

# Existing Weekday PM Peak Hour Traffic Volumes

Arlington East Hill Residential

FIGURE

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# Preliminary Traffic Impact Analysis

# ARLINGTON EAST HILL RESIDENTIAL

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# Introduction

This traffic impact analysis (TIA) identifies potential transportation-related impacts associated with the construction of 646 single family homes and 133 townhomes located in the \_\_\_\_\_ subarea identified by the City of Arlington. As necessary, mitigation measures are identified that would reduce or offset significant transportation related impacts that the project may have on the surrounding transportation system.

**Note that this document presents preliminary results only, in order to inform the scope fo the EIS. Updated traffic counts will be conducted, resulting in updated level of service analysis. As such, specific mitigation measures, improvement triggers, or project share of the improvements are noted noted in this document.**

## Project Description

The proposed project is located on the southeast corner of Tveit Road-212th Street/87th Avenue NE, east of SR 9. Figure 1 illustrates the site vicinity and surrounding streets. The proposed development would construct up to 646 single family homes and 133 townhomes. Access to and from the project site would be provided via 2 two access points located on Tveit Road (212th Street) and 2 access points along 95th Avenue NE. The preliminary site plan is included in Figure 2. The project is anticipated to be constructed and occupied by 2037. An additional horizon year was identified for the analysis which corresponds with the City of Arlington's comprehensive plan year of 2044.

## Study Scope

As coordinated with City of Arlington staff and based on the anticipated vehicular impacts of the proposed project, the following intersections were selected for analysis:

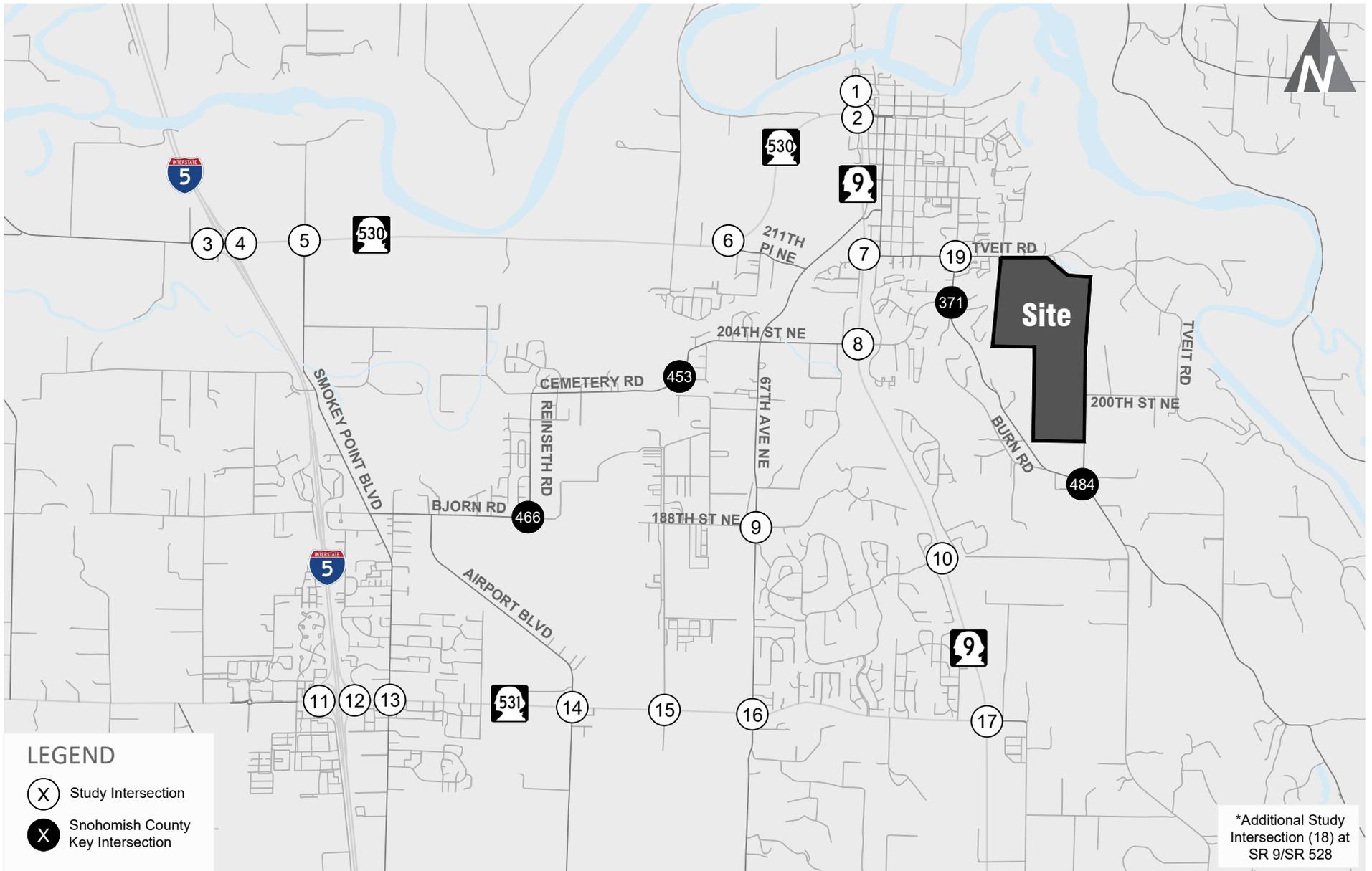
1. SR 9/W Burke Avenue
2. SR 9/W Division Street
3. I-5 SB Ramps/SR 530
4. I-5 NB Ramps/SR 530
5. Smokey Point Boulevard/SR 530
6. 211th Place NE/SR 530
7. SR 9/E Highland Drive
8. SR 9/204th Street NE
9. 67th Avenue NE/188th Street NE
10. SR 9/Crown Ridge Boulevard
11. I-5 SB Ramps/SR 531
12. I-5 NB Ramps/SR 531
13. Smokey Point Boulevard/SR 531
14. 51st Avenue NE/SR 531 (172nd Street NE)
15. 59th Avenue NE/SR 531 (172nd Street NE)
16. 67th Avenue NE/SR 531 (172nd Street NE)
17. SR 9/SR 531 (172nd Street NE)

18. SR 9/SR 528

19. Stillaguamish Avenue/E Highland Drive

In addition, the access points to the site were evaluated under future 2037 and 2044 with-project conditions.

The scope of the analysis included a review of existing and future without-project conditions in the vicinity of the project site under weekday PM peak hour conditions. This report includes a review of the surrounding street system, transit service, non-motorized facilities, existing and future without-project weekday peak hour traffic volumes, traffic operations, and traffic safety. Future 2037 and 2044 with-project conditions were estimated by adding site-generated traffic to future 2037 and 2044 without-project volumes. The project's impacts on the surrounding transportation system were identified by comparing the future with-project conditions to the future without-project conditions.



# Site Vicinity and Study Area Intersections

Arlington East Hill Residential

FIGURE

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## Existing and Future Without-Project Conditions

This section describes existing, 2037, and 2044 without-project conditions within the identified study area. Characteristics are provided for the roadway network, non-motorized facilities, transit service, traffic volumes, traffic operations, and traffic safety.

### Roadway Network

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

#### Existing

The primary roadways within the study area and their characteristics near study intersections are described in Table 1. Roadway functional classifications are based on WSDOT and the City of Arlington Transportation Master Plan.

**Table 1. Roadway Network Existing Conditions Summary**

Roadway	Classification	Speed Limit	# Lanes	Parking	Pedestrian Facilities	Bicycle Facilities
State Route 9 (SR 9)	Freeway/Express way	55 mph	2	No	None	None
State Route 530 (SR 530)	Principal Arterial	35 mph	2	No	None	None
State Route 531 (SR 531)	Minor Arterial/Principal Arterial <sup>1</sup>	35 mph	2-4	No	Intermittent sidewalks	None
E Burke Avenue	Principal Arterial	25 mph	2	No	Sidewalks	Shoulders
W Division Street	Principal Arterial	25 mph	2	No	Intermittent sidewalks	None
Smokey Point Boulevard	Minor Arterial	35 mph	2	No	Intermittent sidewalks	None
211th Place NE	Minor Collector	25 mph	2	No	None	None
67th Avenue NE	Minor Arterial	35 mph	3	No	Sidewalks	None
E Highland Drive-Tveit Road	Minor Arterial	25 mph	2	No	None	None
188th Street NE	Minor Arterial	35 mph	2	No	None	None
Eaglefield Drive-Crown Ridge Boulevard	Local	20 mph	2	No	None	None
204th Street NE	Collector/Arterial <sup>2</sup>	35 mph	3	No	Sidewalks	None
Airport Boulevard-51st Avenue NE	Collector/Arterial <sup>3</sup>	35 mph	2	No	Intermittent Sidewalks	Shoulders

1. SR 531 is functionally classified as a Principal Arterial between its intersection with Smokey Point Blvd, west to its intersection with the I-5 SB ramps.

2. 204th St NE is functionally classified as a Minor Arterial east of 67th Ave NE, and a Major Collector west of 67th Ave NE.

3. 51st Ave NE is functionally classified as a Minor Arterial north of SR 531, and a Major Collector south of SR 531.

4. 59th Ave NE is functionally classified as a Minor Arterial north of SR 531, and a Local Road south of SR 531.

#### Planned Improvements

Based on a review of the *City of Arlington 6 Year Transportation Improvement (2025-2030)*, several planned improvements were identified within the vicinity of the study area that would impact the street network. The following planned improvements were identified:

- **SR 531 Widening Project Phase I** – 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 install roundabouts at the 51st Avenue NE, 59th Avenue NE, and 67th Avenue NE intersections along 172nd Street

NE (SR 531). The project is completely funded by WSDOT with construction beginning in 2025 and completed in 2026. The three roundabouts constructed along 172nd St NE are all assumed as part of the future without-project analysis.

- **Island Crossing SR-530 Roundabout Design** – This project would construct a roundabout at the SR-530/Smokey Point Blvd intersection. This project is currently funded through the design phase, which is nearing completion, and the city is currently seeking construction funding for the roundabout.
- **SR-530/SR-9/Division/Burke Intersection Improvements** – This project would install intersection improvements at the SR-9/SR-530/Division St intersection and at the SR-9/SR-530/Burke Ave intersection. WSDOT is recommending roundabouts at these intersections where possible.
- **SR-531 Widening Project Phase II** – Widening of 172nd Street NE (SR 531) between 67th Avenue NE and SR-9 to a four-lane facility with two travel lanes in each direction. This improvement was assumed in the future analysis.
- **67th Ave and 188th Street Signal** – This project would install a traffic signal at the e 67th Ave and 188th St intersection for safety, mobility, and pedestrian crossing. This project will be partially developer funded.
- **Burn Road Rehabilitation** – This project will begin design and planning to rehabilitate Burn Road; includes embankment stabilization, drainage, pedestrian access, and stream channel enhancement. This project is not anticipated to significantly impact the roadway network.
- **Highland Dr Corridor – SR-9 to Stillaguamish Ave** - Planning, design, and right-of-way needs assessment for future construction of improvements to Highland Drive corridor from SR-9 to Stillaguamish Ave. Improvements will be to make corridor consistent with Arlington urbanized arterial roadway standards, provide pedestrian access ways, and improve SR-9 signalization. Since details on these improvements are limited, they are not included in the analysis.

In addition to the 6 Year TIP, the *City of Arlington Twenty Year Horizon Plan Years (2029-2041)* was reviewed to determine if any additional planned improvements were expected by the years 2037 or 2044. The following planned improvements were identified:

- **188th St NE Improvements from 59th Ave NE to 67th Ave NE** – Improve 188th St NE to a 3-lane road section with sidewalk on the south and a trail section on the north.
- **Tveit Rd Improvements from Stillaguamish Ave to City Limits** - Improve Tveit Road to a 3-lane section with sidewalk on the south side and a mixed-use trail on the north side.

## Transit Service

Transit service to and from Arlington has been operated by Community Transit since 1980. Community Transit serves more than 2,100 stops and 22 park and ride facilities. The agency's services currently include local bus, commuter bus, Swift Bus Rapid Transit (BRT), paratransit, and vanpool.

The nearest transit stop to the East Hill Subarea is located approximately 0.6 mile to the west at the intersection of Tveit Rd/E Highland Dr/ S Stillaguamish Ave, served by Community Transit Routes 220 and 230. There are additional bus stops located northwest of the subarea at the intersection of SR 9/W 4<sup>th</sup> Street served by Route 227. Detailed descriptions of these routes are provided in Table 2.

**Table 2. Existing Transit Service**

Route	Area Served	Approximate Operating Hours	PM Peak Headways (minutes)
220	Arlington Park & Ride to Smokey Point Transit Center	6:45 AM – 7:10 PM	60 to 70
		6:20 AM – 7:40 PM	
		7:20 AM – 7:35 PM	
227	Arlington to Seaway Transit Center	6:20 AM – 7:40 PM	N/A <sup>1</sup>
230	Darrington to Smokey Point Transit Center	7:20 AM – 7:35 PM	N/A <sup>2</sup>

Source: Community Transit <https://www.communitytransit.org> accessed February 2024.

1. Service is only provided twice in the morning.

2. Service is provided twice in the morning to the Smokey Point Transit Center and twice during the evening to Arlington.

## Traffic Volumes

The following sections summarize existing, 2037 and 2044 without-project traffic volumes within the study area.

### *Existing*

Existing weekday PM peak period (4-6 p.m.) traffic volumes for study area intersections were collected in June and November of 2022 and May of 2023. A 2% annual growth rate was applied to all intersections to approximate existing conditions at the intersections in 2025. Figure 3 illustrates the existing weekday peak hour traffic volumes at the study intersections. Volumes are rounded to the nearest 5 vehicles to account for the daily fluctuations in traffic volumes. Detail traffic counts are provided in Appendix A.

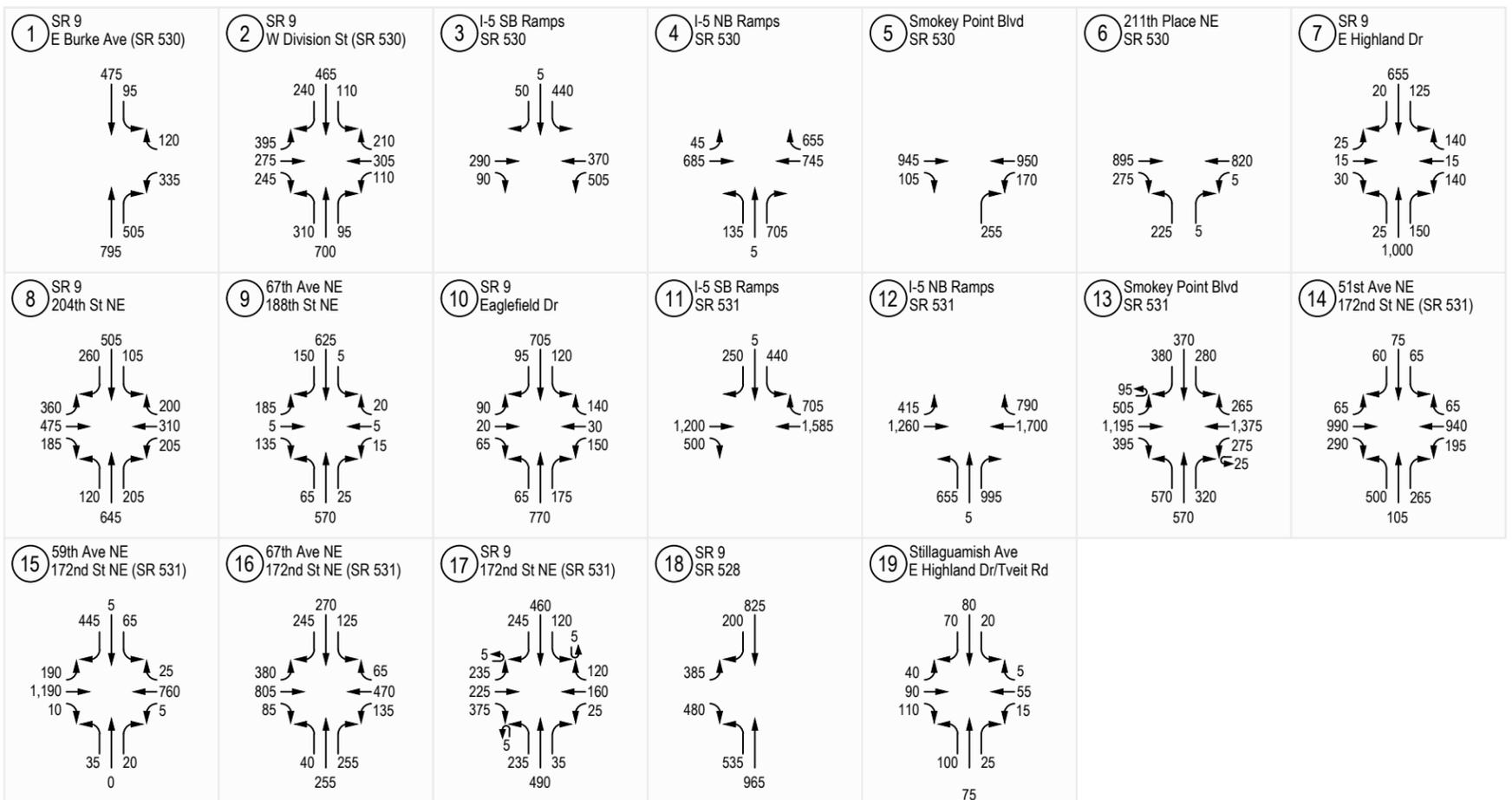
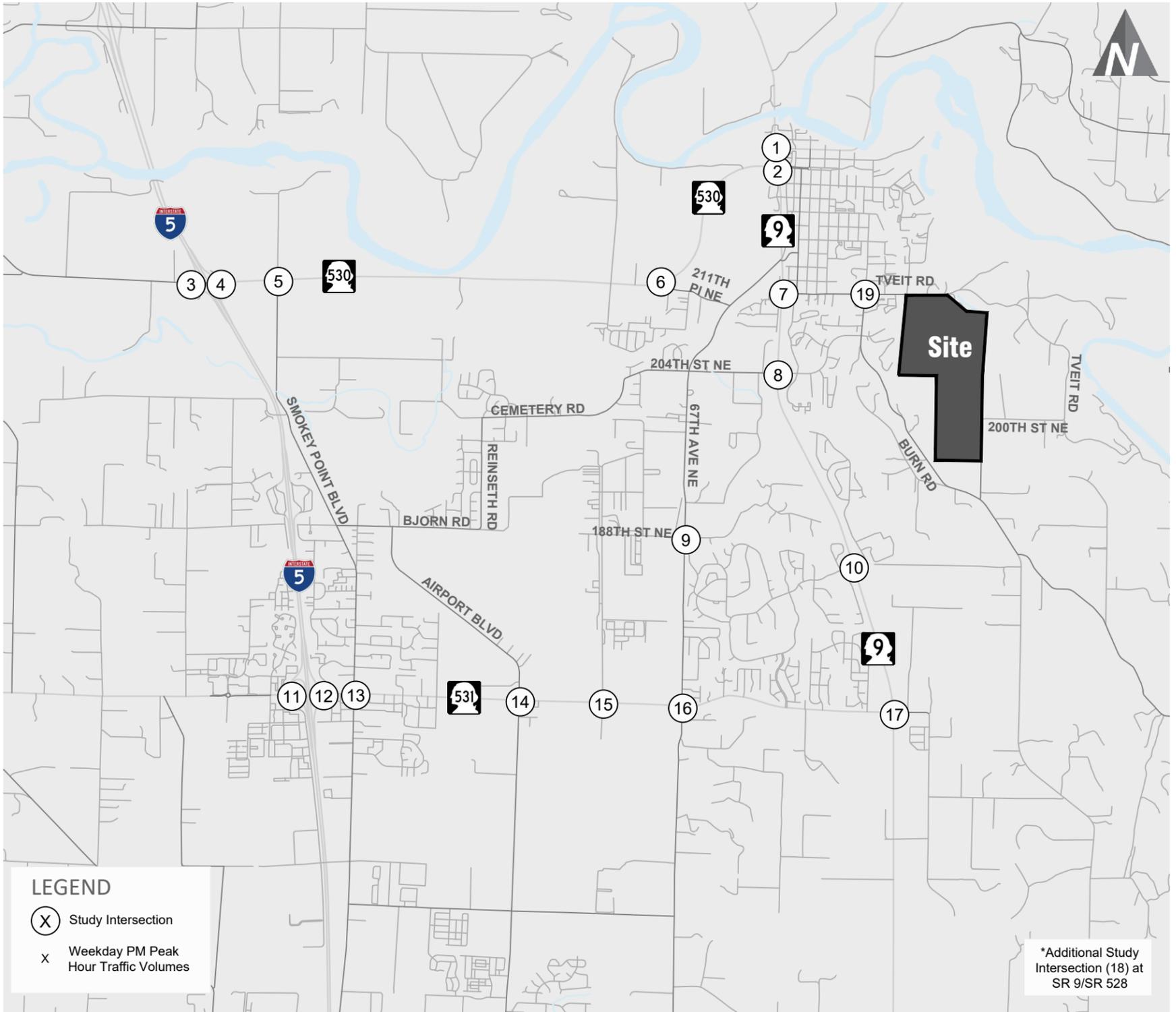
### *Future Without-Project Traffic Volumes*

Future 2037 and 2044 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 study intersections. An annual growth rate of 2.0 percent was applied to existing study intersection traffic volumes to estimate 2037 and 2044 horizon year background traffic growth, as coordinated with City of Arlington staff and consistent with the current City of Arlington traffic model. The following pipeline projects were identified to be completed by 2037 and are included in the analysis based on coordination with the City. The pipeline projects are listed below:

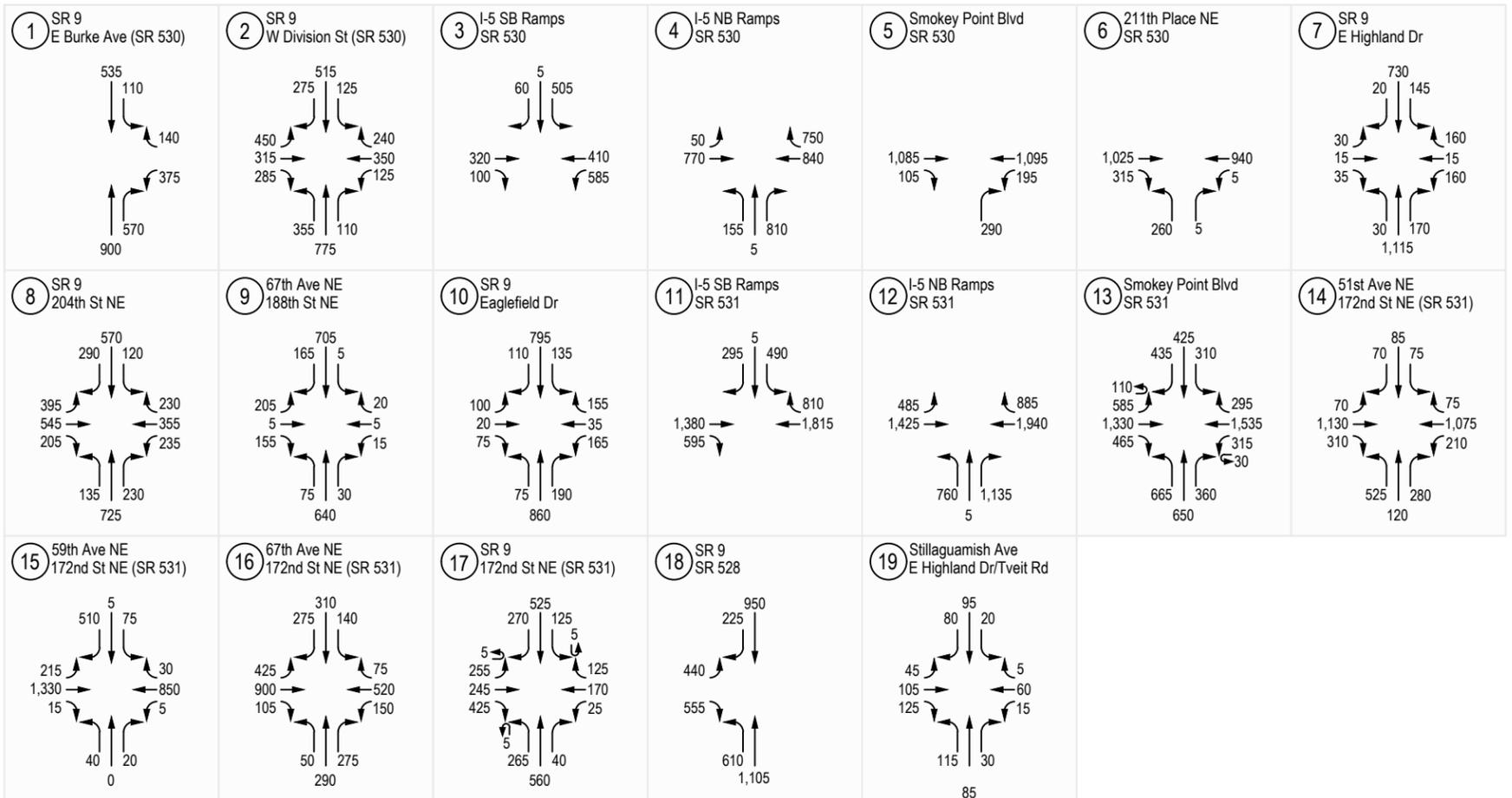
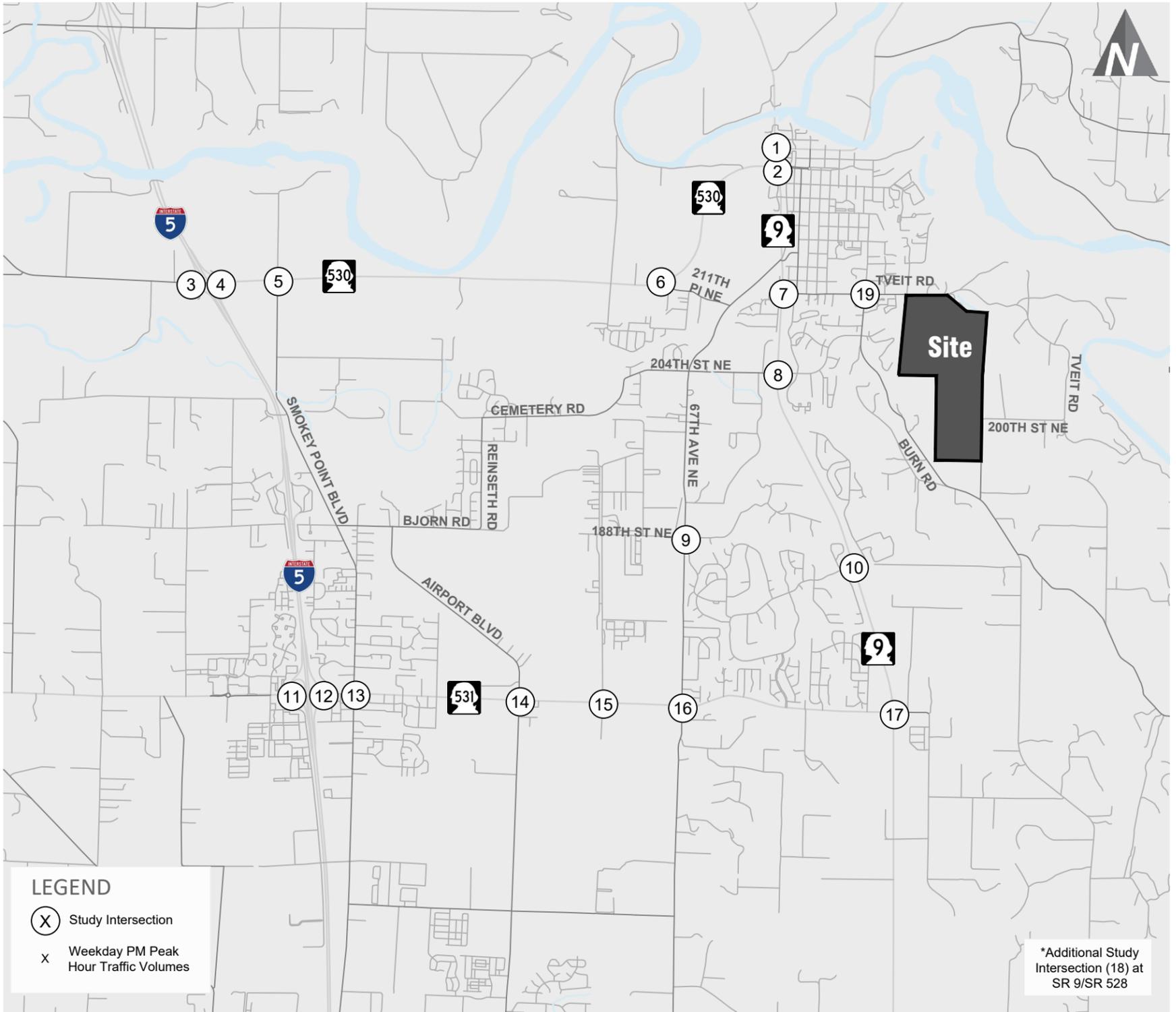
- **Project Roxy** is developing approximately 2.82 million square foot fulfillment center warehouse located between 172nd Street NE (SR 531) and 169th Street NE, and 43rd Avenue NE and 51st Avenue NE in the City of Arlington. Based on the timing of the counts used in this analysis and anticipation of the occupancy this project has been included in the background volume forecasting.
- **The Outpost** would develop an approximately 500-unit multi-family residential development with 21,982 square feet of office space, 69,058 square feet of retail space and 16 live/work units. The project is located southwest of the 51st Street NE/168th Street NE intersection in Arlington.
- **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, full buildout of the project has not been approved. Based on coordination with City staff only 250,000 square feet of warehouse space have been approved. As such, a 250,000 square foot warehouse was assumed under future 2026 without-project conditions.
- **The PacTrust Project** would develop approximately 745,250 square feet of Industrial Park within the City of Marysville. The development includes areas north and south of 156th Street NE. Access to the development is provided by proposed driveways along 47th Avenue NE and 156th Street NE. It is anticipated that the development would be constructed and occupied by 2025.
- **The Allen Townhomes** development would construct 43 single-family attached residential units on the north side of 172nd Street NE, east of SR 9. The project is anticipated to be constructed and occupied by 2028.
- **The Amber Grove** development would construct 84 single-family attached residential units along the west side of SR-9, south of 204th Street NE and east of 74th Avenue NE. The project is anticipated to be constructed and occupied by 2028.
- **The Arlington Crossroads** development would construct a shopping center, a gas station, and a coffee/donut shop with a drive-through. The project is located at the northeast corner of the SR 9/172nd Street NE intersection. The project was planned to be constructed and occupied by 2023 but has not yet been constructed as of December 2024.
- **The Harmony at Arlington** development would construct 60 single-family townhomes. The project is located north of 204th Street NE on the west side of SR 9. The project is anticipated to be constructed and occupied by 2027.

- The **Wet Rabbit Car Wash** development would construct a car wash at the southeast corner of the SR 9/204th Street NE intersection. The project is anticipated to be constructed and occupied by the end of 2025.
- The **Zahradnik** development would construct 334 residential units with 51,500 square feet of commercial space. The project is located along the north side of 172nd Street NE between 85th Avenue NE and SR 9. The project is anticipated to be constructed and occupied by 2026.

The forecast future 2037 without-project weekday peak hour traffic volumes are shown in Figure 4. The forecast future 2044 without-project weekday peak hour traffic volumes are shown in Figure 5.



Future (2037) Without-Project PM Peak Hour Volumes **FIGURE 4**  
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Future (2044) Without-Project PM Peak Hour Volumes **FIGURE 5**  
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## Traffic Operations

Weekday PM peak hour traffic operations were evaluated at the study intersections based on level of service. Traffic operations for existing conditions were evaluated based on the procedures identified in the *Highway Capacity Manual* (HCM 7) using *Synchro 12*. *Synchro 12* is a software program that uses HCM methodology to evaluate intersection level of service (LOS) and average vehicle delay. The roundabout-controlled intersections were evaluated using Sidra 9 software based on procedures established by WSDOT.

The operational characteristics of an intersection are determined by calculating the intersection level of service. For signalized, roundabout, and all-way stop controlled locations, LOS is measured in average delay per vehicle and is reported for the intersections as a whole. At side-street stop-controlled intersections, LOS is measured in average delay per vehicle during the peak hour of traffic and is reported for the worst operating approach 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.

All study intersections are under the jurisdiction of either the City of Arlington or WSDOT. The adopted LOS standards are described below.

**City of Arlington.** The City of Arlington has adopted LOS D for City arterials and LOS C for all other streets. The LOS D standard applies to roads that primarily serve its business district or industrial areas. The City of Arlington further recognizes and adopts the most current LOS standard along state highways as LOS D.

**WSDOT.** Washington State has classified highways that provide transportation functions that promote and maintain statewide travel and economic linkages as being of statewide significance or Highways of Statewide Significance (HSS). HSS facilities include interstate highways and other principal arterials that connect major communities. The designation helps assist with the allocation and direction of funding. The HSS was mandated by the 1998 legislature, and in 1999, legislation was passed that WSDOT update the HSS at least every five years. I-5 and SR 9 are defined as HSS in Arlington. I-5 is considered an urban HSS with a LOS D standard to milepost 207.76 in Arlington and a rural HSS with a LOS C standard to the north. SR 9 is an urban HSS through Arlington with a LOS D standard. A portion of SR 530 between the I-5 interchange and 27th Avenue NE is also a HSS with a LOS D standard.

The region's Metropolitan Planning Organization (MPO), Puget Sound Regional Council (PSRC), also establishes highways of statewide regional significance (HSRS). SR 531 (172nd Street NE) and SR 530 east of 27th Avenue NE are both HSRS in Arlington. PSRC has three tiers of LOS. Tier 1 is defined as the "inner" urban area and generally defined as a 3-mile buffer around the most heavily traveled freeways; there are no Tier 1 facilities in Arlington. Tier 2 routes serve the outer urban area outside of a three-mile buffer around the most heavily traveled freeways. Tier 3 are rural routes of regional significance that are not in Tier 2. SR 531 is a Tier 2 road with a LOS D standard. SR 530 is a Tier 3 with a LOS C standard.

Results for the existing and future without-project operations analyses are summarized in Table 1. Detailed LOS worksheets for each intersection analysis are included in Appendix C.

**Table 3. Existing and Future Without-Project PM Peak Hour LOS Summary**

Intersection	Traffic Control Existing/Future	Existing			2037 Without-Project			2044 Without-Project		
		LOS <sup>1</sup>	Delay <sup>2</sup>	WM <sup>3</sup> or V/C <sup>4</sup>	LOS	Delay	WM or V/C	LOS	Delay	WM or V/C
1. SR 9/E Burke Ave	TWSC/Roundabout	D	30	WB	A	9	0.74	B	15	0.93
2. SR 9/W Division St	Signal/Roundabout	C	34	-	B	11	0.68	B	13	0.8
3. I-5 SB Ramps/SR 530	Signal	C	26	-	<b>D</b>	<b>41</b>	-	<b>F</b>	<b>82</b>	-
4. I-5 NB Ramps/SR 530	Signal/Optimized Splits	<b>F</b>	<b>102</b>	-	<b>E</b>	<b>79</b>	-	<b>F</b>	<b>&gt;120</b>	-
5. Smokey Point Blvd/SR 530	TWSC/Roundabout	<b>D</b>	<b>25</b>	<b>NB</b>	B	12	0.97	C	21	1.04
6. 211th Place NE/SR 530	Roundabout	A	5	0.71	A	7	0.91	B	11	0.97
7. SR 9/E Highland Dr	Signal	B	18	-	<b>F</b>	<b>83</b>	-	<b>F</b>	<b>&gt;120</b>	-
8. SR 9/204th St NE	Signal	D	55	-	<b>F</b>	<b>&gt;120</b>	-	<b>F</b>	<b>&gt;120</b>	-
9. 67th Ave NE/188th St NE	TWSC/Signal	<b>F</b>	<b>75</b>	<b>EBL</b>	A	9	-	B	12	-
10. SR 9/Eaglefield Dr	Signal	C	22	-	D	45	-	<b>E</b>	<b>61</b>	-
11. I-5 SB Ramps/SR 531	Signal	A	8	-	B	16	-	C	25	-
12. I-5 NB Ramps/SR 531	Signal	C	33	-	C	33	-	<b>E</b>	<b>64</b>	-
13. Smokey Point Blvd/172nd St NE (SR 531)	Signal	<b>E</b>	<b>76</b>	-	<b>F</b>	<b>&gt;120</b>	-	<b>F</b>	<b>&gt;120</b>	-
14. 51st Ave NE/172nd St NE (SR 531)	Signal/Roundabout	C	22	-	B	12	0.79	B	16	0.9
15. 59th Ave NE/172nd St NE (SR 531)	Signal/Roundabout	C	30	-	A	6	0.49	A	6	0.57
16. 67th Ave NE/172nd St NE (SR 531)	Signal/Roundabout	<b>E</b>	<b>56</b>	-	A	9	0.59	A	10	0.64
17. SR 9/172nd St NE (SR 531)	Roundabout	A	6	0.47	B	14	0.87	C	22	1
18. SR 9/SR 528	Signal	C	35	-	<b>F</b>	<b>81</b>	-	<b>F</b>	<b>&gt;120</b>	-
19. Stillaguamish Ave/E Highland Dr	AWSC	A	9	-	A	10	-	B	11	-

Note: TWSC = Two-way Stop Controlled, AWSC = All-Way Stop Controlled. **BOLD** = operating below LOS standard for the intersection.

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 7th Edition)
2. Average delay per vehicle in seconds
3. Worst movement reported for unsignalized intersections. WB = westbound, NB = northbound, EB = eastbound
4. Volume-to-capacity ratio shown for roundabout intersections.

The following intersections are currently operating below their respective intersection standards:

- 4. I-5 NB Ramps/SR 530
- 5. Smokey Point Blvd/SR 530
- 9. 67th Ave NE/188th St NE
- 13. Smokey Point Blvd/172nd St NE (SR 531)
- 16. 67th Ave NE/172nd St NE (SR 531)

The following intersections are forecast to operate below their respective intersection standards in future without project conditions:

- 3. I-5 SB Ramps/SR 530
- 4. I-5 NB Ramps/SR 530
- 7. SR 9/E Highland Dr
- 8. SR 9/204th St NE
- 10. SR 9/Eaglefield Dr
- 12. I-5 NB Ramps/SR 531
- 13. Smokey Point Blvd/172nd St NE (SR 531)
- 18. SR 9/SR 528

## Traffic Safety

The five most recent complete years of collision records (from January 1, 2019 to December 31, 2023) provided by the WSDOT were reviewed within the study area to identify any existing traffic safety issues. A summary of the total and average annual number of reported collisions as well as the collisions rates at the study intersections are provided in Table 4.

**Table 4. Three-Year Collision Summary (2019-2023)**

Location	Number of Collisions					Total	Annual Average	Collisions per MEV <sup>1</sup>
	2019	2020	2021	2022	2023			
<b><i>Intersection</i></b>								
1. SR 9/W Burke Avenue	6	7	9	3	4	29	5.80	1.06
2. SR 9/W Division Street	4	6	5	1	2	18	3.60	0.42
3. I-5 SB Ramps/SR 530	3	7	5	5	7	27	5.40	1.24
4. I-5 NB Ramps/SR 530	10	6	6	1	7	30	6.00	0.78
5. Smokey Point Blvd/SR 530	4	2	1	1	3	11	2.20	0.34
6. 211th PI NE/SR 530	3	1	2	4	11	21	4.20	0.68
7. SR 9/E Highland Dr	1	3	1	2	3	10	2.00	0.37
8. SR 9/204th St NE	5	5	4	5	1	20	4.00	0.47
9. 67th Ave NE/188th St NE	2	1	6	4	2	15	3.00	0.69
10. SR 9/Crown Ridge Blvd	6	1	1	0	1	9	1.80	0.34
11. I-5 SB Ramps/SR 531	8	5	11	9	6	39	7.80	0.59
12. I-5 NB Ramps/SR 531	9	8	6	11	10	44	8.80	0.58
13. Smokey Point Blvd/SR 531	25	16	15	13	15	84	16.80	1.02
14. 51st Ave NE/SR 531 (172nd St NE)	7	3	15	10	3	38	7.60	1.01
15. 59th Ave NE/SR 531 (172nd St NE)	7	2	1	2	1	13	2.60	0.41
16. 67th Ave NE/SR 531 (172nd St NE)	7	4	7	1	5	24	4.80	0.68
17. SR 9/SR 531 (172nd St NE)	2	2	3	2	0	9	1.80	0.32
18. SR 9/SR 528	10	5	9	5	5	34	6.80	0.73
19. E Highland Dr/S Stillaguamish Ave	0	3	1	3	0	7	1.40	0.75

1. MEV = Million Entering Vehicles

As shown in the table above, a total of 495 collisions occurred at study intersections over the 5-year period. Of these collisions, 339 resulted in property damage only and 135 resulted in some form of injury. One fatal collision was reported at the SR 9/204th St NE intersection, which involved a driver under the influence of alcohol striking 2 pedestrians. Additional non-fatal collisions involving a pedestrian or cyclist occurred at intersections 11, 12, 13, 14, and 16, all of which are along the SR 531 corridor.

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 flagged for further investigation to determine whether an adverse condition exists. As shown in the table, the intersections of SR 9/W Burke Avenue, I-5 SB Ramps/SR 530, Smokey Point Boulevard/SR 531, and 51st Avenue NE/SR 531 were all noted to have a collision rate above 1.0 collisions per MEV.

In general, collisions were most frequently the result of angle and rear-end collisions and the majority of the time resulted in property damage only. No fatalities occurred at the study intersections; however, 1 collision involving a bicyclist and 4 collisions involving pedestrians were reported during the 5-year period at the study intersections. All five collisions involving a bicyclist and pedestrian occurred at either the Smokey Point Blvd/SR 531 or 51st Avenue NE/SR 531 intersections.

## Project Impacts

The following sections summarize the proposed project’s impacts on the surrounding street system. First, traffic volumes generated by the proposed project are estimated and then distributed and assigned to adjacent roadways within the study area. Next, project trips are added to future without-project traffic volumes and the potential impact to traffic operations are identified. Site-specific items are also discussed.

### Trip Generation

Trip generation for the proposed project and existing uses to be removed were calculated based on trip rates using the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021). ITEs Single Family Attached Housing (LU #215) and Single Family Detached Housing (LU #210) land uses were assumed for the proposed project. There is no existing use on the site.

Table 5 shows the weekday vehicle trips generated by the proposed project. The detailed trip generation calculations are included in Appendix D.

**Table 5. Weekday Vehicle Trip Generation**

Land Use <sup>1</sup>	Size	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
<b>Proposed</b>								
Single Family Attached Housing (LU #215)	133 du	958	16	48	64	45	31	76
Single Family Detached Housing (LU #210)	646 du	5,616	102	305	407	362	212	574
<b>Net New Total</b>		<b>6,574</b>	<b>118</b>	<b>353</b>	<b>471</b>	<b>407</b>	<b>243</b>	<b>650</b>

Note: du = dwelling units

1. Average trip rates from ITE *Trip Generation Manual*, 11th Edition (2021).

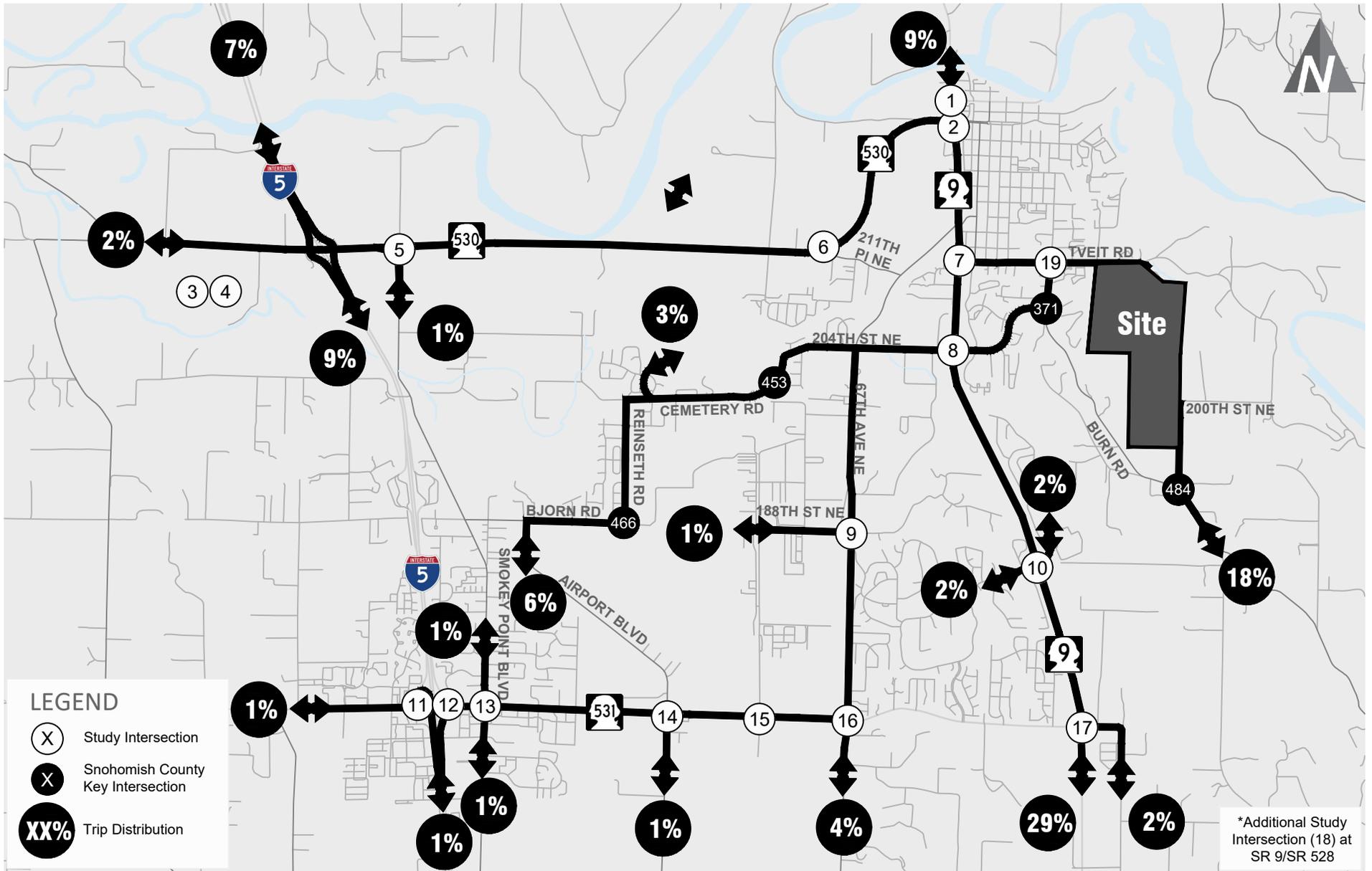
As shown in Table 5, the proposed project is estimated to generate 6,574 weekday daily trips with 471 occurring in the AM peak hour and 650 occurring in the PM peak hour.

### Trip Distribution & Assignment

Trip distribution patterns for the proposed uses to and from the site were based on the current City of Arlington transportation model and were coordinated with City of Arlington staff. The trip distribution for the proposed project is shown in Figure 6.

The peak hour project trips were assigned within the study area based on distribution for the proposed project and are shown in Figure 7. Several Snohomish County key intersections have been included in the trip assignment per Snohomish County policy.

Site generated weekday peak hour traffic volumes were added to future without-project volumes at study intersections. The resulting future 2037 and 2044 with-project peak hour traffic volumes are illustrated in Figure 8 and Figure 9, respectively.



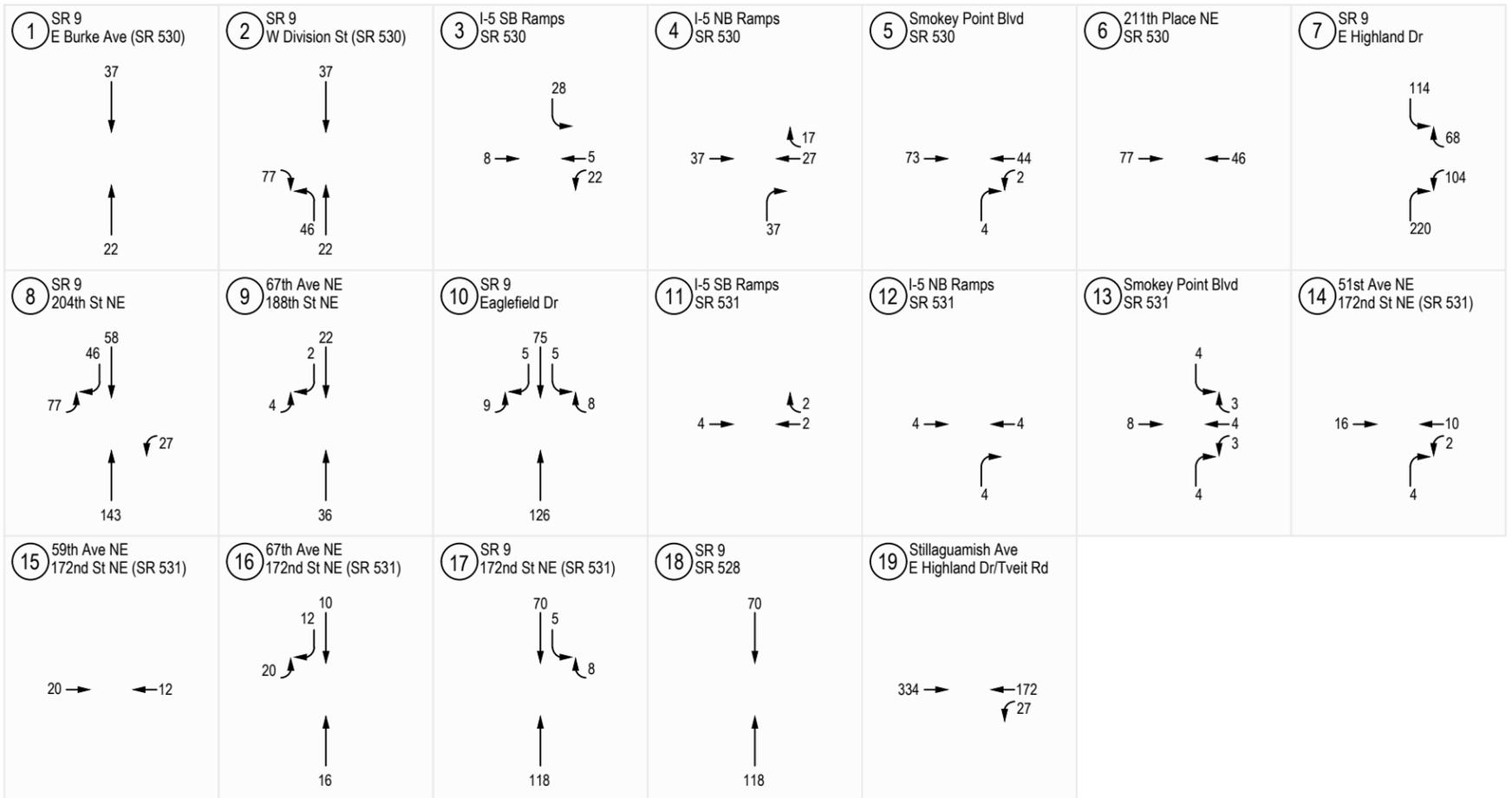
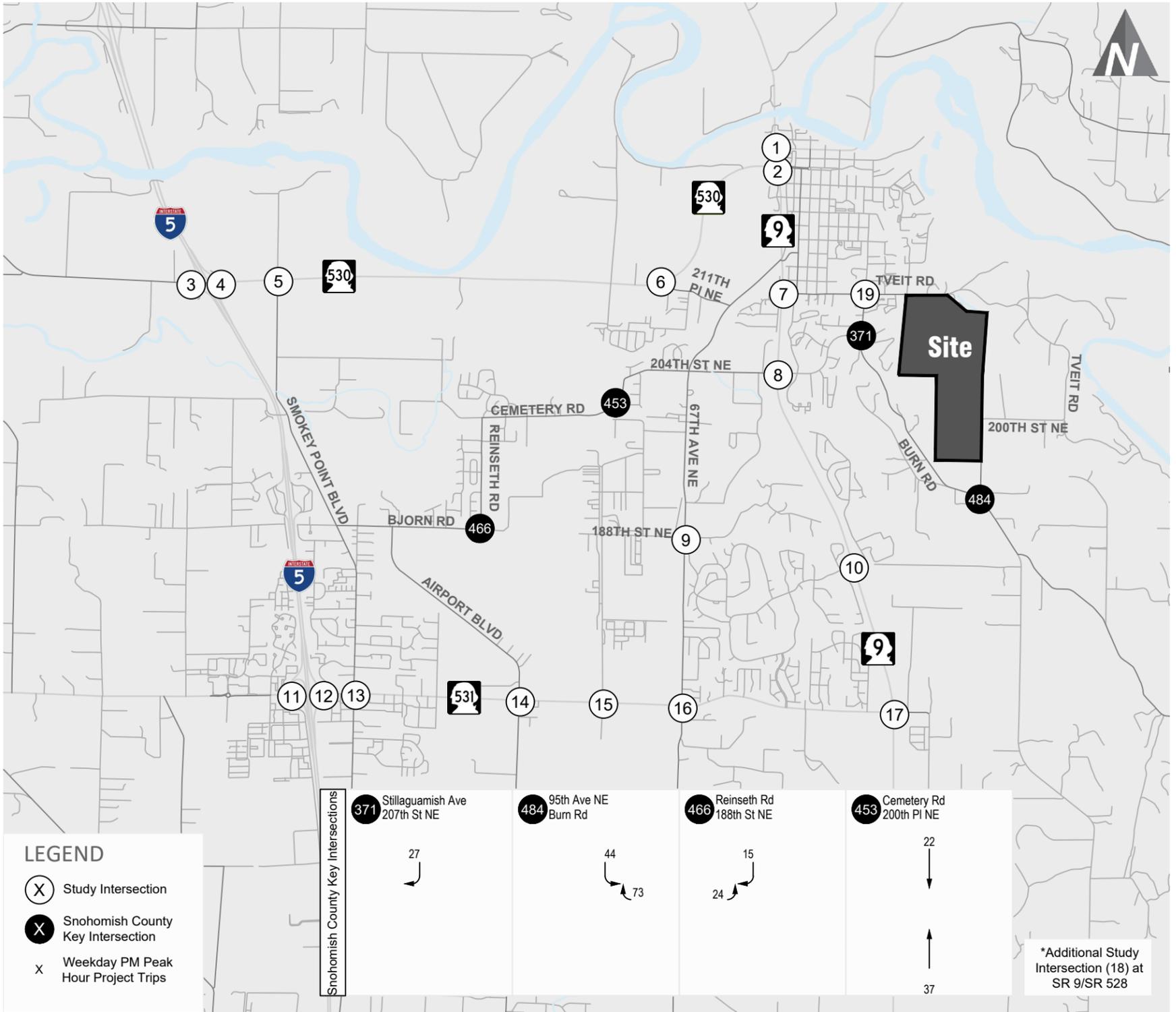
# Weekday PM Peak Hour Project Trip Distribution

Arlington East Hill Residential

FIGURE

6



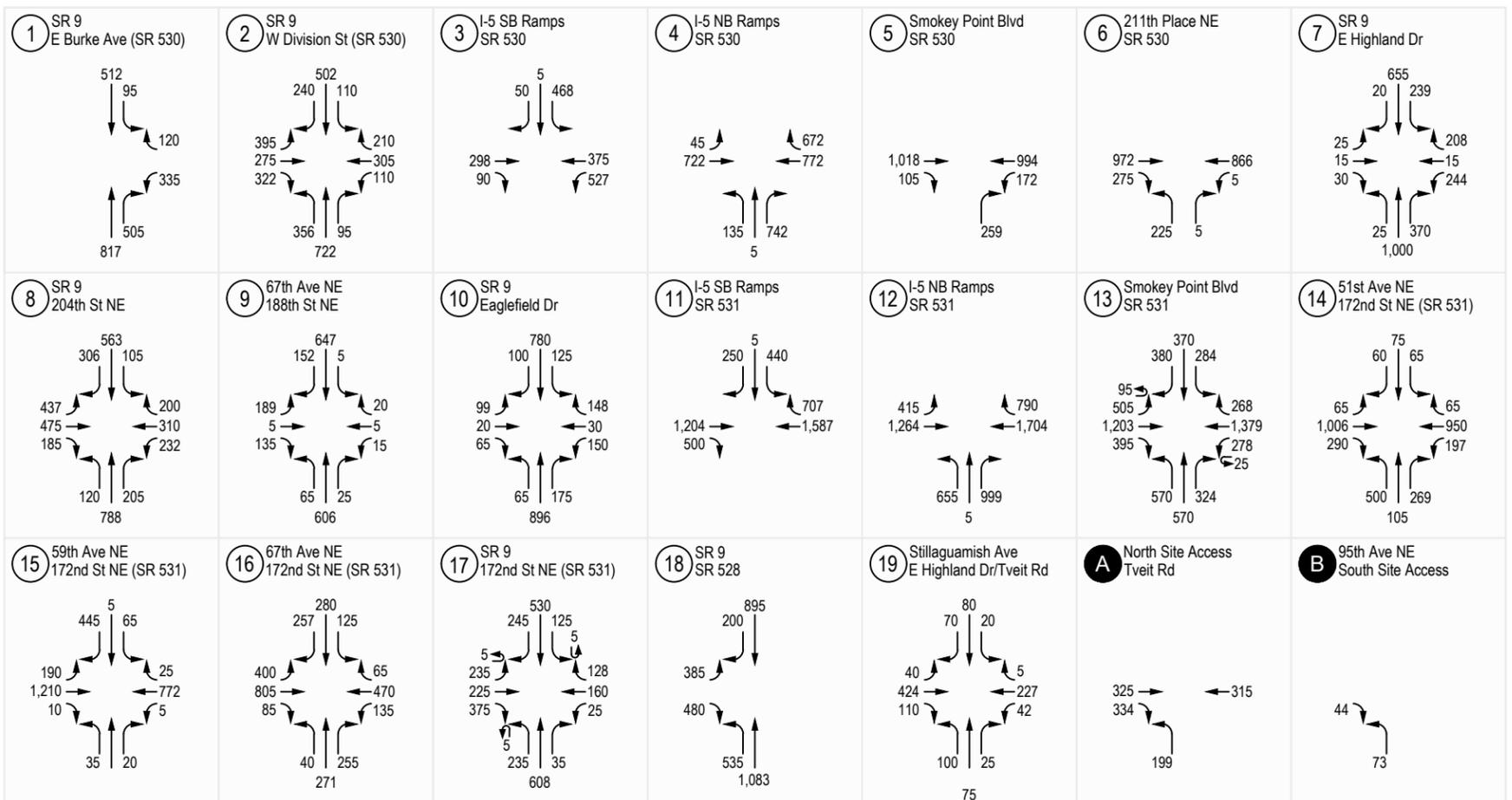
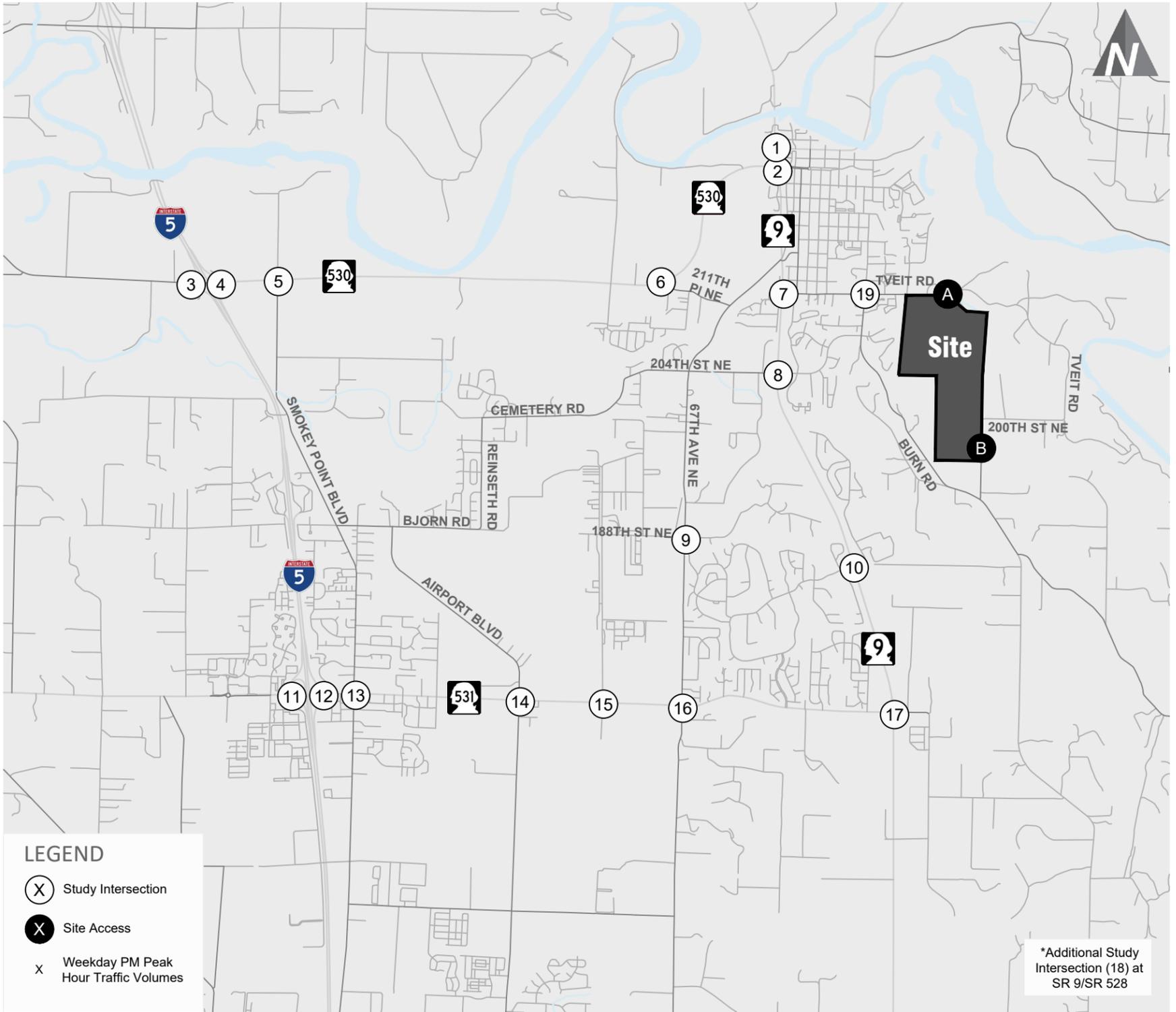


# Weekday PM Peak Hour Project Trip Assignment

Arlington East Hill Residential

FIGURE

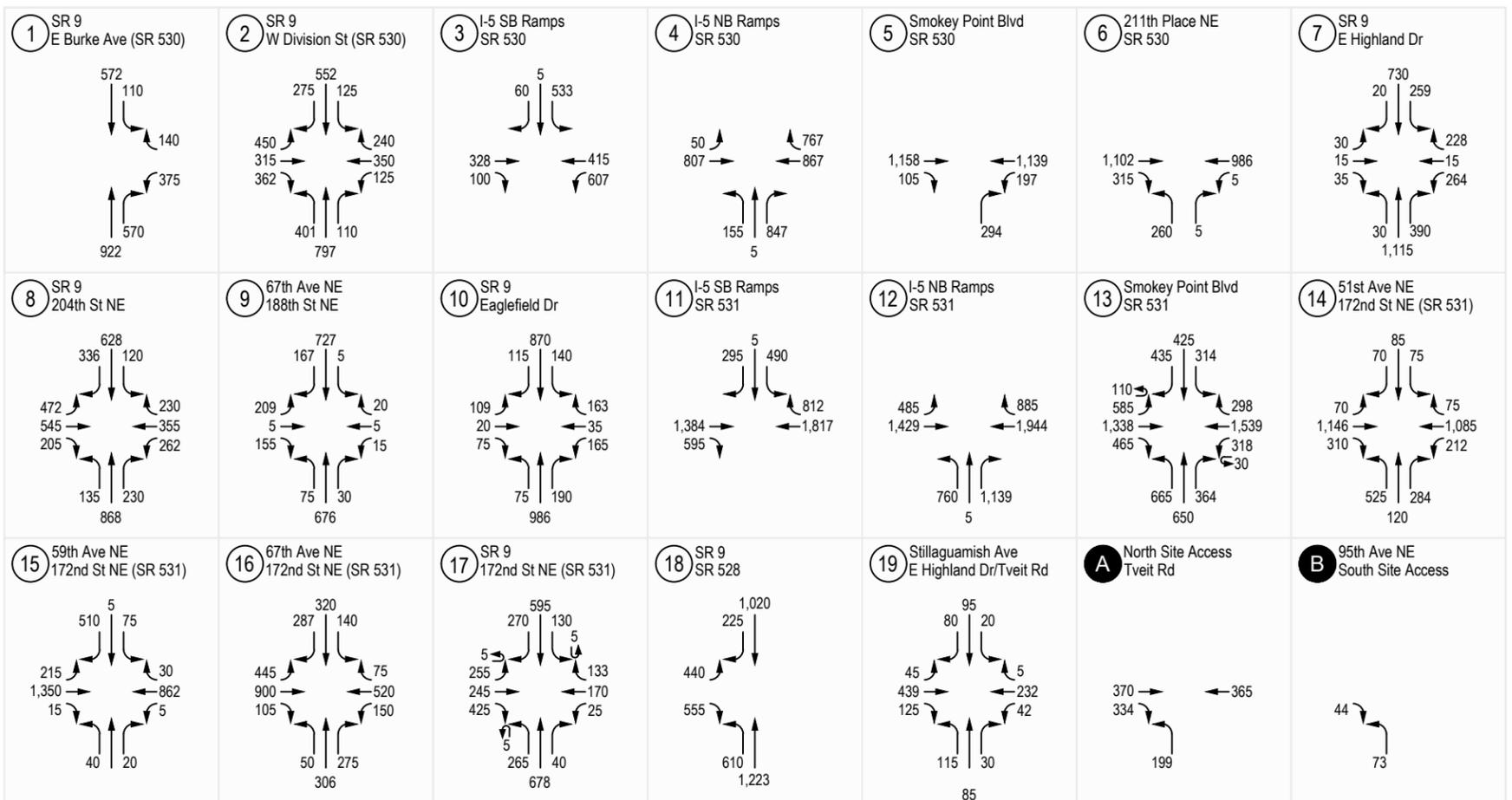
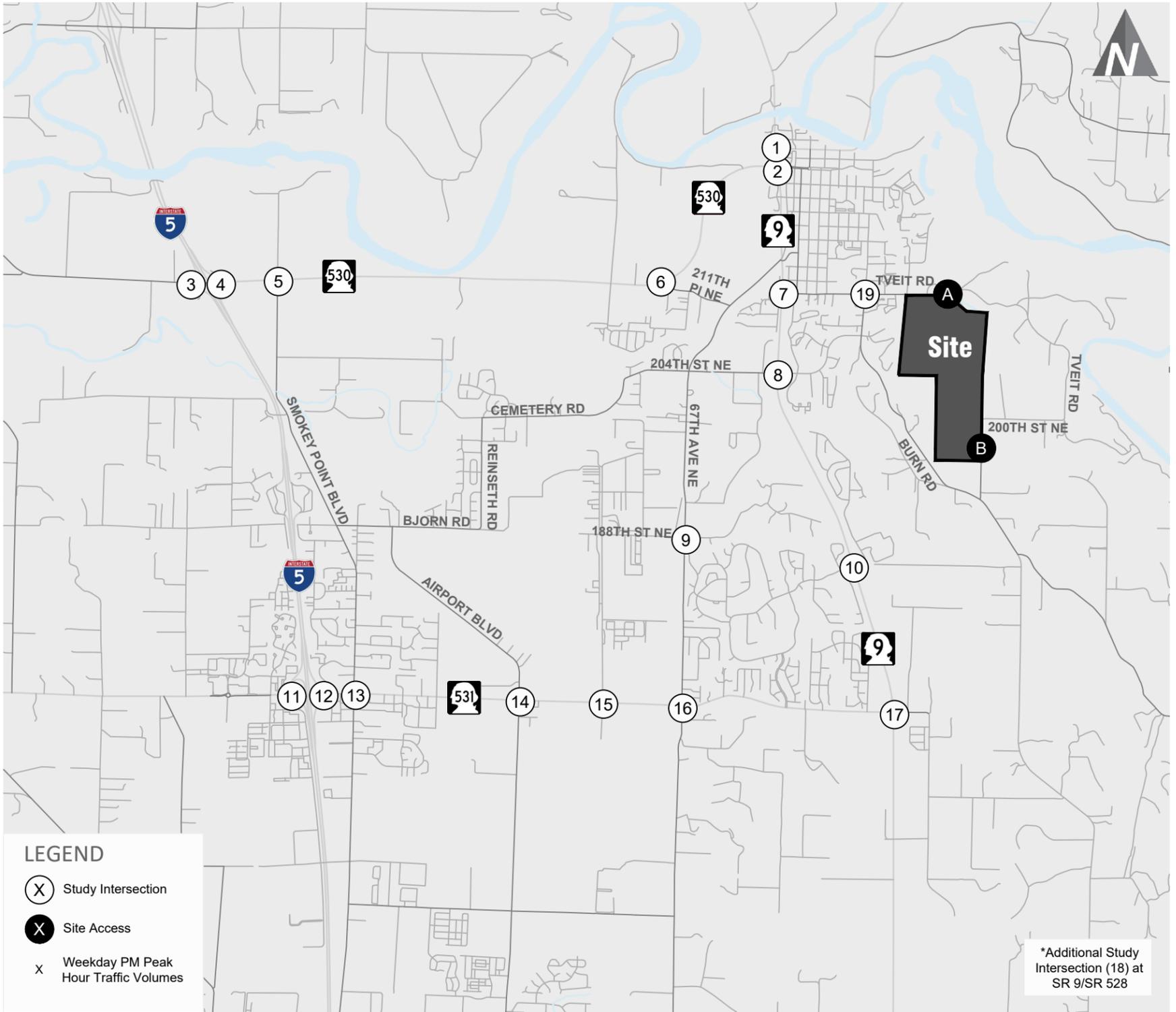
7



# Future (2037) With-Project PM Peak Hour Volumes

FIGURE

Arlington East Hill Residential



# Future (2044) With-Project PM Peak Hour Volumes

Arlington East Hill Residential

FIGURE

9

## 2037 Traffic Operations Impact

A future (2037) with-project level of service analysis was conducted for the weekday peak hour to analyze traffic impacts of the proposed project. The same methodologies were applied as described for existing and future without-project conditions. All intersection parameters such as channelization, intersection control, and signal timing were consistent with those used in the evaluation of future without-project conditions, including planned City of Arlington transportation improvements. A comparison of future (2037) without-project and with-project weekday peak hour traffic operations is summarized in Table 6. Detailed LOS worksheets are provided in Appendix C.

**Table 6. Future (2037) Without- and With-Project Weekday Peak Hour LOS Summary**

Intersection	Traffic Control	2037 Without-Project			2037 With-Project		
		LOS <sup>1</sup>	Delay <sup>2</sup>	V/C <sup>3</sup>	LOS	Delay	V/C
1. SR 9/E Burke Ave	Roundabout	A	9	0.74	B	10	0.77
2. SR 9/W Division St	Roundabout	B	11	0.68	B	12	0.74
3. I-5 SB Ramps/SR 530	Signal	<b>D</b>	<b>41</b>	-	<b>D</b>	<b>52</b>	-
4. I-5 NB Ramps/SR 530	Signal	<b>E</b>	<b>79</b>	-	<b>F</b>	<b>91</b>	-
5. Smokey Point Blvd/SR 530	Roundabout	B	12	0.97	B	20	1.04
6. 211th Place NE/SR 530	Roundabout	A	7	0.91	A	9	0.96
7. SR 9/E Highland Dr	Signal	<b>F</b>	<b>83</b>	-	<b>F</b>	<b>&gt;120</b>	-
8. SR 9/204th St NE	Signal	<b>F</b>	<b>&gt;120</b>	-	<b>F</b>	<b>&gt;120</b>	-
9. 67th Ave NE/188th St NE	Signal	A	9	-	A	10	-
10. SR 9/Eaglefield Dr	Signal	D	45	-	<b>E</b>	<b>58</b>	-
11. I-5 SB Ramps/SR 531	Signal	B	16	-	B	16	-
12. I-5 NB Ramps/SR 531	Signal	C	33	-	C	33	-
13. Smokey Point Blvd/172nd St NE (SR 531)	Signal	<b>F</b>	<b>&gt;120</b>	-	<b>F</b>	<b>&gt;120</b>	-
14. 51st Ave NE/172nd St NE (SR 531)	Roundabout	B	12	0.79	B	12	0.8
15. 59th Ave NE/172nd St NE (SR 531)	Roundabout	A	6	0.49	A	6	0.49
16. 67th Ave NE/172nd St NE (SR 531)	Roundabout	A	9	0.59	A	9	0.6
17. SR 9/172nd St NE (SR 531)	Roundabout	B	14	0.87	C	25	1.03
18. SR 9/SR 528	Signal	<b>F</b>	<b>81</b>	-	<b>F</b>	<b>86</b>	-
19. Stillaguamish Ave/E Highland Dr	AWSC	A	10	-	<b>E</b>	<b>38</b>	-
20. Site Access/Tveit Rd	Roundabout	-	-	-	A	6	0.57
21. 95th Ave NE/Site Access	TWSC	-	-	-	A	8	EB

Note: **BOLD** = operating below LOS standard for the intersection.

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 7th Edition)
2. Average delay per vehicle in seconds.
3. Volume-to-capacity ratio shown for roundabout intersections.

As shown in Table 6, the following study intersections are forecast to operate below the LOS standard in both 2037 without and with project conditions:

- 3. I-5 SB Ramps/SR 530
- 4. I-5 NB Ramps/SR 530
- 7. SR 9/E Highland Dr
- 8. SR 9/204th St NE
- 13. Smokey Point Blvd/172nd St NE (SR 531)
- 18. SR 9/SR 528

The following intersections are forecast to meet the LOS standard in 2037 without project traffic then operate below the LOS standard in 2037 with project traffic:

- 10. SR 9/Eaglefield Dr
- 19. Stillaguamish Ave/E Highland Dr

## 2044 Traffic Operations Impact

A future (2044) with-project level of service analysis was conducted for the weekday peak hour to analyze traffic impacts of the proposed project during the City of Arlington comprehensive plan forecast year. The same methodologies were applied as described for existing and future without-project conditions. All intersection parameters such as channelization, intersection control, and signal timing were consistent with those used in the evaluation of future without-project conditions, including planned City of Arlington transportation improvements. A comparison of future (2044) without-project and with-project weekday peak hour traffic operations is summarized in Table 7. Detailed LOS worksheets are provided in Appendix C.

**Table 7. Future (2044) Without- and With-Project Weekday Peak Hour LOS Summary**

Intersection	Traffic Control	2044 Without-Project			2044 With-Project		
		LOS <sup>1</sup>	Delay <sup>2</sup>	V/C <sup>3</sup>	LOS	Delay	V/C
1. SR 9/E Burke Ave	Roundabout	B	15	0.93	B	16	0.97
2. SR 9/W Division St	Roundabout	B	13	0.8	B	15	0.87
3. I-5 SB Ramps/SR 530	Signal	<b>F</b>	<b>82</b>	-	<b>F</b>	<b>97</b>	-
4. I-5 NB Ramps/SR 530	Signal	<b>F</b>	<b>&gt;120</b>	-	<b>F</b>	<b>&gt;120</b>	-
5. Smokey Point Blvd/SR 530	Roundabout	C	21	1.04	<b>D</b>	<b>44</b>	<b>1.16</b>
6. 211th Place NE/SR 530	Roundabout	B	11	0.97	C	21	1.03
7. SR 9/E Highland Dr	Signal	<b>F</b>	<b>&gt;120</b>	-	<b>F</b>	<b>&gt;120</b>	-
8. SR 9/204th St NE	Signal	<b>F</b>	<b>&gt;120</b>	-	<b>F</b>	<b>&gt;120</b>	-
9. 67th Ave NE/188th St NE	Signal	B	12	-	B	12	-
10. SR 9/Eaglefield Dr	Signal	<b>E</b>	<b>61</b>	-	<b>F</b>	<b>86</b>	-
11. I-5 SB Ramps/SR 531	Signal	C	25	-	C	25	-
12. I-5 NB Ramps/SR 531	Signal	<b>E</b>	<b>64</b>	-	<b>E</b>	<b>64</b>	-
13. Smokey Point Blvd/172nd St NE (SR 531)	Signal	<b>F</b>	<b>&gt;120</b>	-	<b>F</b>	<b>&gt;120</b>	-
14. 51st Ave NE/172nd St NE (SR 531)	Roundabout	B	16	0.9	B	17	0.92
15. 59th Ave NE/172nd St NE (SR 531)	Roundabout	A	6	0.57	A	6	0.58
16. 67th Ave NE/172nd St NE (SR 531)	Roundabout	A	10	0.64	B	10	0.66
17. SR 9/172nd St NE (SR 531)	Roundabout	C	22	1	D	39	1.17
18. SR 9/SR 528	Signal	<b>F</b>	<b>&gt;120</b>	-	<b>F</b>	<b>&gt;120</b>	-
19. Stillaguamish Ave/E Highland Dr	AWSC	B	11	-	<b>F</b>	<b>55</b>	-
20. Site Access/Tveit Rd	Roundabout	-	-	-	A	6	0.52
21. 95th Ave NE/Site Access	TWSC	-	-	-	A	8	EB

Note: **BOLD** = operating below LOS standard for the intersection.

1. Level of Service (A – F) as defined by the *Highway Capacity Manual* (TRB, 7th Edition)
2. Average delay per vehicle in seconds.
3. Volume-to-capacity ratio shown for roundabout intersections.

As shown in Table 7, the following study intersections are forecast to operate below the LOS standard in both 2044 without and with project conditions:

- 3. I-5 SB Ramps/SR 530
- 4. I-5 NB Ramps/SR 530
- 7. SR 9/E Highland Dr
- 8. SR 9/204th St NE
- 10. SR 9/Eaglefield Dr

12. I-5 NB Ramps/SR 531
13. Smokey Point Blvd/172nd St NE (SR 531)
18. SR 9/SR 528

The following intersections are forecast to meet the LOS standard in 2044 without project traffic then operate below the LOS standard in 2044 with project traffic:

5. Smokey Point Blvd/SR 530
19. Stillaguamish Ave/E Highland Dr

## Site Access Evaluation

Access to and from the project site would be provided via 2 full accesses on Tveit Road (212th Street) and 2 full accesses on 95th Avenue NE. Because the northwest access on Tveit Road and south access on 95th Avenue NE would be along segments of existing roadways, operations at these intersections are summarized below.

Weekday PM peak hour traffic operations were evaluated under 2037 and 2044 with-project conditions based on the same methodology as noted above for the off-site study intersections. With a proposed roundabout improvement at the Tveit Road access and two-way stop control at the 95th Avenue NE access, the analysis shows the intersections are forecast to operate at LOS A (see Table 7). Detailed LOS worksheets are provided in Appendix C.

## Mitigation

The project would pay traffic impact fees. As noted above, the proposed project would construct up to 646 single family homes and 133 townhomes, resulting in a PM peak hour trip generation of 650 trips. Based on the City of Arlington Impact and Mitigation Fees (Revised 12/2020), the traffic impact fee for projects within the City of Arlington is \$3,355 per PM peak hour trip. In total, the required traffic impact fee for the project is anticipated to be \$2,180,750. The final fee will be calculated by City of Arlington staff at time of permit issuance.

Mitigation requirements and measures at off-site intersections forecast to operate below their respective LOS standards will be coordinated with the City of Arlington and WSDOT.

## Findings and Recommendations

This traffic impact analysis summarizes the project traffic impacts of the proposed Arlington East Hill Residential Development. General findings and recommendations include:

- The proposed project would construct up to 646 single family homes and 133 townhomes.
- The development is anticipated to generate 6,574 weekday daily trips with 471 occurring in the AM peak hour and 650 occurring in the PM peak hour
- Several study intersections are forecast to operate below their respective LOS standards under future (2044) without and/or with project conditions. Mitigation measures and requirements at these locations will be coordinated with the City of Arlington and WSDOT.
- The required traffic impact fee for the project is anticipated to be \$2,180,750. The final fee will be calculated by City of Arlington staff at time of permit issuance.

## Appendix A: Traffic Counts

## Appendix B: LOS Definitions

## Appendix C: LOS Worksheets

## Appendix D: Detailed Trip Generation