade Commerce Center (CCC) would develop approximately 4.15 million square feet of a mix of industrial uses anticipated to include a combination of industrial park, high-cube warehouse, and high-cube fulfillment center. The CCC is located in both the City of Arlington and the City of Marysville approximately south of 172nd Street NE (SR 531) and between 51st Avenue NE/59th Avenue NE and the railroad track to the east. The CCC is anticipated to be completed across 9 buildings which would be built and occupied separately. The full site is anticipated to be constructed by 2030; however, buildings could be occupied in phases. For a conservative analysis it was assumed that by 2025 half of the builds would be constructed and occupied.

In addition to the pipeline projects an annual growth rate of 2 percent per year was applied to the existing PM peak hour traffic volumes at each study intersection based on the City of Marysville requirements. Forecast future (2025) without-project traffic volumes for the future horizon year are shown in Figure 4.

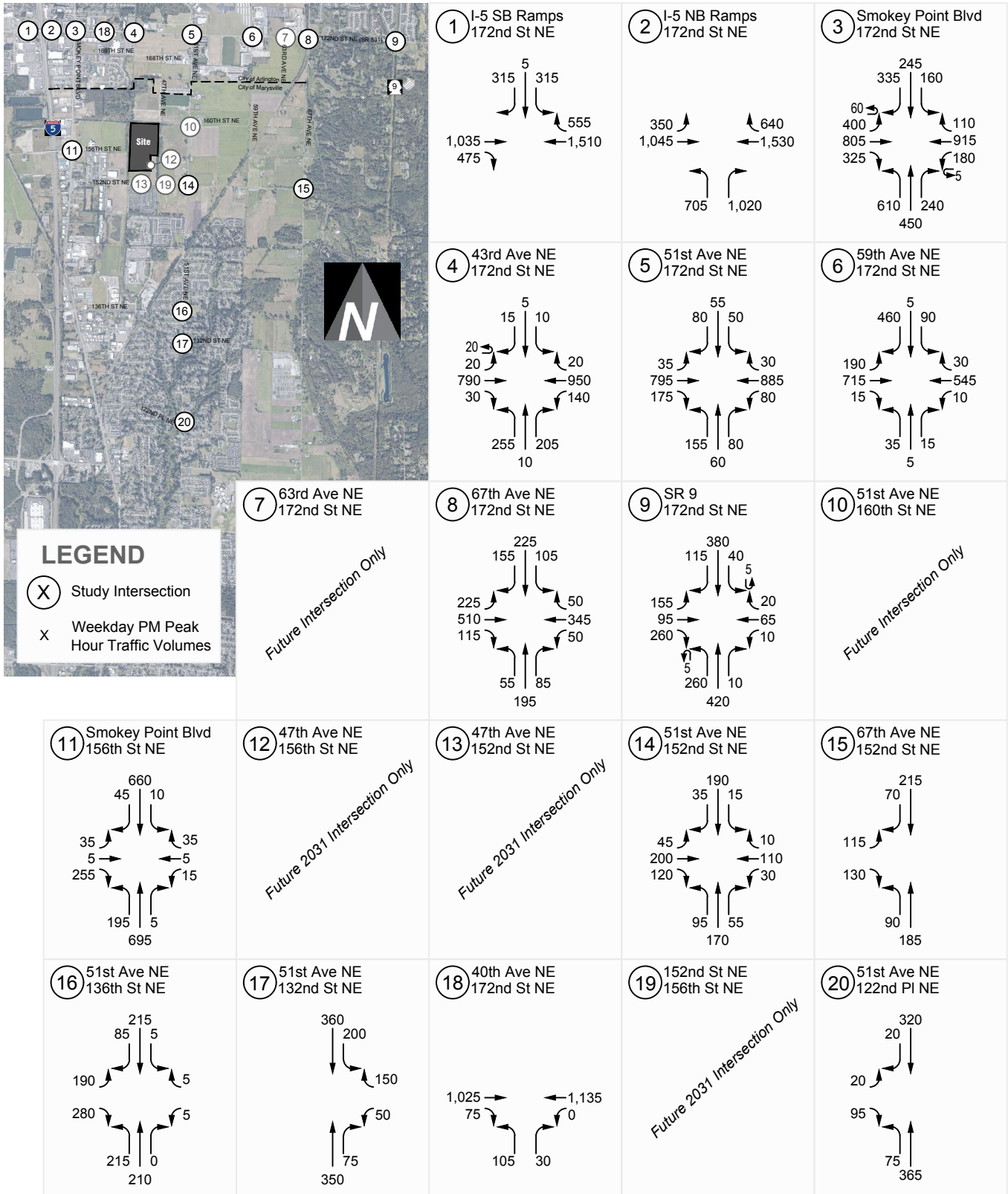
Horizon Year 2031 Without-Project Volumes

Future (2031) without-project traffic volumes forecasts were based on the travel demand models developed for the City of Marysville and the City of Arlington. The land use assumed in the models is consistent with the preferred alternative for the Arlington-Marysville Manufacturing Industrial Center (MIC) as well as additional land use updates recognized after the MIC analysis was published. The models include assumed buildout of the roadway network inclusive of the 156th Street NE interchange and includes shifts in volumes as a result of those infrastructure changes. The models reflect future 2035 build out conditions of the MIC.

The Marysville Travel Demand Model has a base year of 2007 and a future year of 2035. Future 2031 forecasts were developed by adding intersection volume growth identified between the models existing and future years. Adjustments were made to the 2035 background traffic volumes for balancing. This methodology is an industry standard practice for post-processing raw travel demand model results into forecast traffic volumes. Because existing conditions were established for 2022 and the horizon year is 2031, growth in traffic volumes were reduced by 68 percent to remove 19 years (2007 to 2022 and 2031 to 2035) of growth from the model volumes. At new intersections where model growth was utilized, growth was only removed from 2031 to 2035 or approximately 14 percent to remove 4 years of growth.

Similarly, the Arlington Travel Demand Model has a base year of 2010 and a future year of 2040. Although the Arlington Model represents 2040 it is anticipated that full buildout of the MIC area will occur by 2035 and little to no growth is anticipated between 2035 and 2040. Therefore, for conservative forecasting purposes the 2040 model was treated as a 2035 model resulting in the removal of less growth from the forecast 2031 volumes. Because existing conditions were established for 2022 and the horizon year is 2031, growth in traffic volumes were reduced by 53 percent to remove 16 years (2010 to 2022 and 2031 to 2035) of growth from the model volumes. At new intersections where model growth was utilized, growth was only removed from 2031 to 2035 or approximately 14 percent to remove 4 years of growth.

To establish baseline or without-project conditions the project trips were subtracted from the future 2031 model volumes following the horizon trip distribution shown on Figure 7. The resulting forecast 2031 traffic volumes are summarized on Figure 9.

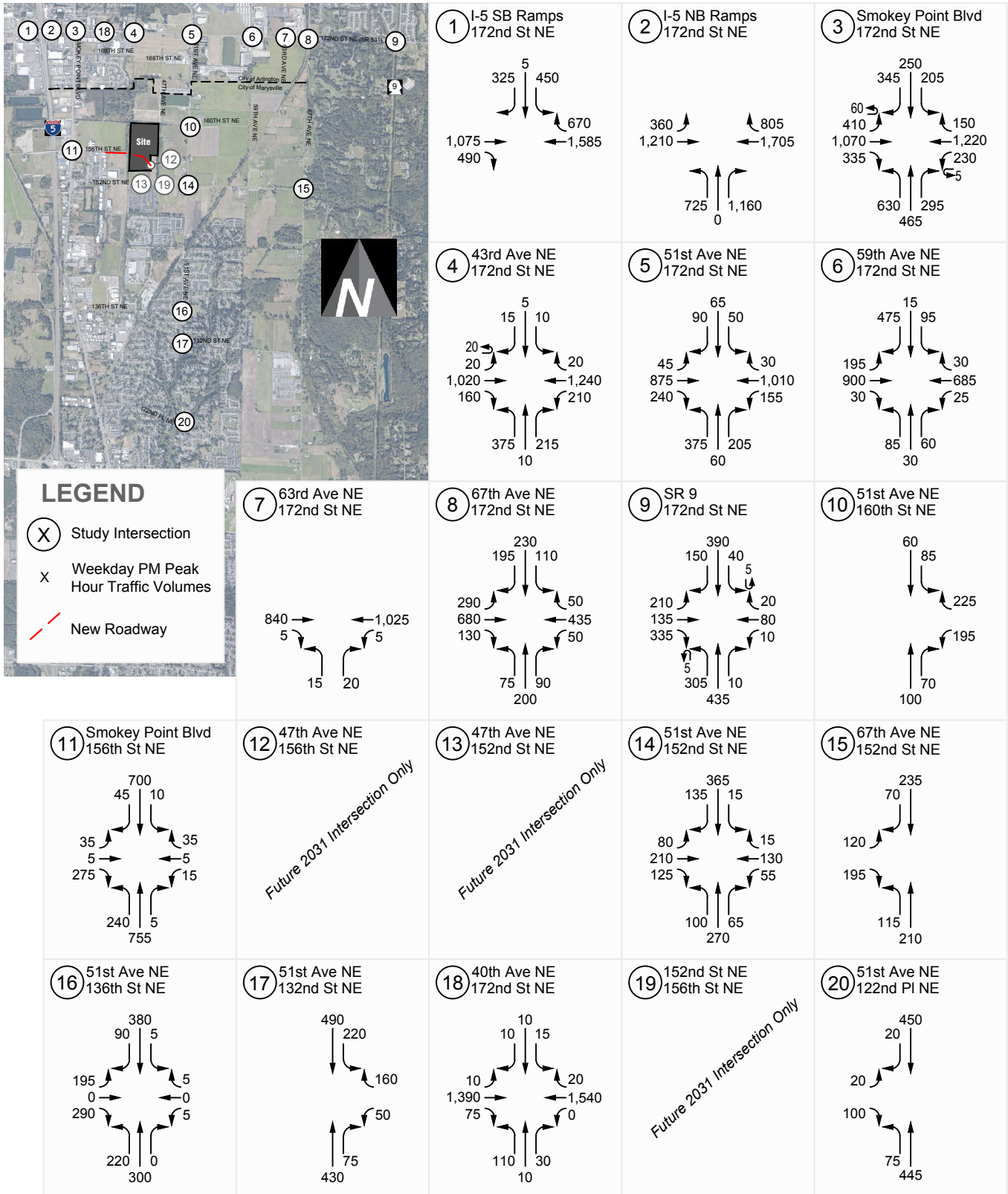


Existing Weekday PM Peak Hour Traffic Volumes

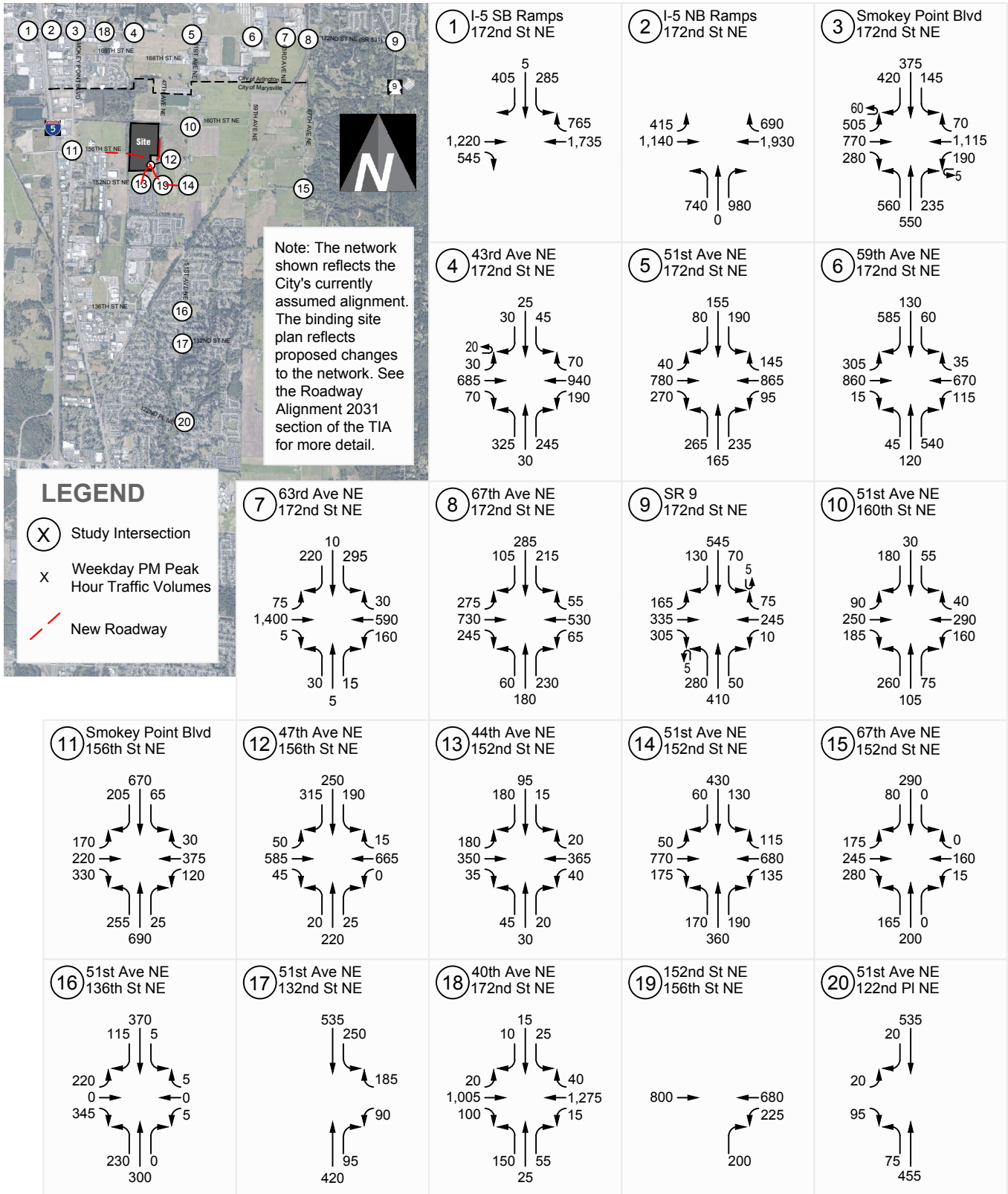
FIGURE

Marysville Light Industrial





Future (2025) Without-Project Weekday PM Peak Hour Traffic Volumes FIGURE



Future (2031) Without-Project Weekday PM Peak Hour Traffic Volumes FIGURE

Traffic Operations

The following sections summarize traffic operations for existing and future conditions within the study area.

The operational characteristics of an intersection are determined by calculating the intersection level of service (LOS). At signalized, all-way stop, and roundabout intersections, LOS is measured in average control delay per vehicle and is typically reported using the intersection delay. At unsignalized side-street, stop-controlled intersections, LOS is measured by the average delay on the worst-movement of the intersection. Traffic operations and average vehicle delay for an intersection can be described qualitatively with a range of levels of service (LOS A through LOS F), with LOS A indicating free-flowing traffic and LOS F indicating extreme congestion and long vehicle delays. Appendix B contains a detailed explanation of LOS criteria and definitions.

For the operations analysis of existing conditions at the signalized study intersections, signal timing and phasing information was obtained from the WSDOT, City of Arlington, or City of Marysville. As described previously, there are a number of improvements planned by 2025 and 2031 that would impact intersection capacity and travel patterns. Those improvements were accounted for in the future 2025 and 2031 without-project analysis.

Weekday PM peak hour traffic operations for existing and future without-project conditions were evaluated at the study intersections based on the procedures identified in the *Highway Capacity Manual* 6th Edition, unless otherwise noted for signal timing constraints, and were evaluated using *Synchro 11*. *Synchro 11* is a software program that uses *HCM* methodology to evaluate intersection LOS and average vehicle delays. Roundabout controlled intersections were evaluated utilizing *Sidra 9* and the WSDOT methodology for analyzing roundabouts. Results for the existing and future without-project operations analyses are summarized in Table 2. Detailed LOS worksheets for each intersection analysis are included in Appendix C.

The City of Marysville has an LOS E mitigated standard for arterial-arterial or arterial-collector intersections along the Smokey Point Boulevard corridor between the north and south City limits. The remaining intersections carry an LOS D standard. The City of Arlington and the WSDOT intersections have an LOS Standard of LOS D for the study area.

For the roundabouts along 172nd street NE (SR 531), WSDOT does not apply LOS standards, instead utilizes a number of measures of effectiveness (MOEs) to assess the operations. WSDOT uses a combination of v/c ratios, delay, stop rate, queueing, and then LOS. Generally, WSDOT is targeting a v/c ratio ≥ 0.90 and LOS D.

Table 2. Existing Weekday PM Peak Hour Intersection LOS Summary

Intersection	Traffic Control	Existing			Future 2025 Without-Project			Future 2031 Without-Project		
		LOS ¹	Delay ²	WM ³ or v/c ⁴	LOS	Delay	WM or v/c	LOS	Delay	WM or v/c
<u>City of Arlington/WSDOT Jurisdiction</u>										
1. I-5 SB Ramps/172nd St NE (SR 531)	Signal	A	9	-	B	11	-	A	7	-
2. I-5 NB Ramps/172nd St NE (SR 531)	Signal	D	47	-	E	73	-	F	96	-
3. Smokey Point Blvd/172nd St NE (SR 531) ⁷	Signal	E	71	-	F	100	-	F	90	-
4. 43rd Ave NE/172nd St NE (SR 531)	Signal/ Roundabout ⁵	E	76	-	B	20	0.99	A	9	0.70
5. 51st Ave NE/172nd St NE (SR 531)	Signal/ Roundabout ⁵	E	64	-	B	15	0.81	B	17	1.04
6. 59th Ave NE/172nd St NE (SR 531)	Signal/ Roundabout ⁵	F	119	-	A	9	0.79	F	93	1.88
7. 63rd Ave NE/172nd St NE (SR 531)	Roundabout	<i>Future Intersection Only</i>			A	5	0.45	B	13	0.88
8. 67th Ave NE/172nd St NE (SR 531)	Signal/ Roundabout ⁵	E	58	-	B	17	0.93	C	33	1.11
9. SR 9/172nd St NE (SR 531)	Roundabout	A	8	0.44	A	8	0.48	B	12	0.76
18. 40th Ave NE/172nd St NE (SR 531)	TWSC/Signal ⁶	F	81	NBL	B	18	-	C	24	-
<u>City of Marysville Jurisdiction</u>										
10. 51st Ave NE/160th St NE	Signal	<i>Future Intersection Only</i>			B	13	-	C	34	-
11. Smokey Point Blvd/156th St NE	Signal	B	17	-	B	19	-	C	22	-
12. 47th Ave NE/156th St NE	Signal	<i>2031 Only</i>			<i>2031 Only</i>			C	30	-
13. 44th Ave NE/152nd St NE	Signal	<i>2031 Only</i>			<i>2031 Only</i>			C	26	-
14. 51st Ave NE/152nd St NE	AWSC/Signal ⁶	C	16	-	F	83	-	C	30	-
15. 67th Ave NE/152nd St NE	TWSC/Signal ⁶	C	19	EB	C	24	EB	D	35	-
16. 51st Ave NE/136th St NE ⁷	Signal	E	56	-	B	13	-	B	14	-
17. 51st Ave NE/132nd St NE	AWSC/Signal ⁶	D	28	-	C	23	-	B	11	-
19. 152nd St NE/156th St NE ⁷	Signal	<i>2031 Only</i>			<i>2031 Only</i>			C	34	-
20. 51st Ave NE/122nd St NE	Signal	A	7	-	A	8	-	A	8	-

1. Level of Service (A – F) as defined by the *Highway Capacity Manual (HCM) 6th Edition (TRB)*
 2. Average delay per vehicle in seconds.
 3. Worst movement reported for two-way stop-controlled intersections.
 4. Volume to capacity ratio reported for roundabouts.
 5. Roundabout with future SR 531 improvements.
 6. Signalized under buildout 2031 conditions.
 7. Intersections run utilizing HCM 2000 methodology due to signal timing constraints not allowed under HCM 6th Edition.

As shown in Table 2, under existing conditions, seven intersections operate at LOS E or below and do not meet LOS standards. Under future (2025) without-project conditions, with inclusion of area planned improvements the number of intersections forecast to not meet the applicable LOS standard is reduced to three intersections. Of the three intersections, two previously met the LOS standards in the existing conditions. These intersections forecast to not meet the LOS standard in 2025 include:

- I-5 NB Ramps/172nd Street NE (SR 531)
- Smokey Point Boulevard/172nd Street NE (SR 531)
- 51st Avenue NE/152nd Street NE

As noted previously, there are improvements planned beyond the 2025 year of opening that would shift traffic away from the 172nd Street NE (SR 531) corridor. With the addition of the new interchange at 156th Street NE volumes are anticipated to decrease along 172nd Street NE for certain movements and depending on the changes in the volume for different movements could result in improved delay at some intersections. Under future (2031) without-project conditions, three intersections are forecast not to meet the LOS standards. The I-5 NB Ramps and Smokey Point Boulevard intersections with 172nd Street NE (SR 531) are forecast to continue to operate below LOS D.

The 59th Avenue NE/172nd Street NE (SR 531) intersection is also forecast to degrade to LOS F with an approximate delay of 93 seconds and a v/c ratio of 1.88. These results are based on a preliminary concept available from WSDOT. This analysis suggests based on future volumes that an additional northbound right-turn lane is needed. With these changes, the intersection improves to LOS B with approximately 12 seconds of delay and a v/c ratio of 0.88.

Traffic Safety

Recent collision records were reviewed within the study area to identify existing traffic safety issues at the study intersections. The most recent complete five-year summary of accident data from the WSDOT is for the period between January 1, 2016 and December 31, 2020. This information is summarized in Table 3.

Table 3. Five-Year Collision Summary – 2016 to 2020

Location	Number of Collisions					Total	Annual Average
	2016	2017	2018	2019	2020		
1. I-5 SB Ramps/172nd St NE (SR 531)	17	12	16	14	9	68	13.6
2. I-5 NB Ramps/172nd St NE (SR 531)	27	11	12	12	8	70	14
3. Smokey Point Blvd/172nd St NE	53	23	25	23	20	144	28.8
4. 43rd Ave NE/172nd St NE (SR 531)	11	9	8	4	5	37	7.4
5. 51st Ave NE/172nd St NE (SR 531)	7	18	10	9	3	47	9.4
6. 59th Ave NE/172nd St NE (SR 531)	5	3	3	6	2	19	3.8
8. 67th Ave NE/172nd St NE (SR 531)	10	5	7	8	6	36	7.2
9. SR 9/172nd St NE (SR 531)	9	6	6	1	2	24	4.8
11. Smokey Point Blvd/156th St NE	2	2	5	1	3	13	2.6
14. 51st Ave NE/152nd St NE	3	3	2	4	3	15	3
15. 67th Ave NE/152nd St NE	0	0	0	0	0	0	0
16. 51st Ave NE/136th St NE	3	0	0	0	3	6	1.2
17. 51st Ave NE/132nd St NE	3	1	1	1	0	6	1.2
20. 51st Ave NE/122nd PI NE	3	0	0	1	0	4	0.8

Source: WSDOT, 2022

Under 23 U.S. Code § 409 and 23 U.S. Code § 148, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

As shown in Table 3, the total number of collisions at the study area intersections ranged between 0 and 144 over the five years resulting in an annual average between 0 and 28.8 collisions per year. In the study area there were 3 reported bicycle collisions and 7 pedestrian involved collisions. There were no reported fatalities in the study area over the five-year period.

The highest number of reported collisions occurred at the Smokey Point Boulevard/172nd Street NE (SR 531) intersection which also carries a some of the highest traffic volumes in the study area. At the Smokey Point Boulevard/172nd Street (SR 531) the most frequent number of collisions report were rear-end followed by angle collisions. The majority (approximately 78

percent) resulted in property damage only. The number of collisions per million entering vehicles (MEV) was also reviewed for the Smokey Point Boulevard/172nd Street NE (SR 531) intersection. The collision rate is representative of the number of collisions per one million entering vehicles (MEV) at each intersection. Intersections with a rate greater than 1.0 collision per MEV are typically noted for further investigation to determine whether an adverse condition exists. The collisions per MEV for the Smokey Point Boulevard/172nd Street NE (SR 531) intersection is 1.63.

Transpo, as a requirement of Project Roxy identified additional improvements along the 172nd Street NE (SR 531) corridor that will be considered as part of the City of Arlington's anticipated transportation element of the City's updated comprehensive plan. This study identified additional capacity improvements at this intersection. These improvements would reduce congestion and help mitigate for congestion related incidents. These improvements have been adopted formally by the City but are expected to be as part of the comprehensive plan update.

Project Impacts

This section of the report documents the proposed project’s impacts on the surrounding street network and study intersections. First, estimated traffic volumes generated by the proposed project are distributed and assigned to adjacent streets and intersections within the study area for the weekday PM peak hour study period. Next, project trips are added to future without-project traffic volumes and any potential impact to traffic operations. Site specific items are also discussed such as the operation of the site’s access driveway.

Trip Generation

The proposed project is constructing approximately 745,250 square feet of Industrial Park. Trip generation estimates have been prepared for the development based on trip rates identified using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (2021) based on the Industrial Park (LU #130). The site is currently undeveloped.

Table 4 provides a summary of the trip generation for the proposed land uses. A detailed summary of the trip generation calculations for these uses has been provided in Appendix D.

Table 4. Estimated Weekday Vehicle Trip Generation

Land Use	Size	Daily Trips ¹	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
<i>Proposed</i>								
Industrial Park (LU #130)	745,250 sf	2,511	205	48	253	56	197	253

Notes: sf = square-feet

1. Vehicle trips were estimated based on person trip calculations and localized mode split information.

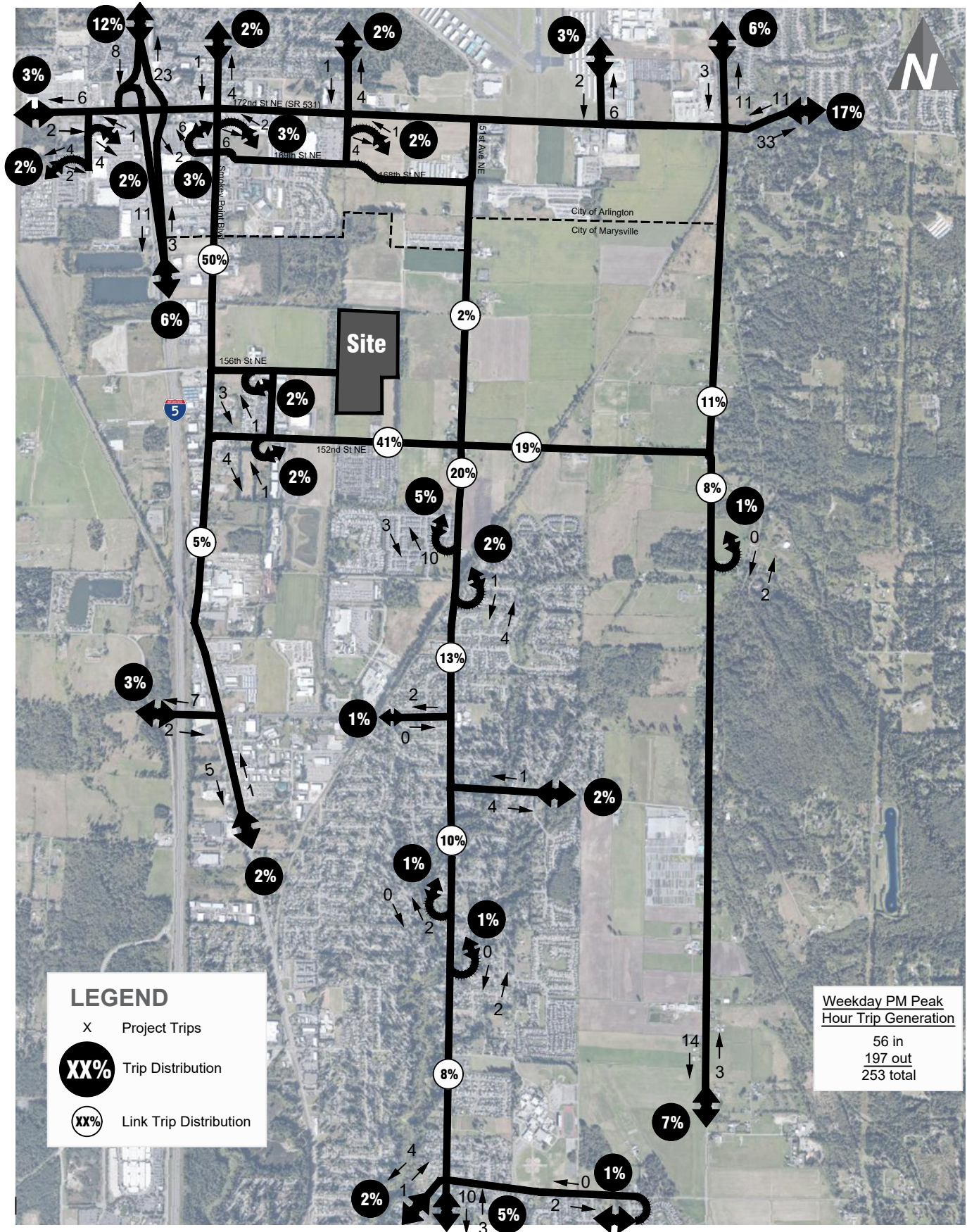
As shown in Table 4, the proposed project is anticipated to generate approximately 2,511 weekday daily vehicle trips with approximately 253 trips during the weekday AM peak hour and 253 trips during the weekday PM peak hour.

Trip Distribution & Assignment

Trip distribution patterns developed for the project were based on information provided by the City of Marysville which are reflective of the anticipated travel patterns for the industrial center. The 2025 year of opening trip distribution utilized the existing network, and the 2031 horizon year utilized the anticipated build out network.

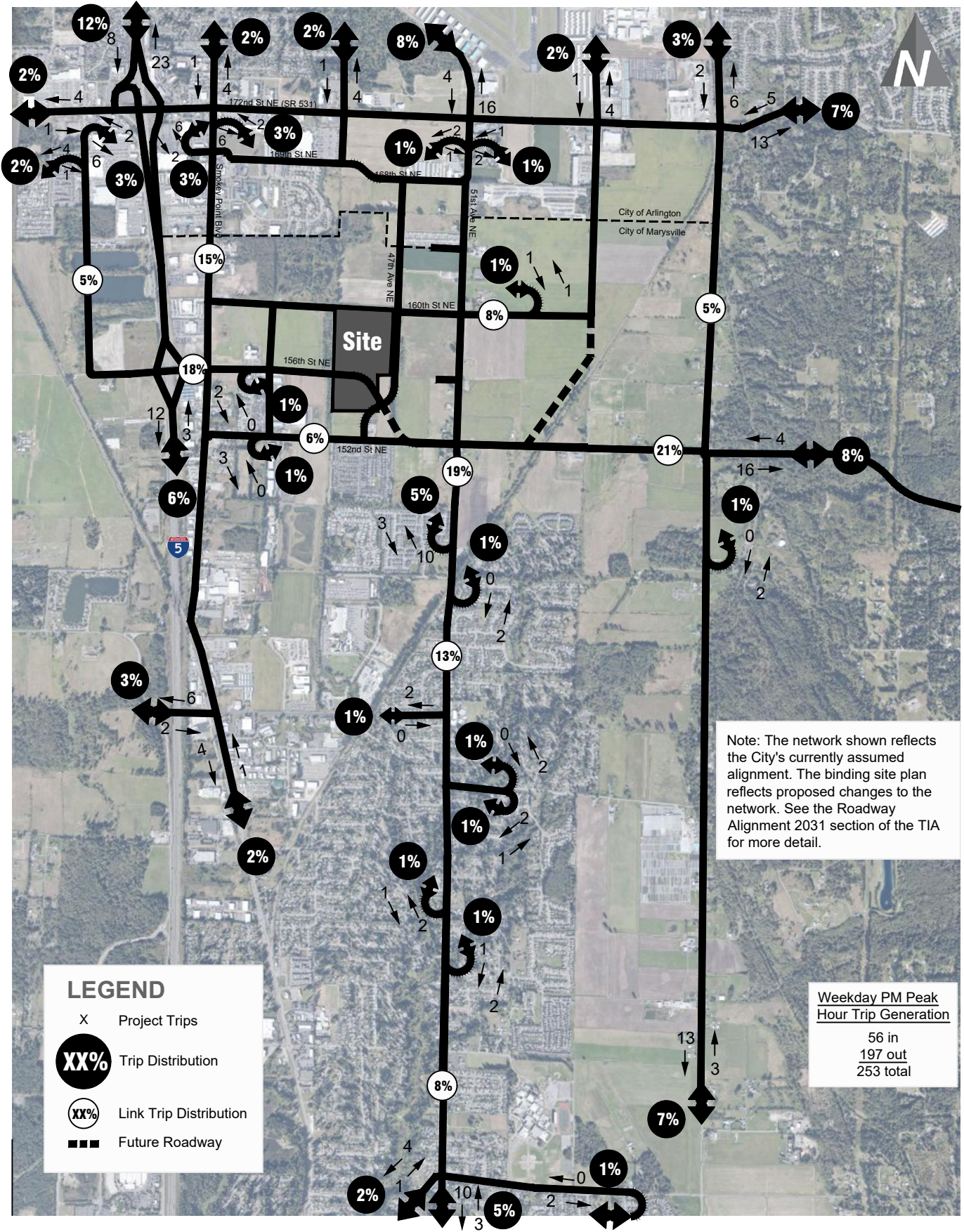
Figure 6 illustrates the year of opening (2025) vehicle trip distribution and assignment for the proposed project. Figure 7 illustrates the horizon year (2031) vehicle trip distribution and assignment for the proposed project. The resulting 2025 weekday PM peak hour traffic volumes are shown on Figure 8 and the 2031 PM peak hour traffic volumes are shown on Figure 9.

Additionally, consistent with Snohomish County requirements, project trips have been shown at key intersections impacted by three or more directional trips on an approach or departure. The project trips are shown graphically and in tabular form in Appendix E.



Year of Opening (2025) Weekday PM Peak Hour Project Trip Distribution & Assignment

FIGURE

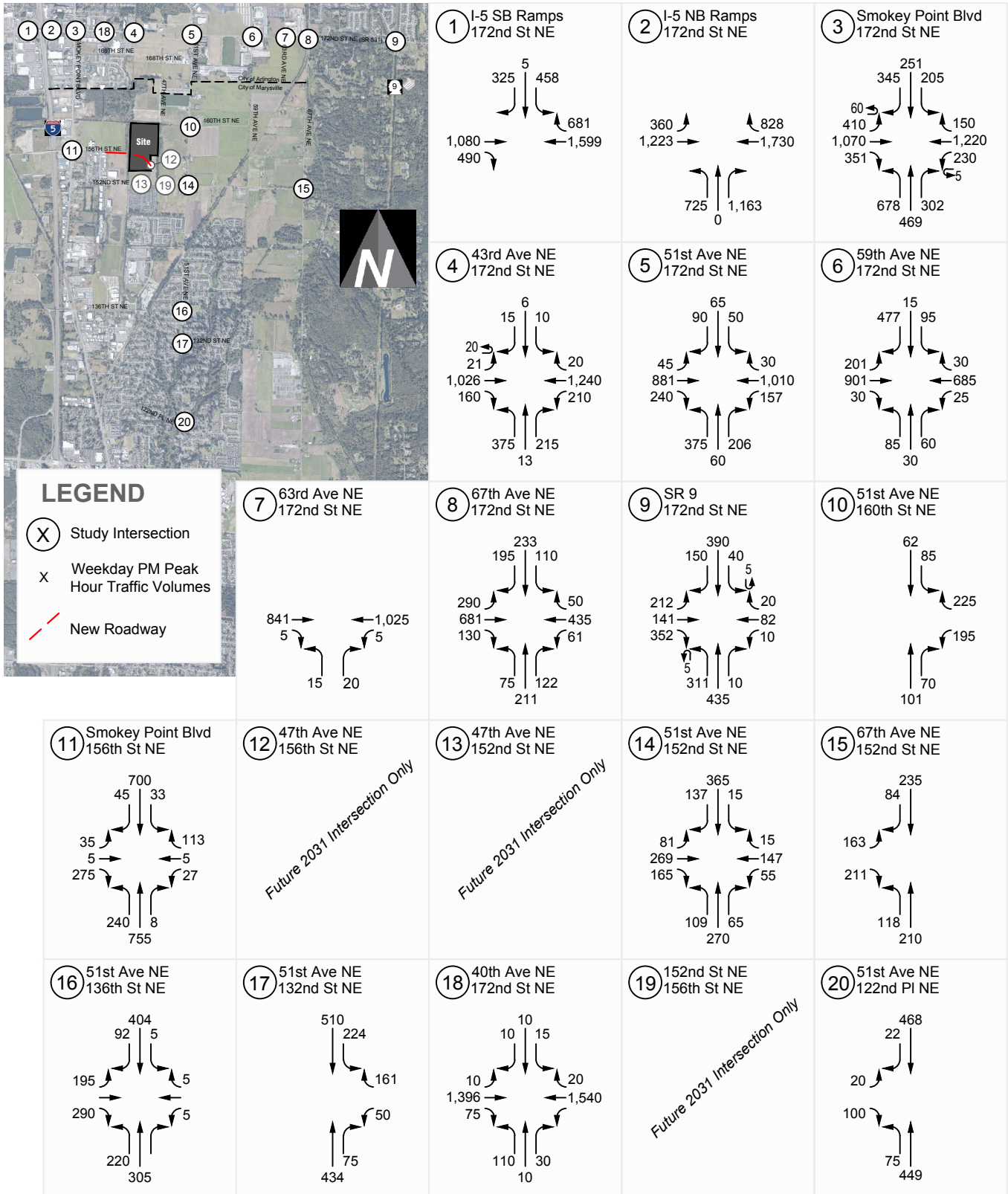


Horizon Year (2031) Weekday PM Peak Hour Project Trip Distribution & Assignment

FIGURE

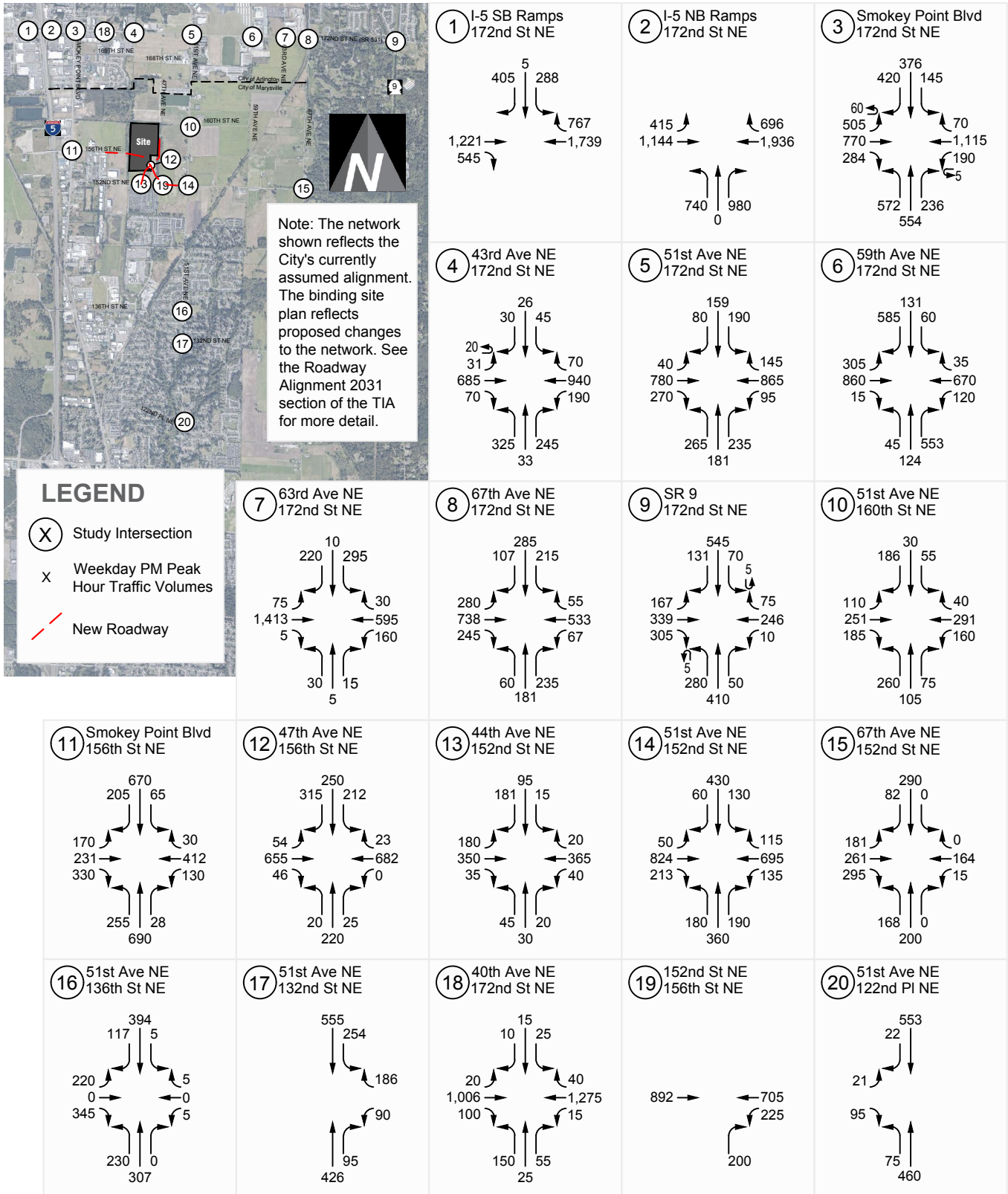
Marysville Light Industrial





Future (2025) With-Project Weekday PM Peak Hour Traffic Volumes

FIGURE



Future (2031) With-Project Weekday PM Peak Hour Traffic Volumes

FIGURE

Volume Impact Summary

The assigned project generated traffic was added to the future without-project weekday PM peak hour traffic volumes at the study intersections under forecast 2025 and 2031 conditions. Table 5 summarizes the project share of traffic volumes at the study intersections during the weekday PM peak hour under forecast 2025 year of opening conditions. Table 6 summarizes the forecast 2031 horizon year weekday PM peak hour project share.

Table 5. Future (2025) Weekday PM Peak Hour Traffic Volume Impacts at Study Intersections

Intersection	PM Peak Hour Total Entering Vehicles			Percent Increase
	2025 Without-Project	Project Trips	2025 With-Project	
1. I-5 SB Ramps/172nd St NE (SR 531)	4,600	38	4,638	0.8%
2. I-5 NB Ramps/172nd St NE (SR 531)	5,965	64	6,029	1.1%
3. Smokey Point Blvd/172nd St NE (SR 531)	5,670	76	5,746	1.3%
4. 43rd Ave NE/172nd St NE (SR 531)	3,320	11	3,331	0.3%
5. 51st Ave NE/172nd St NE (SR 531)	3,200	9	3,209	0.3%
6. 59th Ave NE/172nd St NE (SR 531)	2,625	9	2,634	0.3%
7. 63rd Ave NE/172nd St NE (SR 531)	1,910	1	1,911	0.1%
8. 67th Ave NE/172nd St NE (SR 531)	2,535	58	2,593	2.3%
9. SR 9/172nd St NE (SR 531)	2,130	33	2,163	1.5%
11. Smokey Point Blvd/156th St NE	2,125	116	2,241	5.5%
14. 51st Ave NE/152nd St NE	1,565	128	1,693	8.2%
15. 67th Ave NE/152nd St NE	945	76	1,021	8.0%
16. 51st Ave NE/136th St NE	1,490	31	1,521	2.1%
17. 51st Ave NE/132nd St NE	1,425	29	1,454	2.0%
18. 40th Ave NE/172nd St NE	3,220	6	3,226	0.2%
20. 51st Ave NE/122nd PI NE	1,110	24	1,134	2.2%

As shown in Table 5, the proposed project is estimated to account for less than 5 percent of the total weekday PM peak hour traffic at the study intersections. Traffic volumes fluctuate day-to-day and the anticipated traffic increase at study intersections are within the range of typical daily traffic fluctuations which can be up to 5 percent. There are three intersections where the project is forecast to represent more than 5 percent of the total volumes, which are intersections closer to the site, and include:

- Smokey Point Boulevard/156th Street NE
- 51st Avenue NE/152nd Street NE
- 67th Avenue NE/152nd Street NE

Table 6. Future 2031 Weekday PM Peak Hour Traffic Volume Impacts at Study Intersections

Intersection	PM Peak Hour Total Entering Vehicles			
	2031 Without-Project	Project Trips	2031 With-Project	Percent Increase
1. I-5 SB Ramps/172nd St NE (SR 531)	4,960	10	4,970	0.2%
2. I-5 NB Ramps/172nd St NE (SR 531)	5,895	16	5,911	0.3%
3. Smokey Point Blvd/172nd St NE (SR 531)	5,280	22	5,302	0.4%
4. 43rd Ave NE/172nd St NE (SR 531)	2,705	5	2,710	0.2%
5. 51st Ave NE/172nd St NE (SR 531)	3,285	20	3,305	0.6%
6. 59th Ave NE/172nd St NE (SR 531)	3,480	23	3,503	0.7%
7. 63rd Ave NE/172nd St NE (SR 531)	2,835	18	2,853	0.6%
8. 67th Ave NE/172nd St NE (SR 531)	2,975	26	3,001	0.9%
9. SR 9/172nd St NE (SR 531)	2,630	8	2,638	0.3%
10. 51st Ave NE/160th St NE	1,720	28	1,748	1.6%
11. Smokey Point Blvd/156th St NE	3,155	61	3,216	1.9%
12. 47th Ave NE/156th St NE	2,380	122	2,502	5.1%
13. 44th Ave NE/152nd St NE	1,375	1	1,376	0.1%
14. 51st Ave NE/152nd St NE	3,265	117	3,382	3.6%
15. 67th Ave NE/152nd St NE	1,610	46	1,656	2.9%
16. 51st Ave NE/136th St NE	1,595	33	1,628	2.1%
17. 51st Ave NE/132nd St NE	1,575	31	1,606	2.0%
18. 40th Ave NE/172nd St NE	2,735	1	2,736	0.0%
19. 152nd St NE/156th St NE	1,905	117	2,022	6.1%
20. 51st Ave NE/122nd PI NE	1,200	26	1,226	2.2%

Under the horizon year conditions, with buildout of the network, the project is anticipated to represent less than 1 percent of the traffic volumes at a majority of the study intersections. At intersections closer to the site the project share of traffic volumes is anticipated to be 5 percent or less, with the exception of two intersections, which are within the range of typical daily traffic fluctuations. One intersection is anticipated to represent approximately 6.1 percent of the total traffic volumes at 152nd Street NE/156th Street NE. The other is anticipated to represent approximately 5.1 percent of the total traffic volumes at 47th Avenue NE/156th Street NE.

Traffic Operations

The following section summarizes the future with-project LOS at the study intersections relative to the without-project conditions to identify project-related impacts.

Intersection parameters such as channelization and intersection control applied to the future with-project analyses were consistent with those used in the evaluation of future without-project conditions. A comparison of the future 2025 year of opening without-project and with-project weekday PM peak hour traffic operations are summarized in Table 7. A comparison of the future 2031 horizon year without-project and with-project weekday PM peak hour traffic operations are summarized in Table 8. Detailed LOS worksheets are provided in Appendix C.

Table 7. Year of Opening (2025) Weekday PM Peak Hour Intersection LOS Summary

Intersection	Traffic Control	Future 2025 Without-Project			Future 2025 With-Project		
		LOS ¹	Delay ²	WM ³ or v/c ⁴	LOS	Delay	WM or v/c
<u>City of Arlington/WSDOT Jurisdiction</u>							
1. I-5 SB Ramps/172nd St NE (SR 531)	Signal	B	11	-	B	11	-
2. I-5 NB Ramps/172nd St NE (SR 531)	Signal	E	73	-	E	77	-
3. Smokey Point Blvd/172nd St NE (SR 531) ⁶	Signal	F	100	-	F	104	-
4. 43rd Ave NE/172nd St NE (SR 531)	Roundabout ⁵	B	20	0.99	C	20	1.00
5. 51st Ave NE/172nd St NE (SR 531)	Roundabout ⁵	B	15	0.81	B	15	0.82
6. 59th Ave NE/172nd St NE (SR 531)	Roundabout ⁵	A	9	0.79	A	9	0.79
7. 63rd Ave NE/172nd St NE (SR 531)	Roundabout	A	5	0.45	A	5	0.45
8. 67th Ave NE/172nd St NE (SR 531)	Roundabout ⁵	B	17	0.93	B	18	0.95
9. SR 9/172nd St NE (SR 531)	Roundabout	A	8	0.48	A	8	0.48
18. 40th Ave NE/172nd St NE	Signal	B	18	-	B	18	-
<u>City of Marysville Jurisdiction</u>							
10. 51st Ave NE/160th St NE	Signal	B	13	-	B	13	-
11. Smokey Point Blvd/156th St NE	Signal	B	19	-	B	18	-
14. 51st Ave NE/152nd St NE	AWSC	F	83	-	F	116	-
15. 67th Ave NE/152nd St NE	TWSC	C	24	EB	E	39	EB
16. 51st Ave NE/136th St NE ⁶	Signal	B	13	-	B	13	-
17. 51st Ave NE/132nd St NE	AWSC	C	23	-	C	25	-
20. 51st Ave NE/122nd PI NE	Signal	A	8	-	A	8	-

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (HCM) 6th Edition (TRB)

2. Average delay per vehicle in seconds.

3. Worst movement reported for two-way stop-controlled intersections.

4. Volume to capacity ratio reported for roundabouts.

5. Roundabout with future SR 531 improvements.

6. Intersections run utilizing HCM 2000 methodology due to signal timing constraints not allowed under HCM 6th Edition.

As shown in Table 7, all study intersections remain at the same LOS under with-project conditions with increases in delay generally less than 1 second with the exception of four intersections.

The I-5 NB Ramp/172nd Street NE (SR 531) intersection is forecast to continue to operate at LOS E with approximately a 4 second increase in delay. Similarly, the Smokey Point Boulevard/172nd Street NE (SR 531) intersection is forecast to continue operating at LOS F with an increase of approximately 4 seconds of delay. The 51st Avenue NE/152nd Street NE intersection is forecast to operate at LOS F with approximately a 33 second increase in delay. The 67th Avenue NE/152nd Street NE intersection is forecast to degrade from LOS C to LOS E.

As described above, this is an interim condition and as described in the following section, longer term improvements are planned at the intersections that would include widening and signalization or construction of roundabouts. Additionally, the County has identified a project at the 67th Avenue NE/152nd Street NE intersection that would include implementation of a signal or roundabout and widening at the intersection. The timing of this project hasn't been identified and therefore was assumed in the horizon year described below but was not included in the year of opening. As shown below with widening and inclusion of a signal the intersection is forecast to operate at an acceptable LOS.

Table 8. Horizon Year (2031) Weekday PM Peak Hour Intersection LOS Summary

Intersection	Traffic Control	Future 2031 Without-Project			Future 2031 With-Project		
		LOS ¹	Delay ²	v/c ³	LOS	Delay	v/c
<u>City of Arlington/WSDOT Jurisdiction</u>							
1. I-5 SB Ramps/172nd St NE (SR 531)	Signal	A	7	-	A	8	-
2. I-5 NB Ramps/172nd St NE (SR 531)	Signal	F	96	-	F	97	-
3. Smokey Point Blvd/172nd St NE (SR 531) ⁶	Signal	F	90	-	F	92	-
4. 43rd Ave NE/172nd St NE (SR 531)	Roundabout ⁴	A	9	0.70	A	9	0.70
5. 51st Ave NE/172nd St NE (SR 531)	Roundabout ⁴	B	17	1.04	B	18	1.05
6. 59th Ave NE/172nd St NE (SR 531)	Roundabout ⁴	F	93	1.88	F	100	1.94
7. 63rd Ave NE/172nd St NE (SR 531)	Roundabout	B	13	0.88	B	13	0.89
8. 67th Ave NE/172nd St NE (SR 531)	Roundabout ⁴	C	33	1.11	D	36	1.13
9. SR 9/172nd St NE (SR 531)	Roundabout	B	12	0.76	B	12	0.76
18. 40th Ave NE/172nd St NE	Signal ⁵	C	24	-	C	24	-
<u>City of Marysville Jurisdiction</u>							
10. 51st Ave NE/160th St NE	Signal	C	34	-	D	35	-
11. Smokey Point Blvd/156th St NE	Signal	C	22	-	C	22	-
12. 47th Ave NE/156th St NE	Signal	C	30	-	C	31	-
13. 44th Ave NE/152nd St NE	Signal	C	26	-	C	26	-
14. 51st Ave NE/152nd St NE	Signal ⁵	C	30	-	C	32	-
15. 67th Ave NE/152nd St NE	Signal ⁵	D	35	-	D	39	-
16. 51st Ave NE/136th St NE ⁶	Signal	B	14	-	B	15	-
17. 51st Ave NE/132nd St NE	Signal ⁵	B	11	-	B	11	-
19. 152nd St NE/156th St NE ⁶	Signal	C	34	-	D	48	-
20. 51st Ave NE/122nd St NE	Signal	A	8	-	A	8	-

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (HCM) 6th Edition (TRB)

2. Average delay per vehicle in seconds.

3. Volume to capacity ratio reported for roundabouts.

4. Roundabout with future SR 531 improvements.

5. Signal with future improvements.

6. Intersections run utilizing HCM 2000 methodology due to signal timing constraints not allowed under HCM 6th Edition.

As shown in Table 8, with completion of the roadway network and construction of the new interchange at 156th Street NE delays and/or LOS are anticipated to improve at many of the study intersections. Under forecast 2031 conditions five of the study intersections are not forecast to meet the LOS or v/c standards. Under forecast 2031 conditions the I-5 NB Ramp and Smokey Point Boulevard intersections with 172nd Street NE (SR 531) are forecast to operate at LOS F with minimal increase in delay between without and with-project conditions.

Additionally, the 51st Avenue NE and 67th Avenue NE intersections with 172nd Street NE (SR 531) are forecast to operate with acceptable delays but with v/c ratios over 0.90. The v/c ratio increase between without and with-project conditions is less than 0.02 at both intersections with increases in delay of 3 seconds or less. The increase in delay and/or v/c ratio would likely go unnoticed by daily drivers. The 59th Avenue NE/172nd Street NE (SR 531) intersection is forecast to operate at LOS F with a v/c ratio over 1 under without or with-project conditions. With inclusion of a northbound right-turn lane the intersection is forecast to operate at LOS B with a v/c ratio of 0.88 under without and with-project conditions.

The longest (southbound) 95th percentile queueing at the 51st Avenue NE/172nd Street NE (SR 531) intersection is anticipated to be approximately 450 feet or 18 vehicles under without project conditions and 500 feet or approximately 20 vehicles, an increase of approximately 50 feet. At the 59th Avenue NE/172nd Street NE (SR 531) intersection, the inclusion of the additional northbound right-turn lane, the longest 95th percentile queue is in the southbound

direction and is anticipated to be approximately 250 feet under without and with-project conditions. At the 67th Avenue NE/172nd Street NE (SR 531) intersection eastbound queues are anticipated to be approximately 1,425 feet under without project conditions and 1,525 feet under with-project conditions or an increase of approximately 100 feet.

The project represents less than 1 percent of the forecast PM peak hour traffic volumes at the 51st Avenue NE, 59th Avenue NE, and 67th Avenue NE intersections with 172nd Street NE (SR 531). In the event additional improvements are identified at these intersections, the project could contribute a pro-rata share to help fund the improvements.

2031 Roadway Alignment

The future horizon year roadway network, alignment, channelization, and traffic control utilized in the traffic analysis is consistent with current plans developed by the City of Marysville. The alignment of 156th Street NE and 47th Avenue NE as identified by the City would bisect the southern portion of the site and includes a traffic signal at the 47th Avenue NE/156th Street NE intersection. As part of the binding site plan, the project proponent is proposing an alternative alignment of 156th Street NE and 47th Avenue NE. The proposed alignment would shift the 47th Avenue NE/156th Street NE to the east, reduce impacts to the site, and provide a roundabout at the 47th Avenue NE/156th Street NE. The proposed alignment is shown on Appendix G.

Site Access

Under the opening year conditions, before buildout of the total network, site access would be provided via three driveways along 156th Street NE and would have limited conflicting traffic as 156th Street NE would terminate at the east end of the site. Therefore, operations of the site access locations was only evaluated under future 2031 buildout of the network. Under buildout conditions of the network the project is anticipated to take access via 2 driveways along 160th Street NE, 2 driveways along 47th Avenue NE, and 3 driveways along 156th Street NE. The weekday PM peak hour traffic volumes at the site access locations are summarized on Figure 10 and the LOS operations are summarized are summarized in Table 9.

Table 9. Future 2031 Weekday PM Peak Hour Site Access LOS Summary

Intersection	LOS ¹	Delay ²	WM ³
A. Site Access West/160th Street NE	C	16	NB
B. Site Access East/160th Street NE	C	16	NB
C. 47th Avenue NE/Site Access North	B	14	EB
D. 47th Avenue NE/Site Access South	B	14	EB
E. Site Access West/156th Street NE	D	33	NB
F. Site Access Central/156th Street NE	C	21	SB
G. Site Access East/156th Street NE	C	15	NB

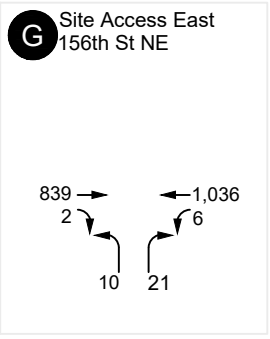
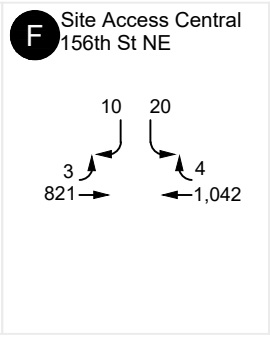
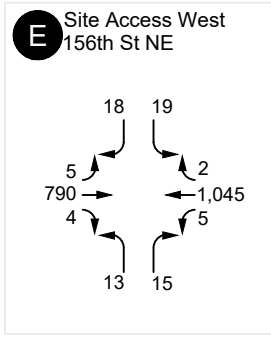
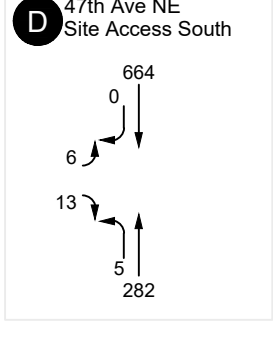
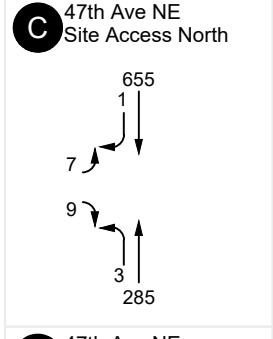
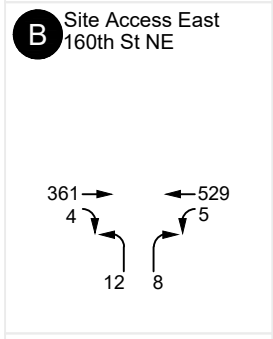
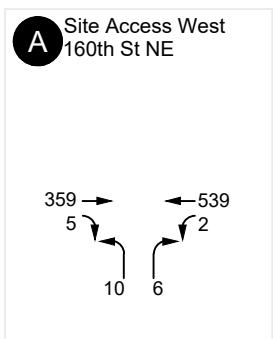
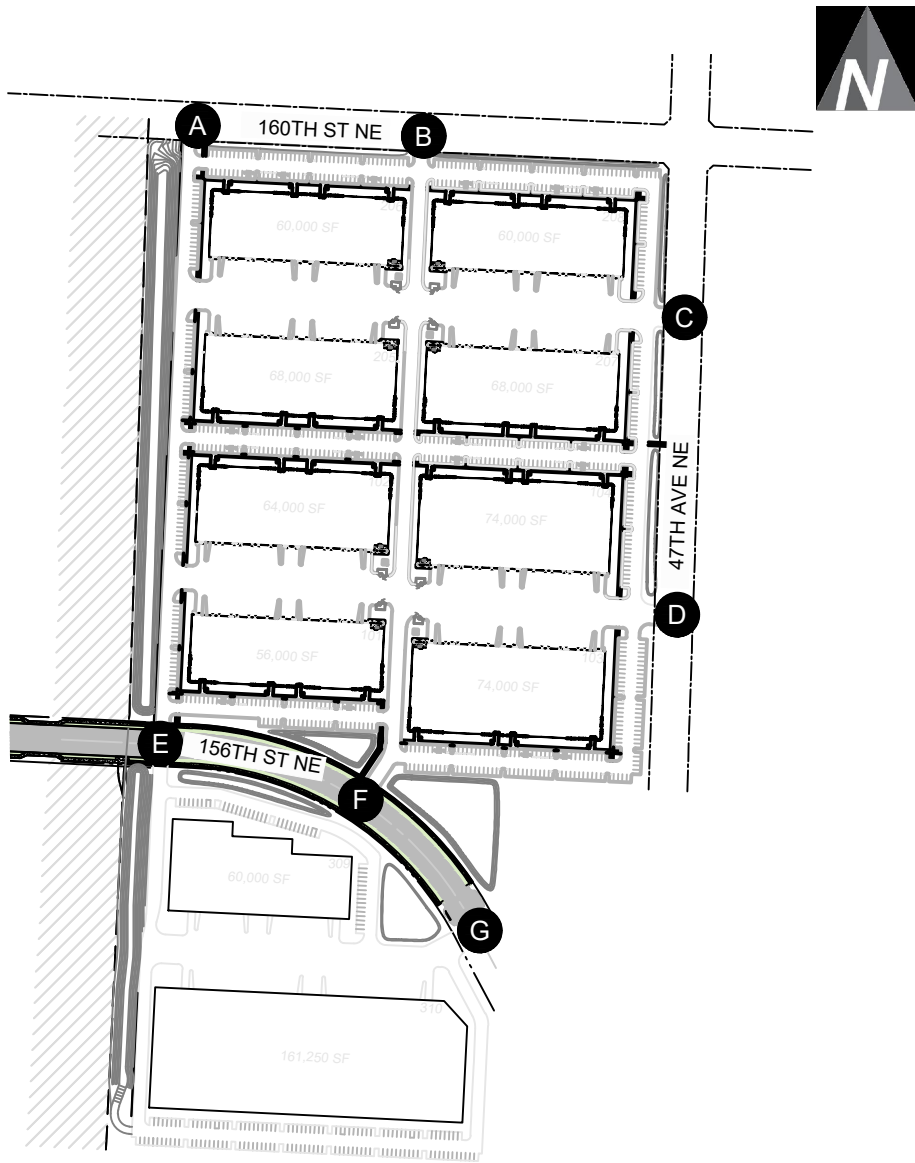
1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (HCM) 6th Edition (TRB)

2. Average delay per vehicle in seconds.

3. Worst movement reported for unsignalized intersections.

As shown in Table 9, the site access locations are forecast to operate at LOS D or better under future (2031) with-project conditions. Future (2031) with-project traffic volumes at the site access locations are shown on Figure 10.

In addition to operations sight distance was reviewed for the eastern most driveway along 156th Street NE. Sight distance requirements for the driveway were taken from the City of Marysville Engineering Design and Development Standards (2017) and show that for a design speed of 40 miles per hour and entering sight distance of 575 ft is required. As shown in Appendix F it is anticipated that entering sight distance requirements will be met for the driveway.



LEGEND

X Site Access

x Weekday PM Peak Hour Traffic Volumes

Future (2031) Weekday PM Peak Hour Site Access Volumes **FIGURE**

Marysville Light Industrial



Mitigation and Recommendations

The proposed project would provide frontage improvements along 47th Avenue NE and would construct the section of 156th Street NE from the Hayho Creek to the eastern side of the site. The project impacts to the surrounding transportation system would be mitigated through The City of Arlington, Snohomish County and WSDOT.

Transportation Mitigation Fees

To mitigate impacts of the proposal on the surrounding transportation system, the developer would be required to pay impact fees to three jurisdictions: the City of Marysville, Snohomish County, and WSDOT based on current interlocal agreements that have been established between these entities. The following provides an estimate only, the final fees will be calculated at time of permit issuance.

City of Marysville

The City of Marysville traffic mitigation fees are currently \$2,220 per PM peak hour trip. Based on the anticipated trip generation of 253 trips the resulting City of Marysville impact fee would be **\$561,660** (\$2,220/trip x 253 trips). These fees will be reduced for TIF eligible improvements constructed by the applicant. The final fees will be determined by the City at time of building permit issuance.

Snohomish County

Snohomish County has an interlocal agreement with the City of Marysville. Per the Snohomish County Traffic Mitigation Worksheet for City Developments Impacting County Streets, the percent of trips impacting County Streets was determined to be 20 percent. Per SCC 30.66B.330 the fee for commercial uses within the urban growth area of TSA is \$157 per average daily trip (ADT). The resulting fee was estimated to be approximately **\$78,845** (20% x 2,511 ADT x \$157 per ADT).

WSDOT

Per the interlocal agreement with WSDOT, project-related impacts can be mitigated through the payment of a flat fee of \$36 per ADT or a proportional share based on the WSDOT projects currently planned. Based on the project distribution, the project would impact the WSDOT projects on 172nd Street NE (SR 531) and the I-5 Interchange at 156th Street NE; however, those projects have been identified as funded. As such no impact fees would be paid to WSDOT.

Findings and Conclusions

This transportation impact analysis summarizes the transportation impacts associated with the proposed industrial project in Marysville, WA.

- The proposed project would construct approximately 745,250 square feet of industrial park.
- The development is anticipated to generate 2,511 weekday daily trips, with 253 trips occurring during the weekday AM peak hour and 253 net new trips during the PM peak hour.
- The proposed project is estimated to account for less than 5 percent of the total 2025 weekday PM peak hour traffic at the study intersections. There are three intersections where the project is forecast to represent more than 5 percent of the total volumes, which are intersections closer to the site, including Smokey Point Boulevard/156th Street NE, 51st Avenue NE/152nd Street NE, and 67th Avenue NE/152nd Street NE.
- Under the 2031 horizon year conditions, with buildout of the network, the project is anticipated to represent less than 1 percent of the traffic volumes at a majority of the study intersections. At intersections closer to the site, the project share of traffic volumes is anticipated to be 5 percent or less with the exception of the 152nd Street NE/156th Street NE which is approximately 6.1 percent of the total traffic volumes.
- Under 2025 year of opening conditions all study intersections remain at the same LOS under with-project conditions with increases in delay generally less than 1 second with the exception of four intersections. The I-5 NB Ramp/172nd Street NE (SR 531) intersection is forecast to continue to operate at LOS E. Similarly, the Smokey Point Boulevard/172nd Street NE (SR 531) intersection is forecast to continue operating at LOS F. The 51st Avenue NE/152nd Street NE intersection is forecast to operate at LOS F with approximately a 33 second increase in delay and the 67th Avenue NE/152nd Street NE intersection is forecast to degrade from LOS C to LOS E.
- Under 2031 horizon year conditions five study intersections are anticipated to be below the LOS standard of LOS D or have v/c ratios over 0.90 with or without the proposed project. The intersections that don't meet LOS of v/c standards are along the 172nd Street NE (SR 531) corridor.
- Access to the proposed development (2031) would be provided via seven driveways. Two along 160th Street NE, two along 47th Avenue NE, and three along 156th Street NE. All site accesses are forecast to operate at LOS D or better under future 2031 conditions.
- The developer would be required to pay transportation mitigation fees. The mitigation fee is estimated to be a total of \$645,505 based on the project's calculated pro-rata share.

Appendix A: Traffic Counts

Appendix B: LOS Definitions

Appendix C: LOS Worksheets

Appendix D: Trip Generation Worksheets

Appendix E: Snohomish County Key Intersections

Appendix F: Sight Distance Figures

Appendix G: Roadway Alignment Alternative