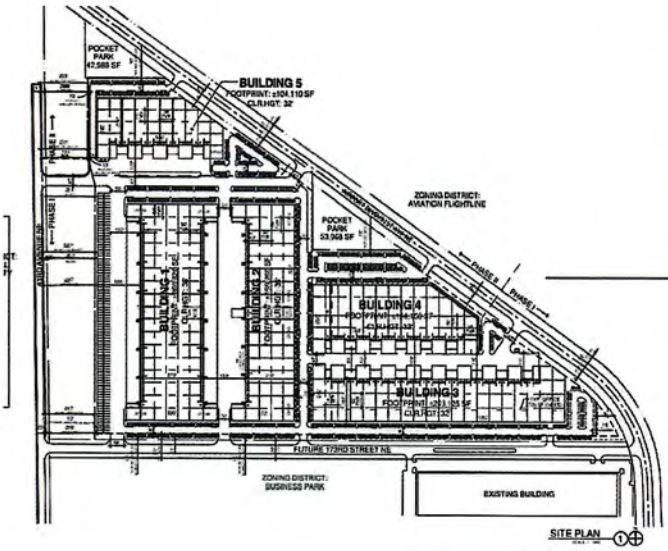
Arlington

ARLINGTON AIR INDUSTRIAL PARK NORTH
TRAFFIC IMPACT ANALYSIS

June 24, 2022



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June 24, 2022

SMARTCAP CRE VALUE FUND 3, LLC
Attn: Robert Shipley, Director of Development
8201 164th Ave. NE, Ste 110
Redmond, WA 98052

Re: Arlington Air Industrial Park North – Arlington
Traffic Impact Analysis

Dear Mr. Shipley,

I have prepared this Traffic Impact Analysis for an Industrial Park project providing up to ~921,465 sf of industrial space in five buildings, to be constructed in two phases. The site is located in the northwest corner of the Airport Boulevard/51st Ave. NE and the future 173rd St. NE intersection. The site is envisioned to be constructed in two phases. Access to the site would be Airport Boulevard (4-driveways) and 173rd St. NE (4-driveways).

Voice and e-mail correspondence with the City, e-mail dated February 22, 2022 in Appendix A, identified the following intersections to be studied:

1. 188th St. NE at Smokey Point Blvd.
2. 188th St. NE at Airport Blvd.
3. 172nd St. NE at SR-5 SB ramps
4. 172nd St. NE at SR-5 NB ramps
5. 172nd St. NE at Smokey Point Blvd.
6. 172nd St. NE at 40th Ave. NE (signal under construction)
7. 172nd St. NE at 43rd Ave. NE
8. 172nd St. NE 51st Ave. NE
9. 172nd St. NE at 59th Ave. NE
10. 172nd St. NE at 67th Ave. NE
11. 51st Ave. NE at 168th St. NE (roundabout under construction)

In addition the site access intersections, site traffic consolidated at two locations to ensure a conservative review:

A. 43rd Ave. NE at 173rd St. NE
B. 51st Ave. NE at 173rd St. NE

The following are also included:

- City TIF rate is $5,841.39 per new PMPHT, Cascade Industrial Center per Ordinance #2021.002.

- Prepare interlocal forms for Snohomish County and WSDOT, as applicable. Appendix C.

I have inspected the site and surrounding street system. The general format of this report is to describe the proposed project, identify existing traffic conditions (baseline), project future traffic conditions and identify Agency street/road improvements (future baseline), calculate the traffic that would be generated by the project and then add it to the future baseline traffic volumes. Operational analyses are used to determine the specific project traffic impact and appropriate traffic mitigation measures to mitigate the project traffic impact.

Heath & Associates Traffic and Civil Engineering was retained to help facilitate the preparation of this report. Their involvement primarily included: graphics support, the base Synchro Traffic Model and identifying site traffic to County Key intersections.

The **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS** begin on page 20 of this report. The referenced report Tables and Figures are at the end of the report before the appendix.

PROJECT INFORMATION

Figure 1 (referenced Figures and Tables at end of report) is a vicinity map which shows the location of the site and its surrounding street system. An aerial view of the project site obtained from Snohomish County SCOPI is shown below:

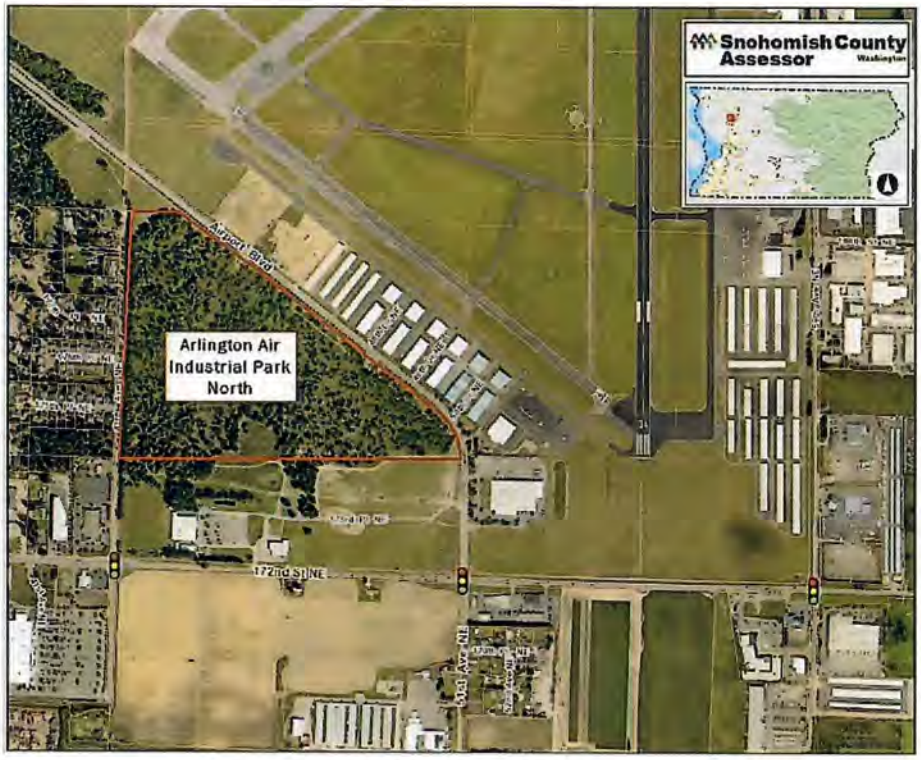


Figure 2 shows a Conceptual Site Plan prepared by Ware Malcomb dated 02.02.2022. The plan depicts five industrial buildings providing ~921,465 sf of building area, internal circulation, 218 truck dock high doors, 44 drive up doors (ramps), 84 trailer parking stalls and parking for 1,006 cars including 32 accessible stalls. Access to the site is proposed via three driveways on Airport Boulevard and four driveways on 173rd Street Northeast (future).

Development and occupancy of the proposed Arlington Air Industrial Park North project is anticipated to occur over a period of several years, presuming the permits are issued in a timely manner. The horizon year used in this analysis is 2027 that ensures a conservative review.

EXISTING ENVIRONMENT

Project Site

The proposed project is in the Cascade Industrial Center Planned Action Area and is located southwest of Airport Road, north of 173rd St. NE (Future Street) and east of 43rd Avenue Northeast. Currently the site is undeveloped.

Street System

Figure 3-2 'Functional Classification" in the City of Arlington 2035 Transportation Plan, 2017 Update dated 09.25.2017 is depicted below:

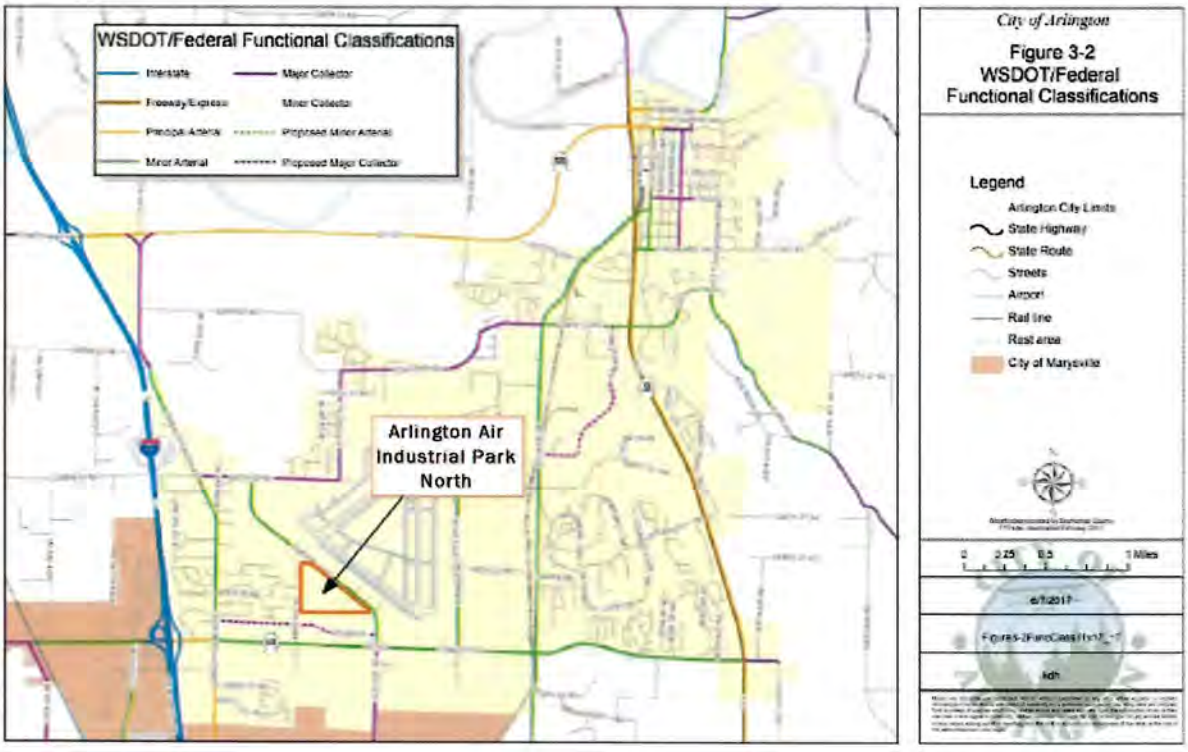
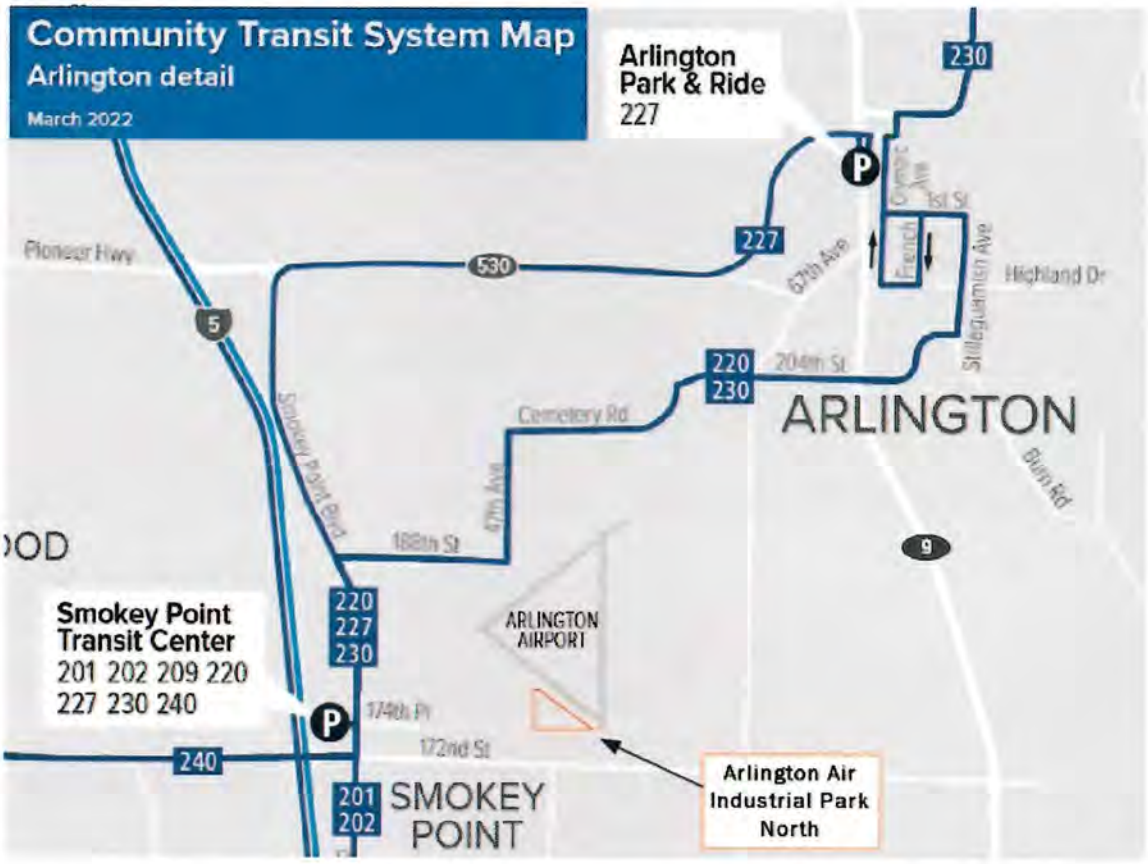


Figure 3 shows the existing traffic control, number of street lanes, number of approach lanes at the intersections affected by site traffic and or near the site and other pertinent information.

Pedestrian/Bike Facilities/Transit Service (general)

Pedestrian facilities exist on Airport Boulevard, a paved path on the west side and a sidewalk on the east side. Bike lanes are also provided on Airport Road. A sidewalk exists on the west side of 43rd Ave. NE with a gap between ~173rd & 175th Place Northeast. Figure 3 provides additional information on pedestrian facilities.

Community Transit provides transit service to Arlington. The Community Transit System Map for Arlington identifies the nearest transit service is along Smokey Point Blvd about a mile to the west of the site, see map below:



As the site area develops it is likely transit service would be expanded to provide service closer to the site. More information on Transit Service in the site area is available at https://www.communitytransit.org/busservice/system-maps.

Traffic Volumes

Figure 4 shows the existing PM peak hour traffic volumes at the study intersections. Traffic Data Gathering, a firm specializing in the collection of traffic data, conducted PM peak period turning movement counts at the study intersections. Data was not collected at the following intersections:

6. 172nd St. NE at 40th Ave. NE, a new traffic control signal is under construction. Projected 2022 traffic data gleaned from City of Arlington 172nd St. NE and 40th Ave. NE - Intersection Control Analysis dated May 4, 2018 used
7. 172nd St. NE at 43rd Ave. NE, Proxy Roxy construction activity affected traffic, pre-Covid 2019 WSDOT data used
11. 51st Ave. NE at 168th St. NE, a roundabout is under construction

The count data sheets are attached in the Appendix A.

Intersection Operations

Traffic engineers have developed criteria for intersection operations called level of service (LOS). The LOS are A to F with A and B being very good and E and F being more congested. LOS C and D correlate to busy traffic conditions with some restrictions to the ability to choose travel speed, change lanes and the general convenience comfort and safety.

The procedures in the Transportation Research Board Highway Capacity Manual, HCM 6th were used to calculate the level of service at the study intersections. The following table depicts the LOS and corresponding average delay in seconds at signalized and stop control intersections:

Intersection Type	Level of Service					
	A	B	C	D	E	F
Signalized	<10	>10 and <20	>20 and <35	>35 and <55	>55 and <80	>80
Stop Control	<10	>10 and <15	>15 and <25	>25 and <35	>35 and <50	>50

LOS Analysis Software

The LOS of the study intersections were calculated using the Synchro Traffic Analysis software, Version 10.

LOS Analysis Criteria

Arlington:

I understand that the City of Arlington LOS standard is 'D'.

WSDOT:

The WSDOT urban LOS standard is D. SR – 531 is designated as a Tier 2 LOS, see graphic below:

Tier	LOS Standard	Description
1	LOS "E/mitigated"	Tier 1: For this process, the "inner" urban area is generally defined as a 3-mile buffer around the most heavily traveled freeways (I-5, I-405, SR 167, SR 520, and I-90), plus all designated urban centers (most are located in the freeway buffer already). The standard for Tier 1 routes is LOS "E/mitigated," meaning that congestion should be mitigated (such as transit) when p.m. peak hour LOS falls below LOS "E."
2	LOS "D"	Tier 2: These routes serve the "outer" urban area - those outside the 3-mile buffer - and connect the "main" urban growth area (UGA) to the first set of "satellite" UGA's (e.g., SR 410 to Enumclaw). These urban and rural areas are generally farther from transit alternatives, have fewer alternative roadway routes, and locally adopted LOS standards in these areas are generally LOS "D" or better. The standard for Tier 2 routes is LOS "D."
3	LOS "C"	Tier 3: Rural routes are regionally significant state routes in rural areas that are not in Tier 2. The standard for rural routes is LOS "C," consistent with the rural standard in effect for those routes once they leave the four counties in the PSRC region, such as SR 530 entering Skagit County.

LOS Results

Table 1 (end of report prior to figures) tabulates the results of my LOS calculations of the study intersection and the site access intersection. The study intersections currently meet the City's operational standard. The LOS calculations are contained in Appendix B

Incident/Safety History

I requested and obtained accident data from the WSDOT for the five year time frame 01.01.2017 to 12.31.2021; available via e-mail request at jaketraffic@comcast.net (refn. JTE, Inc. project #2023.023). In addition, the WSDOT accident data portal available online at https://remoteapps.wsdot.wa.gov/highwaysafety/collision/data/portal/public/ was inspected.

Daily traffic volumes are estimated using the collected PM peak hour traffic and a "K" factor of 10. A "K" factor of 10 is typical and corresponds to the PM peak hour traffic comprising 10% of the daily traffic volume. Table 2 shows the Incident Severity and Accident Rates (per million entering vehicles) for the study road/street intersections:

TABLE 2 - RECORDED INCIDENT DATA
ARLINGTON AIR INDUSTRIAL PARK NORTH - ARLINGTON
TRAFFIC IMPACT ANALYSIS

Intersection	Incident Severity					Total Incidents (5-years)	Entering PMPHT	Accident Rate	Comments
	A	B	C	D	E				
1. 188th St. NE at Smokey Point Blvd	9	3	1	0	**1**	14	1,052	0.73	**under the influence**
2. 188th St. NE at Airport Blvde.	1	0	0	0	0	1	721	0.08	-
3. 172nd St. NE at SR - 5 SB ramp	15	5	0	0	0	20	3,777	0.29	-
4. 172nd St. NE at SR - 5 NB ramp	26	6	2	0	0	34	4,218	0.44	-
5. 172nd St. NE at Smokey Point Blvd.	63	17	1	0	0	81	4,264	**1.04**	-
6. 172nd St. NE at 40th Ave. NE	9	2	0	0	0	11	2,000	0.30	estimated traffic
7. 172nd St. NE at 43rd Ave. NE	16	3	0	1	0	20	2,260	0.48	-
8. 172nd St. NE at 51st Ave. NE	29	11	1	**2**	0	43	2,073	**1.14**	-
9. 172nd St. NE at 59th Ave. NE	7	3	0	0	0	11	1,819	0.33	one - unknown
10. 172nd St. NE at 67th Ave. NE	16	5	3	0	0	24	2,162	0.61	-
11. 168th Ave. NE at 51st Ave. NE	0	0	0	0	0	0	600	0.00	estimated traffic

A - Property Damage; B - Possible Injury; C - Suspected Minor Injury; D - Suspected Serious Injury; E - Fatality
Accident rate per million entering vehicles

The accident rates noted in the above table are per million entering vehicles. An accident rate of less than one is generally considered to indicate that an intersection is operating satisfactorily, one to two is typical, and over two requires further review. Two intersections are noted to have accident rates greater than one, #5 172nd Ave. NE at Smokey Point Blvd. and #8 172nd Ave. NE at 51st Avenue Northeast.

Further inspection at the 172nd St. NE at Smokey Point Blvd. indicated showed 31-rear end and 15 side swipe type incidents typically indicative of high traffic volume intersection.

There were two serious injury incidents at the 172nd St. NE at 51st St. NE intersection. WSDOT has a highway improvement project, discussed in the next section of this report that encompasses this intersection. The planned improvement is widening and a roundabout that would be anticipated to improve safety.

There was one fatal incident at the 188th St. NE at Smokey Point Blvd that occurred 11.15.2017 a rainy evening and involved a driver under the influence of alcohol.

Summarizing – With the WSDOT planned improvement at the 172nd St. NE at 51st St. NE intersection the study intersections no apparent safety issue is noted.

STREET IMPROVEMENT PROJECTS

Arlington

The City of Arlington's Transportation 2035 Plan, 2017 Update was reviewed for planned street improvements in site vicinity. A portion of Figure 6-1 Proposed 2035 Transportation Improvement Projects from City of Arlington is depicted below:

The City's 2035 planning includes a number of projects in the site vicinity. Tables 6-1 and 6-2 Transportation 2035 Plan, 2017 Update includes project descriptions, attached in the appendix.

WSDOT

Exhibit C (copy included in the report appendix) from the Snohomish County/WSDOT Interlocal Agreement, Exhibit "C" Revised Calcs Amendment #4 notes the following project in the vicinity of the proposed project.

- SR – 531: 43rd Ave. NE to 67th Ave. NE, Widen to 5-lanes. This project is identified for Design/Construction in 2014 (that did not happen). The noted contribution rate is $200.50 per daily trip.

Review of the WSDOT online data shows the project as funded, $39,300,000. The data below is as of May 2022:

SR 531 - 43rd Ave. NE to 67th Ave. NE - Widening

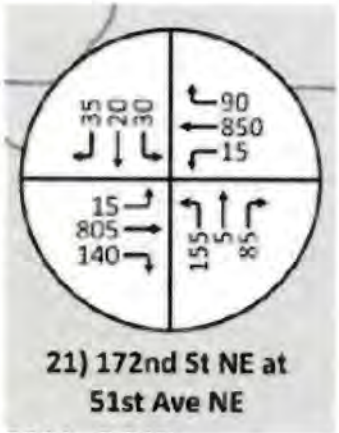
Project overview: This section of SR 531 between 43rd Avenue Northeast and 67th Avenue northeast in Arlington will be widened to add a second lane in each direction. In addition, roundabouts will be added at four intersections to improve safety, travel times and reduce congestion.

Timeline: July 2019 - Fall 2024
Project status: Pre-construction
Funding: $39.3 Million

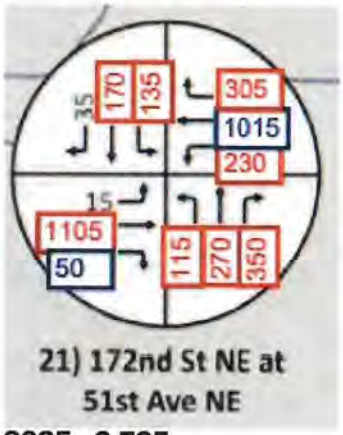
HORIZON YEAR CONDITIONS "WITHOUT" THE PROJECT

Figure 5 shows the projected 2027 PM peak hour traffic volumes "without" the project. These volumes include the existing traffic volume counts plus background growth. A growth factor of three percent per year was applied for five years, per correspondence with the City.

The growth rate derived via comparing 2011 PM peak hour traffic volume (Figure 3-11) to 2035 traffic data with improvements (Figure 6-3) in the City of Arlington Transportation 2035 Plan, 2017 Update at the 204th St. NE at 67th Ave. NE intersection is about two percent per year, see data below:



2011: 2,245



2035: 3,795

In addition to the three percent per year growth, the traffic generated by the Proxy Roxy Project, a 2,821,987 sf fulfillment center warehouse generally located on the south side of SR-531 between 43rd and 51st Avenues NE is added to the future traffic. Pertinent data from the Proxy Roxy Traffic Impact Analysis documents conducted by TENW are included in the Appendix.

TRIP GENERATION AND DISTRIBUTION

Definitions

A vehicle trip is defined as a single or one direction vehicle movement with either the origin or destination (exiting or entering) inside the proposed development.

Traffic generated by development projects consists of the following types:

Pass-By Trips:	Trips made as intermediate stops on the way from an origin to a primary trip destination.
Diverted Link Trips:	Trips attracted from the traffic volume on a roadway within the vicinity of the generator but which require a diversion from that roadway to another roadway in order to gain access to the site.
Captured Trips:	Site trips shared by more than one land use in a multi-use development.
Primary (New) Trips:	Trips made for the specific purpose of using the services of the project.

Trip Generation

The proposed Arlington Air Industrial Park North project is expected to generate the vehicular trips during the average weekday, street traffic AM and PM peak hours as shown in Table 3. The trip generation is calculated using average trip rates in the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, for Industrial Park (ITE LUC 130). All site trips made by all vehicles for all purposes, including commuter, visitor, and service and delivery vehicle trips are included in the trip generation values.

The ITE definition for LUC 130 is:

> *"An industrial park contains several individual industrial or related facilities. It is characterized by a mix of manufacturing, service, and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Many industrial parks contain highly diversified facilities. Some parks in the database have a large number of small businesses and others have one or two dominant industries. General light industrial (Land Use 110) and manufacturing (Land Use 140) are related uses."*

Table I.1 Truck Trip Generation Information makes reference to the ITE Trip Generation Manual 9th Edition Volume 1: User's Guide and Handbook provide truck trip generation rate data. Tables A.4, A.5 and A.6 in this resource provide truck trip generation rates. The projected truck information has been incorporated into Table 2.

There would be some pass-by trips such as mail/service delivery type trips that already service the site area, per City no adjustment taken to account for the existing service/delivery trips in the site area taken

TABLE 3 - TRIP GENERATION
ARLINGTON AIR INDUSTRIAL PARK NORTH - ARLINGTON
TRAFFIC IMPACT ANALYSIS

Time Period	Size (X)	TG Rate	Enter %	Enter Trips	Exit %	Exit Trips	Trip Total (T)*	2-3 axle trucks TG Rate	Total 2-3 Axle	4-6 axle Trucks TG Rate	Total 4-6 Axle Trucks
Proposed Phase I: Industrial Park (ITE LUC 130; 663,205 sf) - Buildings #1, 2 & 3											
Weekday	663,205	3.37	50%	1,118	50%	1118	2,235	0.21	139	0.15	99
AM peak hour	663,205	0.34	81%	183	19%	43	225	0.01	7	0.00	0
PM peak hour	663,205	0.34	22%	50	78%	176	225	0.02	13	0.02	13
Proposed Phase II: Industrial Park (ITE LUC 130; 258,260 sf) - Buildings #4 & 5											
Weekday	258,260	3.37	50%	435	50%	435	870	0.21	54	0.15	39
AM peak hour	258,260	0.34	81%	71	19%	17	88	0.01	3	0.00	0
PM peak hour	258,260	0.34	22%	19	78%	68	88	0.02	5	0.02	5
Total Site Traffic: Phase I + Phase II											
Weekday	--	--	--	1,553	--	1,553	3,105	--	194	--	138
AM peak hour	--	--	--	254	--	60	313	--	9	--	--
PM peak hour	--	--	--	69	--	244	313	--	18	--	18

where X = units or 1,000 sf; T = Trips

* - Total site traffic including trucks

Notes:

1. Trip generation per the Institute of Transportation Engineers Trip Generation Manual 11th Edition
2. Truck trip rates are per Table I.1 Truck Trip Generation Information TGM 11th Edition that makes reference to the ITE Trip Generation Manual 9th Edition Volume 1: User's Guide and Handbook provide truck trip generation rate data, reference Tables A.4, A.5 and A.6
3. Due to rounding some values may not add up

Based on my analysis, I calculate the Arlington Air Industrial Project at full build-out to be 3,105 daily trips, 313 AM peak and 313 PM peak hour trips including trucks. During the PM peak hour about 36 of the 313 total trips would be truck trips with half being 2-3 axles and the other half 4-6 axle.

Trip Distribution

Figure 6 shows the project generated trips assigned to the adjacent street system per the characteristics of the street network, existing traffic volume patterns, the location of likely trip origins and destinations (residential, schools, employment, shopping, social and recreational opportunities).

HORIZON YEAR CONDITIONS "WITH" THE PROJECT

Traffic Volumes

Figures 7 shows the projected 2027 PM peak hour traffic volumes "with" the proposed project at the analysis intersections. The site generated PM peak hour traffic volumes shown on Figure 6 were added to the projected background traffic volumes shown on Figure 5 to obtain the Figure 7 volumes.

Level of Service

Table 1 shows the calculated LOS for the horizon year (2027) "with" and "without" project conditions at the analysis intersections. The study intersections are all projected to operate at LOS 'D' and better with the project except intersection #7 NE 172nd St. at 43rd Ave. NE that is projected to operate at LOS 'E'. WSDOT has a programmed project that includes the intersection that is anticipated to be completed in 2024. With the WSDOT project completed the LOS at NE 172nd St. at 43rd Ave. NE improves to 'D'.

The site has a number of accesses to the City's existing and future street grid. I analyzed these intersections via assigning all site traffic to two locations, A 43rd Ave. NE at 173rd St. NE and B 51st Ave. NE at 173rd St. NE to ensure a conservative review. From the analysis conducted the site accesses would operate acceptably.

The City requested analysis of 51st Ave. NE at 168th St. NE to be conducted. The intersection is under construction during the preparation of this report. The improvement is a roundabout and based on the available traffic data I can deduce that it would operate acceptably.

Other: The traffic operations noted in Proxy Roxy Traffic Impact Analysis conducted by TENW, pertinent data included Appendix A, projected that the Smokey Point Blvd at 172nd St NE to operate at LOS 'F' just above the LOS 'E' threshold delay value. This report also noted LOS 'E at 172nd St. NE at 43rd Ave. NE, 51st Ave. NE and at 67th Avenue Northeast. The traffic data used in this report was collected in 2020 and the PM data was factored up 25% to account for traffic affect of the COVID pandemic. This 25% factor appears to have been overly conservative.

TENW conducted TIA Addendums dated 11.20.2020 and 01.25.2021 to address the Smokey Point Blvd. at 172nd St. NE intersection operation. Improvement options explored were to add east and westbound left turn lanes and roundabout options. Table 3 from the TENW report is below:

The resulting weekday PM peak hour LOS summary for each of the options is summarized in **Table 3**.

Table 3
Smokey Point Blvd / 172nd Street NE – PM Peak Hour LOS Summary

Study Intersection	2022 With Project Roxy LOS	2022 With Project Roxy Delay (sec)
Existing Signalized Intersection	F	86.5
Lane Channelization and Modifications to Existing Signal:		
1. Dual EB/WB Left-Turns (removal of one WB through lane)	E	74.7
2. Dual EB/WB Left-Turns (maintain three WB through lanes)	D	52.8
New Multilane Roundabout		
3. Two Circulating Lanes (no right-turn bypass lanes)	F	137.1
4. Two Circulating Lanes (right-turn bypass lanes on all legs)	D	55.0
5. Three Circulating Lanes	E	60.7

TENW

January 25, 2021
Page 6

My analysis indicates that the Smokey Point Blvd at 172nd St. NE intersection would operate acceptably, LOS 'D', in 2027 with the Airport Air Industrial Park North fully developed. The intersection has right turn lanes on all approaches, dual northbound to westbound left turn three westbound approach lanes and dual through lanes on all the other approaches. The intersection is well developed and I do not believe warrants improvements; and in fact many Agencies acknowledge some intersections as fully developed and at ultimate capacity.

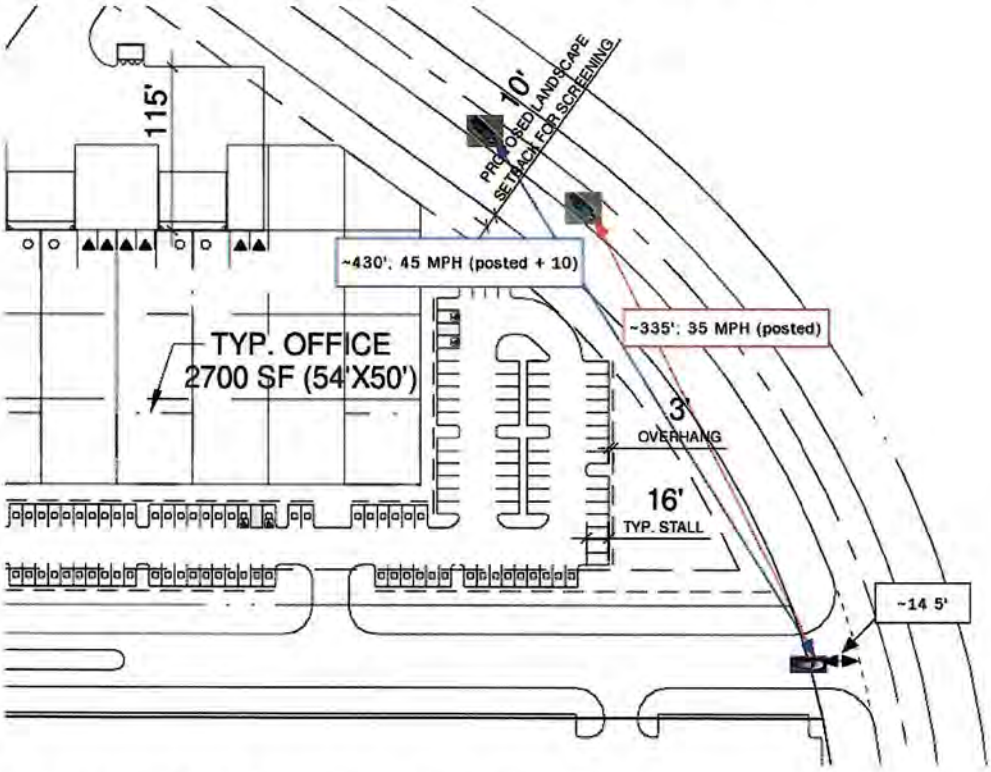
173rd Street Northeast

The development of the 173rd Street NE from 43rd to 51st Avenue NE is a part of the proposed development. I have inspected the planned street improvement, see plans located after Figure 2. The plan is a 3-lane 36' wide street (left turn channelization/planter median) with an 8' sidewalk on one side and 12' trail on the other. The street would provide left and right turn approach lanes at the endpoint intersections that would also be 'Stop' control.

Inspection of the of the 173rd Street NE access at 51st Ave. NE indicates that a portion of the existing median would need to be removed to provide for a northbound to east bound left turn pocket.

Horizontal curvature to the north of 173rd St. NE on 51st Ave. NE affects the sight lines. The required **Stopping Sight Distance** for a 35 MPH speed per the American Association of State Highway and Transportation Officials "A Policy on Geometric Design of Highways and Streets" is **250 feet**. The Entering Sight Distance is **335** and 390 feet for a right turn and left turn from a stop, respectively. AASHTO identifies **SSD** as the critical sight line to be provided, see Section 9.5.1 attached in the Appendix. An appropriate sight line easement in the northwest

corner of the intersection would be required. Below is a general sketch of the sight line easement for 35 MPH (posted limit) and 45 MPH posted + 10 MPH.



AGENCY TRAFFIC IMPACT MITIGATION REQUIREMENTS

City of Arlington

The City has a Citywide Traffic Impact Fee per AMC 20.90.040(a) with a rate of $3,355 per net new PM peak hour trip. In addition per Ordinance #2021.002 projects located in the Cascade Industrial Center Planned Action Area pay an additional fee of $5,841.39 per new PMPHT. Table 4 depicts the projected TIF for the project for Phase I and II and at build-out per the 2022 fee rates.

TABLE 4 - TRAFFIC IMPACT FEE
ARLINGTON AIR INDUSTRIAL PARK NORTH - ARLINGTON
TRAFFIC IMPACT ANALYSIS

Use	PMPHT's	Citywide TIF	Calculated City	CIC TIF*	Calculated CIC	Total TIF
Phase I	225	$ 3,355.00	$ 756,518	$ 5,841.39	$ 1,317,173	$ 2,073,691
Phase II	88	$ 3,355.00	$ 294,597	$ 5,841.39	$ 512,923	$ 807,520
Total			$ 1,051,115		$ 1,830,096	**$ 2,881,212**

Citywide TIF per AMC 20.90.040(a)
* - Cascade Industrial Center per City Ordinance 2021.002

The Transportation 2035 Plan, 2017 Update includes a new east west street, 173rd St. NE, between Airport Way and 43rd Ave. NE as well as improvements to 43rd Avenue Northeast. The TIF cost basis includes these two projects as such a credit against the TIF assessment for street improvements to both 173rd St. NE and 43rd Ave. NE should apply.

Review of the City Notice of Decision for Smartcap Arlington Airport Preliminary Binding Site Plan Zoning Permit Decision PLN 942 dated June 8, 2022 and Smartcap Arlington Airport Building B Site Plan Review PLN 941 dated June 13, 2022 identified that in lieu of paying the CIC TIF the amount could be applied for constructing improvements to 43rd Ave. NE and 173rd St, both are identified street improvements. The proposed Arlington Air Industrial Park North project would also be constructing improvements to 43rd Ave. NE and 173rd St. NE that are included in the Transportation 2035 Plan. Applying the CIC TIF and City TIF to constructing the identified street improvements consistent with the Transportation 2035 Plan and prior City Decision should apply.

Side note: In my review of Table B.3-1 Summary of Mitigation and Action Alternative Pro-Rata Cost I note that the costing included improvements to SR-531 between 43rd and 67th Avenues NE, see below:

Table B.3 -1. Summary of Mitigation and Action Alternative Pro-Rata Cost

Location	Improvement	Estimated Total Cost (Million $)[1]	Existing Intersection Vehicle Volumes[2]	2040 Action Alternative 2 Intersection Vehicle Volumes[2]	Total Volume Increase[3]	Percent Pro-Rata Share[4]	Pro-Rata Cost (Million $)[5]
SR 531 between 43rd Avenue NE and 67th Avenue NE	Widening SR 531 from 2 to 4-lanes with intersection improvements such as roundabouts at major intersections. Multiuse paths constructed along SR 531	$39.3	10,660	14,355	3,695	25.7%	$10.1
SR 531 between							

The SR-531 between 43rd and 67th Avenues NE is already funded and thus included the cost associated with this improvement appears inconsistent with verbiage in the Interlocal Agreement between the State and City that notes projects that are funded do not require proportionate share payments. See below:

Per the Interlocal Agreement item 5.2 d) the above noted project is funded and underway.

d) The STATE will notify the COUNTY of the date that projects identified in Exhibit C have been advertised for bids for construction (i.e., "Ad Date"). The STATE will not request proportionate-share mitigation for a development's impacts to any STATE project whose Ad date comes before the development's regulatory completeness date. Likewise, The COUNTY will not recommend as a condition of development approval, proportionate share obligations for impacts to any STATE projects whose Ad Date comes before the development's regulatory completeness date.

Snohomish County

An interlocal agreement between the City of Arlington and the County exists regarding traffic mitigation. Section 3(b) of the County/City worksheet requires the distribution of site generated AM and PM peak hour trips down to 3-directional peak hour trips. The Key Intersections in the site area are shown in the following map below:

Figures 8A and 8P show the site generated AM and PM peak hour traffic at County Key intersections, respectively. The turning traffic at the Key I/S's are tabulated and included in Appendix A to this report.

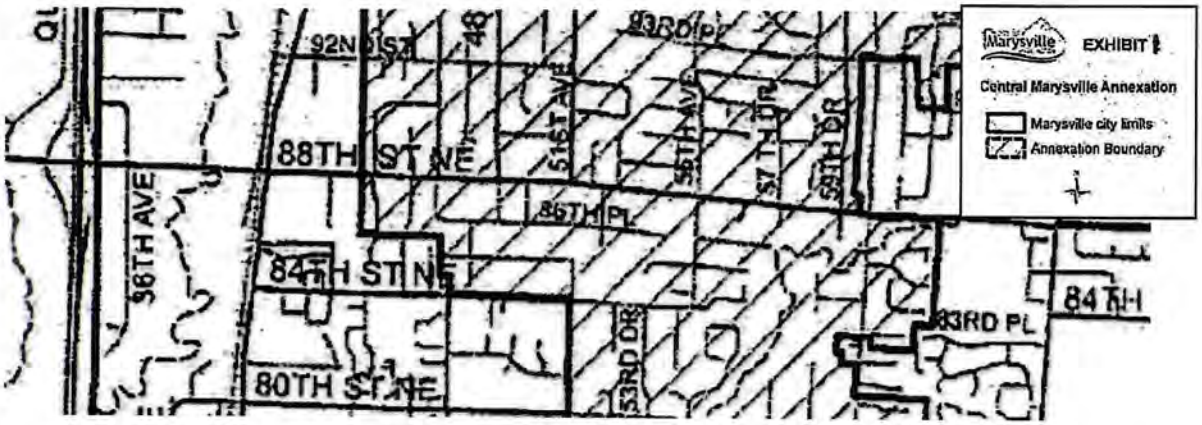
Attached to this report is a Traffic Mitigation Offer to Snohomish County worksheet for the project. The County has two mitigation options, one based on a percent of the County fee and two payment based on a Comprehensive Traffic Study. Option 2(a) is a proportionate payment determined by percentage to County Impact Fee program. **Option 2(b) Comprehensive Traffic Study is chosen.** Per the County/City worksheet the proportionate share payment to County projects is based on PM peak hour trips affecting County planned improvements identified in the Transportation Needs Report.

There are three County projects noted in TSA 'A'

TNR Appendix D: Impact Fee Cost Basis

Road Name / Limits	Column 1 Project Cost ($1,000s)	Column 2 CD %	Source of Cost Estimate	Project Type	TNR ID##
TSA A					
67 Ave NE / 152 St NE	$5,394	100%	TNR Cost Model	Major Intersection	INT-007
88 St NE Marysville C/L to Marysville C/L	$2,855	100%	Marysville Interlocal Agreement	Major Widening	W-017
140 St NE / 23 Ave NE	$3,498	100%	2015 TE Costs	Major Intersection	INT-006
Subtotal TSA A		**$11,747**			

Review of the TNR the 88th St. NE is the section annexed into the City via Ordinance #2792 that is generally between 44th Ave. NE and 59th Dr. NE; see below section of Exhibit 1:



The County project at 67th Ave. NE at 152nd St. NE is projected to be affected by three or more PM peak direction trips. Per Option 2(b) a proportionate share payment to this project would be required. The County's proportionate share is based on the project PM peak hour trips affected the affected County project divided by the chargeable capacity. I reached out to the County to better acquaint myself with the methodology they use.

The data required:

- Existing turning movement count, the County provided a count conducted 05.22.2022 at the subject intersection.
- Ascertaining existing reserve capacity for Maximum Service Volume (MSV) using DPW Rule 4224
- New capacity provided by the proposed improvement
- Chargeable capacity
- Site PM peak hour trips affecting the improvement, 12 PMPHT's
- Cost of the County improvement, $5,394,000

Inspection of County Urban Growth Area for Arlington and Marysville indicate that the 67th Ave. NE at 152nd St. NE intersection is outside the UGA boundary. County code data contained in SCC30.66B.101 & 30.66B.102 indicates a MSV based on LOS 'D' for a Rural Qualifying Public Facility.

The classification of 67th Ave. NE at 152nd St. NE is a Minor Arterial (Rural Major Collector) with ~22' of paved width. The average baseline PM peak hour traffic is 774 PMPHT's ((758 PMPHT's north leg + 790 PMPHT's south leg)/2). The MSV from Table 1c in DPW Rule 4224 for a LOS 'D' operation is 1,450 PMPHT's. This provides the information to ascertain the existing reserve capacity.

The next element is to determine the new capacity. Per Appendix E-1 of the County's Transportation Needs Report the County improvement comprises the following:

Road Name:	**67 Ave NE**	1st time in TE:	1995	TNR ID:	W-052A
From:	**108 St NE**	Road Log #:	96867	Miles:	2.88
To:	**152 St NE**	MP1:	0.000	TSA:	A
		MP2:	2.880	FC:	7
Description:	maj int impr at 152nd ST NE, & maj int impr at 132nd ST NE Rural Major Collector				
Notes:	2005-2025 TE ALOSI				
Current Travel Lanes: 2		Future Travel Lanes: 2		Future Turn Lanes: 0	
Existing Bike Lanes: 0		Future Bike Lanes: 0		Estimated Ultimate R/W: 80	

Road Name:	**67 Ave NE**	1st time in TE:	2005	TNR ID:	W-052B
From:	**152 St NE**	Road Log #:	96867	Miles:	0.887
To:	**Arlington C/L**	MP1:	2.880	TSA:	A
		MP2:	3.767	FC:	7
Description:	Widen and Improve (including Bicycle Facilities) Existing Two-Lane Rural Major Collector				
Notes:	2005-2025 TE ASE				
Current Travel Lanes: 2		Future Travel Lanes: 2		Future Turn Lanes: 0	
Existing Bike Lanes: 0		Future Bike Lanes: 2		Estimated Ultimate R/W: 80	

The County project is a major intersection improvement at the 67th Ave. NE at 152nd St. NE and to improve the 67th Ave. NE corridor from 108th St. NE to the Arlington City Limit. The

County plan is that the corridor would be two lanes. However based on my review of the traffic data at the 67th Ave. NE at 152nd St. NE would indicate that left turn channelization would be provided at the intersection and most likely at the other significant intersections on the corridor. Thus I believe that the future MSV should be based on 3-lanes, from Table 1b the MSV is 1,820 PMPHT's.

The following table (a preliminary base table was provided by the County) incorporates the above information in a tabular format. My analysis identifies a proportionate share cost per PM peak hour trip at $5,157 and a total projected TIF cost to the County of $61,881 based on full project build-out.

Calculations for 67th Ave NE @ 152nd St NE	Inputs	Results	Notes
Current Counts (PHT)	774		From TMC, 05.10.2022
Current MSV	1,450		From Table 1c of DPW 4224, LOS 'D'
Reserve Capacity	1450-774	**676**	
Future MSV	1,820		From Table 1b of DPW 4224, LOS 'D' 3-lane
New Capacity	1820-1450	**370**	
Chargeable Capacity	676+370	**1,046**	
Final Adjusted Cost	$ 5,394,000		Per TNR Appendix D
Capacity Cost/PHT		**$ 5,157**	
Traffic Impact (Total project PHT's)	12		Site PM peak hour trips at Key I/S #84
Mitigation Fee Option 2(b)		**$ 61,881**	**Total County TIF at project buildout**

The County Traffic Worksheet and the pertinent data used to ascertain the proportionate share cost is included in Appendix C.

<u>WSDOT</u>

I understand that the City and WSDOT have an Interlocal agreement; using the same criteria as the County/WSDOT agreement.

Per the WSDOT/Snohomish County interlocal agreement WSDOT requires proportionate share impact mitigation for project trips impacting State Highways. This interlocal agreement specifies two options to mitigate traffic impacts on the State highway system. These options are:

- **Option A: Proportionate share based on Traffic Study**
- Option B: $36.00 per new daily trip

A pro rata share contribution towards WSDOT per Option 1A that is based on a proportionate share for WSDOT/County projects identified in 2009 Exhibit C (attached in the appendix). Based on Exhibit C (copy included in the report appendix) one project is identified in the vicinity of the proposed project. The project is as follows:

- SR – 531: 43rd Ave. NE to 67th Ave. NE, Widen to 5-lanes. This project is funded and underway since July 2019.

Per the Interlocal Agreement item 5.2 d) the above noted project is funded and underway, thus no proportionate share mitigation should be required.

The WSDOT Traffic Worksheet and the pertinent data used to ascertain the proportionate share cost is included in Appendix C.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This report conducted a Traffic Impact Analysis for the Industrial Park project providing up to ~921,465 sf of industrial space in five buildings. The site is located in the northwest corner of the Airport Boulevard/51st Ave. NE and the future 173rd St. NE intersection. The site is envisioned to be constructed in two phases. Access to the site would be Airport Boulevard (4-driveways) and 173rd St. NE (4-driveways).

Existing traffic data was obtained at the pertinent City street intersections identified for analysis. Future horizon year traffic volumes were derived using a growth factor of two percent per year. Level of service analyses were performed for existing and projected future horizon traffic volumes. The evaluation of the traffic impact of the proposed project included adding project generated traffic to the future traffic volume projections and calculating the level of service. The "with" project traffic operations were then compared to the "without" project operations. The comparison of traffic operations "with" and "without" the project identified that the project would not cause a significant adverse affect on the operation of the study intersections.

Based on my analysis I recommend that the Arlington Air Industrial Park project be allowed with the following traffic impact mitigation measures.

1. Develop the site in accordance with applicable City requirements.
2. Install/construct site accesses to the City street grid per applicable requirements
3. An appropriate sight line easement in the northwest corner of the 173rd St. NE at 51st Ave. NE per applicable City requirements.
4. Install 'Stop' signs on 173rd St. NE at 43rd and 51st Avenues NE per applicable standards.
5. The City has a Citywide and CIC Traffic Impact Fee. Credit against the TIF for street improvements identified in Transportation 2035 Plan consistent with prior City Decision should apply, reference Smartcap Arlington Airport Preliminary Binding Site Plan Zoning Permit Decision PLN 942 and Smartcap Arlington Airport Building B Site Plan Review PLN 941.

6. One Snohomish TNR project in TSA 'A' is projected to be affected by site traffic. The affected project is 67th Ave. NE at 152nd St. NE, per Option 2(b) a proportionate share payment to this project would be required. I calculated a cost per PM peak hour trip at $5,157.

7. WSDOT has one project that is funded and under construction in the site vicinity. The calculated TIF per Option A is zero for full build-out of the project.

No other traffic mitigation should be necessary. Please contact me at 206.762.1978 or email us at jaketraffic@comcast.net if you have any questions.

Very truly yours,

Mark J. Jacobs, PE, PTOE, President
JAKE TRAFFIC ENGINEERING, INC.

06.24.2022

MJJ: mjj

TABLE 1 - PM PEAK HOUR LEVEL OF SERVICE
ARLINGTON AIR INDUSTRIAL PARK – ARLINGTON
TRAFFIC IMPACT ANALYSIS

INTERSECTION	APPROACH	EXISTING	2027 W/O PROJECT	2027 W/ PROJECT	
				Existing TC	Future TC
1. 188th St. NE at Smokey Point Blvd.	Overall	C (17.2)	D (30.4)	D (34.2)	–
2. 188th St. NE at Airport Blvd.	Overall NB	A (3.2) B (13.8)	A (3.7) C (16.1)	A (4.5) C (17.6)	–
3. 172nd St. NE at SR-5 SB ramps	Overall	B (11.7)	B (16.2)	B (16.4)	–
4. 172nd St. NE at SR-5 NB ramps	Overall	C (22.9)	C (28.7)	C (29.7)	–
5. 172nd St. NE at Smokey Point Blvd	Overall	D (39.2)	D (47.4)	D (50.4)	–
6. 172nd St. NE at 40th Ave. NE	Overall	Signal under construction	C (28.6)	C (32.2)	–
7. 172nd St. NE at 43rd Ave. NE	Overall	C (25.7)	D (46.3)	E (56.5)	D (28.8)
8. 172nd St. NE at 51st Ave. NE	Overall	C (22.6)	D (40.3)	D (41.9)	B (14.4)
9. 172nd St. NE at 59th Ave. NE	Overall	C (21.9)	C (30.1)	C (31.2)	A (8.5)
10. 172nd St. NE at 67th Ave. NE	Overall	D (33.0)	D (43.3)	D (44.5)	B (14.6)
11. 51st Ave. NE at NE 168th St.	Overall	–	–	–	Acceptable via Traffic Engineering Inspection
A. 43rd Ave. NE at NE 173rd St.	Overall WB	–	–	A (2.3) B (11.6)	–
B. 51st Ave. NE at NE 173rd St.	Overall EB	–	–	A (5.2) B (10.6)	–

- Future Traffic Control (TC) is the WSDOT funder SR – 531 project from 43rd to 67th scheduled to be completed in 2024.
- Number shown in parenthesis is the average control delay in seconds per vehicle for the intersection as a whole or approach movement, which determines the LOS per the Highway Capacity Manual.

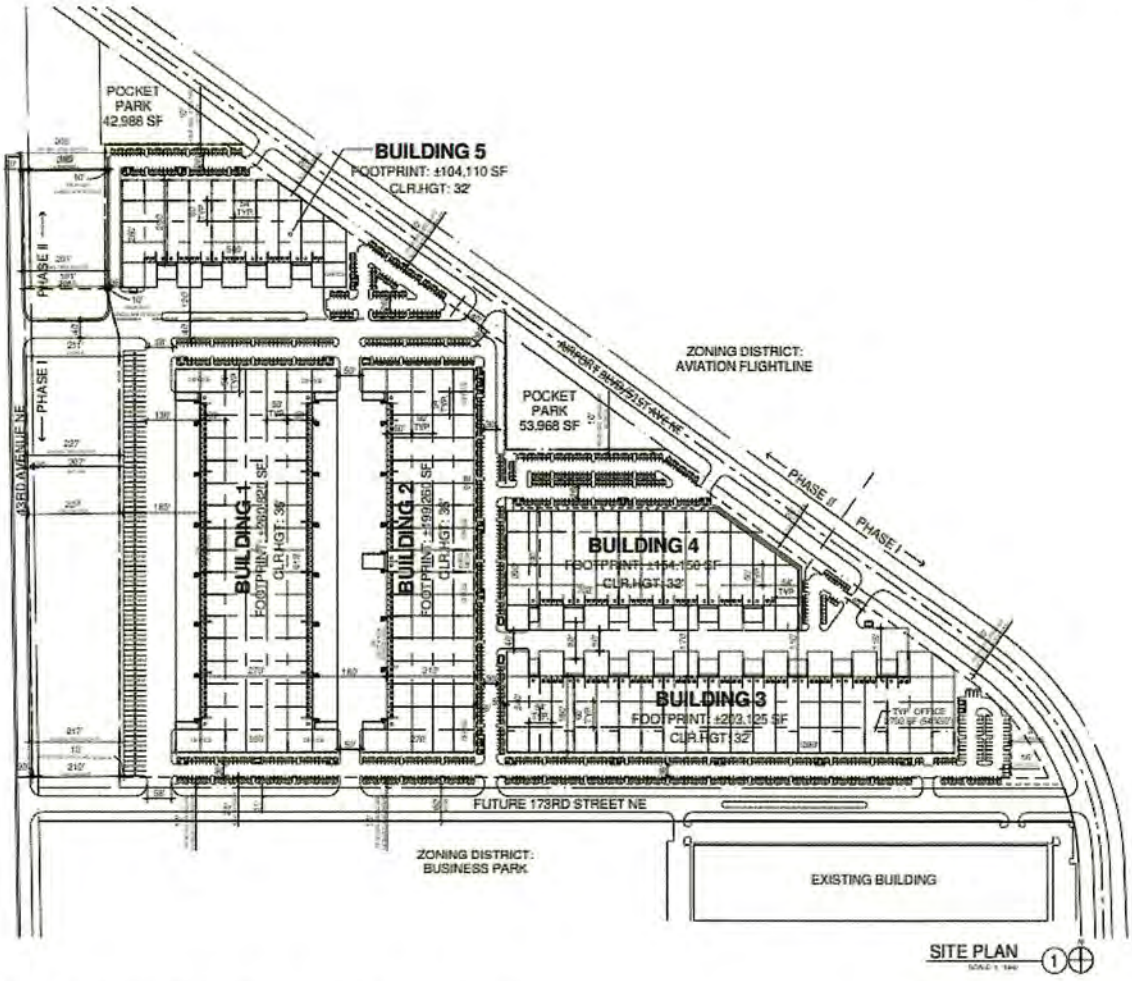
Project: Arlington Air Industrial Park North – Arlington
Location: North of 173rd St. NE (future) & Southwest of Airport Blvd.

NORTH

JTE, Inc. FIGURE 1 **Reprint in Color Only**	ARLINGTON AIR INDUSTRIAL PARK NORTH – ARLINGTON TRAFFIC IMPACT ANALYSIS VICINITY MAP

Project: Arlington Air Industrial Park North – Arlington
Location: North of 173rd St. NE (future) & Southwest of Airport Blvd.

NORTH



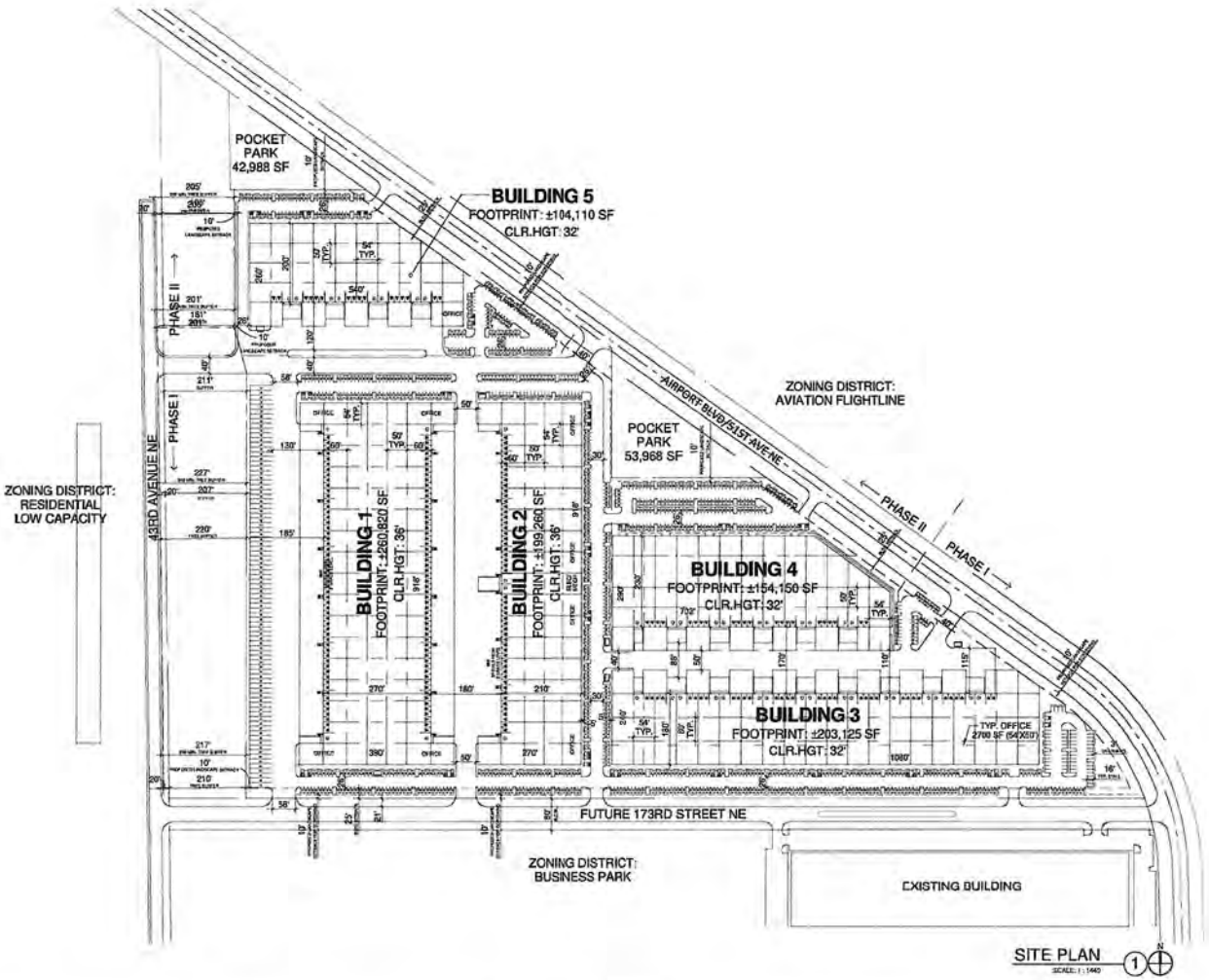
Note: An 8.5 X 11" copy of the Site Plan is included with this report.

JTE, Inc.
FIGURE 2

Reprint in Color Only

ARLINGTON AIR INDUSTRIAL PARK NORTH – ARLINGTON
TRAFFIC IMPACT ANALYSIS

PRELIMINARY SITE PLAN



SITE PLAN

SCALE: 1" = 144'

PROJECT DATA

DEVELOPMENT STANDARDS

WARE MALCOMB

SMARTCAP

ARLINGTON AIRPORT INDUSTRIAL PARK NORTH
(PHASE 1)
43RD AVENUE NE, ARLINGTON, WA 98223

SITE PLAN

PAPER:	A1
DRAWN BY:	DC
JOB NO.:	SEA21-0368.00

SHEET
A1.1

ARLINGTON NORTH
INDUSTRIAL PARK NORTH (PHASE 1)
43RD AVENUE NE, ARLINGTON WA 98223

SMARTCAP

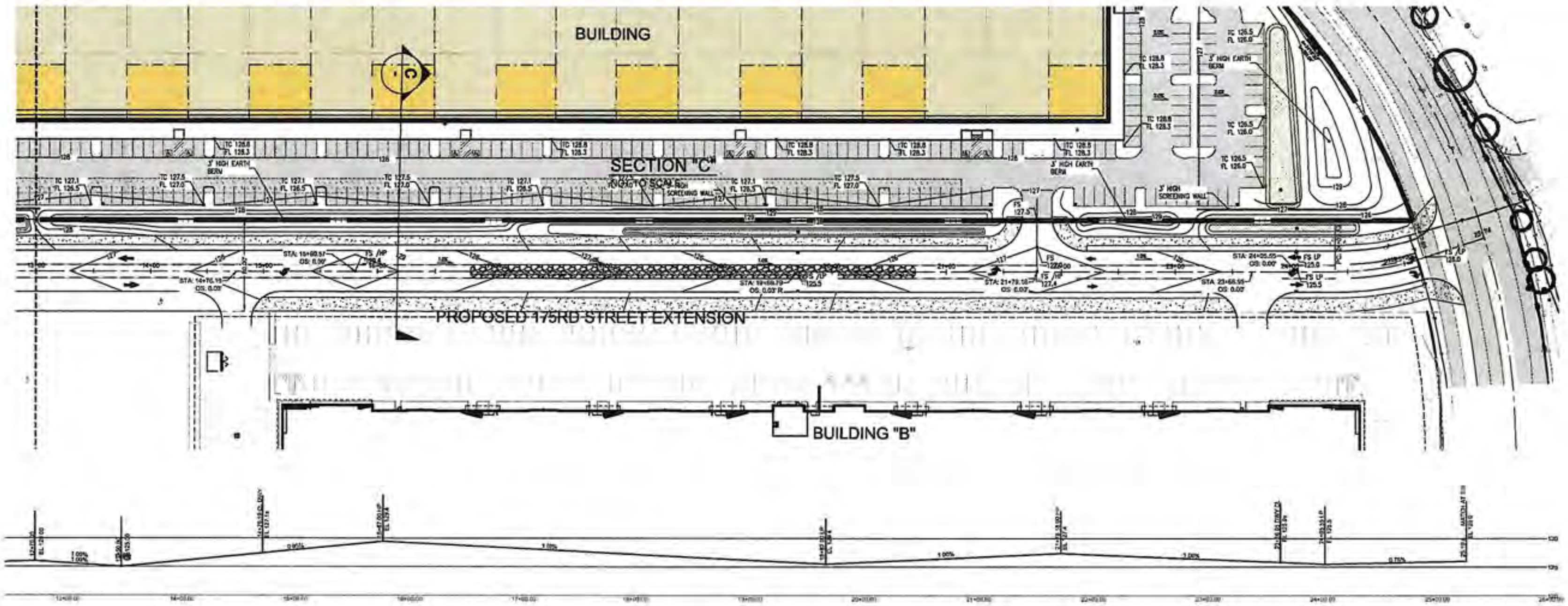
17ARD STREET EXHIBIT

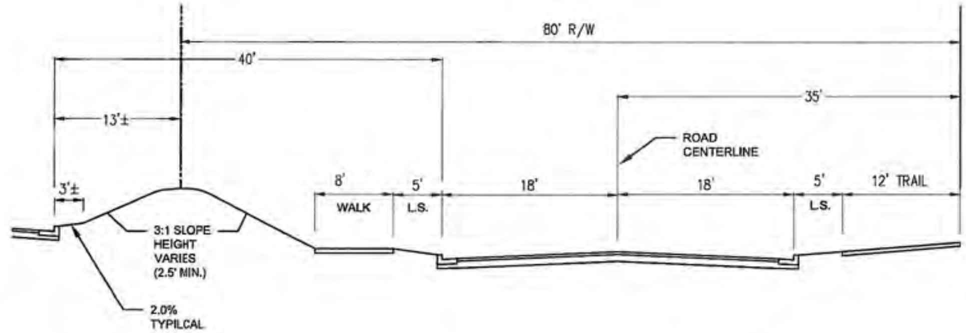
NO	DATE	REMARKS

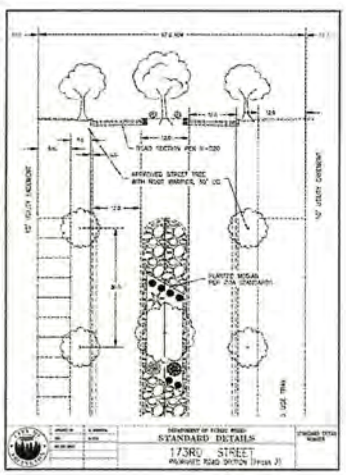
JOB NO.	8437-008
PA / PM	GP / MH
DESIGNED	SY
DATE	04/05/22
PLOT DATE	

SHEET
EX-1
Sheet 1 of 2

WARE MALCOMB
LEADING DESIGN FOR COMMERCIAL REAL ESTATE
4855 Dunbar dr
Suite 300
Pleasanton, ca 94588
p 925.344.9820
waremalcomb.com







SCALE: 1" = 40'

Know what's below. Call before you dig.

WARE MALCOMB
LEADING DESIGN FOR COMMERCIAL REAL ESTATE

4683 chabot dr
suite 300
pleasanton, ca 94588
p 925.244.9620
waremalcomb.com

APRIL 05, 2022
FOR AND ON BEHALF OF WARE MALCOMB

SMARTCAP

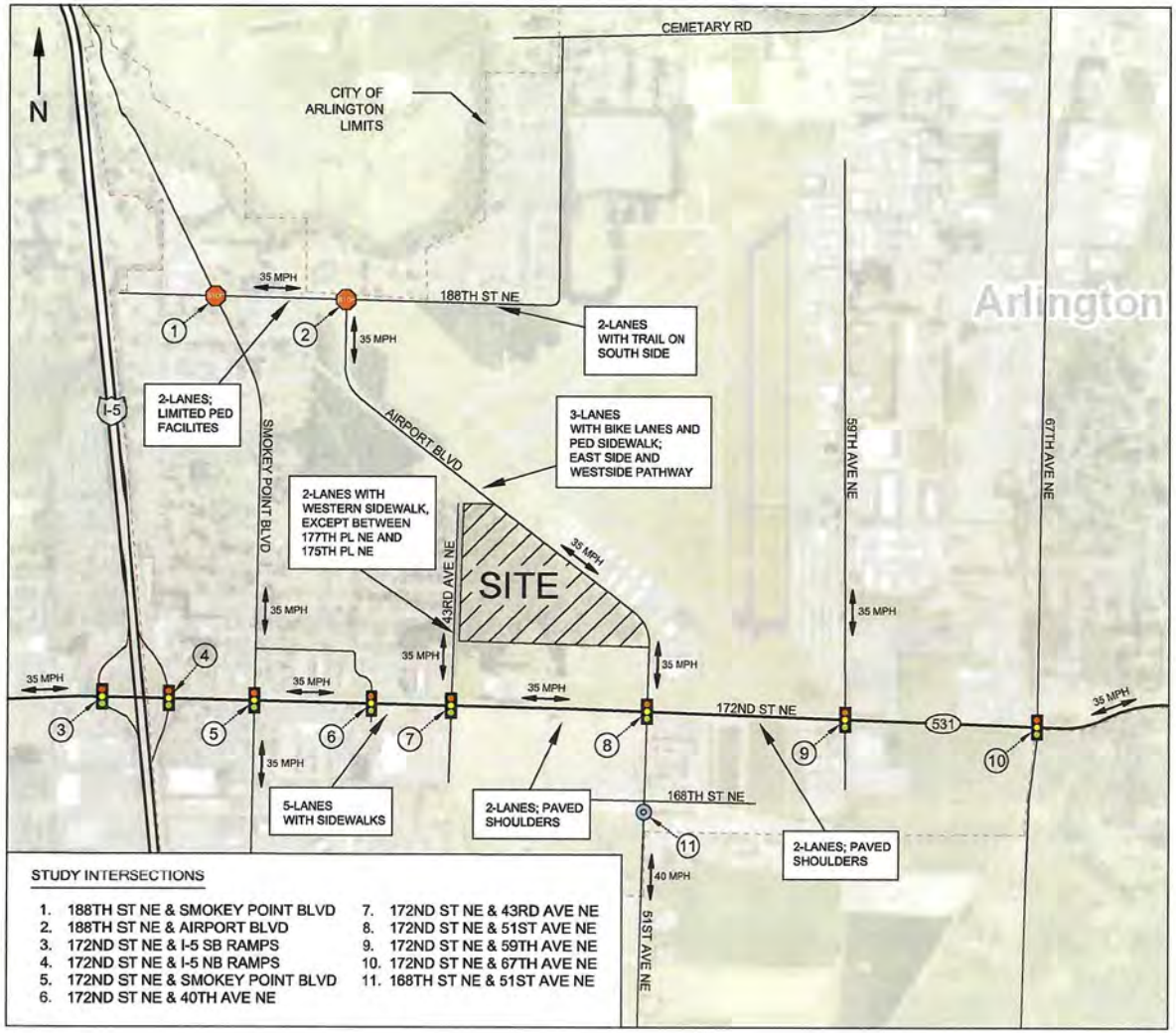
ARLINGTON NORTH
INDUSTRIAL PARK NORTH (PHASE 1)
43RD AVENUE NE, ARLINGTON WA 98223

173RD STREET EXHIBIT

NO.	DATE	REMARKS

JOB NO.:	SFA21-2068
PA / PM:	GP / MM
DESIGNED:	SY
DATE:	04/05/2022
PLOT DATE:	

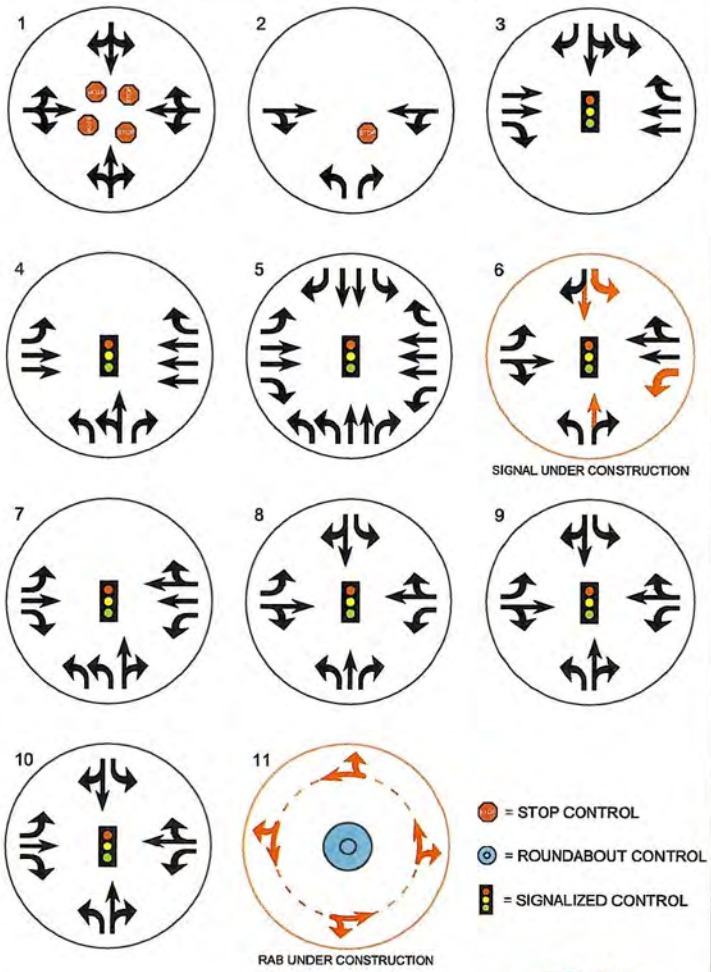
SHEET
EX-2
Sheet 2 of 2



STUDY INTERSECTIONS

1. 188TH ST NE & SMOKEY POINT BLVD
2. 188TH ST NE & AIRPORT BLVD
3. 172ND ST NE & I-5 SB RAMPS
4. 172ND ST NE & I-5 NB RAMPS
5. 172ND ST NE & SMOKEY POINT BLVD
6. 172ND ST NE & 40TH AVE NE
7. 172ND ST NE & 43RD AVE NE
8. 172ND ST NE & 51ST AVE NE
9. 172ND ST NE & 59TH AVE NE
10. 172ND ST NE & 67TH AVE NE
11. 168TH ST NE & 51ST AVE NE

STUDY INTERSECTIONS



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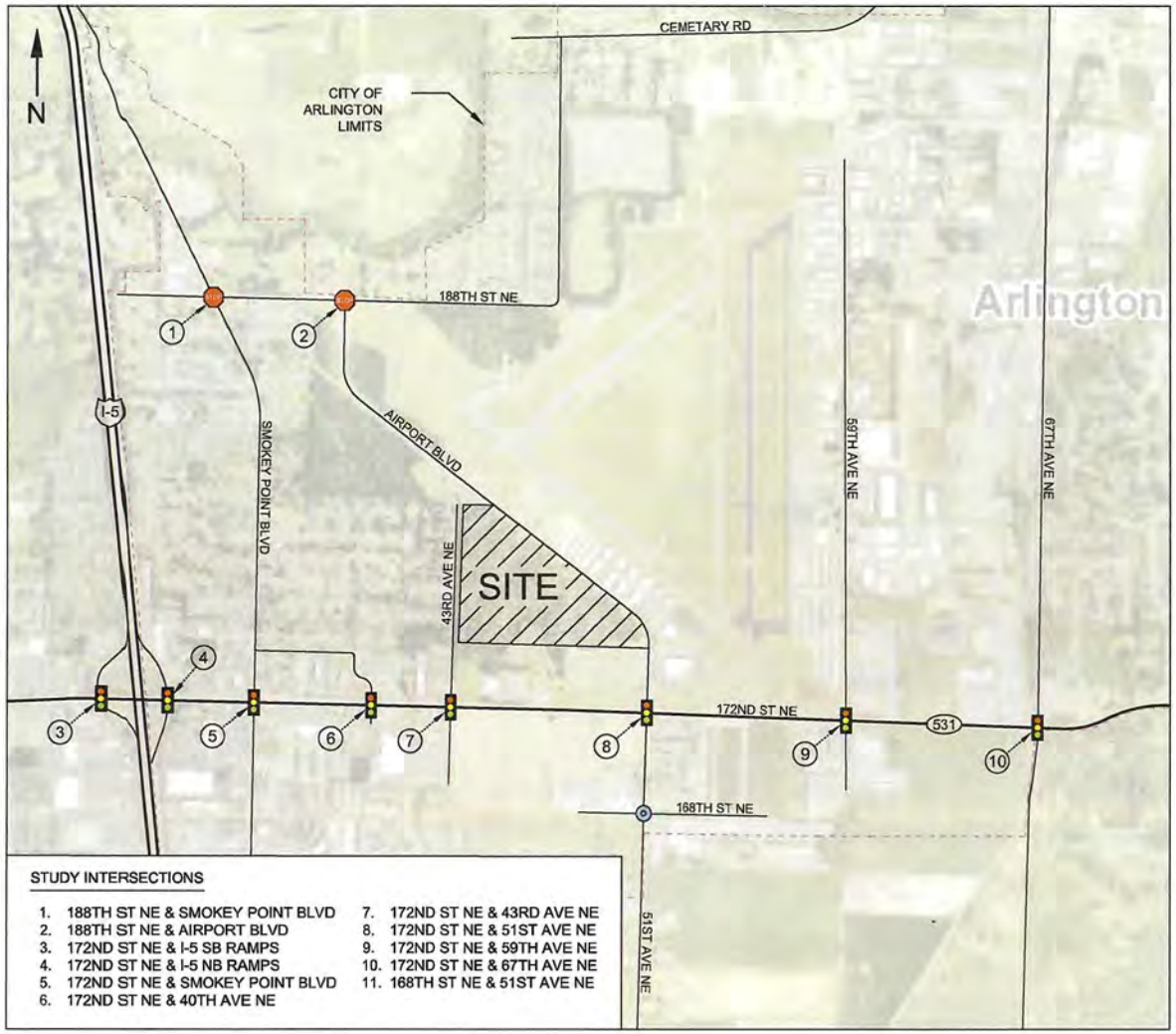
TRAFFIC AND CIVIL ENGINEERING

ARLINGTON AIR INDUSTRIAL PARK NORTH

EXISTING INTERSECTION TRAFFIC CONTROL & CHANNELIZATION

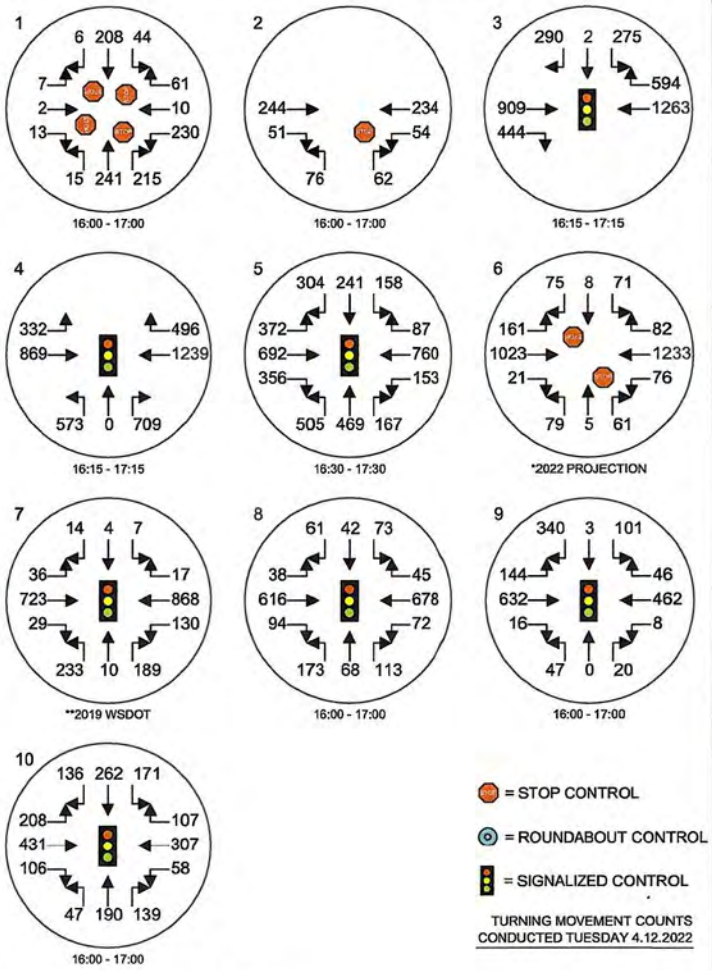
FIGURE 3



STUDY INTERSECTIONS

1. 188TH ST NE & SMOKEY POINT BLVD
2. 188TH ST NE & AIRPORT BLVD
3. 172ND ST NE & I-5 SB RAMPS
4. 172ND ST NE & I-5 NB RAMPS
5. 172ND ST NE & SMOKEY POINT BLVD
6. 172ND ST NE & 40TH AVE NE
7. 172ND ST NE & 43RD AVE NE
8. 172ND ST NE & 51ST AVE NE
9. 172ND ST NE & 59TH AVE NE
10. 172ND ST NE & 67TH AVE NE
11. 168TH ST NE & 51ST AVE NE

STUDY INTERSECTIONS



= STOP CONTROL

= ROUNDABOUT CONTROL

= SIGNALIZED CONTROL

TURNING MOVEMENT COUNTS CONDUCTED TUESDAY 4.12.2022

*5.4.2018 INTERSECTION CONTROL EVALUATION

**PROXY ROXY CONSTRUCTION ACTIVITY AFFECTED TRAFFIC. THUS, PRE-COVID WSDOT DATA WAS USED FOR BASELINE.

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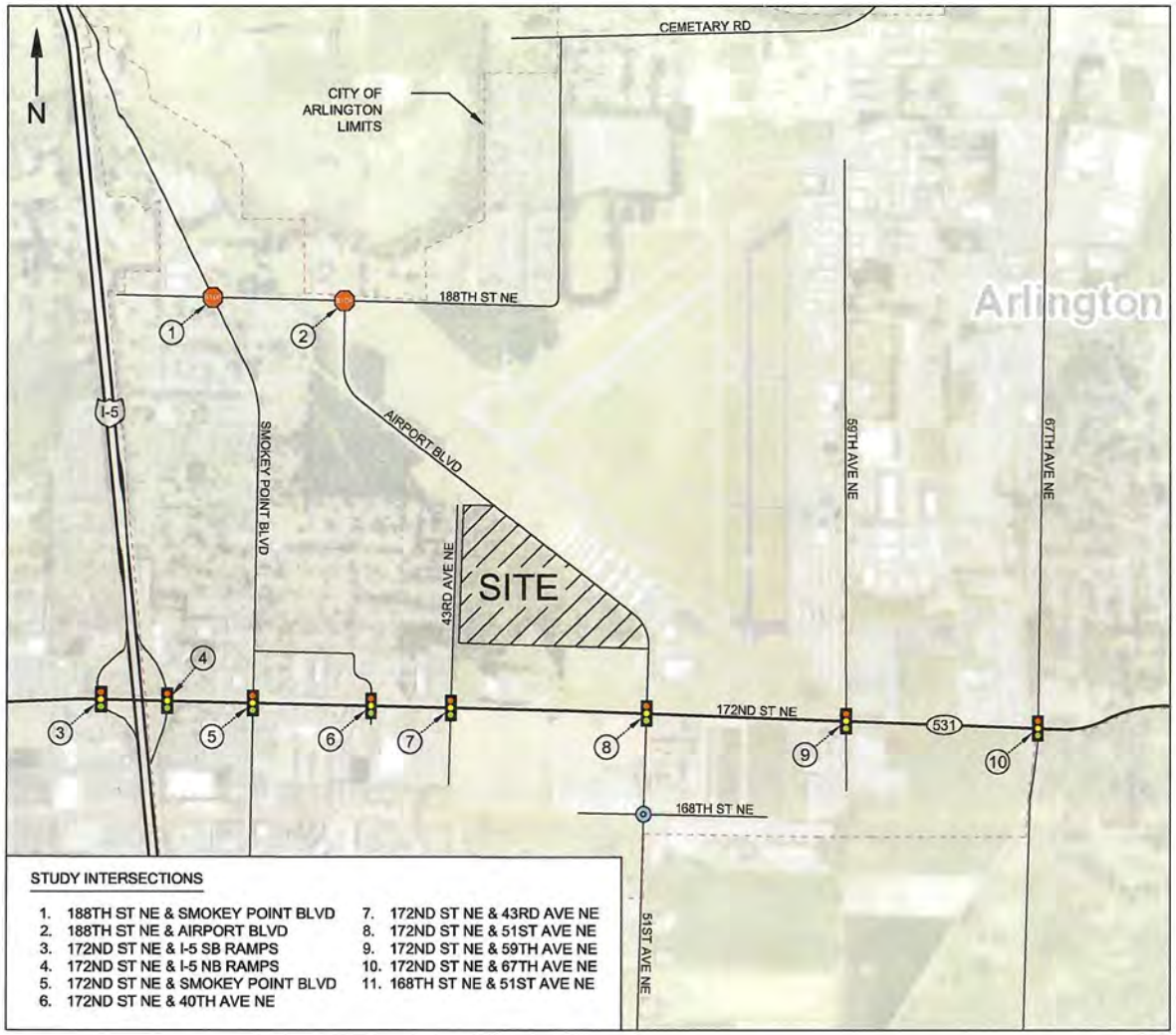
ARLINGTON AIR INDUSTRIAL PARK NORTH

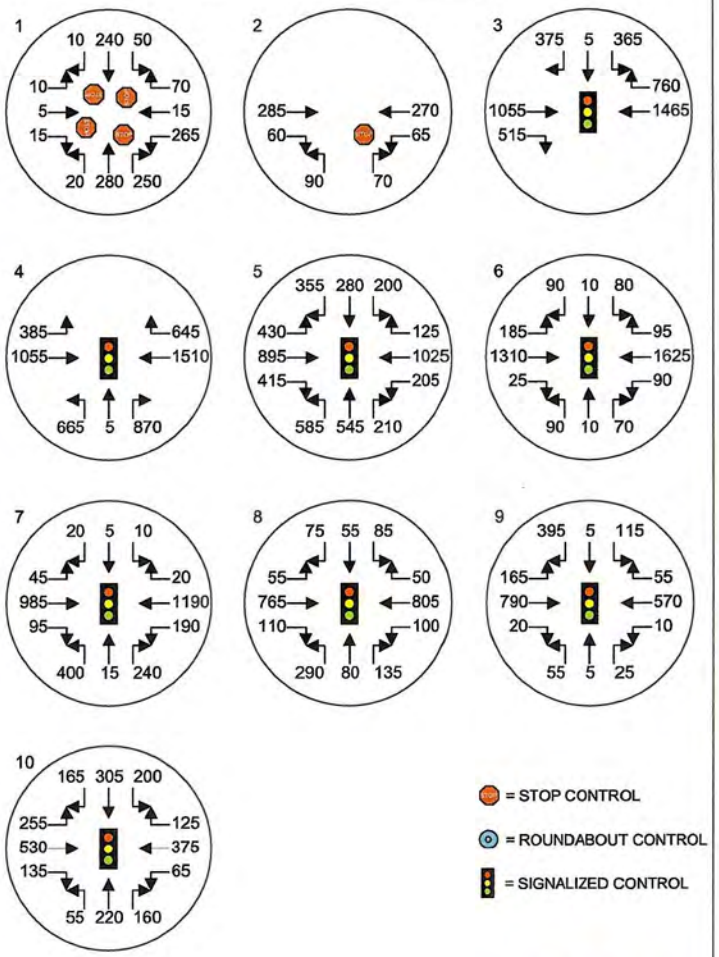
EXISTING PM PEAK HOUR VOLUMES
FIGURE 4



STUDY INTERSECTIONS

1. 188TH ST NE & SMOKEY POINT BLVD
2. 188TH ST NE & AIRPORT BLVD
3. 172ND ST NE & I-5 SB RAMPS
4. 172ND ST NE & I-5 NB RAMPS
5. 172ND ST NE & SMOKEY POINT BLVD
6. 172ND ST NE & 40TH AVE NE
7. 172ND ST NE & 43RD AVE NE
8. 172ND ST NE & 51ST AVE NE
9. 172ND ST NE & 59TH AVE NE
10. 172ND ST NE & 67TH AVE NE
11. 168TH ST NE & 51ST AVE NE

STUDY INTERSECTIONS



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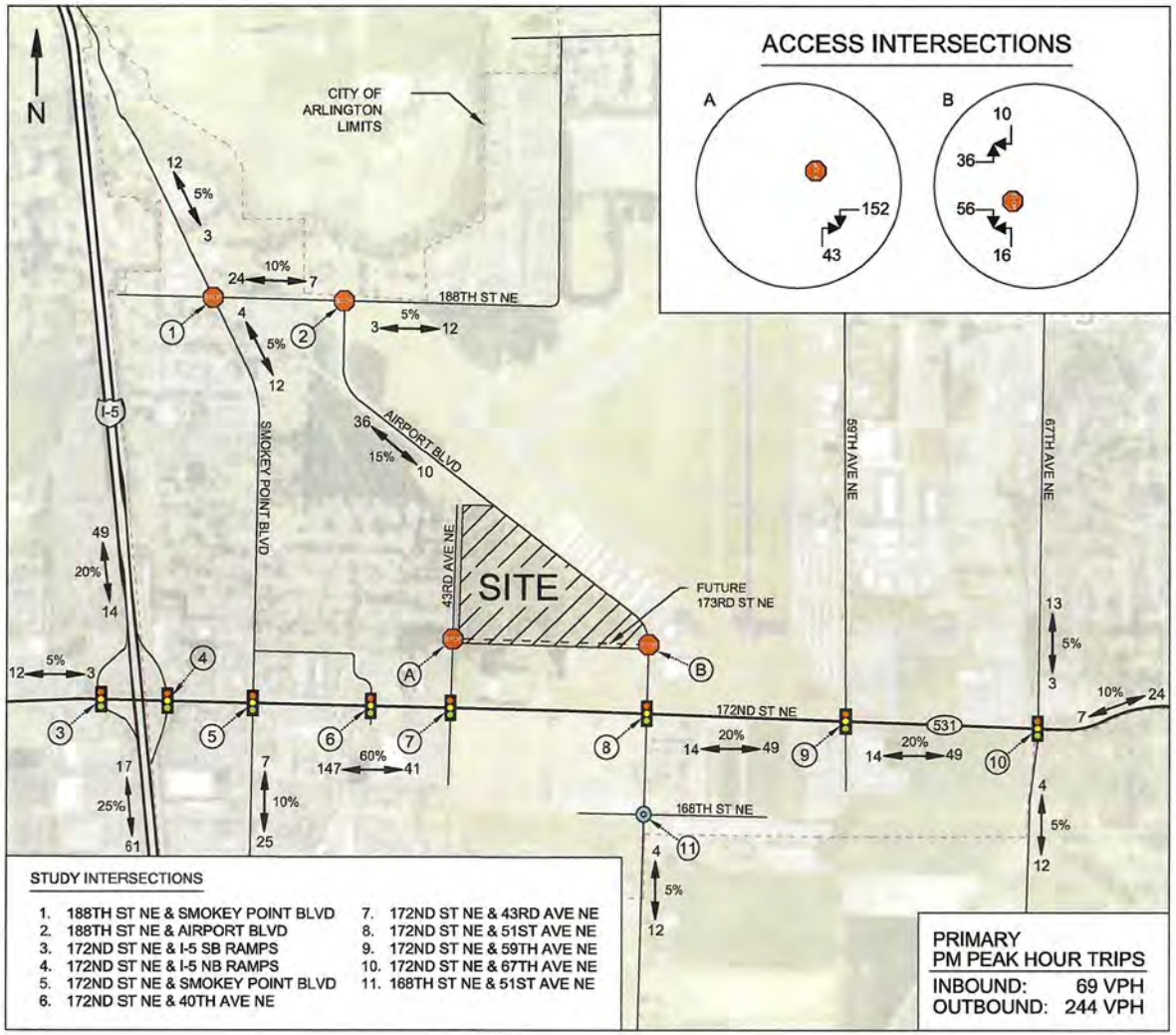
ARLINGTON AIR INDUSTRIAL PARK NORTH

FORECAST 2027 PM PEAK HOUR BACKGROUND VOLUMES

FIGURE 5



ACCESS INTERSECTIONS

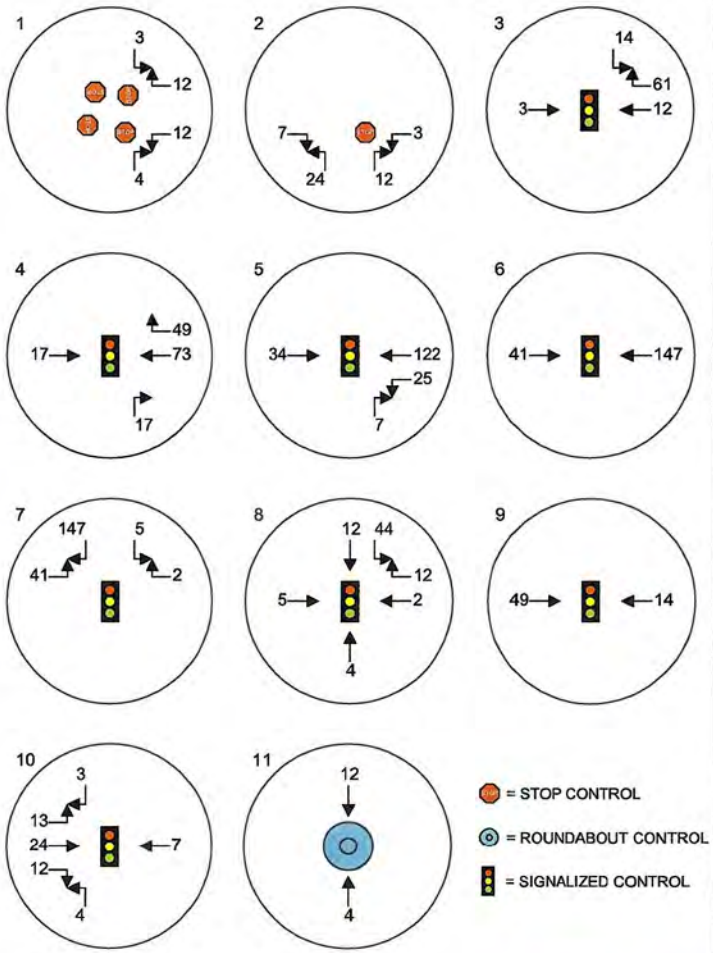
STUDY INTERSECTIONS

1. 188TH ST NE & SMOKEY POINT BLVD
2. 188TH ST NE & AIRPORT BLVD
3. 172ND ST NE & I-5 SB RAMPS
4. 172ND ST NE & I-5 NB RAMPS
5. 172ND ST NE & SMOKEY POINT BLVD
6. 172ND ST NE & 40TH AVE NE
7. 172ND ST NE & 43RD AVE NE
8. 172ND ST NE & 51ST AVE NE
9. 172ND ST NE & 59TH AVE NE
10. 172ND ST NE & 67TH AVE NE
11. 168TH ST NE & 51ST AVE NE

PRIMARY PM PEAK HOUR TRIPS

INBOUND: 69 VPH
OUTBOUND: 244 VPH

STUDY INTERSECTIONS



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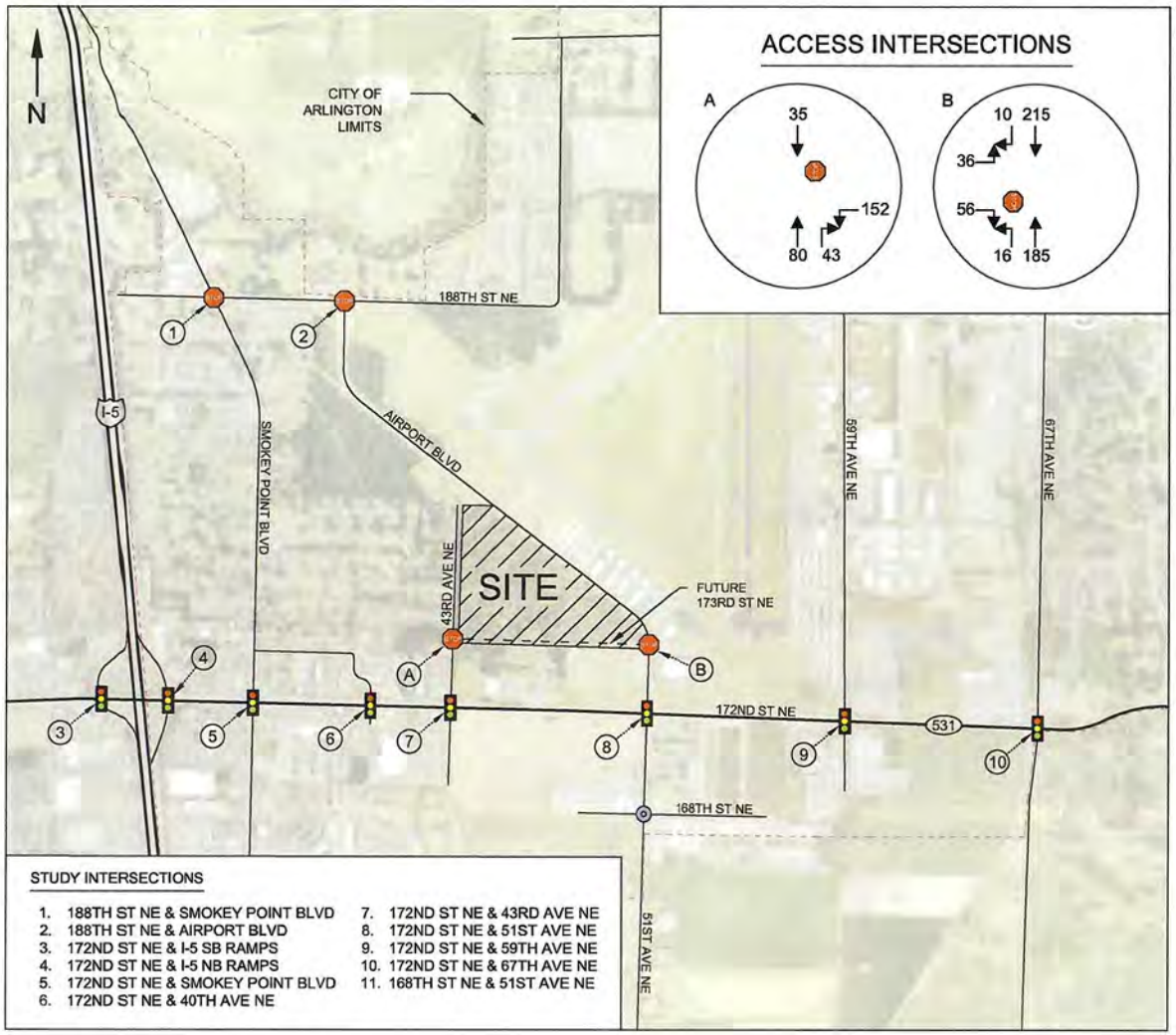
ARLINGTON AIR INDUSTRIAL PARK NORTH
PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 6

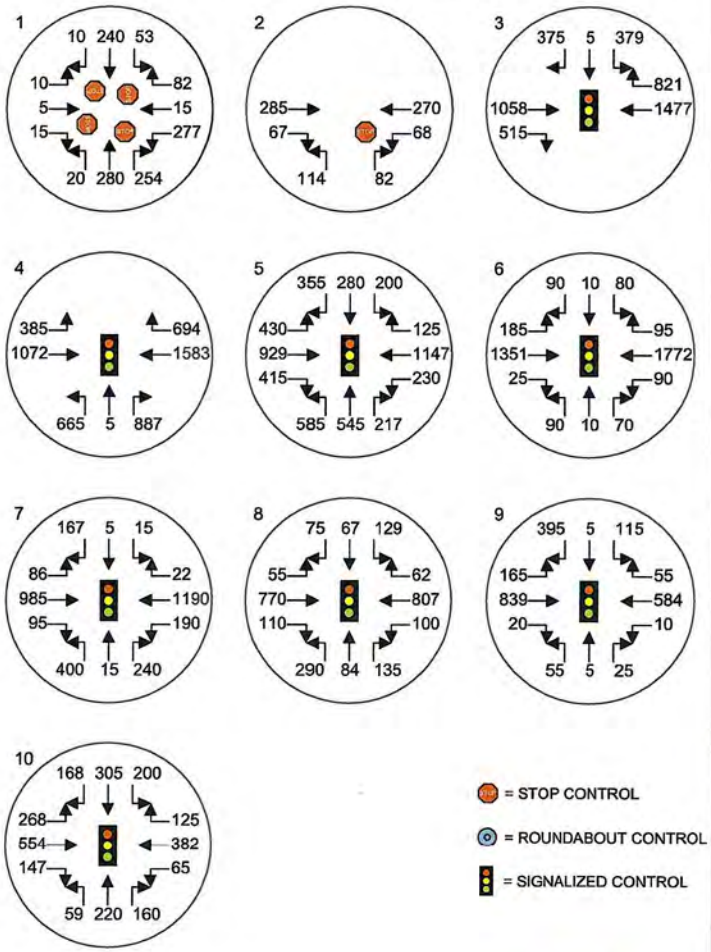


ACCESS INTERSECTIONS

STUDY INTERSECTIONS

1. 188TH ST NE & SMOKEY POINT BLVD
2. 188TH ST NE & AIRPORT BLVD
3. 172ND ST NE & I-5 SB RAMPS
4. 172ND ST NE & I-5 NB RAMPS
5. 172ND ST NE & SMOKEY POINT BLVD
6. 172ND ST NE & 40TH AVE NE
7. 172ND ST NE & 43RD AVE NE
8. 172ND ST NE & 51ST AVE NE
9. 172ND ST NE & 59TH AVE NE
10. 172ND ST NE & 67TH AVE NE
11. 168TH ST NE & 51ST AVE NE

STUDY INTERSECTIONS



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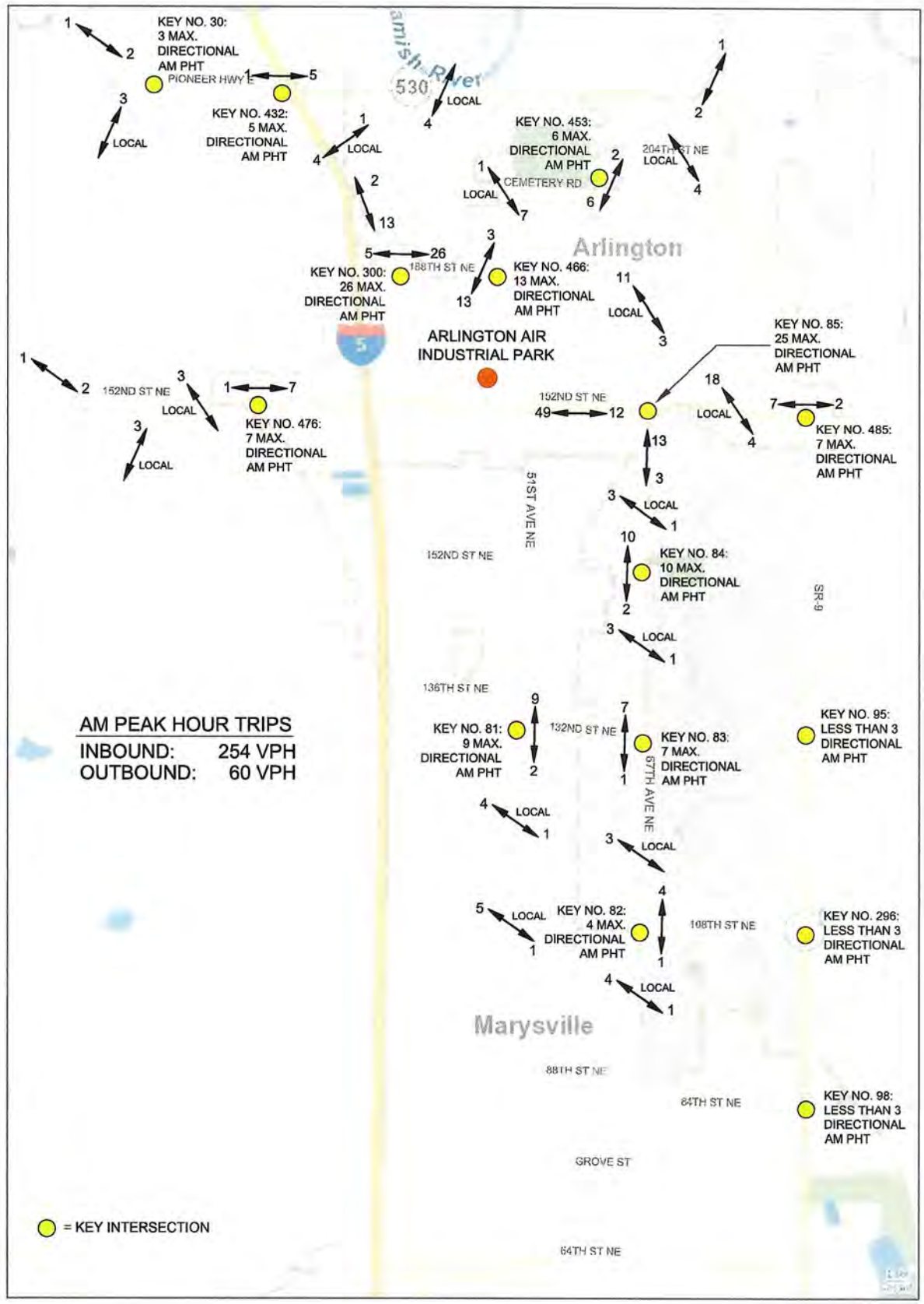
TRAFFIC AND CIVIL ENGINEERING

ARLINGTON AIR INDUSTRIAL PARK NORTH

FORECAST 2027 PM PEAK HOUR VOLUMES WITH PROJECT

FIGURE 7



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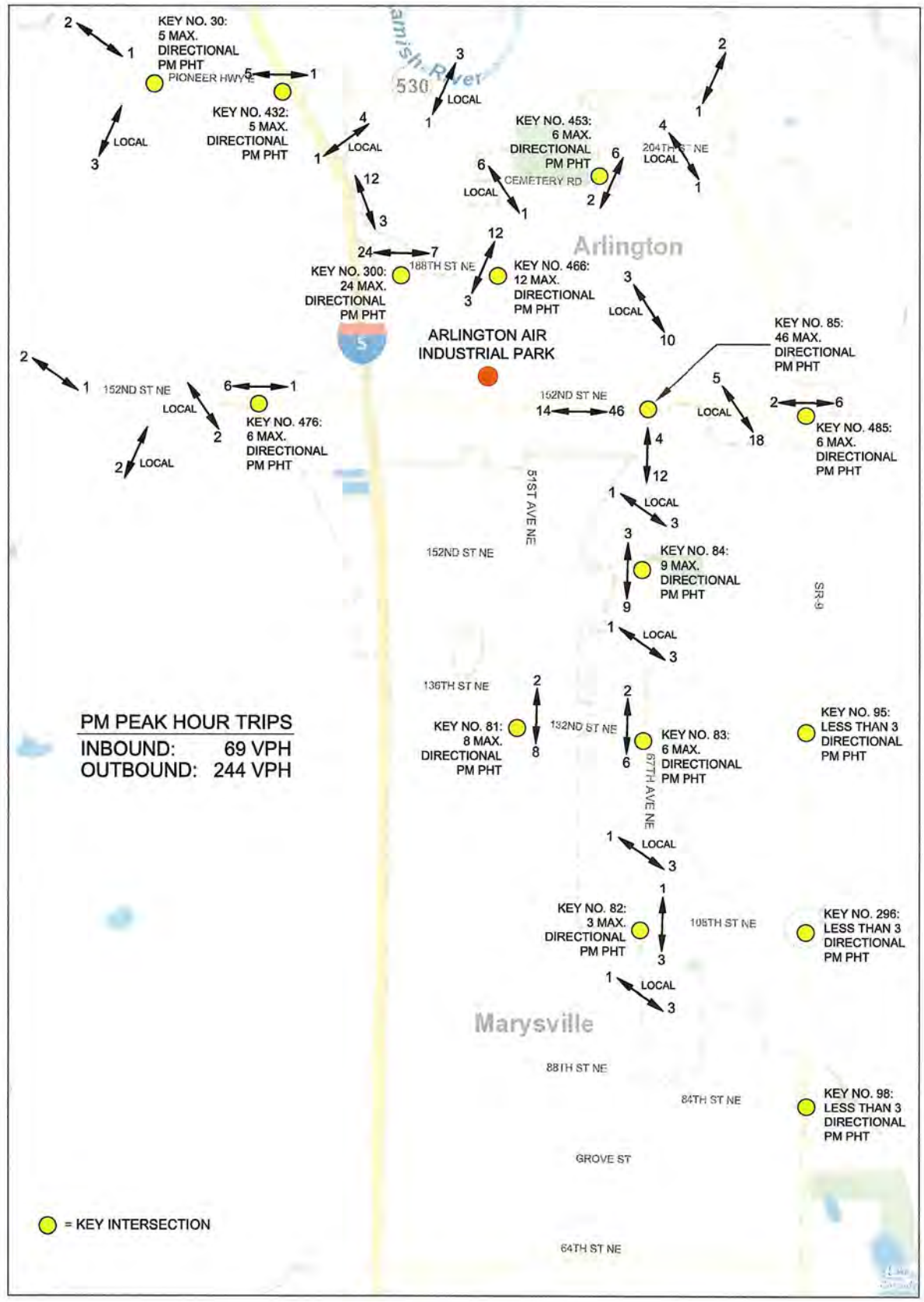
ARLINGTON AIR INDUSTRIAL PARK NORTH
INTERLOCAL AM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 8A



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TRAFFIC AND CIVIL ENGINEERING

ARLINGTON AIR INDUSTRIAL PARK NORTH
INTERLOCAL PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 8P

APPENDIX A

City Correspondence

Traffic Analysis Procedures & Checklist

Traffic Volume Counts & Data

City of Arlington Transportation 2035 Plan, 2017 Update (Pertinent Data)

Proxy Roxy Traffic Impact Analysis by TENW (Pertinent Data)

From: Nova Heaton [mailto:NHeaton@arlingtonwa.gov]
Sent: Monday, April 25, 2022 4:45 PM
To: Mark J Jacobs, PE, PTO
Cc: 'Krista Lutz'; 'Robert Shipley'; 'Morgan McGrath'; avanaken@heathtraffic.com
Subject: RE: 2022.023 - Preliminary Site Trip Generation/Distribution Scoping

Attached is the ICA for the 40th intersection.
Regarding the future traffic, we will accept 3% per year for 5 years with the Proxy Roxy added in.

Nova

From: Mark J Jacobs, PE, PTO <JakeTraffic@comcast.net>
Sent: Saturday, April 23, 2022 11:23 AM
To: Nova Heaton <NHeaton@arlingtonwa.gov>
Cc: 'Krista Lutz' <krista@thesmartcapgroup.com>; 'Robert Shipley' <robertsh@thesmartcapgroup.com>; 'Morgan McGrath' <Morgan@thesmartcapgroup.com>; avanaken@heathtraffic.com
Subject: RE: 2022.023 - Preliminary Site Trip Generation/Distribution Scoping

Nova

Things are crazy busy currently.

We are working on the TIA for the Arlington Air Industrial Park. A few items:

- You requested analysis at the 168th and 51st and 40th and 172nd – these two I/S's are currently under construction and I did not see any data in the Proxy Roxy TIA at these location. Based on the data I see I can deduce the future RAB at 51st and 168th would operate well and typically when a new signal is added the I/S operates well. Please advise?

- Also during the data collection that was conducted on April 12, 2022 the Proxy Roxy construction affected traffic at 43rd thus I defaulted to a 2019 WSDOT count.

- For future traffic I have identified a 2% per year GF for 5 years, consistent with City of Arlington Transportation 2035 Plan, 2017 Update September 25, 2017 **AND** added the Proxy Roxy traffic. I did note the Proxy Roxy used a higher GF but only went out two years.

Thank you

Mark
206.762.1978 o
206.799.5692 c

From: Mark J Jacobs, PE, PTO [mailto:JakeTraffic@comcast.net]
Sent: Wednesday, April 20, 2022 10:29 AM
To: 'Nova Heaton'
Cc: 'Krista Lutz'; 'Robert Shipley'; 'Morgan McGrath'; 'avanaken@heathtraffic.com'
Subject: RE: 2022.023 - Preliminary Site Trip Generation/Distribution Scoping

Nova

Attached is the preliminary Distribution for the Arlington Air Industrial Park project, ITE LUC 130. Please let me know if there is any refinement to the general distribution needed? A more detailed distribution will be done after I review the collected TMC data.

The TMC data was collected last week; no data was collected at I/S #11. Also the Proxy Roxy construction activities affected traffic at I/S #'s 7 & 8 that I would adjust using data from the Proxy Roxy TIA.

It would be good to have a short telephone dialogue, my schedule is open all day Thursday, is 0900 a good time? Let me know?

Thank you

Mark
206.762.1978 o
206.799.5692 c

From: Nova Heaton [mailto:NHeaton@arlingtonwa.gov]
Sent: Friday, April 01, 2022 9:32 AM
To: Mark J Jacobs, PE, PTO
Cc: Robertsh@thesmartcapgroup.com
Subject: RE: 2022.023 - Preliminary Site Trip Generation/Distribution Scoping

The use of trip generation as High-Cube Transload and Short-Term Storage Warehouse is not consistent with previous discussions about the use of this location. The trip generation should use General light industrial 110.

The use of a 5% bypass trip reduction will not be allowed.

For intersection analysis, please also include the following intersections;

- 168th and 51st roundabout
- 59th and 172nd
- 40th new light and 172nd
- 67th and 172nd
- 188th and SPB
- Freeway on/off ramp west of the freeway.

Let me know if you have any further questions.
Nova

Nova Heaton, P.E.
City of Arlington
Community & Economic Development
18204 59th Ave NE
Arlington, WA 98223
nheaton@arlingtonwa.gov
360.403.3437

From: Mark J Jacobs, PE, PTO <JakeTraffic@comcast.net>
Sent: Monday, March 14, 2022 10:36 AM
To: Nova Heaton <NHeaton@arlingtonwa.gov>
Cc: Robertsh@thesmartcapgroup.com
Subject: RE: 2022.023 - Preliminary Site Trip Generation/Distribution Scoping

Nova

I'm following up regarding an e-mail I sent to you a week and a half ago.

Let me know if you have any questions.

Thank you

Mark

From: Mark J Jacobs, PE, PTO [mailto:JakeTraffic@comcast.net]
Sent: Thursday, March 03, 2022 8:17 AM
To: 'NHeaton@arlingtonwa.gov'
Cc: 'Robertsh@thesmartcapgroup.com'
Subject: 2022.023 - Preliminary Site Trip Generation/Distribution Scoping

Nova

It's been awhile since our paths have crossed.

I have been contacted regarding an Industrial Site, primarily storage, on the Airport Site.

Attached are the preliminary site TG and Fig6 that provides a distribution based on my prior work in the City. The WSDOT trip threshold is 25 peak hour trips. I've noted the potentially affected WSDOT I/S's and also noted a City I/S to the north. Site access I/S's would be studied.

Once you have had a chance to review I would like to set up a time to discuss what the City would require for the TIA.

Contact me with any questions.

Thank you

Mark

Mark J Jacobs, PE, PTOE
JAKE TRAFFIC ENGINEERING, INC
2614 39th Ave. SW
Seattle, WA 98116
206.762.1978 o
206.799.5692 c

From: Robert Shipley [mailto:robertsh@thesmartcapgroup.com]
Sent: Tuesday, March 01, 2022 6:53 AM
To: Mark J Jacobs, PE, PTO
Subject: FW: Current TIF & Six Year TIP
Importance: High

Hey Mark,

I know you had started looking at the traffic impact fees and getting the information needed for a full traffic study and traffic impact analysis done but have not seen that. Can you please review the attached site plan and provide us a traffic study for the site ASAP? Please call me with any questions.

Thanks,

Robert Shipley
Director of Development - SMARTCAP
Smart, Transparent, Professional, Real Estate Investments
8201 164th AVE NE, STE 105 Redmond, WA 98052

robertsh@smartcapgroup.com | C. (425) 422-3484
www.thesmartcapgroup.com

From: Mark J Jacobs, PE, PTO <JakeTraffic@comcast.net>
Sent: Thursday, August 26, 2021 2:53 PM
To: 'Nova Heaton' <NHeaton@arlingtonwa.gov>
Cc: Robert Shipley <robertsh@thesmartcapgroup.com>
Subject: RE: Current TIF & Six Year TIP

Nova

I found the attached online

Thank you

Mark

IMPACT AND MITIGATION FEES

Community & Economic Development
City of Arlington • 18204 59th Avenue NE • Arlington, WA 98223 • 360-403-3551

Fee Type	Effective Date	Amount ($)
Traffic Impact Fee (City)	4/28/09 (Ordinance No. 1469)	$3,355 per p.m. peak-hour trip
Traffic Impact Fee (City and located in the Cascade Industrial Center)	1/19/2021 (Ordinance No. 2021-002)	$5,841.39 per p.m. peak-hour trip
Traffic Mitigation Fee (County)	9/29/99 (Interlocal Agreement)	Per approved traffic study
Traffic Mitigation Fee (WSDOT)	SEPA	Per approved traffic study
Community Park Impact Fee	4/28/09 (Ordinance No. 1469)	$1,662 per single-family dwelling unit $1,497 per multi-family dwelling unit

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From: Mark J Jacobs, PE, PTO [mailto:JakeTraffic@comcast.net]
Sent: Monday, August 23, 2021 8:22 AM
To: 'Nova Heaton'
Subject: RE: Current TIF & Six Year TIP

Nova

I'm looking to get the updated City TIF rates and supporting Rate Study

Thank you

Mark

From: Mark J Jacobs, PE, PTO [mailto:JakeTraffic@comcast.net]
Sent: Monday, August 09, 2021 12:20 PM
To: 'Nova Heaton'
Subject: Current TIF & Six Year TIP

Nova

It's been awhile since our paths have crossed.

I had a Client reach out to me regarding some Due Diligence work he is conducted for a site in the City. He mentioned that the City revised the TIF rates, please send me a copy of the new rates and rate study conducted. Also please send me the City's current Six Year TIP.

Thank you

Mark

Mark J Jacobs, PE, PTOE
JAKE TRAFFIC ENGINEERING, INC
2614 39th Ave. SW

Seattle, WA 98116 – 2503
206.762.1978 o
206.799.5692 c

TRAFFIC ANALYSIS PROCEDURES & CHECKLIST

Community & Economic Development
City of Arlington • 18204 59th Avenue NE • Arlington, WA 98223 • Phone (360) 403-3551

All Commercial and Multi-family Development Projects submitted to the City of Arlington must include a traffic analysis. The traffic offer for each project shall include the items listed in the attached checklist according to the following breakdown:

- Projects generating fewer than ten (10) P.M. peak hour trips are required to complete
  - Section I (Project Description);
  - Section II (Trip Generation);
  - Include projects that can demonstrate a net reduction in traffic generated within the City of Arlington.

- Projects generating at least ten (10) P.M. peak hour trips, but fewer than seventy-five (75) P.M. peak hour trips are required to complete
  - Section I (Project Description);
  - Section II (Trip Generation);
  - Section III (Trip Distribution);
  - Section IV (Traffic Volumes);
  - Section V (Level of Service);
  - Section VI (Mitigation Requirements).

- Projects generating seventy-five (75) or more P.M. peak hour trips are required to complete all sections.

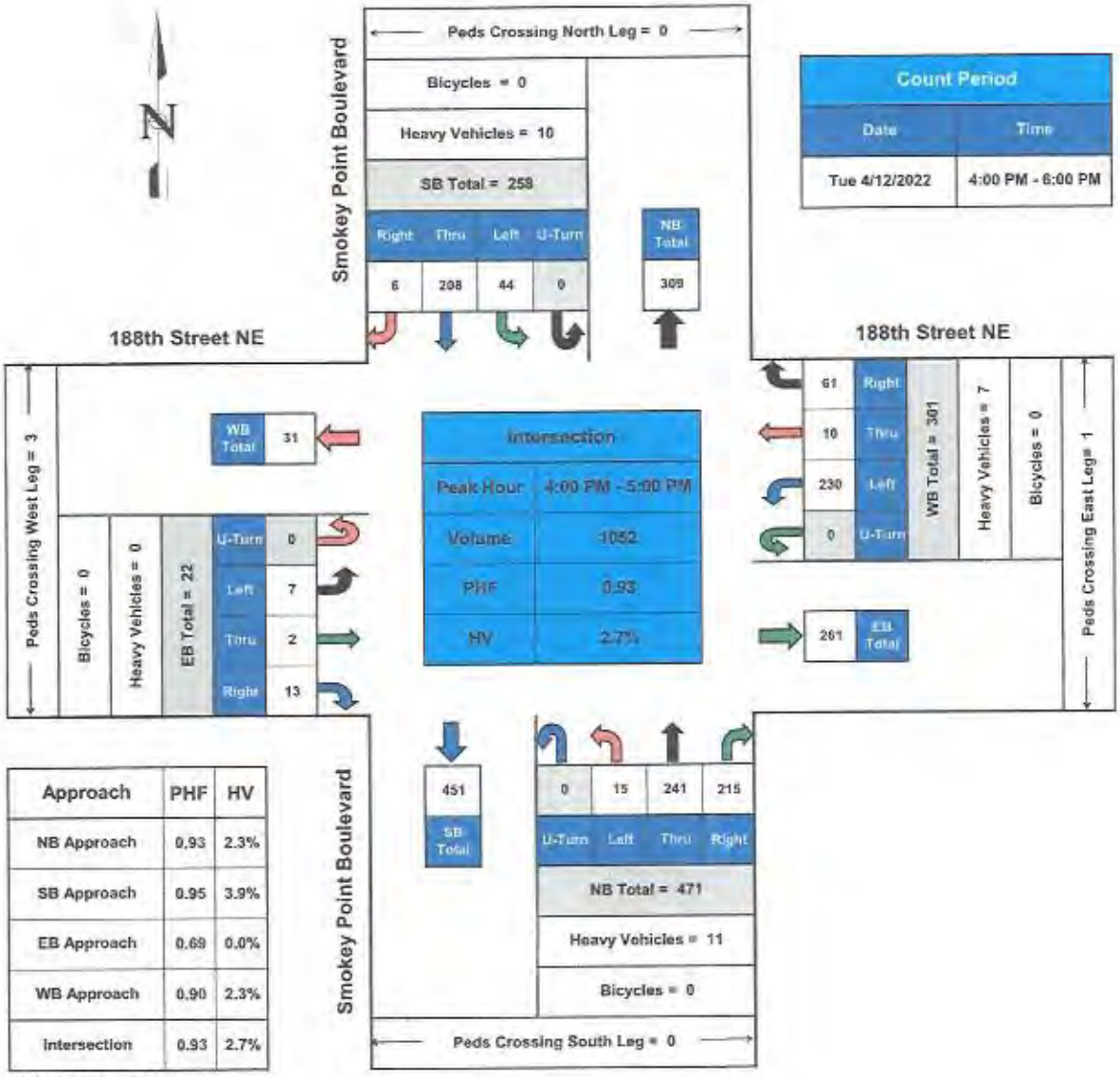
TRAFFIC ANALYSIS PROCEDURES & CHECKLIST

Community & Economic Development
City of Arlington • 18204 59th Avenue NE • Arlington, WA 98223 • Phone (360) 403-3551

I.	**PROJECT DESCRIPTION**	
	☑	Location (vicinity map & site plan)
	☑	Horizon year (year of completion & full occupancy)
	☑	Type, size and location of development
II.	**TRIP GENERATION (ITE Trip Generation Manual, Current Edition)**	
	☑	PM peak hour trips
	☐	Assumption and methodology for pass-by trips N/A
III.	**TRIP DISTRIBUTION**	
	☑	Show distribution percentages on vicinity map / diagram
IV.	**TRAFFIC VOLUMES**	
	☑	Existing PM peak hour counts & date (< 2 years old)
	☑	Future PM peak hour trips with / without project
	☑	The annual growth rate factor (%) and its source
	☑	Include the trips from pipeline developments (provided by Community Development)
V.	**LEVEL OF SERVICE (LOS) CALCULATIONS**	
	☐	At intersections impacted by 10 or more peak hour trips from the development
	☐	• Signalized I / S per coordination w/ the City
	☐	• Un-signalized I / S
	☑	LOS calculation sheets must be included
	☑	All assumptions should be noted for volume reductions, saturation flow rates, splits, etc., and their basis
VI.	**MITIGATION RECOMMENDATIONS**	
	☑	Local Agency Interlocal guidelines
	☑	LOS deficiencies
	☑	Right of way frontage improvements
	☐	Installation of a signal (warrant analysis per MUTCD must be included) N/A
	☐	Possible mitigation coordinated with other pipeline projects N/A
	☑	Impact fee calculation
VII.	**ACCIDENT ANALYSIS**	
	☑	An accident analysis at critical intersections (provided by Community Development)
	☑	Current 3 year accident history (data may be obtained for the Arlington Police Department)
	☐	Collision diagrams via WSDOT
	☑	A discussion of both of the above, including the predominant accident types and their locations, any accident patterns, an assessment of the development's traffic safety impact, and mitigation for its safety impact
VIII.	**SUBMITTAL REQUIREMENTS**	
	☑	Two (2) copies of Traffic Analysis electronic copy provided
	☑	Traffic Analysis report must be signed and stamped by a Professional Engineer

Smokey Point Boulevard @ 188th Street NE

Arlington, WA



Approach	PHF	HV
NB Approach	0.93	2.3%
SB Approach	0.95	3.9%
EB Approach	0.69	0.0%
WB Approach	0.90	2.3%
Intersection	0.93	2.7%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: Smokey Point Boulevard @ 188th Street NE
Arlington, WA

DATE OF COUNT: Tue. 4/12/2022
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 4/14/2022
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON Smokey Point Boulevard							FROM SOUTH ON Smokey Point Boulevard							FROM EAST ON 188th Street NE							FROM WEST ON 188th Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	0	0	4	0	11	53	4	0	0	3	0	1	67	58	0	0	4	0	66	4	14	1	0	0	0	0	0	4	282
04:30 PM	0	0	1	0	13	52	1	0	0	4	0	5	61	55	0	0	1	0	47	1	19	0	0	0	0	2	0	3	259
04:45 PM	0	0	2	0	12	47	0	0	0	3	0	1	55	52	1	0	1	0	57	4	19	1	0	0	0	3	1	4	255
05:00 PM	0	0	3	0	8	56	1	0	0	1	0	8	58	50	0	0	1	0	60	1	9	1	0	0	0	2	1	2	256
05:15 PM	0	0	3	0	13	49	1	0	0	26	0	0	42	47	0	0	2	0	48	1	12	0	0	0	0	1	4	4	222
05:30 PM	0	0	2	0	12	43	0	0	0	1	0	3	57	55	0	0	2	0	37	2	6	1	0	0	0	0	2	1	218
05:45 PM	1	0	0	0	7	33	1	0	0	3	0	3	49	51	0	0	1	0	41	1	8	0	0	0	0	0	0	3	197
06:00 PM	0	0	1	0	6	42	1	0	0	7	0	1	54	46	0	0	1	0	29	2	8	0	0	0	0	1	1	2	194
PEAK HOUR TOTALS	0	0	10	0	44	208	6	0	0	11	0	15	241	215	1	0	7	0	230	10	61	3	0	0	0	7	2	13	INTERSECTION
ALL MOVEMENTS				258							471							301							22			1052
% HV			3.9%							2.3%							2.3%							0.0%				2.7%
PEAK HOUR FACTOR				0.95							0.93							0.90							0.69			0.93

HV = Heavy Vehicle
PHF = Peak Hour Factor

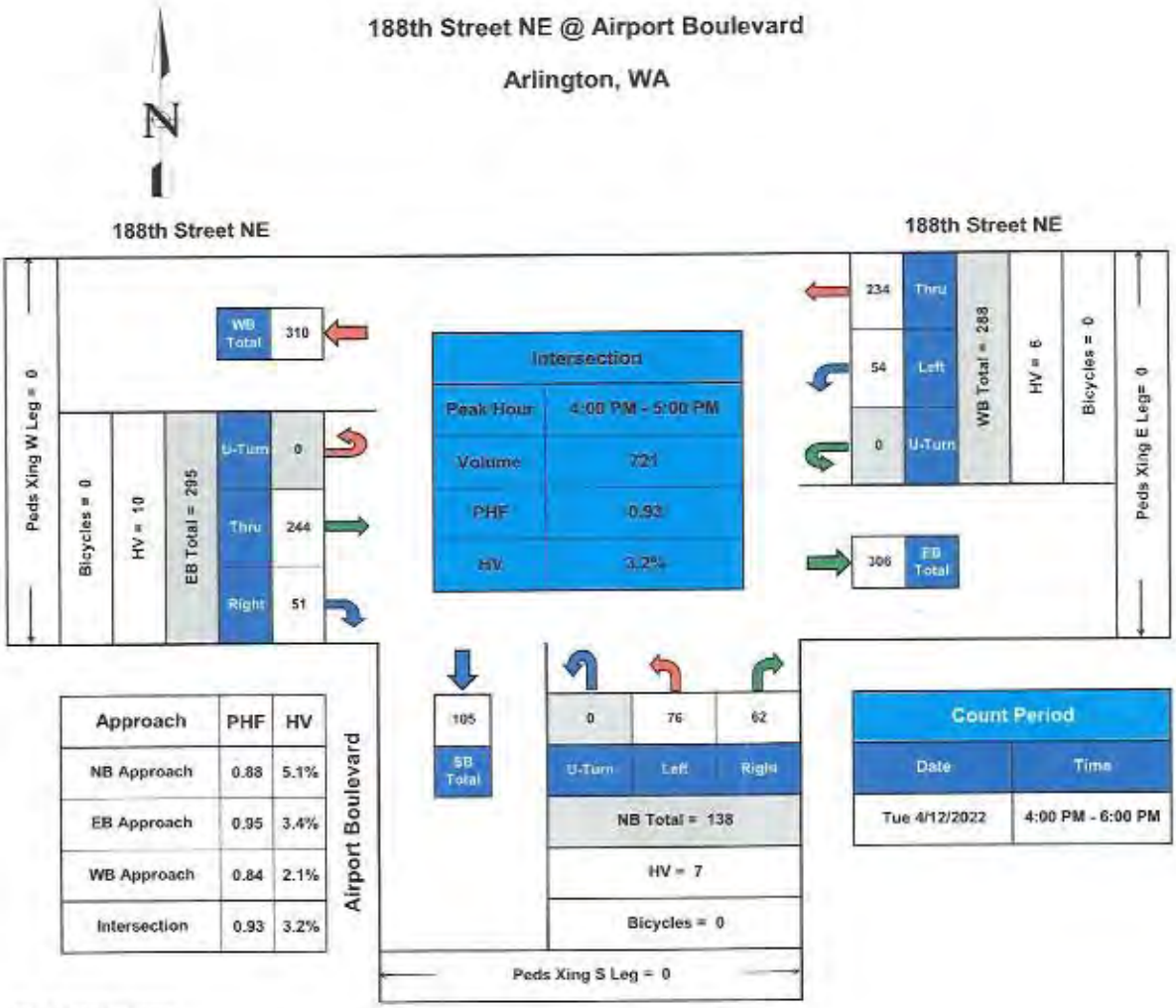
4:00 PM - 6:00 PM PEAK HOUR: 4:00 PM - 5:00 PM

ROLLING HOUR COUNT

TIME INTERVAL	FROM NORTH ON Smokey Point Boulevard							FROM SOUTH ON Smokey Point Boulevard							FROM EAST ON 188th Street NE							FROM WEST ON 188th Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	0	0	10	0	44	208	6	0	0	11	0	15	241	215	1	0	7	0	230	10	61	3	0	0	0	7	2	13	1052
4:15 PM - 5:15 PM	0	0	9	0	48	204	3	0	0	35	0	14	216	204	1	0	5	0	212	7	59	2	0	0	0	8	6	13	992
4:30 PM - 5:30 PM	0	0	10	0	45	196	2	0	0	33	0	12	212	204	1	0	6	0	202	6	46	3	0	0	0	6	8	11	951
4:45 PM - 5:45 PM	1	0	8	0	40	181	3	0	0	33	0	14	206	203	0	0	6	0	166	5	35	2	0	0	0	3	7	10	893
5:00 PM - 6:00 PM	1	0	6	0	38	167	3	0	0	39	0	7	202	199	0	0	5	0	155	6	35	1	0	0	0	2	7	10	831
4:00 PM - 6:00 PM Total	1	0	16	0	82	375	5	0	0	50	0	22	443	414	1	0	13	0	385	15	96	4	0	0	0	9	9	23	1883

188th Street NE @ Airport Boulevard

Arlington, WA



Approach	PHF	HV
NB Approach	0.88	5.1%
EB Approach	0.95	3.4%
WB Approach	0.84	2.1%
Intersection	0.93	3.2%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: 188th Street NE @ Airport Boulevard
Arlington, WA

DATE OF COUNT: Tue, 4/12/2022
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 4/13/2022
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON							FROM SOUTH ON Airport Boulevard							FROM EAST ON 188th Street NE							FROM WEST ON 188th Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	0	0	0	0	0	0	0	0	0	2	0	21	0	14	0	0	4	0	8	72	0	0	0	0	0	0	62	13	190
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	22	0	12	0	0	0	0	11	43	0	0	0	1	0	0	66	12	166
04:45 PM	0	0	0	0	0	0	0	0	0	2	0	22	0	17	0	0	1	0	20	56	0	0	0	5	0	0	56	13	194
05:00 PM	0	0	0	0	0	0	0	0	0	2	0	11	0	19	0	0	1	0	15	53	0	0	0	4	0	0	60	13	171
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	12	0	17	0	0	2	0	12	46	0	0	0	1	0	0	65	7	159
05:30 PM	0	0	0	0	0	0	0	0	0	2	0	7	0	24	0	0	2	0	14	38	0	0	0	2	0	0	70	9	162
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	8	0	20	0	0	1	0	8	41	0	0	0	3	0	0	49	12	138
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	13	0	9	0	0	2	0	9	27	0	0	0	4	0	0	48	7	113
PEAK HOUR TOTALS	0	0	0	0	0	0	0	0	0	7	0	76	0	62	0	0	6	0	54	234	0	0	0	10	0	0	244	51	INTERSECTION
ALL MOVEMENTS				0						138							288							295				721
% HV			#N/A							5.1%							2.1%							3.4%					3.2%
PEAK HOUR FACTOR				#N/A						0.88							0.84							0.95					0.93

HV = Heavy Vehicle
PHF = Peak Hour Factor

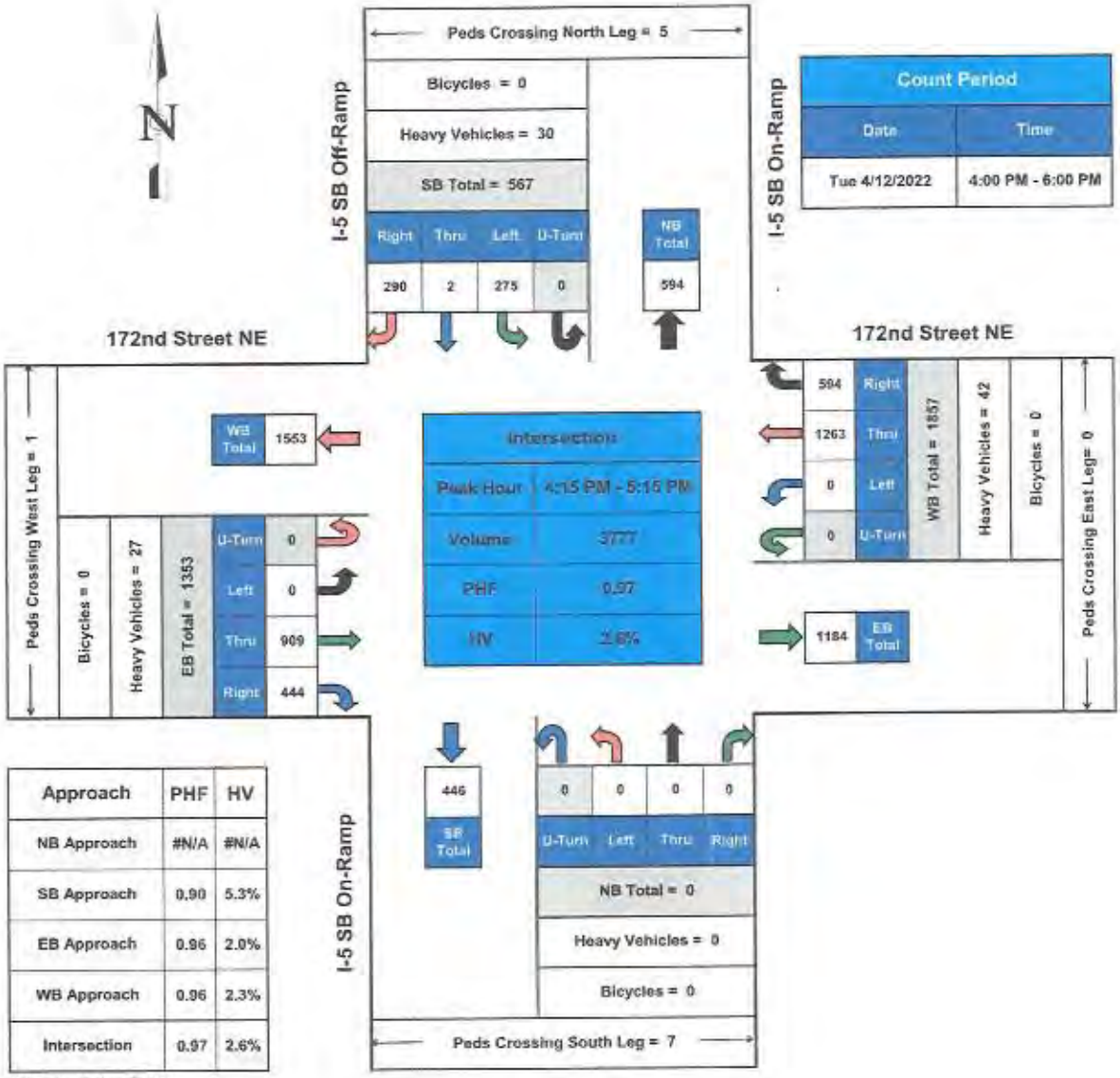
4:00 PM - 6:00 PM PEAK HOUR: 4:00 PM - 5:00 PM

ROLLING HOUR COUNT

TIME INTERVAL	FROM NORTH ON							FROM SOUTH ON Airport Boulevard							FROM EAST ON 188th Street NE							FROM WEST ON 188th Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	7	0	76	0	62	0	0	6	0	54	234	0	0	0	10	0	0	244	51	721
4:15 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	5	0	67	0	65	0	0	4	0	58	208	0	0	0	11	0	0	247	45	690
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	6	0	52	0	77	0	0	6	0	61	203	0	0	0	12	0	0	251	42	688
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	4	0	38	0	80	0	0	6	0	48	178	0	0	0	10	0	0	244	41	630
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	2	0	40	0	70	0	0	7	0	43	152	0	0	0	10	0	0	232	35	572
4:00 PM - 6:00 PM Total:	0	0	0	0	0	0	0	0	0	9	0	116	0	132	0	0	13	0	97	386	0	0	0	20	0	0	476	86	1293

I-5 SB Ramps @ 172nd Street NE

Arlington, WA



Approach	PHF	HV
NB Approach	#N/A	#N/A
SB Approach	0.90	5.3%
EB Approach	0.96	2.0%
WB Approach	0.96	2.3%
Intersection	0.97	2.6%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: I-5 SB Ramps @ 172nd Street NE
Arlington, WA

DATE OF COUNT: Tue. 4/12/2022
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 4/13/2022
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON I-5 SB Off-Ramp							FROM SOUTH ON I-5 SB On-Ramp							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	3	1	7	0	57	0	84	1	0	0	0	0	0	0	0	0	9	0	0	308	130	1	0	11	0	0	231	113	903
04:30 PM	3	0	8	0	66	0	73	3	0	0	0	0	0	0	0	0	14	0	0	346	139	0	0	9	0	0	243	111	978
04:45 PM	1	0	8	0	54	1	73	0	0	0	0	0	0	0	0	0	6	0	0	300	150	1	0	4	0	0	226	104	908
05:00 PM	0	0	9	0	88	0	70	2	0	0	0	0	0	0	0	0	10	0	0	312	145	0	0	5	0	0	233	110	958
05:15 PM	1	0	5	0	67	1	74	2	0	0	0	0	0	0	0	0	12	0	0	305	180	0	0	9	0	0	207	119	933
05:30 PM	1	0	2	0	68	0	59	0	0	0	0	0	0	0	0	0	11	0	0	325	150	0	0	7	0	0	213	107	922
05:45 PM	1	0	6	0	57	0	80	1	0	0	0	0	0	0	0	0	9	0	0	303	113	0	0	1	0	0	192	120	845
06:00 PM	2	0	3	0	50	0	49	1	0	0	0	0	0	0	0	0	6	0	0	300	101	0	0	4	0	0	199	106	805
PEAK HOUR TOTALS	5	0	30	0	275	2	290	7	0	0	0	0	0	0	0	0	42	0	0	1263	594	1	0	27	0	0	909	444	INTERSECTION
ALL MOVEMENTS				567							0							1857							1353			3777
% HV			5.3%							#N/A							2.3%							2.0%				2.6%
PEAK HOUR FACTOR				0.90							#N/A							0.96							0.96			0.97

HV = Heavy Vehicle
PHF = Peak Hour Factor

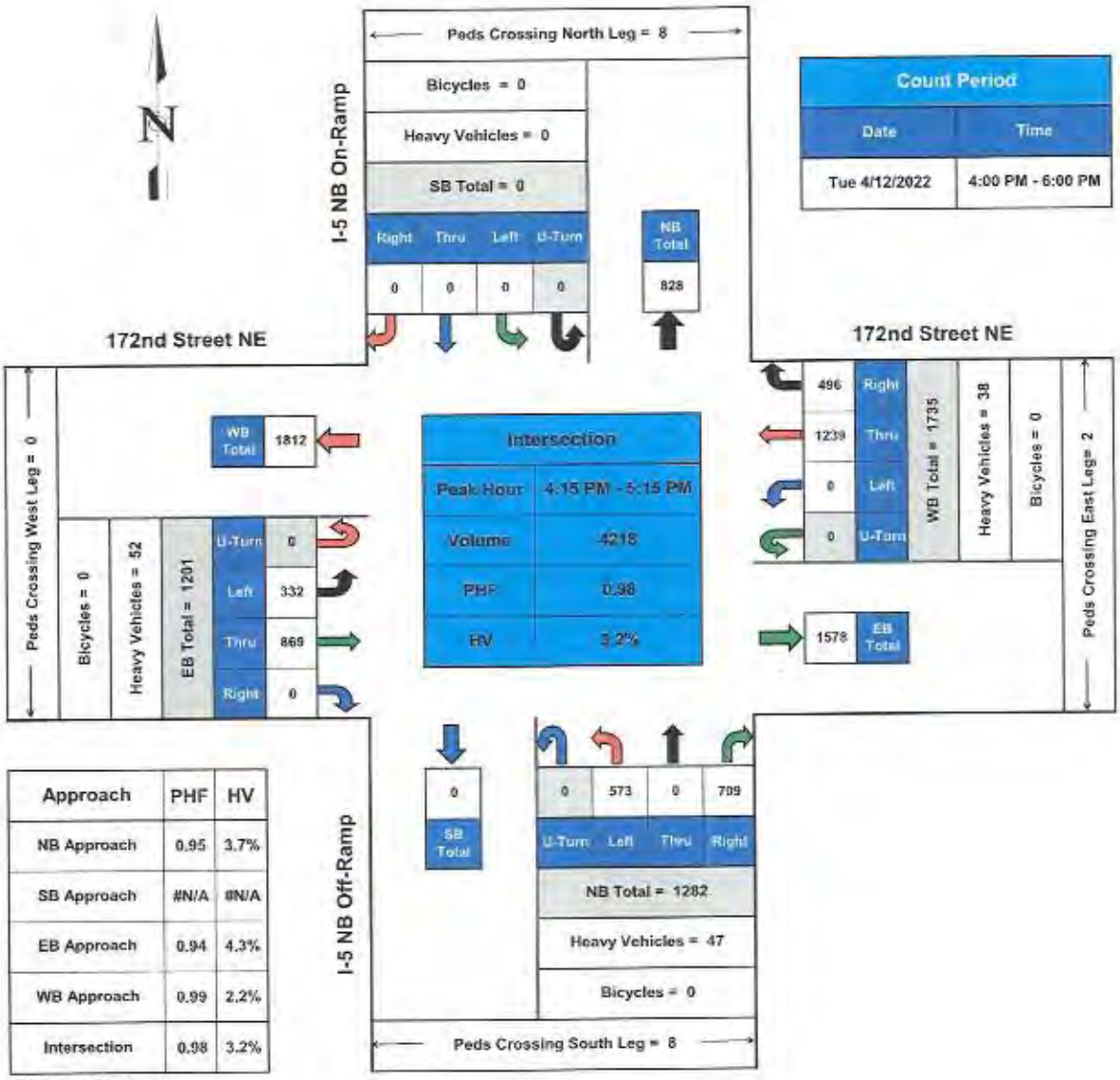
4:00 PM - 6:00 PM PEAK HOUR: 4:15 PM - 5:15 PM

ROLLING HOUR COUNT

TIME INTERVAL	FROM NORTH ON I-5 SB Off-Ramp							FROM SOUTH ON I-5 SB On-Ramp							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	7	1	32	0	265	1	280	6	0	0	0	0	0	0	0	0	39	0	0	1266	564	2	0	29	0	0	933	438	3747
4:15 PM - 5:15 PM	5	0	30	0	275	2	290	7	0	0	0	0	0	0	0	0	42	0	0	1263	594	1	0	27	0	0	909	444	3777
4:30 PM - 5:30 PM	3	0	24	0	277	2	276	4	0	0	0	0	0	0	0	0	39	0	0	1242	605	1	0	25	0	0	879	440	3721
4:45 PM - 5:45 PM	3	0	22	0	280	1	263	5	0	0	0	0	0	0	0	0	42	0	0	1245	568	0	0	22	0	0	845	456	3658
5:00 PM - 6:00 PM	5	0	16	0	242	1	242	4	0	0	0	0	0	0	0	0	38	0	0	1233	524	0	0	21	0	0	811	452	3505
4:00 PM - 6:00 PM Total:	12	1	48	0	507	2	522	10	0	0	0	0	0	0	0	0	77	0	0	2499	1088	2	0	50	0	0	1744	890	7252

I-5 NB Ramps @ 172nd Street NE

Arlington, WA



Approach	PHF	HV
NB Approach	0.95	3.7%
SB Approach	#N/A	#N/A
EB Approach	0.94	4.3%
WB Approach	0.99	2.2%
Intersection	0.98	3.2%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: I-5 NB Ramps @ 172nd Street NE
Arlington, WA

DATE OF COUNT: Tue, 4/12/2022
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 4/13/2022
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON I-5 NB On-Ramp							FROM SOUTH ON I-5 NB Off-Ramp							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	2	0	0	0	0	0	0	0	0	18	0	124	0	162	1	0	16	0	0	316	117	0	0	10	0	56	184	0	1009
04:30 PM	3	0	0	0	0	0	0	4	0	14	0	153	0	172	0	0	13	0	0	311	127	0	0	17	0	91	227	0	1081
04:45 PM	2	0	0	0	0	0	0	0	0	10	0	144	0	193	2	0	7	0	0	305	126	0	0	10	0	74	210	0	1052
05:00 PM	1	0	0	0	0	0	0	4	0	6	0	139	0	167	0	0	11	0	0	303	127	0	0	15	0	87	226	0	1049
05:15 PM	2	0	0	0	0	0	0	0	0	17	0	137	0	177	0	0	7	0	0	320	116	0	0	10	0	80	206	0	1036
05:30 PM	1	0	0	0	0	0	0	0	0	20	0	162	0	204	0	0	9	0	0	292	115	0	0	6	0	76	211	0	1058
05:45 PM	3	0	0	0	0	0	0	4	0	17	0	148	0	187	1	0	9	0	0	263	104	0	0	5	0	93	170	0	953
06:00 PM	2	0	0	0	0	0	0	1	0	16	0	142	1	193	0	0	5	0	0	246	80	0	0	4	1	68	191	0	912
PEAK HOUR TOTALS	8	0	0	0	0	0	0	8	0	47	0	573	0	709	2	0	38	0	0	1239	495	0	0	52	0	332	869	0	INTERSECTION
ALL MOVEMENTS				0							1282							1735							1201				4218
% HV			#N/A							3.7%							2.2%							4.3%					3.2%
PEAK HOUR FACTOR				#N/A							0.95							0.99							0.94				0.98

HV = Heavy Vehicle
PHF = Peak Hour Factor

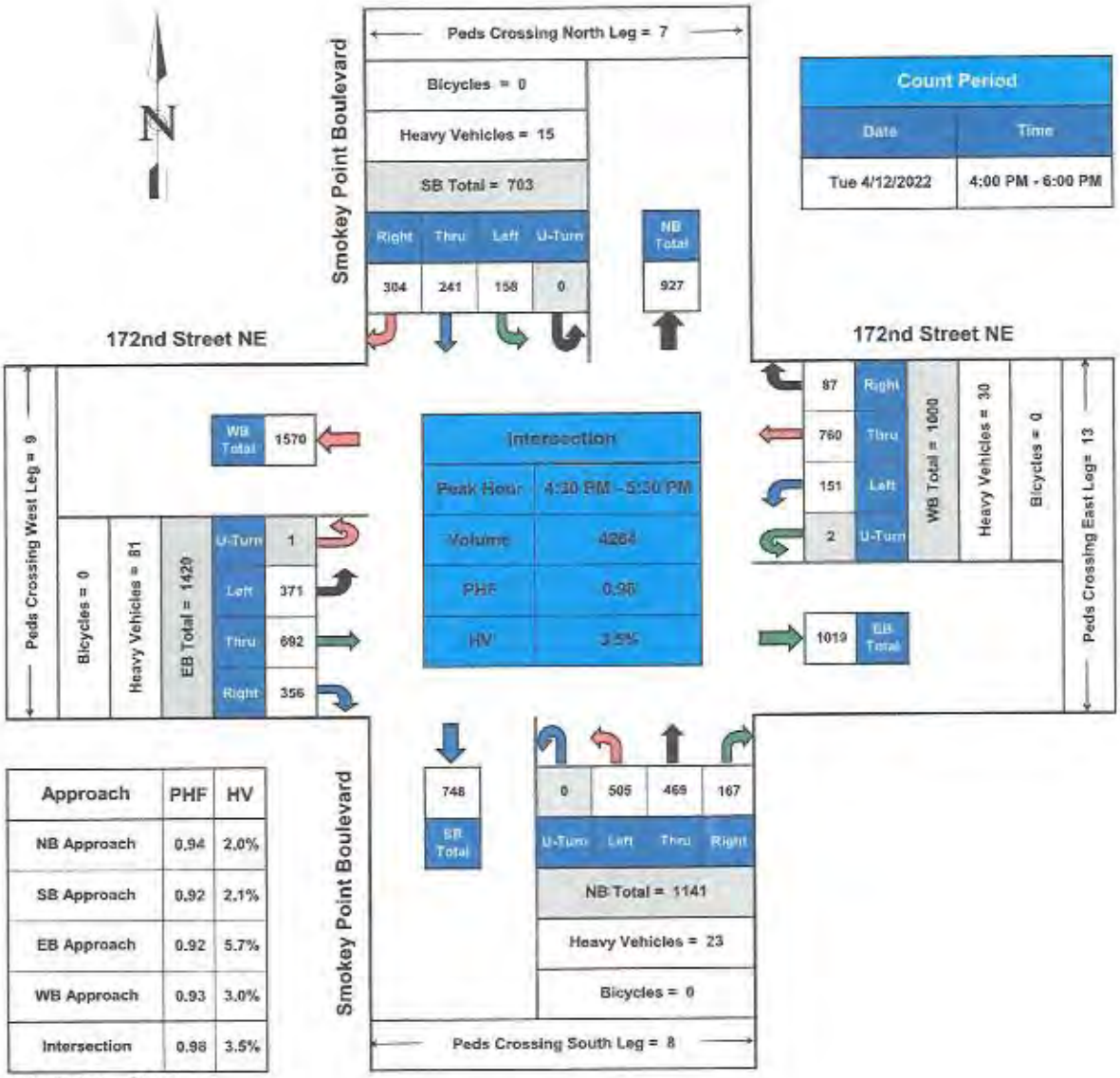
4:00 PM - 6:00 PM PEAK HOUR: 4:15 PM - 5:15 PM

ROLLING HOUR COUNT

TIME INTERVAL	FROM NORTH ON I-5 NB On-Ramp							FROM SOUTH ON I-5 NB Off-Ramp							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	8	0	0	0	0	0	0	8	0	48	0	560	0	694	3	0	41	0	0	1235	497	0	0	52	0	348	857	0	4191
4:15 PM - 5:15 PM	8	0	0	0	0	0	0	8	0	47	0	573	0	709	2	0	38	0	0	1239	486	0	0	52	0	332	869	0	4216
4:30 PM - 5:30 PM	6	0	0	0	0	0	0	4	0	53	0	582	0	741	2	0	34	0	0	1218	484	0	0	41	0	317	853	0	4195
4:45 PM - 5:45 PM	7	0	0	0	0	0	0	8	0	60	0	584	0	735	1	0	36	0	0	1176	462	0	0	36	0	326	813	0	4096
5:00 PM - 6:00 PM	5	0	0	0	0	0	0	5	0	70	0	587	1	761	1	0	30	0	0	1119	415	0	0	25	1	307	768	0	3959
4:00 PM - 6:00 PM Total:	16	0	0	0	0	0	0	13	0	118	0	1147	1	1455	4	0	71	0	0	2354	912	0	0	77	1	655	1625	0	8150

Smokey Point Boulevard @ 172nd Street NE

Arlington, WA



Approach	PHF	HV
NB Approach	0.94	2.0%
SB Approach	0.92	2.1%
EB Approach	0.92	5.7%
WB Approach	0.93	3.0%
Intersection	0.98	3.5%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: Smokey Point Boulevard @ 172nd Street NE
Arlington, WA

DATE OF COUNT: Tue. 4/12/2022
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 4/13/2022
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON Smokey Point Boulevard							FROM SOUTH ON Smokey Point Boulevard							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	2	0	5	0	49	68	87	2	0	6	0	132	124	35	2	0	7	0	46	152	23	3	0	18	0	97	152	73	1048
04:30 PM	2	0	4	0	36	55	71	1	0	10	0	139	113	52	8	0	7	1	31	200	21	2	0	19	0	85	173	97	1074
04:45 PM	3	0	4	0	34	62	76	2	0	3	0	119	102	34	7	0	9	2	44	206	18	2	0	23	0	93	191	100	1081
05:00 PM	0	0	2	0	49	67	76	3	0	5	0	140	109	42	3	0	5	0	44	155	25	1	0	18	1	86	122	99	1015
05:15 PM	2	0	5	0	35	52	76	1	0	8	0	122	128	43	1	0	6	0	28	209	21	4	0	18	0	90	200	80	1083
05:30 PM	2	0	4	0	40	60	77	2	0	7	0	124	130	48	2	0	7	0	35	190	23	2	0	22	0	102	179	77	1085
05:45 PM	0	0	1	0	25	43	51	1	0	7	0	138	101	31	2	0	6	0	35	140	22	2	0	18	0	94	141	76	897
06:00 PM	1	0	1	0	39	46	57	2	0	8	0	122	72	28	3	0	3	0	25	126	17	0	0	18	2	90	151	71	847
PEAK HOUR TOTALS	7	0	16	0	158	241	304	8	0	23	0	505	469	167	13	0	30	2	151	760	87	9	0	81	1	371	692	356	INTERSECTION
ALL MOVEMENTS				703							1141							1000							1420				4264
% HV			2.1%							2.0%							3.0%							5.7%				3.5%
PEAK HOUR FACTOR				0.92							0.94							0.93							0.92				0.98

HV = Heavy Vehicle
PHF = Peak Hour Factor

4:00 PM - 6:00 PM PEAK HOUR: 4:30 PM - 5:30 PM

ROLLING HOUR COUNT

TIME INTERVAL	FROM NORTH ON Smokey Point Boulevard							FROM SOUTH ON Smokey Point Boulevard							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	7	0	15	0	168	252	310	8	0	24	0	530	448	163	20	0	31	3	165	723	87	6	0	78	1	361	638	369	4218
4:15 PM - 5:15 PM	7	0	15	0	154	236	298	7	0	26	0	520	452	171	19	0	30	3	147	770	85	9	0	78	1	354	686	376	4253
4:30 PM - 5:30 PM	7	0	16	0	158	241	304	8	0	23	0	505	469	167	13	0	30	2	151	760	87	9	0	81	1	371	692	356	4264
4:45 PM - 5:45 PM	4	0	12	0	148	222	279	7	0	27	0	524	468	164	8	0	27	0	142	694	91	9	0	76	1	372	642	332	4080
5:00 PM - 6:00 PM	5	0	11	0	139	201	260	6	0	30	0	506	431	151	8	0	22	0	123	665	83	8	0	76	2	376	671	304	3912
4:00 PM - 6:00 PM Total:	12	0	26	0	307	453	570	14	0	54	0	1036	879	314	28	0	53	3	288	1388	170	16	0	154	3	737	1309	673	8130

PERTEET

INTERSECTION CONTROL ANALYSIS

505 5th Avenue S, Suite 300, Seattle, WA 98104 | P 206.436.0515

To: James Kelly, PE, Public Works Director, City of Arlington

From: Amanda Ruksznis, PE
Mike Hendrix, PE, PTOE Project Manager

Date: May 4, 2018

Re: City of Arlington 172nd Street NE and 40th Avenue NE – Intersection Control Analysis

1. Introduction

172nd Street NE (State Route 531) is classified as an Urban Minor Arterial route under jurisdiction of both the City of Arlington and WSDOT. As part of the City of Arlington's continuing development on north and south sides of 172nd Street NE, a new traffic signal is desired by the City at the T-intersection with 40th Avenue NE. Existing traffic volumes during peak hours on 172nd Street NE provides minimal gaps for vehicles at the stop-controlled leg to enter onto 172nd Street NE. Installation of a new traffic signal requires approval by WSDOT and additional analysis measures due to the proximity of existing signals at the intersection with Smokey Point Boulevard to the west, and 43rd Avenue NE to the east. This memorandum presents the intersection control analysis at 172nd Street NE and 40th Avenue NE to evaluate the intersection and determine the most appropriate alternative.

Future development is anticipated on the north side of 172nd Street NE which will add both residential and commercial land uses. This development is anticipated to access 172nd Street NE via a driveway aligned with the existing 40th Avenue NE alignment. This memorandum analyzes the proposed driveway into the future development by adding a north leg to the intersection in the year 2022. The analysis involves trip generation calculations, evaluation of future intersection level of service (LOS), and determination of intersection control measures.

2. Existing Conditions

172nd Street NE is one of the main east-west arterial roads for the City of Arlington connecting State Route 9 to Interstate 5. The analyzed segment of 172nd Street NE is a four lane roadway with two-lanes in each direction, a raised median, and bicycle lanes. On 172nd Street between Smokey Point Boulevard and 43rd Avenue NE, the median allows both westbound and eastbound left turns at driveway accesses. Exiting traffic from driveways are restricted to right turns. At the intersection with 40th Avenue NE, the median is designed to prohibit westbound left turns and provide an acceleration lane for northbound to westbound left turning traffic. 40th Avenue NE at the intersection is a four lane roadway with two-lanes in each direction, a planted median, and is stop controlled at the intersection with 172nd Street NE. The intersection has one marked crosswalk that crosses the south leg. South of the intersection are connections to several commercial businesses as well as the local Washington State Department of Licensing office.

2.1 Traffic Volumes

Traffic Data Gathering, a traffic data collection firm, provided 15 minute interval traffic counts at the intersection over a 24-hour period, starting from 10:00 PM April 3, 2017, to 10:00 PM April 4, 2017. The traffic counts are used

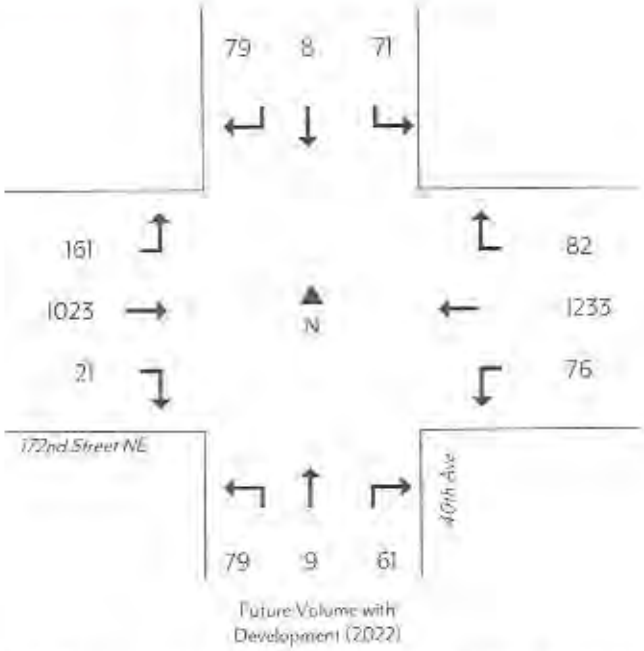


Figure 3. Future Peak Hour Traffic Volumes – With Development.

3.2 Signal Warrant Analysis – Proposed Condition

Based on the results of the signal warrant analysis using existing conditions, only Warrants 1 and 2 were further examined using the proposed conditions.

Note that the *Trip Generation Manual* doesn't provide 8 hours of data for motor vehicle traffic for most land uses. However, the *Manual* does provide this data for a shopping center. As such, the warrant analysis uses this data in addition to the travel growth. This approach is considered conservative as the traffic generated by the remaining land uses are not included.

Warrant 1, Eight-Hour Vehicular Volume

For a major street with two or more lanes in each direction and 85th percentile travel speeds above 40mph and a minor street with a two-lane approach, eight separate hours of data must have major street traffic volumes of at least 630 vehicles per hour and minor street traffic volumes of at least 70 vehicles per hour to meet the warrant.

Warrant 1 is MET with the additional traffic from the development.

Warrant 2, Four-Hour Vehicular Volume

The data points from Table 1 and Table 2 are plotted against the curves in the MUTCD. When plotted, two out of the four hours were higher than the curve. This means that the warrant is not satisfied.

Warrant 2 is NOT MET.

SR531mp7.12_43rd_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
PM Peak (Jul 10 2019 4PM - 5 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676657, Location: 48.152292, -122.172292, Site Code: 53100712_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

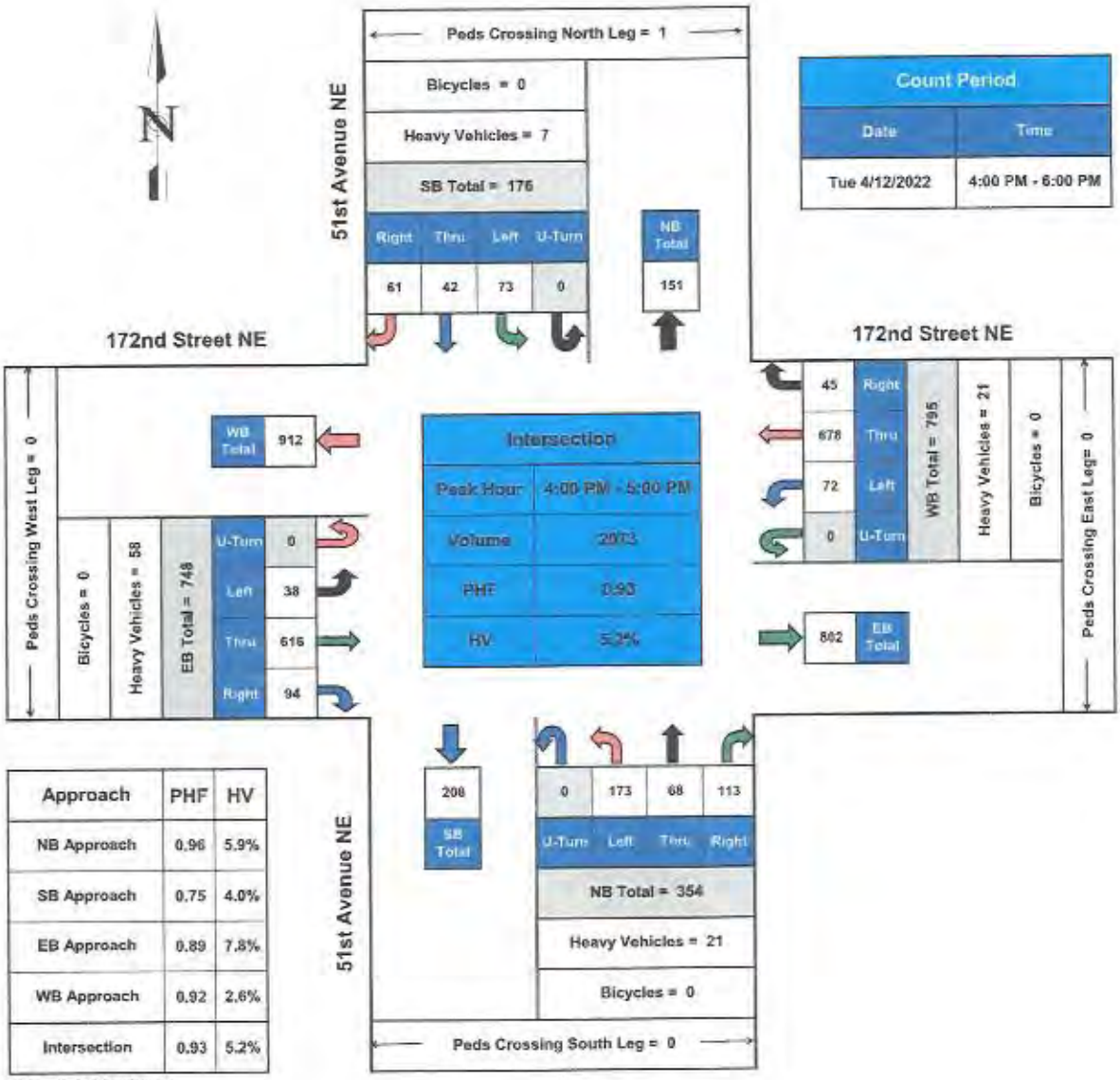
Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg	43rd Ave NE						SR 531 (172nd St NE)						43rd Ave NE						SR 531 (172nd St NE)						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-07-10 4:00PM	3	2	3	0	**8**	0	4	216	33	0	**253**	0	52	2	67	0	**121**	0	9	198	3	6	**216**	0	**598**
4:15PM	5	0	1	0	**6**	2	4	208	31	0	**243**	0	54	1	74	0	**129**	0	6	170	6	6	**188**	0	**566**
4:30PM	3	1	0	0	**4**	1	3	229	35	0	**267**	0	48	2	51	0	**101**	0	6	178	3	3	**190**	1	**562**
4:45PM	3	1	3	0	**7**	0	6	215	31	0	**252**	0	35	4	42	0	**81**	0	8	177	7	2	**194**	0	**534**
Total	14	4	7	0	**25**	3	17	868	130	0	**1015**	0	189	10	234	0	**432**	0	29	723	19	17	**788**	1	**2260**
% Approach	56.0%	16.0%	28.0%	0%	-	-	1.7%	85.5%	12.8%	0%	-	-	43.8%	2.3%	53.9%	0%	-	-	3.7%	91.8%	2.4%	2.2%	-	-	-
% Total	0.6%	0.2%	0.3%	0%	**1.1%**	-	0.8%	38.4%	5.8%	0%	**44.9%**	-	8.4%	0.4%	10.3%	0%	**19.1%**	-	1.3%	32.0%	0.8%	0.8%	**34.9%**	-	-
PHF	0.700	0.500	0.583	-	**0.781**	-	0.708	0.947	0.929	-	**0.949**	-	0.875	0.625	0.798	-	**0.837**	-	0.806	0.912	0.679	0.708	**0.912**	-	0.944
Motorcycles	0	0	0	0	**0**	-	0	0	1	0	**1**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	2
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0%	0.8%	0%	**0.1%**	-	0%	10.0%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Lights	14	4	7	0	**25**	-	16	847	128	0	**991**	-	188	9	232	0	**429**	-	27	688	19	12	**751**	-	2196
% Lights	100%	100%	100%	0%	**100%**	-	94.1%	97.6%	98.5%	0%	**97.6%**	-	99.5%	90.0%	99.6%	0%	**99.3%**	-	93.1%	95.2%	100%	100%	**95.3%**	-	97.2%
Single-Unit Trucks	0	0	0	0	**0**	-	1	12	1	0	**14**	-	0	0	1	0	**1**	-	2	23	0	0	**25**	-	40
% Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	5.9%	1.4%	0.8%	0%	**1.4%**	-	0%	0%	0.4%	0%	**0.2%**	-	6.9%	3.2%	0%	0%	**3.2%**	-	1.8%
Articulated Trucks	0	0	0	0	**0**	-	0	6	0	0	**6**	-	0	0	0	0	**0**	-	0	12	0	0	**12**	-	18
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0.7%	0%	0%	**0.6%**	-	0%	0%	0%	0%	**0%**	-	0%	1.7%	0%	0%	**1.5%**	-	0.8%
Buses	0	0	0	0	**0**	-	0	2	0	0	**2**	-	1	0	0	0	**1**	-	0	0	0	0	**0**	-	3
% Buses	0%	0%	0%	0%	**0%**	-	0%	0.2%	0%	0%	**0.2%**	-	0.5%	0%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Bicycles on Road	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	1		-	-	-	-	0		-	-	-	-	0		-	-	-	-	1		
% Pedestrians	-	-	-	-	- 100%		-	-	-	-			-	-	-	-			-	-	-	-	- 100%		
Bicycles on Crosswalk	-	-	-	-	0		-	-	-	-	0		-	-	-	-	0		-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	0%		-	-	-	-			-	-	-	-			-	-	-	-	0%		

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

51st Avenue NE @ 172nd Street NE

Arlington, WA



Approach	PHF	HV
NB Approach	0.96	5.9%
SB Approach	0.75	4.0%
EB Approach	0.89	7.8%
WB Approach	0.92	2.6%
Intersection	0.93	5.2%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: 51st Avenue NE @ 172nd Street NE
Arlington, WA

DATE OF COUNT: Tue, 4/12/2022
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 4/13/2022
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON 51st Avenue NE							FROM SOUTH ON 51st Avenue NE							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	0	0	1	0	15	5	12	0	0	5	0	47	22	23	0	0	7	0	18	176	6	0	0	11	0	9	161	18	512
04:30 PM	1	0	2	0	16	15	7	0	0	10	0	41	16	26	0	0	3	0	17	153	14	0	0	14	0	12	175	24	516
04:45 PM	0	0	2	0	21	16	22	0	0	3	0	45	18	29	0	0	4	0	20	187	10	0	0	25	0	14	150	25	555
05:00 PM	0	0	2	0	21	6	20	0	0	3	0	40	14	35	0	0	7	0	17	162	15	0	0	8	0	3	130	27	490
05:15 PM	0	0	0	0	17	11	12	0	0	2	0	50	17	33	0	0	2	0	14	147	8	0	0	13	0	7	159	22	497
05:30 PM	0	0	0	0	12	15	8	0	0	1	0	27	12	35	0	0	8	0	18	141	8	0	0	13	0	15	198	28	517
05:45 PM	0	0	1	0	9	13	4	0	0	1	0	25	11	21	0	0	5	0	11	154	8	0	1	8	2	13	136	17	424
06:00 PM	1	0	0	0	19	2	4	0	0	2	0	32	16	12	0	0	2	0	7	112	7	0	0	8	0	8	143	13	375
PEAK HOUR TOTALS	1	0	7	0	73	42	61	0	0	21	0	173	68	113	0	0	21	0	72	678	45	0	0	58	0	38	616	94	INTERSECTION
ALL MOVEMENTS				176							354							795							748			2073
% HV			4.0%							5.9%							2.6%							7.8%				5.2%
PEAK HOUR FACTOR				0.75							0.96							0.92							0.89			0.93

HV = Heavy Vehicle
PHF = Peak Hour Factor

4:00 PM - 6:00 PM PEAK HOUR: 4:00 PM - 5:00 PM

ROLLING HOUR COUNT

TIME INTERVAL	FROM NORTH ON 51st Avenue NE							FROM SOUTH ON 51st Avenue NE							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	1	0	7	0	73	42	61	0	0	21	0	173	68	113	0	0	21	0	72	678	45	0	0	58	0	38	616	94	2073
4:15 PM - 5:15 PM	1	0	6	0	75	48	61	0	0	18	0	176	63	123	0	0	16	0	68	649	47	0	0	60	0	36	614	98	2058
4:30 PM - 5:30 PM	0	0	4	0	71	48	62	0	0	9	0	162	59	132	0	0	21	0	68	637	41	0	0	59	0	39	637	102	2059
4:45 PM - 5:45 PM	0	0	3	0	59	45	44	0	0	7	0	142	54	124	0	0	22	0	60	604	39	0	1	42	2	38	623	94	1928
5:00 PM - 6:00 PM	1	0	1	0	57	41	28	0	0	8	0	134	56	101	0	0	17	0	50	554	31	0	1	42	2	43	636	80	1813
4:00 PM - 6:00 PM Total:	2	0	8	0	130	83	89	0	0	27	0	307	124	214	0	0	38	0	122	1232	76	0	1	100	2	81	1252	174	3886

SR531mp7.62_51st_Ave_NE_2019-0710 - TMC
Wed Jul 10, 2019
PM Peak (Jul 10 2019 4PM - 5 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 676655, Location: 48.152117, -122.161569, Site Code: 53100762_0719

WASHINGTON STATE DEPT. OF TRANSPORTATION
Northwest Region - Traffic Studies

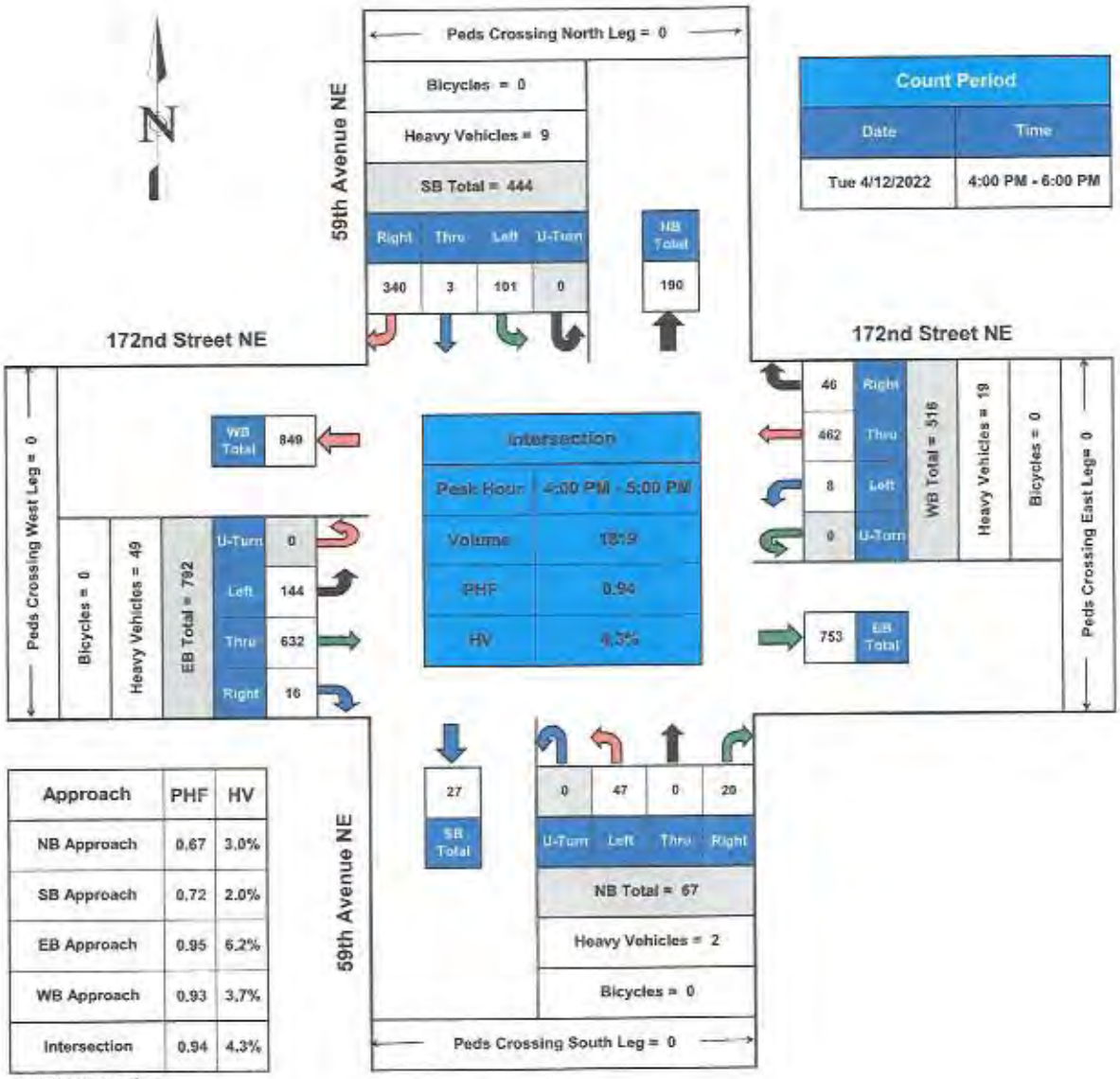
Provided by: Washington State DOT
15700 Dayton Ave North, MS-120, P.O. Box 330310,
Seattle, WA, 98133, US

Leg / Direction	51st Ave NE Southbound						SR 531 (172nd St NE) Westbound						51st Ave NE Northbound						SR 531 (172nd St NE) Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2019-07-10 4:00PM	15	8	5	0	**28**	0	12	207	11	0	**230**	0	22	10	39	0	**71**	0	37	192	11	0	**240**	0	**569**
4:15PM	14	15	3	0	**32**	0	6	200	21	0	**227**	0	11	15	40	0	**66**	2	40	175	5	0	**220**	2	**545**
4:30PM	27	18	27	0	**70**	1	7	206	21	0	**234**	0	20	19	24	0	**63**	0	39	175	13	0	**227**	0	**594**
4:45PM	15	11	11	0	**37**	0	3	199	19	0	**221**	0	22	12	38	0	**72**	0	43	187	4	0	**234**	0	**564**
Total	71	50	46	0	**167**	1	28	812	72	0	**912**	0	75	56	141	0	**272**	2	159	729	33	0	**921**	2	**2272**
% Approach	42.5%	29.9%	27.5%	0%	-	-	3.1%	89.0%	7.9%	0%	-	-	27.6%	20.6%	51.8%	0%	-	-	17.3%	79.2%	3.6%	0%	-	-	-
% Total	3.1%	2.2%	2.0%	0%	**7.4%**	-	1.2%	35.7%	3.2%	0%	**40.1%**	-	3.3%	2.5%	6.2%	0%	**12.0%**	-	7.0%	32.1%	1.5%	0%	**40.5%**	-	
PHF	0.657	0.781	0.426	-	**0.596**	-	0.583	0.981	0.857	-	**0.974**	-	0.852	0.717	0.881	-	**0.944**	-	0.924	0.949	0.635	-	**0.959**	-	0.956
Motorcycles	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	2
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	1.8%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Lights	70	48	45	0	**163**	-	27	794	68	0	**889**	-	69	55	136	0	**260**	-	155	696	33	0	**884**	-	2196
% Lights	98.6%	96.0%	97.8%	0%	**97.6%**	-	96.4%	97.8%	94.4%	0%	**97.5%**	-	92.0%	98.2%	96.5%	0%	**95.6%**	-	97.5%	95.5%	100%	0%	**96.0%**	-	96.7%
Single-Unit Trucks	0	2	1	0	**3**	-	0	13	4	0	**17**	-	5	0	4	0	**9**	-	2	21	0	0	**23**	-	52
% Single-Unit Trucks	0%	4.0%	2.2%	0%	**1.8%**	-	0%	1.6%	5.6%	0%	**1.9%**	-	6.7%	0%	2.8%	0%	**3.3%**	-	1.3%	2.9%	0%	0%	**2.5%**	-	2.3%
Articulated Trucks	1	0	0	0	**1**	-	1	4	0	0	**5**	-	1	0	1	0	**2**	-	0	12	0	0	**12**	-	20
% Articulated Trucks	1.4%	0%	0%	0%	**0.6%**	-	3.6%	0.5%	0%	0%	**0.5%**	-	1.3%	0%	0.7%	0%	**0.7%**	-	0%	1.6%	0%	0%	**1.3%**	-	0.9%
Buses	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	2	0	0	0	**2**	-	2
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	1.3%	0%	0%	0%	**0.2%**	-	0.1%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

59th Avenue NE @ 172nd Street NE

Arlington, WA



Approach	PHF	HV
NB Approach	0.67	3.0%
SB Approach	0.72	2.0%
EB Approach	0.95	6.2%
WB Approach	0.93	3.7%
Intersection	0.94	4.3%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: 59th Avenue NE @ 172nd Street NE
Arlington, WA

DATE OF COUNT: Tue, 4/12/2022
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 4/14/2022
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON 59th Avenue NE							FROM SOUTH ON 59th Avenue NE							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	0	0	5	0	20	2	83	0	0	1	0	14	0	11	0	0	6	0	2	121	7	0	0	11	0	22	159	5	446
04:30 PM	0	0	2	0	23	0	65	0	0	0	0	13	0	5	0	0	2	0	1	129	9	0	0	15	0	35	169	4	453
04:45 PM	0	0	0	0	37	0	116	0	0	1	0	8	0	3	0	0	4	0	2	103	7	0	0	14	0	36	167	4	485
05:00 PM	0	0	2	0	21	1	74	0	0	0	0	12	0	1	0	0	7	0	3	109	23	0	0	9	0	51	137	3	435
05:15 PM	0	0	1	0	7	0	86	0	0	0	0	6	0	7	0	0	3	0	2	104	11	0	0	14	0	39	167	5	434
05:30 PM	0	0	5	0	5	0	50	0	0	0	0	9	0	4	0	0	2	0	1	94	5	0	0	15	0	36	198	9	411
05:45 PM	0	0	2	0	11	0	46	0	0	0	0	10	0	3	0	0	2	0	1	123	5	0	0	8	0	22	158	3	382
06:00 PM	1	0	0	0	6	1	42	0	0	0	0	5	0	2	0	0	1	0	0	87	8	0	0	8	0	27	134	6	318
PEAK HOUR TOTALS	0	0	9	0	101	3	340	0	0	2	0	47	0	20	0	0	19	0	8	462	46	0	0	49	0	144	632	16	INTERSECTION
ALL MOVEMENTS				444							67							516							792			1819
% HV			2.0%							3.0%							3.7%							6.2%				4.3%
PEAK HOUR FACTOR				0.72							0.67							0.93							0.95			0.94

HV = Heavy Vehicle
PHF = Peak Hour Factor

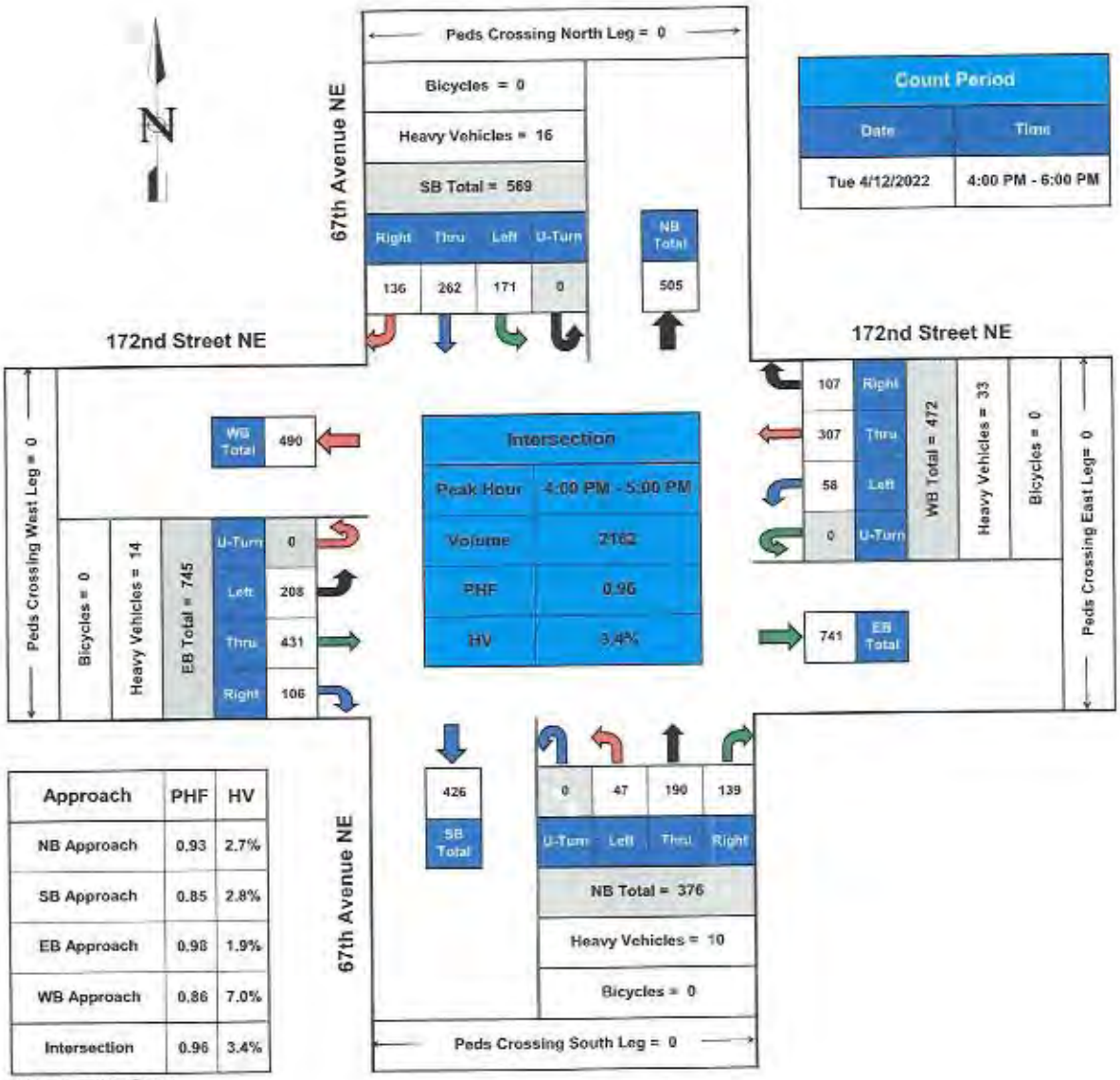
4:00 PM - 6:00 PM PEAK HOUR: 4:00 PM - 5:00 PM

ROLLING HOUR COUNT

TIME INTERVAL	FROM NORTH ON 59th Avenue NE							FROM SOUTH ON 59th Avenue NE							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	0	0	9	0	101	3	340	0	0	2	0	47	0	20	0	0	19	0	8	462	46	0	0	49	0	144	632	16	1819
4:15 PM - 5:15 PM	0	0	5	0	86	1	343	0	0	1	0	38	0	16	0	0	16	0	8	445	50	0	0	52	0	161	640	16	1807
4:30 PM - 5:30 PM	0	0	8	0	70	1	328	0	0	1	0	35	0	15	0	0	16	0	8	410	46	0	0	52	0	162	669	21	1785
4:45 PM - 5:45 PM	0	0	10	0	44	1	256	0	0	0	0	37	0	15	0	0	14	0	7	430	44	0	0	46	0	146	660	20	1662
5:00 PM - 6:00 PM	1	0	8	0	29	1	224	0	0	0	0	30	0	16	0	0	5	0	4	408	29	0	0	45	0	124	657	23	1545
4:00 PM - 6:00 PM Total:	1	0	17	0	130	4	564	0	0	2	0	77	0	36	0	0	27	0	12	670	75	0	0	94	0	268	1289	39	3364

67th Avenue NE @ 172nd Street NE

Arlington, WA



Approach	PHF	HV
NB Approach	0.93	2.7%
SB Approach	0.85	2.8%
EB Approach	0.98	1.9%
WB Approach	0.86	7.0%
Intersection	0.96	3.4%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

TRAFFIC DATA GATHERING

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: 67th Avenue NE @ 172nd Street NE
Arlington, WA

DATE OF COUNT: Tue, 4/12/2022
START OF COUNT: 4:00 PM
TIME OF COUNT: 4:00 PM - 6:00 PM

COUNTED BY: TDG
DATE OF REDUCTION: 4/13/2022
DURATION OF COUNT (Hrs): 2

TIME INTERVAL ENDING AT	FROM NORTH ON 67th Avenue NE							FROM SOUTH ON 67th Avenue NE							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
04:15 PM	0	0	3	0	22	58	33	0	0	1	0	11	53	28	0	0	7	0	16	75	38	0	0	4	0	61	103	22	520
04:30 PM	0	0	6	0	37	59	36	0	0	3	0	13	57	31	0	0	9	0	14	90	33	0	0	3	0	48	115	28	561
04:45 PM	0	0	2	0	58	72	38	0	0	3	0	6	43	39	0	0	6	0	10	87	19	0	0	2	0	51	109	30	542
05:00 PM	0	0	5	0	54	73	29	0	0	3	0	17	37	41	0	0	11	0	18	75	17	0	0	5	0	48	104	26	539
05:15 PM	0	0	1	0	38	57	39	0	0	5	0	10	38	44	0	0	5	0	17	63	12	0	0	5	0	49	109	18	494
05:30 PM	0	0	1	0	18	43	26	0	0	1	0	17	63	52	0	0	2	0	8	53	11	0	0	1	0	78	117	17	499
05:45 PM	0	0	3	0	9	40	27	0	0	0	0	9	27	18	0	0	5	0	15	89	6	0	0	1	0	56	90	19	396
06:00 PM	0	0	0	0	8	26	31	0	0	1	0	15	29	20	0	0	2	0	14	54	11	0	0	1	0	41	87	22	358
PEAK HOUR TOTALS	0	0	16	0	171	262	136	0	0	10	0	47	190	139	0	0	33	0	58	307	107	0	0	14	0	208	431	106	INTERSECTION
ALL MOVEMENTS				569							376							472							745				2162
% HV			2.8%							2.7%							7.0%							1.9%					3.4%
PEAK HOUR FACTOR				0.85							0.93							0.86							0.98				0.96

HV = Heavy Vehicle
PHF = Peak Hour Factor

4:00 PM - 6:00 PM PEAK HOUR: 4:00 PM - 5:00 PM

ROLLING HOUR COUNT

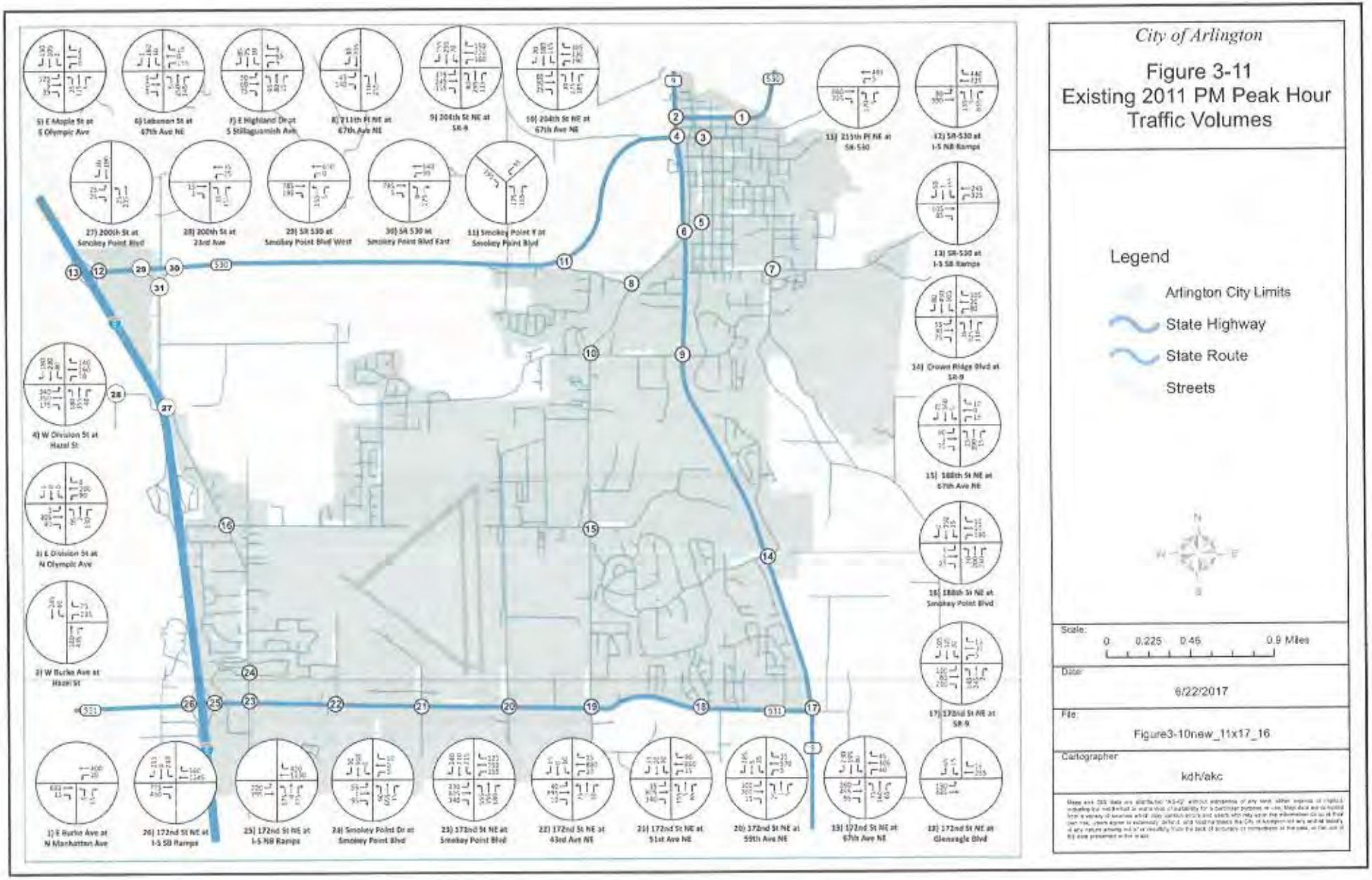
TIME INTERVAL	FROM NORTH ON 67th Avenue NE							FROM SOUTH ON 67th Avenue NE							FROM EAST ON 172nd Street NE							FROM WEST ON 172nd Street NE							INTERVAL TOTALS
	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	Peds	Bicycle	HV	U-Turn	Left	Thru	Right	
4:00 PM - 5:00 PM	0	0	16	0	171	262	136	0	0	10	0	47	190	139	0	0	33	0	58	307	107	0	0	14	0	208	431	106	2162
4:15 PM - 5:15 PM	0	0	14	0	187	261	142	0	0	14	0	46	176	155	0	0	31	0	59	295	81	0	0	15	0	196	437	102	2136
4:30 PM - 5:30 PM	0	0	9	0	166	245	132	0	0	12	0	50	181	176	0	0	24	0	53	258	59	0	0	13	0	224	439	91	2074
4:45 PM - 5:45 PM	0	0	10	0	117	213	121	0	0	9	0	53	165	155	0	0	23	0	58	271	46	0	0	12	0	229	420	80	1928
5:00 PM - 6:00 PM	0	0	5	0	71	168	123	0	0	7	0	51	157	134	0	0	14	0	54	250	40	0	0	8	0	222	403	74	1747
4:00 PM - 6:00 PM Total:	0	0	21	0	242	430	269	0	0	17	0	98	347	273	0	0	47	0	112	557	147	0	0	22	0	430	834	180	3909

pertinent date

City of Arlington

Transportation 2035 Plan, 2017 Update

City of Arlington
Public Works Department
September 25, 2017



City of Arlington

Figure 3-11
Existing 2011 PM Peak Hour Traffic Volumes

Legend

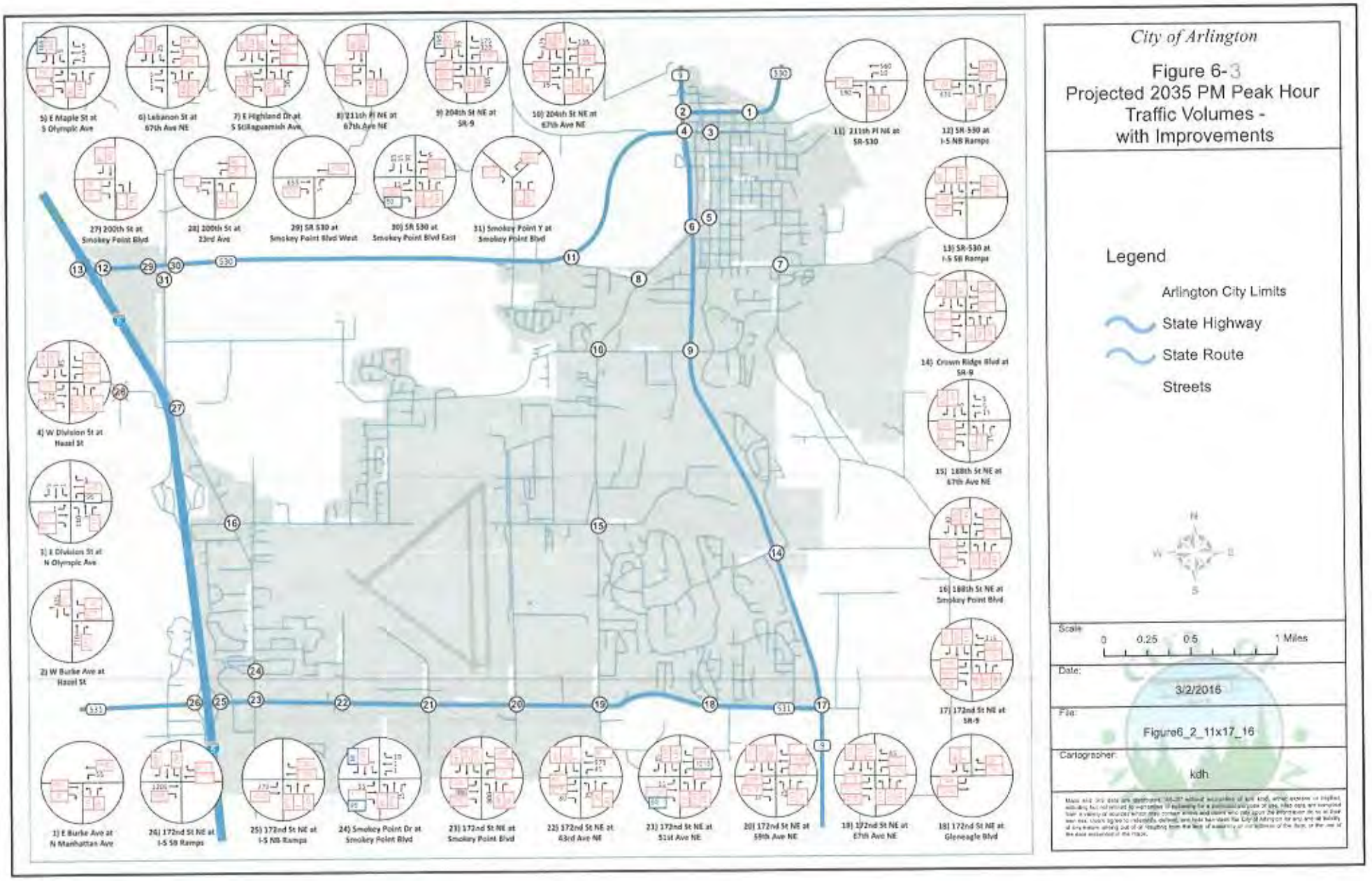
- Arlington City Limits
- State Highway
- State Route
- Streets

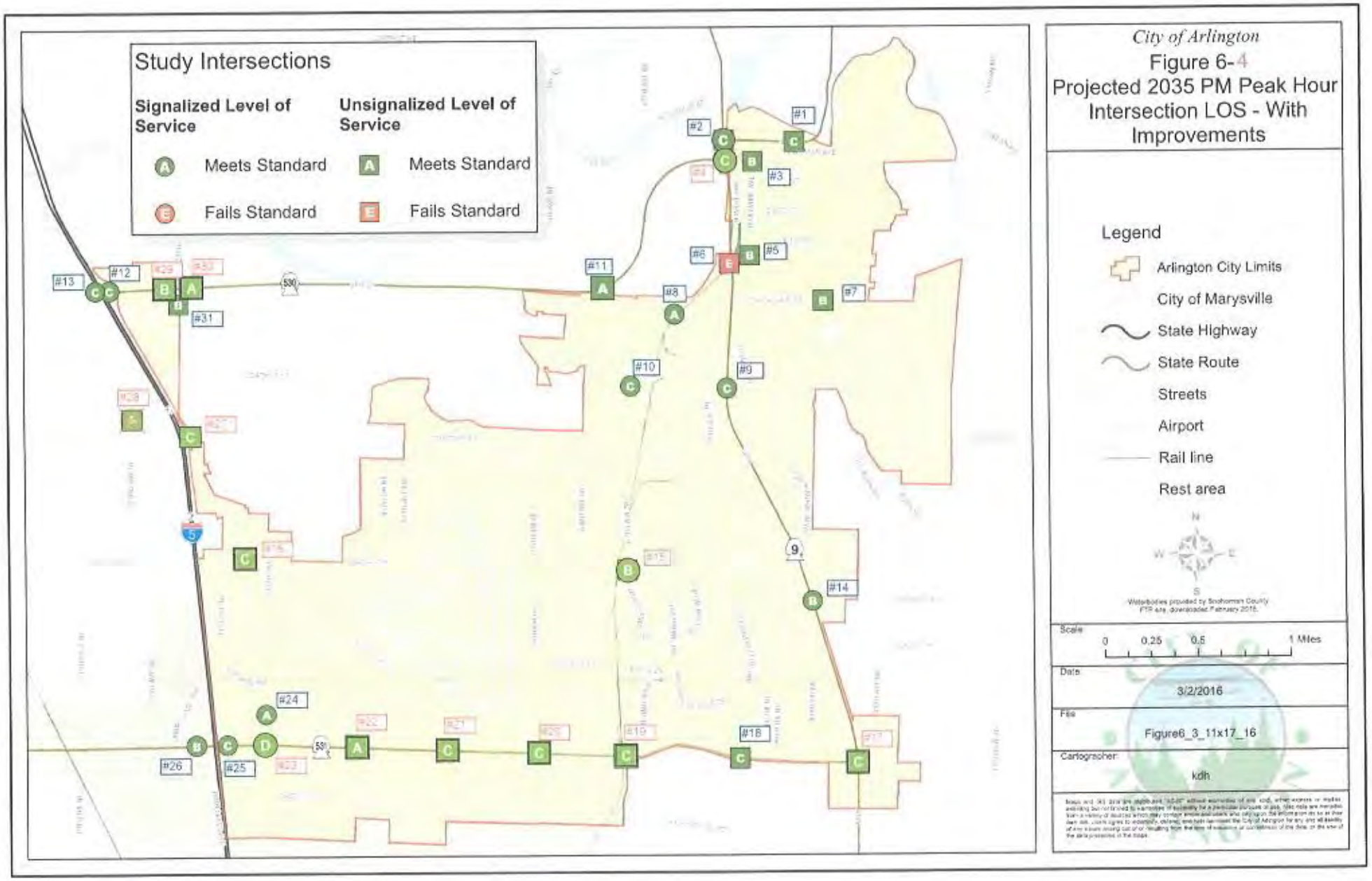
Scale: 0 0.225 0.45 0.9 Miles

Date: 6/22/2017

File: Figure3-10new_11x17_16

Cartographer: kdh/ekc


City of Arlington
Figure 6-3
Projected 2035 PM Peak Hour Traffic Volumes - with Improvements
Legend
Arlington City Limits
State Highway
State Route
Streets
Scale
0 0.25 0.5 1 Miles
Date:
3/2/2016
File:
Figure6_2_11x17_16
Cartographer:
kdh
5) E Maple St at S Olympic Ave
6) Lebanon St at 67th Ave NE
7) E Highland Dr at S Stillaguamish Ave
8) 211th Pl NE at 67th Ave NE
9) 204th St NE at SR-9
10) 204th St NE at 67th Ave NE
11) 211th Pl NE at SR-530
12) SR-530 at I-5 NB Ramps
27) 200th St at Smokey Point Blvd
28) 200th St at 23rd Ave
29) SR 530 at Smokey Point Blvd West
30) SR 530 at Smokey Point Blvd East
31) Smokey Point Y at Smokey Point Blvd
13) SR-530 at I-5 SB Ramps
14) Crown Ridge Blvd at SR-9
4) W Division St at Hazel St
15) 188th St NE at 67th Ave NE
3) E Division St at N Olympic Ave
16) 188th St NE at Smokey Point Blvd
2) W Burke Ave at Hazel St
17) 172nd St NE at SR-9
1) E Burke Ave at N Manhattan Ave
26) 172nd St NE at I-5 SB Ramps
25) 172nd St NE at I-5 NB Ramps
24) Smokey Point Dr at Smokey Point Blvd
23) 172nd St NE at Smokey Point Blvd
22) 172nd St NE at 43rd Ave NE
21) 172nd St NE at 51st Ave NE
20) 172nd St NE at 59th Ave NE
19) 172nd St NE at 67th Ave NE
18) 172nd St NE at Gleneagle Blvd


Study Intersections
Signalized Level of Service
Unsignalized Level of Service
A Meets Standard
A Meets Standard
E Fails Standard
E Fails Standard
City of Arlington
Figure 6-4
Projected 2035 PM Peak Hour Intersection LOS - With Improvements
Legend
Arlington City Limits
City of Marysville
State Highway
State Route
Streets
Airport
Rail line
Rest area
Waterbodies provided by Snohomish County PTP are, downloaded February 2016.
Scale
0 0.25 0.5 1 Miles
Date
3/2/2016
File
Figure6_3_11x17_16
Cartographer:
kdh

Circulation Improvements
This category includes new roadways needed to enhance circulation or provide improved access to areas of high growth potential, as well as the extension of existing roads to close gaps in the system.

Safety Improvements
Often improvements are needed to increase safety at an intersection, at crosswalks, or along a roadway segment, sometimes in coordination with capacity improvements. Safety improvements may take several forms:

- Improve sight lines
- Adding lane width
- Adding storage lanes
- Realignment
- Installing a traffic signal system
- Installing a modern roundabout
- Adding pedestrian and bicycle amenities

Table 6-1 and **Table 6-2** summarizes the road projects and intersection projects included in the Arlington 2035 Transportation Plan, Updated 2017. These projects are depicted graphically in **Figure 6-1**.

Table 6-1: 2035 Transportation Improvement Project List: Roadways

Proposed Project ID	Project Name	Project Limits	Project Description
R1	Smokey Pt. Blvd-North	188th St – SR 530	Reconstruct Smokey Point Blvd from 188th St to SR 530 from a 2 lane roadway to a 3 lane roadway
R2	Cross Town Connector	Cemetery Rd. - 47th Ave - 188th St.	Reconstruct Cemetery Rd from 47th Ave to 188th St from a 2 lane roadway to a 3 lane roadway
R3	45th Drive Extension	45th Drive NE - Cemetery Rd	New 2 lane roadway connecting the existing terminus of 45th Dr with Cemetery Rd
R4	211th Place	67th - SR-530	Reconstruct 211th Pl from 67th Ave to SR 530 from a 2 lane roadway to a 3 lane roadway
R5	Highland Drive	SR-9 - Stillaguamish Ave	Reconstruct Highland Dr from SR 9 to Stillaguamish Ave from a 2 lane roadway to a 3 lane roadway
R6	74th & 71st	Internal Roads at former furniture manufacturer	Construct new 2 lanes roadways from Hazel St to 204th St. These roadways will tie into 71st Ave and 74th Ave, with 71st Ave tying into 74th Ave

Table 6-1: 2035 Transportation Improvement Project List: Roadways (continued)

Proposed Project ID	Project Name	Project Limits	Project Description
R7	Arlington Valley Rd.	67th Ave - 204th St	Construct new 3 lane roadway from southern terminus of 74th Ave to 191st Pl, connecting 67th Ave and 204th St
R8	197th St Extension	67th Ave - Arlington Valley Rd.	Construct new 2 lane roadway connecting 67th Ave to Arlington Valley Rd (Project 18)
~~R9~~	~~Future Rd~~	~~Arlington Valley Rd. - 188th St.~~	~~Construct new 2 lane roadway connecting Arlington Valley Rd (Project 18) to 67th Ave at 188th St~~ ***REMOVED***
R10	59th Dr. Extension	59th Dr - Cemetery Rd	Construct 2 lane extension of 59th Dr from northern terminus to Cemetery Rd
R11	186th St	Crown Ridge Blvd – CL	Construct new 2 lane roadway from Crown Ridge Blvd to eastern city limits
R12	89th Ave	172nd St - 186th St	Reconstruct/Extend 89th Ave from 172nd St to 186th St (Project 24)
R13	172nd St/91st Ave	SR-9 roundabout-CL	Reconstruct 172nd St from SR 9 to eastern city limits from a 2 lane roadway to a 5 lane roadway
R14A	SR-531 Widening	43rd Ave - 67th Ave	Reconstruct SR 531 (172nd St) from 43rd Ave to 67th Ave from a 2 lane roadway to a 4 lane roadway. Install roundabouts at the intersections of 43rd Ave, 51st Ave, 59th Ave and 67th Ave
R14B	SR-531 Rehabilitation	Smokey Point Blvd - 43rd Ave	Perform roadway and corridor improvements. Eliminate Left Turn pockets, install solid median.
R15	59th Ave	172nd St - 192nd St	Reconstruct 59th Ave from SR 531 (172nd St) to northern terminus from a 2 lane to a 3 lane roadway
R16A	63rd Ave – North	188th St - SR 531	Construct new 3 lane roadway from SR 531 (172nd St) to 188th St. Construct right-in-right-out intersection control at intersection with SR 531
R16B	63rd Ave – South	SR 531 - 168th St	Construct new 3 lane roadway from SR 531 (172nd St) to 168th St. Construct right-in-right-out intersection control at intersection with SR 531
R17	180th St	59th Ave - 63rd Ave	Construct new 2 lane roadway from 59th Ave to the BNSF railroad tracks
R18	59th Ave	172nd South C.L.	Extend 59th Ave from SR 531 (172nd St) to southern city limits from a 2 lane roadway to a 3 lane roadway

Table 6-1: 2035 Transportation Improvement Project List: Roadways (continued)

Proposed Project ID	Project Name	Project Limits	Project Description
R19	168th St	43rd Ave E to BNSF RR Tracks	Construct new 3 lane roadway from 47th Ave to BNSF railroad tracks
R20	51st Ave	172nd St - South C.L.	Reconstruct 51st Ave from SR 531 (172nd St) to southern city limits from a 2 lane to a 5 lane roadway
R21	47th Ave	172nd St - South City Limits	Construct 3 lane roadway from SR 531 (172nd St) to southern city limits. Install right-in-right-out intersection control at intersection with SR 531
R22	43rd Ave	172nd St - South C.L.	Construct 3 lane roadway from SR 531 (172nd St) to southern city limits
R23	39th Ave Extension	162nd Pl - South C.L.	Construction of 2 lane extension of 39th Ave from 162nd Pl to southern city limits
R24	38th Ave Extension	168nd Pl - 168th St	Construct 2 lane extension of 38th Ave from 168th Pl to 168th St (Project 50)
R25	39th Ave	168th St - 172nd St	Construct 2 lane roadway from 168th St (Project 50) to SR 531 (172nd St)
R26	39th Ave	172nd St - 173rd St	Construct 2 lane roadway from 173rd St (Project 43) to SR 531 (172nd St)
R27	173rd St (PH3)	43rd Ave - 51st Ave	Construct 2 lane roadway from Airport Blvd (51st Ave) to 43rd Ave
R28	173rd (PH 1&2)	Smokey Point Blvd - Airport Blvd	Construct 2 lane roadway from 43rd Ave to Smokey Point Blvd
R29	43rd Ave Extension	North end of 43rd Ave - Airport Blvd	Construct 2 lane extension of 43rd Ave from northern terminus of 43rd Ave to Airport Blvd
R30	Smokey Point Blvd	172nd St - 188th St	Reconstruct Smokey Point Blvd from SR 531 (172nd St) to 188th St from a 2 lane roadway to a 5 lane roadway
R31	WSDOT rest area connector roads (E&W)		Conduct a study of the viability of constructing roadways to connect the local street system to the rest area interchange

Table 6-1: 2035 Transportation Improvement Project List: Roadways (continued)

Proposed Project ID	Project Name	Project Limits	Project Description
R32	188th I-5 Bridge	Smokey Point Blvd-27th Ave	Construct 2 lane bridge over I-5 from 188th St terminus to 27th Ave. Reconstruct 188th St.
R33	23rd Ave	200th St-188th St	Reconstruct 23rd Ave from 200th St to 188th St
R34	188th St	I-5 bridge - 19th Ave	Reconstruct 188th St from 19th Ave to I-5 bridge (Project 47)
R35	168th St	43rd Ave - Smokey Point Blvd	Construct 3 lane roadway from Smokey Point Blvd to 47th Ave (Project 36)
R36	188th St	67th Ave - 59th Ave	Reconstruct 188th St from 59th Ave to 67th Ave from a 2 lane roadway to a 3 lane roadway
R37	172nd St NE	67th Ave NE - SR-9	Reconstruct SR 531 (172nd St) from 67th Ave to SR 9 from a 2 lane roadway to a 4 lane roadway.
R38	Tveit Rd	Stillaguamish Ave - City Limits	20 years+
R39	186th St	City Limits ease - 186th (paved road surface)	20 years+
R40	Cross Airport Tunnel	188th St NE - 47th Ave NE	20 Years+

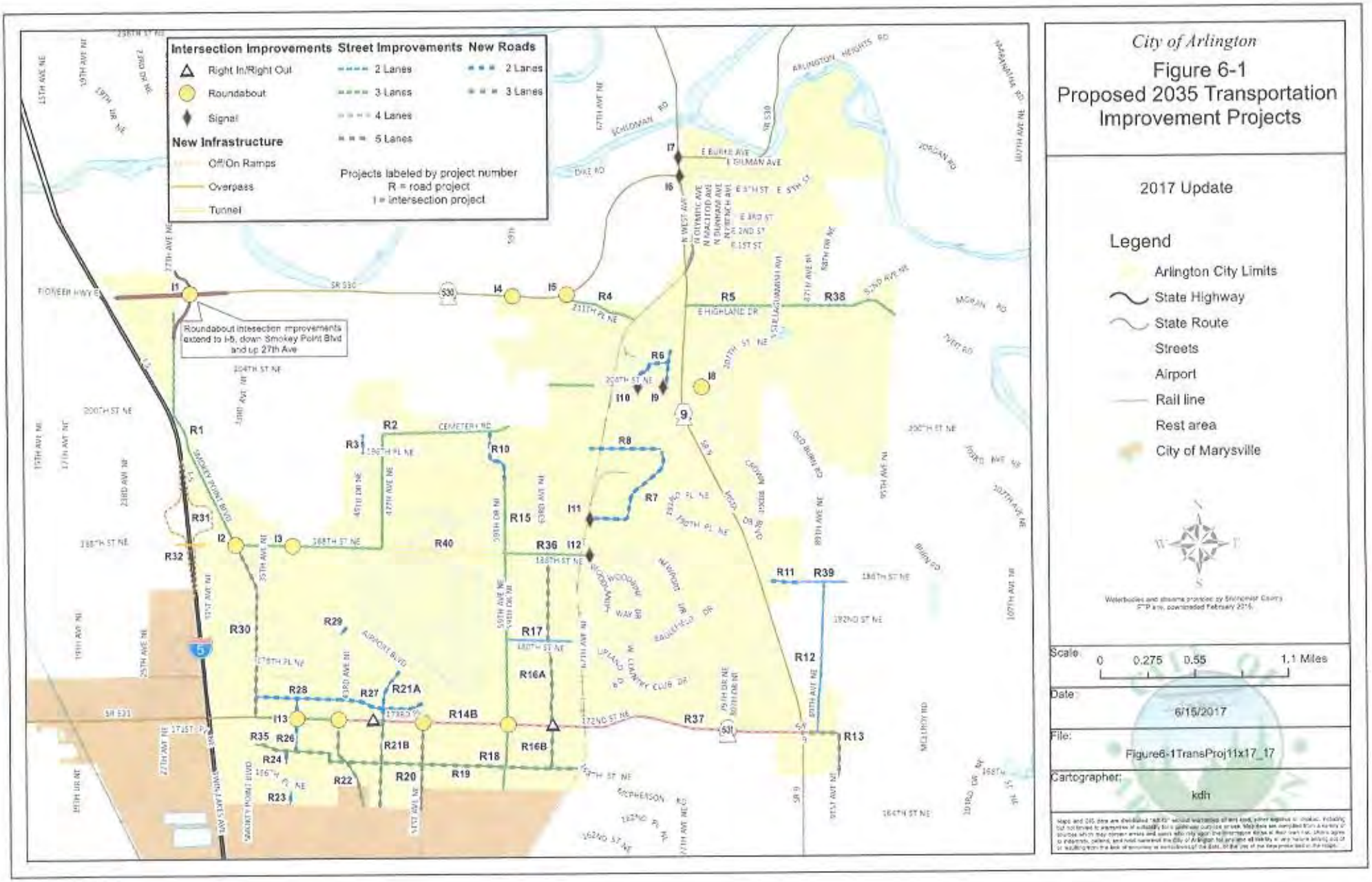
Table 6-2: 2035 Transportation Improvement Project List: Intersections

Proposed Project ID	Project Name	Project Description
I1	Smokey Point Blvd at SR-530	Install a roundabout at Smokey Point Blvd east/SR 530. Reconstruct 27th Ave to align with roundabout. Convert Smokey Point Blvd west/SR 530 to right turn.
I2	Smokey Point Blvd at 188th St	Install a roundabout at Smokey Point Blvd/188th St
I3	Airport Blvd at188th St	Install a roundabout at Airport Blvd/188th St
I4	SR-530 at 59th Ave	Install a roundabout at SR 530/59th Ave
I5	SR 530 at 211th St	Install a roundabout at SR 530/211th St
I6	SR-530/SR-9 /Division	Add a 2nd EB left-turn lane at SR 530/SR 9/Division
I7	SR-530/SR-9 /Burke	Install a traffic signal at SR 530/SR 9/Burke Ave
I8	204th St at Olympic Pl	Install a roundabout at 204th St/Olympic Pl
I9	204th St at 74th Ave	Install Traffic Signal at 204th St/74th Ave
I10	204th St at 71st Ave	Install Traffic Signal at 204th St/71st Ave
I11	67th Ave at 188th St	Install traffic signal at 67th Ave/Future Rd (Project R9)
I12	67th Ave at Arlington Valley Rd	Install traffic signal at 67th Ave/Arlington Valley Rd (Project R7)
I13	40th Ave and 172nd St	Install Traffic Signal at 40th Ave/SR 530 (Project R14B)

6.1.1 Future Traffic Operations with Improvement Projects

Intersection levels of service were re-evaluated for the 30 study intersections for the 2035 horizon with the transportation improvement projects in place. These improvements vary by location, but typically include conversion to signalized intersections or roundabouts and associated widening.

The 2035 improvement plan results in improved operations at all locations where deficiencies were previously shown. The 172nd Street NE (SR-531) corridor is projected to have a significant increase in traffic due in part to industrial/commercial growth along the corridor and significant residential growth to the east that must use this route to Interstate 5. The level of service along the corridor will be at or near the City's standard at multiple locations along this route. The coordinated development of a grid system with the City of Marysville is a key strategy in this area, and should provide additional capacity as it is developed. An alternate route to the residential areas would also alleviate some of the congestion, and there are projects that will add that capacity along Cemetery Road. However, the SR-531/I-5 interchange will still handle most of this traffic unless a new interchange is constructed.


Intersection Improvements
Right In/Right Out
Roundabout
Signal
New Infrastructure
On/Off Ramps
Overpass
Tunnel
Street Improvements
2 Lanes
3 Lanes
4 Lanes
5 Lanes
New Roads
2 Lanes
3 Lanes
Projects labeled by project number
R = road project
I = intersection project
Roundabout intesection improvements extend to I-5, down Smokey Point Blvd and up 27th Ave
City of Arlington
Figure 6-1
Proposed 2035 Transportation Improvement Projects
2017 Update
Legend
Arlington City Limits
State Highway
State Route
Streets
Airport
Rail line
Rest area
City of Marysville
Scale
0 0.275 0.55 1.1 Miles
Date
6/15/2017
File:
Figure6-1TransProj11x17_17
Cartographer:
kdh

pertinent date

Project Roxy

Arlington, WA

Traffic Impact Analysis
September 29, 2020

Prepared for:

Panattoni Development Company, Inc
1821 Dock Street, Suite 100
Tacoma, WA 98402

Prepared by:

TENW

Transportation Engineering NorthWest

11400 SE 8th Street, Suite 200
Bellevue, WA 98004
Office (425) 889-6747

9/29/2020

EXISTING CONDITIONS

Roadway Network

The primary roadways serving the proposed site include SR 531 (172nd Street NE), Interstate 5, 43rd Avenue NE, and 51st Avenue NE. The primary roadways are shown in **Figure 1** and described below.

State Route 531 (172nd Street NE) is an east-west state route that lies to the north of the proposed project. In the project vicinity, SR 531 is a four-six lane arterial with a posted speed limit of 35 mph.

Interstate 5 (I-5) is a north-south interstate that lies to the west of the proposed project. I-5 is oriented in a north-south direction in the project vicinity and is a six-lane divided highway (3 lanes in each direction) with a posted speed limit of 60 mph south of SR 531 and 70 mph north of SR 531.

43rd Avenue NE in the project vicinity is a north-south local road with a posted speed limit of 35 mph north of SR 531 and 25 mph south of SR 531. 43rd Avenue NE is a two-three lane section in the project vicinity and includes sidewalks on both sides south.

51st Avenue NE in the project vicinity is a north-south local road with a posted speed limit of 35 mph north of SR 531 and 45 mph south of SR 531. 51st Avenue NE is a two-three lane section in the project vicinity and includes sidewalks on both sides north of SR 531. 51st Avenue NE also includes bike lanes on both sides north of SR 531.

Non-Motorized Facilities

Pedestrian facilities in the immediate project vicinity include sidewalks on both sides of SR 531 west of 43rd Avenue NE. Sidewalks exist on both sides of 43rd Avenue NE south of SR 531. Bicycle lanes exist on both sides of SR 531 west of 43rd Avenue NE and on 51st Avenue NE north of SR 531. There are crosswalks with pedestrian pushbuttons on all legs of the adjacent signalized intersections of 43rd Ave NE / SR 531 and 51st Ave NE / SR 531.

Transit Service

Bus service in the project vicinity is provided by Community Transit. Bus stops for routes 209 (Lake Stevens to Smokey Point Transit Center), 227 (Arlington to Seaway Transit Center), and 240 (Stanwood to Smokey Point) are currently located on SR 531 at the Smokey Point Blvd intersection approximately one half mile to the west of the proposed Project Roxy site.

Per the Snohomish County *Transportation Element* of the Comprehensive Plan, SR 531 is designated as a Community-Based Transit Emphasis Corridor. This classification is for corridors with long-term potential, but which currently have a more dispersed land use pattern and lower levels of currently transit service.

Existing Traffic Volumes

Existing peak hour traffic volumes at the study intersections were estimated based on historic counts provided by the City and WSDOT, existing counts collected in September 2020, and review of WSDOT local traffic trends. Based on our review, the AM peak hour counts collected in September 2020 were increased by 11% and the PM peak hour counts were increased by 25% to account for the impacts of the ongoing pandemic on traffic in the area. **Figures 3 and 4** illustrate the 2020 weekday AM and PM peak hour traffic volumes at the study intersections. The peak hour traffic count sheets are included in **Appendix A.**

partnet site

TIA ADDENDUM

DATE: November 20, 2020

TO: Nova Heaton, P.E.
City of Arlington

FROM: Jeff Schramm / Spenser Haynie
TENW

SUBJECT: Traffic Impact Analysis Addendum to Project Roxy – Arlington, WA
Smokey Point Blvd Intersection Analysis
TENW Project No. 2020-140

The purpose of this Addendum is to provide additional transportation data and traffic analysis of the Smokey Point Blvd intersection at 172nd Street NE (SR 531) at the request of the City. Specifically, the City requested alternatives for consideration of potential future improvements at the intersection.

Background and Context

This document is an Addendum to the Traffic Impact Analysis (TIA) conducted for Project Roxy (dated September 29, 2020). The TIA evaluated the impacts of the proposed 2,821,987 square foot (SF) fulfillment center warehouse at the following seven (7) off-site study intersections along 172nd Street NE (SR 531):

1. I-5 SB Ramps / 172nd Street NE (signalized)
2. I-5 NB Ramps / 172nd Street NE (signalized)
3. Smokey Point Blvd / 172nd Street NE (signalized)
4. 43rd Ave NE / 172nd Street NE (signalized)
5. 51st Ave NE / 172nd Street NE (signalized)
6. 67th Ave NE / 172nd Street NE (signalized)
7. SR 9 / 172nd Street NE (roundabout)

Based on review of the City's current 6-Year Transportation Improvement Plan (TIP), Item #83 (SR-531 Widening Project – Project #R-14A) includes widening of SR 531 (172nd Street NE) between 43rd Ave NE and 67th Ave NE. Primary funding for the proposed widening project will come from the Connecting Washington program and will be managed by WSDOT. As part of the proposed widening project, multilane roundabouts are planned along 172nd Street NE at the 43rd Ave NE, 51st Ave NE, and 67th Ave NE intersections. No improvements to the Smokey Point Blvd intersection are planned as part of the WSDOT corridor project.

The Smokey Point Blvd intersection is located approximately 1,000 feet east of the signalized I-5 northbound ramps intersection, and 2,600 feet west of the 43rd Ave NE intersection. The operation of the intersection is influenced by the other signals along the 172nd Street NE corridor. The future operation of the Smokey Point Blvd intersection needs to be considered in the context of the entire 172nd Street NE corridor from I-5 to SR-9, and also account for the future roundabouts planned at 43rd Ave NE, 51st Ave NE, and 67th Ave NE.

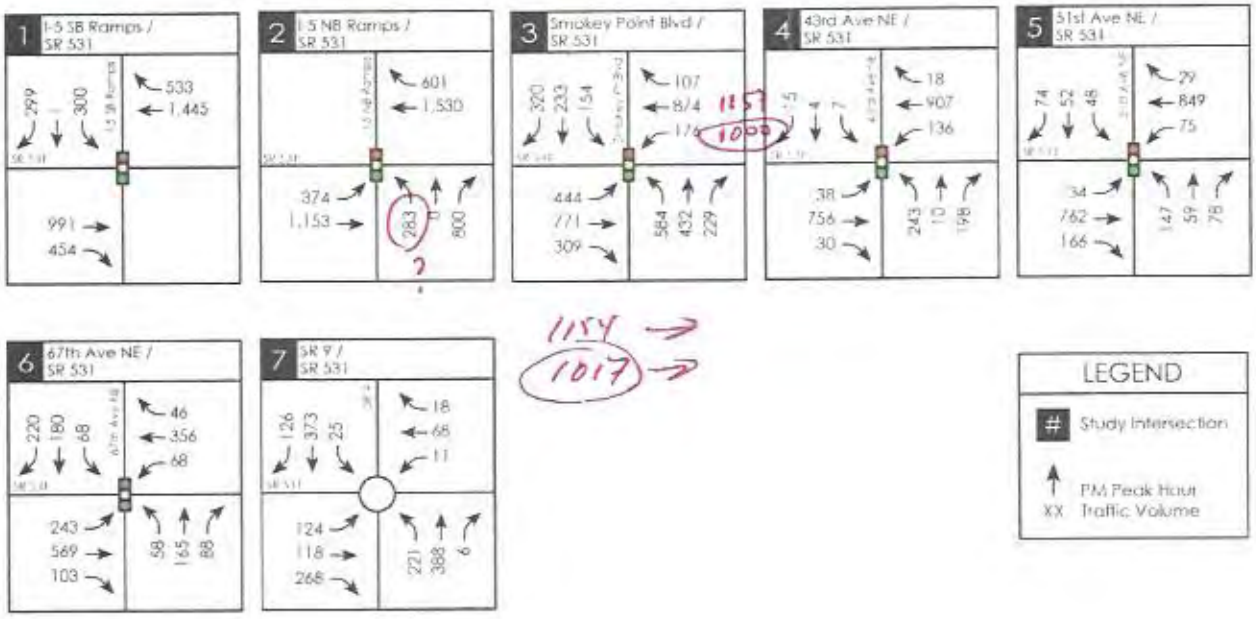


Figure 4: 2020 Existing Weekday PM Peak Hour Traffic Volumes

Project Trip Distribution and Assignment

The distribution of project generated trips by the proposed Project Roxy were estimated based on anticipated travel patterns and recent turning movement counts in the vicinity of the site. Separate trip distribution patterns were estimated for non-truck and truck traffic. The peak hour project-generated trips were distributed to the adjacent street system as summarized in **Table 5** below and was approved by the City of Arlington in scoping discussions and correspondence.

Table 5
Peak Hour Project Trip Distribution

Route (Direction)	Non-Truck	Truck
I-5 (north)	25%	40%
I-5 (south)	25%	40%
Smokey Point Blvd (north)	10%	0%
Smokey Point Blvd (south)	10%	0%
51st Avenue NE (north)	5%	0%
51st Avenue NE (south)	5%	0%
SR 531 (east of 51st Ave NE)	20%	20%
TOTAL	**100%**	**100%**

The weekday AM and PM peak hour project trip assignment at the study intersections and proposed site driveways is illustrated in **Figures 5 and 6**.

Future Traffic Volumes

Future year 2022 No Action (without project) AM and PM peak hour traffic volumes were estimated by applying a five (5) percent annual growth rate to the existing year 2020 peak hour traffic volumes. The five (5) percent annual growth rate was confirmed by the City of Arlington as part of the project scoping, and is also intended to account for additional traffic from future developments in the project vicinity. The future 2022 No Action AM and PM peak hour traffic volumes at the study intersections are shown in **Figures 7 and 8**.

The new peak hour project trips associated with the proposed Project Roxy as shown in **Figures 5 and 6** were added to the No Action traffic volumes (**Figures 7 and 8**) to estimate the future year 2022 With-Project peak hour traffic volumes.

The 2022 With-Project weekday AM and PM peak hour traffic volumes at the study intersections and proposed site driveways are illustrated in **Figures 9 and 10**.

Figure 5: Weekday AM Peak Hour Project Trip Distribution & Assignment

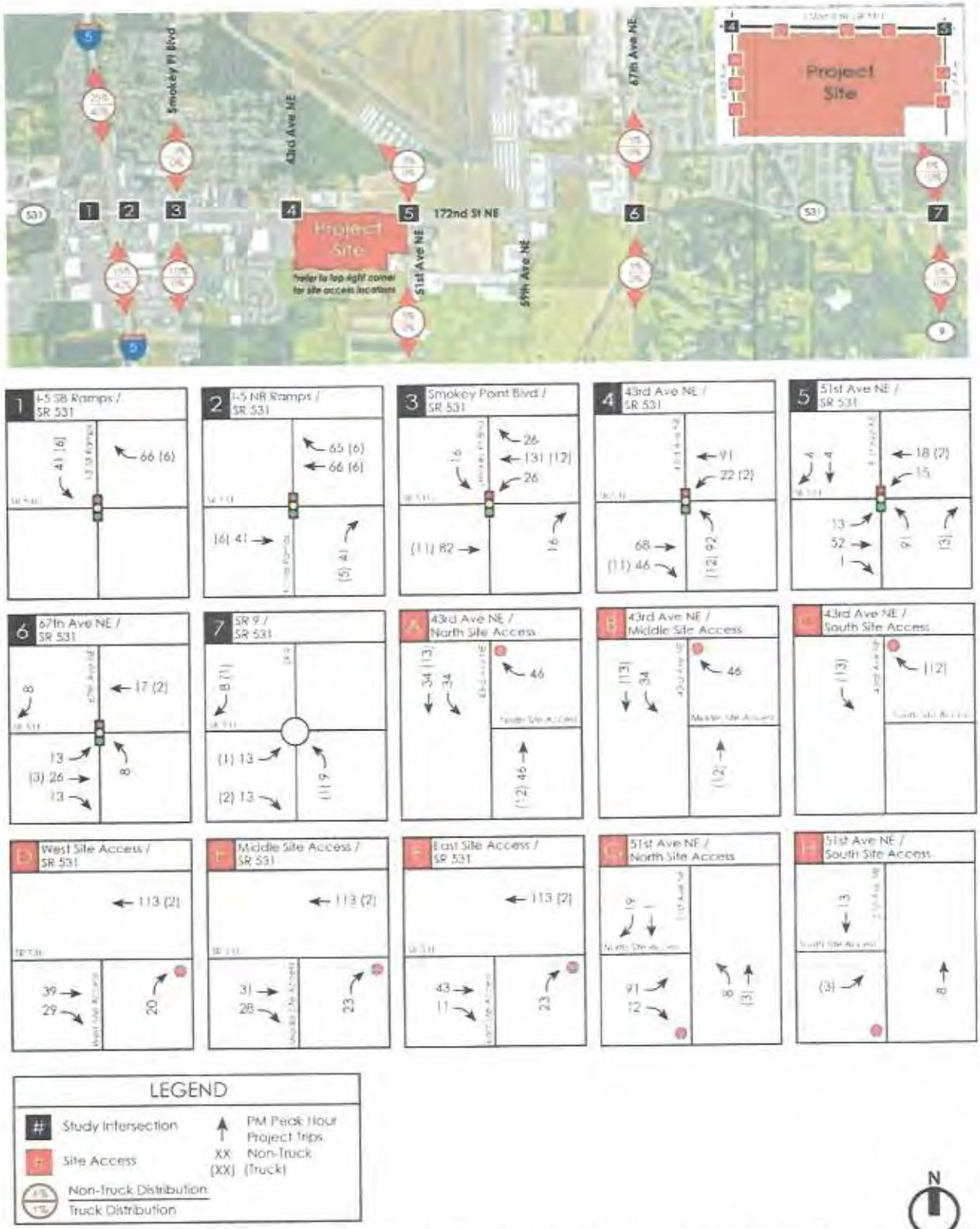


Figure 6: Weekday PM Peak Hour Project Trip Distribution & Assignment

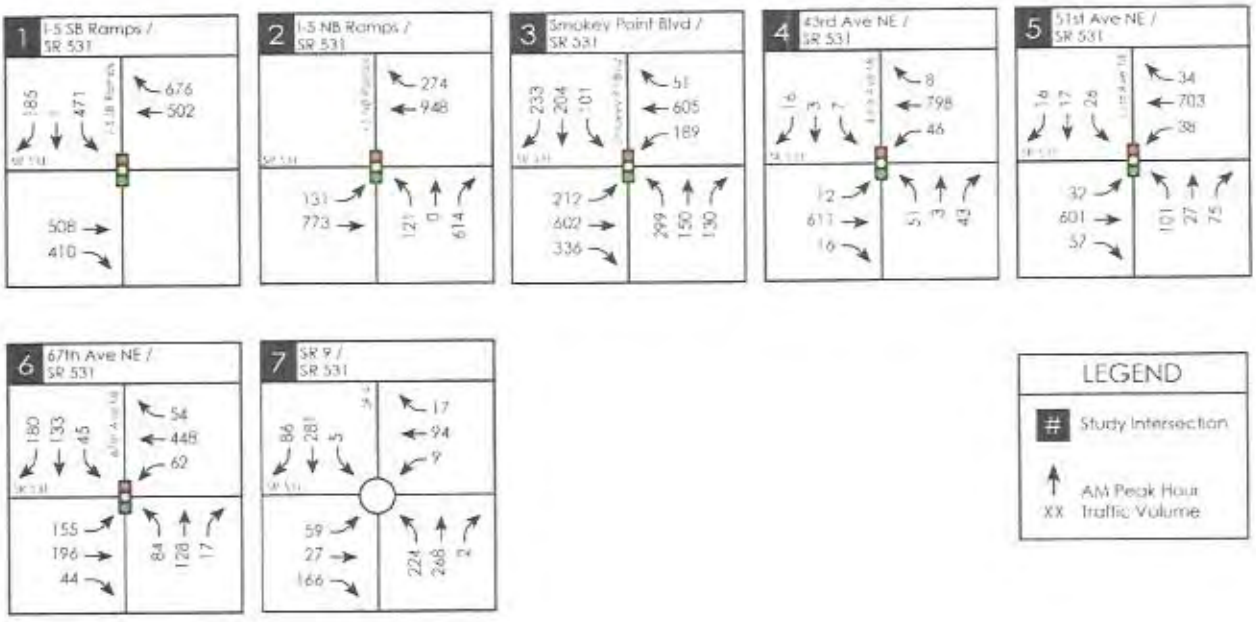


Figure 7: 2022 No Action Weekday AM Peak Hour Traffic Volumes

N
NOT TO SCALE

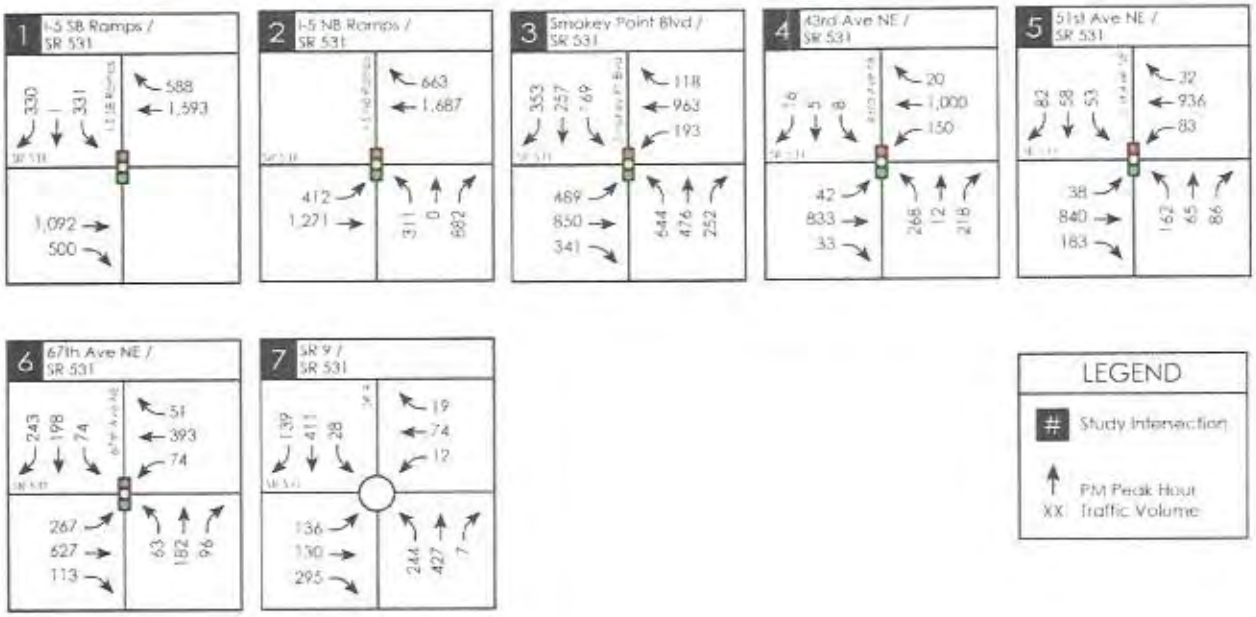


Figure 8: 2022 No Action Weekday PM Peak Hour Traffic Volumes

N
NOT TO SCALE

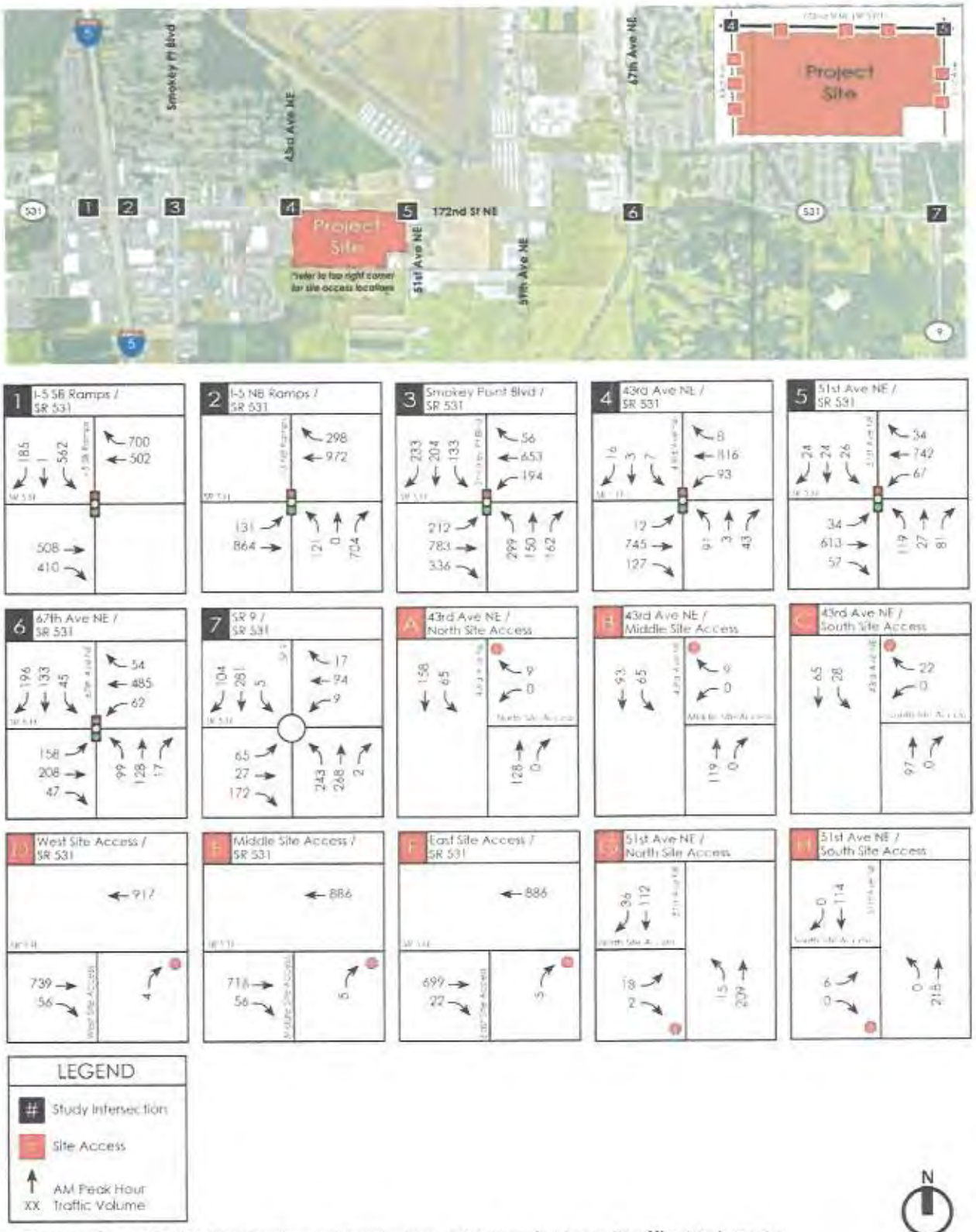


Figure 9: 2022 With Project Weekday AM Peak Hour Traffic Volumes

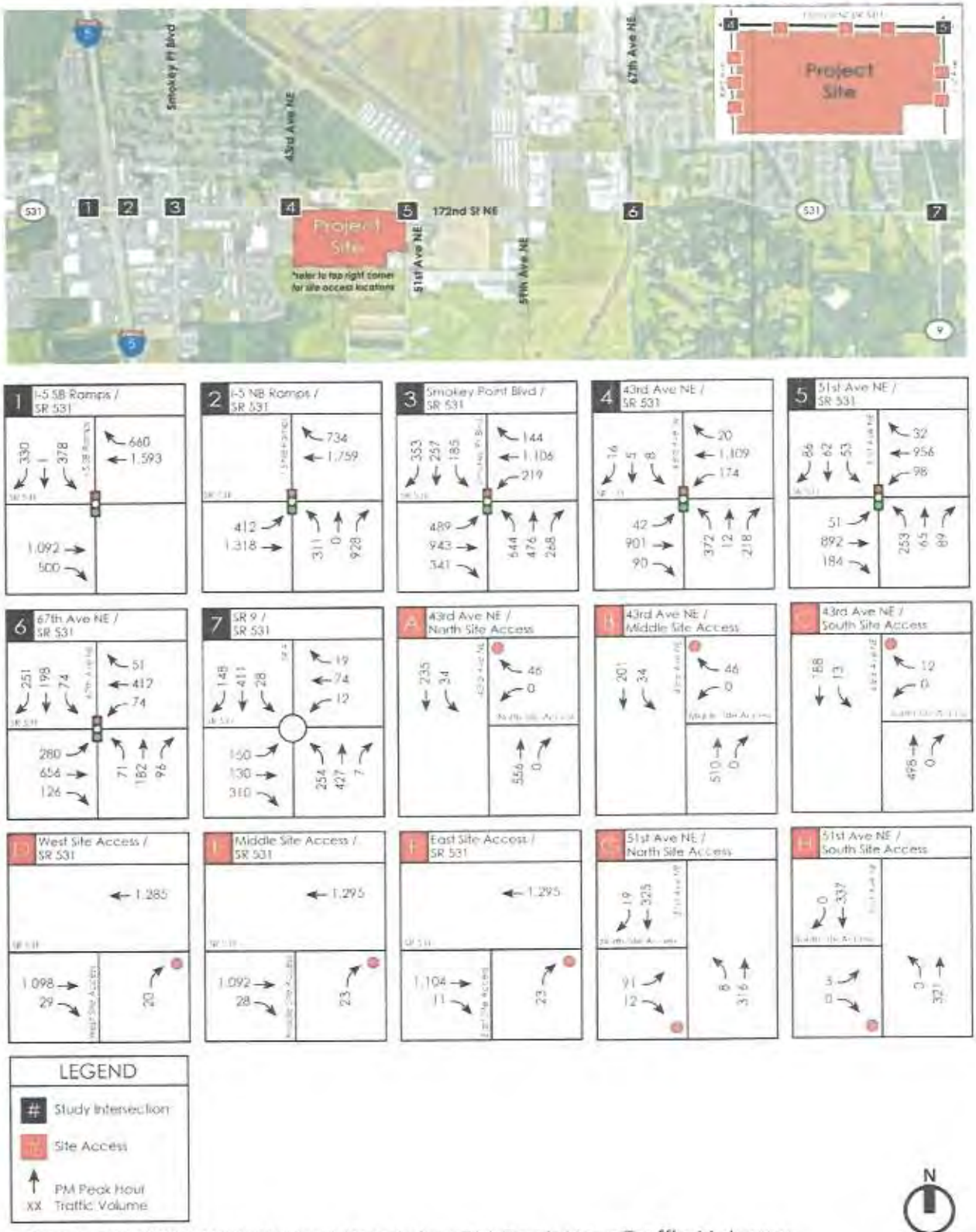


Figure 10: 2022 With Project Weekday PM Peak Hour Traffic Volumes

Level of Service at Study Intersections

Future year weekday AM and PM peak hour Level of Service (LOS) analyses were conducted at the study intersections for year 2022 No Action (without project) and With-Project conditions. The future With-Project conditions were evaluated for the following two scenarios:

1. Future year 2022 with existing geometry and signal operation.
2. Future year 2025 with future planned roundabouts at 43rd Ave NE, 51st Ave NE, and 67th Ave NE.

The weekday AM and PM peak hour LOS results at the study intersections for 2022 No Action and With-Project conditions are summarized in **Table 6**. The detailed LOS worksheets are included in **Appendix B**.

Table 6
Year 2022 Peak Hour LOS Summary at Study Intersections

	2022 No Action		2022 With-Project (existing geometry)		2025 With-Project (future geometry)	
Study Intersection	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
AM PEAK HOUR						
Signalized						
1. I-5 SB Ramps / SR 531	B	17.5	C	20.3	-	-
2. I-5 NB Ramps / SR 531	A	6.2	A	6.1	-	-
3. Smokey Point Blvd / SR 531	D	45.5	D	45.2	-	-
4. 43rd Avenue NE / SR 531	C	32.4	D	40.4	-	-
5. 51st Avenue NE / SR 531	B	17.0	B	19.2	-	-
6. 67th Avenue NE / SR 531	D	43.0	D	46.7	-	-
Roundabout						
4. 43rd Avenue NE / SR 531	-	-	-	-	A	4.1
5. 51st Avenue NE / SR 531	-	-	-	-	A	4.8
6. 67th Avenue NE / SR 531	-	-	-	-	A	7.8
7. SR 9 / SR 531	A	6.6	A	6.7	-	-
PM PEAK HOUR						
Signalized						
1. I-5 SB Ramps / SR 531	A	8.5	A	9.4	-	-
2. I-5 NB Ramps / SR 531	C	20.9	C	21.6	-	-
3. Smokey Point Blvd / SR 531	E	74.2	F	80.5	-	-
4. 43rd Avenue NE / SR 531	D	50.8	E	78.9	-	-
5. 51st Avenue NE / SR 531	D	41.7	E	65.9	-	-
6. 67th Avenue NE / SR 531	E	69.3	E	70.9	-	-
Roundabout						
4. 43rd Avenue NE / SR 531	-	-	-	-	A	9.1
5. 51st Avenue NE / SR 531	-	-	-	-	A	6.8
6. 67th Avenue NE / SR 531	-	-	-	-	B	18.9
7. SR 9 / SR 531	A	7.2	A	7.3	-	-

APPENDIX B
Level of Service Calculations
Citywide Crash Summary
County Key I/S Turning Movement Count Data

Intersection	
Intersection Delay, s/veh	17.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	2	13	230	10	61	15	241	215	44	208	6
Future Vol, veh/h	7	2	13	230	10	61	15	241	215	44	208	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	7	2	14	242	11	64	16	254	226	46	219	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	15.8	20.5	13.4
HCM LOS	A	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	32%	76%	17%
Vol Thru, %	51%	9%	3%	81%
Vol Right, %	46%	59%	20%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	471	22	301	258
LT Vol	15	7	230	44
Through Vol	241	2	10	208
RT Vol	215	13	61	6
Lane Flow Rate	496	23	317	272
Geometry Grp	1	1	1	1
Degree of Util (X)	0.718	0.042	0.531	0.438
Departure Headway (Hd)	5.21	6.572	6.033	5.8
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	689	548	596	616
Service Time	3.272	4.572	4.101	3.873
HCM Lane V/C Ratio	0.72	0.042	0.532	0.442
HCM Control Delay	20.5	9.9	15.8	13.4
HCM Lane LOS	C	A	C	B
HCM 95th-tile Q	6.1	0.1	3.1	2.2

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↰	↰	↱
Traffic Vol, veh/h	244	51	54	234	76	62
Future Vol, veh/h	244	51	54	234	76	62
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	175	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	257	54	57	246	80	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	321	0	664	304
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1233	-	424	733
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	696	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1221	-	393	719
Mov Cap-2 Maneuver	-	-	-	-	393	-
Stage 1	-	-	-	-	746	-
Stage 2	-	-	-	-	652	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	13.8
HCM LOS			B

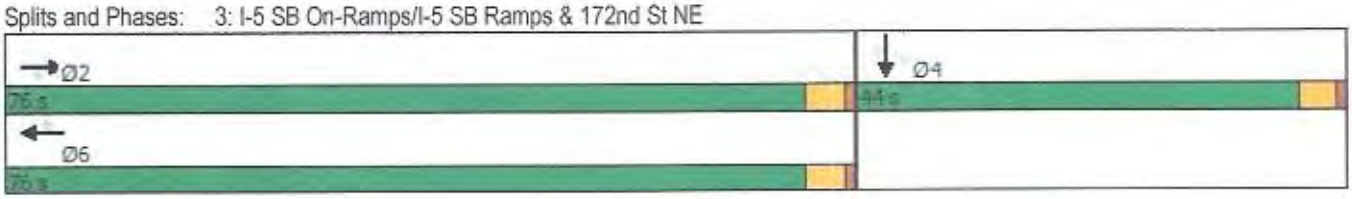
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	393	719	-	-	1221	-
HCM Lane V/C Ratio	0.204	0.091	-	-	0.047	-
HCM Control Delay (s)	16.5	10.5	-	-	8.1	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	0.3	-	-	0.1	-

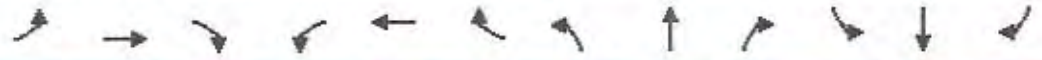
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑	↱				↰	↰	↱
Traffic Volume (vph)	0	909	444	0	1263	594	0	0	0	275	2	290
Future Volume (vph)	0	909	444	0	1263	594	0	0	0	275	2	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		275	0		0	0		0	400		435
Storage Lanes	0		1	0		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor			0.95			0.95				0.98	0.98	0.97
Frt			0.850			0.850						0.850
Flt Protected										0.950	0.953	
Satd. Flow (prot)	0	3505	1568	0	3505	1568	0	0	0	1665	1670	1568
Flt Permitted										0.950	0.953	
Satd. Flow (perm)	0	3505	1485	0	3505	1485	0	0	0	1632	1637	1518
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			467			625						52
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		681			942			352			655	
Travel Time (s)		13.3			18.4			6.9			12.8	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	957	467	0	1329	625	0	0	0	289	2	305
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	0	957	467	0	1329	625	0	0	0	144	147	305
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1		2	1				1	2	1
Detector Template		Thru	Right		Thru	Right				Left	Thru	Right
Leading Detector (ft)		100	20		100	20				20	100	20
Trailing Detector (ft)		0	0		0	0				0	0	0
Detector 1 Position(ft)		0	0		0	0				0	0	0
Detector 1 Size(ft)		6	20		6	20				20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm		NA	Perm				Perm	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2			6						4	
Permitted Phases			2			6				4		4
Detector Phase		2	2		6	6				4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0		5.0	5.0				5.0	5.0	5.0
Minimum Split (s)		22.5	22.5		22.5	22.5				22.5	22.5	22.5
Total Split (s)		76.0	76.0		76.0	76.0				44.0	44.0	44.0
Total Split (%)		63.3%	63.3%		63.3%	63.3%				36.7%	36.7%	36.7%
Maximum Green (s)		71.5	71.5		71.5	71.5				39.5	39.5	39.5
Yellow Time (s)		3.5	3.5		3.5	3.5				3.5	3.5	3.5
All-Red Time (s)		1.0	1.0		1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5	4.5				4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0		3.0	3.0				3.0	3.0	3.0
Recall Mode		Min	Min		Min	Min				None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0				11.0	11.0	11.0
Pedestrian Calls (#/hr)		10	10		10	10				10	10	10
Act Effct Green (s)		48.0	48.0		48.0	48.0				21.4	21.4	21.4
Actuated g/C Ratio		0.60	0.60		0.60	0.60				0.27	0.27	0.27
v/c Ratio		0.45	0.43		0.63	0.55				0.33	0.33	0.68
Control Delay		9.8	2.2		12.1	2.8				28.4	28.5	32.0
Queue Delay		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Total Delay		9.8	2.2		12.1	2.8				28.4	28.5	32.0
LOS		A	A		B	A				C	C	C
Approach Delay		7.3			9.1						30.3	
Approach LOS		A			A						C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 79.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 61.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: I-5 SB On-Ramps/I-5 SB Ramps & 172nd St NE



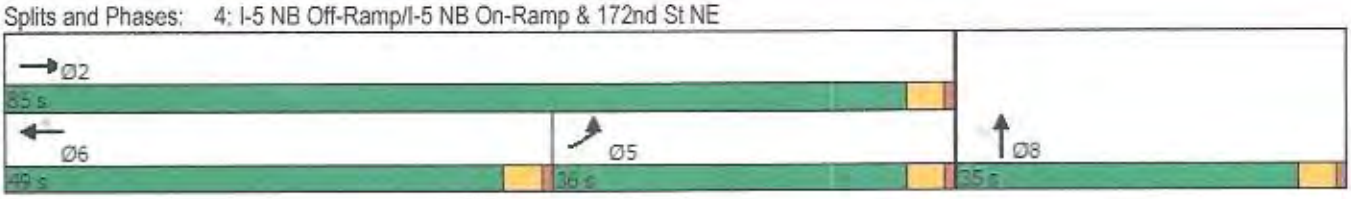


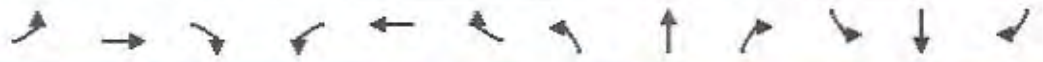
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	332	869	0	0	1239	496	573	0	709	0	0	0
Future Volume (vph)	332	869	0	0	1239	496	573	0	709	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	620		0	0		250	390		0	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99					0.95	0.98	0.98	0.99			
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.950				
Satd. Flow (prot)	1752	3505	0	0	5036	1568	1665	1665	1568	0	0	0
Flt Permitted	0.950						0.950	0.950				
Satd. Flow (perm)	1743	3505	0	0	5036	1485	1632	1632	1545	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						522			437			
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		942			1058			803			393	
Travel Time (s)		18.4			20.6			15.6			7.7	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	349	915	0	0	1304	522	603	0	746	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	349	915	0	0	1304	522	301	302	746	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1	2	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	20	100			100	20	20	100	20			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	20	6			6	20	20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Detector Phase	5	2			6	6	8	8				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0	5.0				
Minimum Split (s)	9.5	22.5			22.5	22.5	22.5	22.5				
Total Split (s)	36.0	85.0			49.0	49.0	35.0	35.0				
Total Split (%)	30.0%	70.8%			40.8%	40.8%	29.2%	29.2%				
Maximum Green (s)	31.5	80.5			44.5	44.5	30.5	30.5				
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5				
Lead/Lag	Lag				Lead	Lead						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Recall Mode	None	Min			Min	Min	None	None				
Walk Time (s)		7.0			7.0	7.0	7.0	7.0				
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0				
Pedestrian Calls (#/hr)		10			10	10	0	0				
Act Effct Green (s)	25.4	69.7			39.7	39.7	24.2	24.2	103.3			
Actuated g/C Ratio	0.25	0.67			0.38	0.38	0.23	0.23	1.00			
v/c Ratio	0.81	0.39			0.67	0.59	0.79	0.79	0.48			
Control Delay	54.3	8.3			29.7	5.3	54.6	54.8	1.1			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	54.3	8.3			29.7	5.3	54.6	54.8	1.1			
LOS	D	A			C	A	D	D	A			
Approach Delay		21.0			22.7			25.1				
Approach LOS		C			C			C				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 103.3			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 22.9		Intersection LOS: C	
Intersection Capacity Utilization 77.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: I-5 NB Off-Ramp/I-5 NB On-Ramp & 172nd St NE



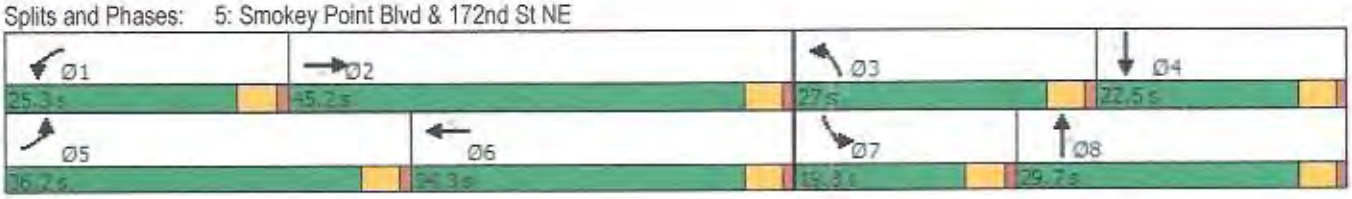


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	372	692	356	153	760	87	505	469	167	158	241	304
Future Volume (vph)	372	692	356	153	760	87	505	469	167	158	241	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	915		0	390		275	175		170	225		175
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.97	0.99		0.97	0.99		0.97	0.99		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	3505	1568	1752	3505	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1741	3505	1518	1740	5036	1518	3352	3505	1518	1735	3505	1518
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			375			177			176			320
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1058			1557			856			760	
Travel Time (s)		20.6			30.3			16.7			14.8	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	392	728	375	161	800	92	532	494	176	166	254	320
Shared Lane Traffic (%)												
Lane Group Flow (vph)	392	728	375	161	800	92	532	494	176	166	254	320
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	36.2	45.2	45.2	25.3	34.3	34.3	27.0	29.7	29.7	19.8	22.5	22.5
Total Split (%)	30.2%	37.7%	37.7%	21.1%	28.6%	28.6%	22.5%	24.8%	24.8%	16.5%	18.8%	18.8%
Maximum Green (s)	31.7	40.7	40.7	20.8	29.8	29.8	22.5	25.2	25.2	15.3	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		10	10		10	10		0	0		10	10
Act Effct Green (s)	28.3	43.0	43.0	15.3	30.1	30.1	20.8	21.4	21.4	13.9	14.5	14.5
Actuated g/C Ratio	0.25	0.38	0.38	0.14	0.27	0.27	0.19	0.19	0.19	0.12	0.13	0.13
v/c Ratio	0.88	0.54	0.46	0.67	0.59	0.17	0.84	0.74	0.41	0.76	0.56	0.67
Control Delay	63.4	30.0	4.8	60.8	39.0	0.7	57.9	50.4	8.9	71.6	51.4	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.4	30.0	4.8	60.8	39.0	0.7	57.9	50.4	8.9	71.6	51.4	12.8
LOS	E	C	A	E	D	A	E	D	A	E	D	B
Approach Delay		32.4			39.0			47.7			39.2	
Approach LOS		C			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 111.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 39.2		Intersection LOS: D	
Intersection Capacity Utilization 74.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 5: Smokey Point Blvd & 172nd St NE



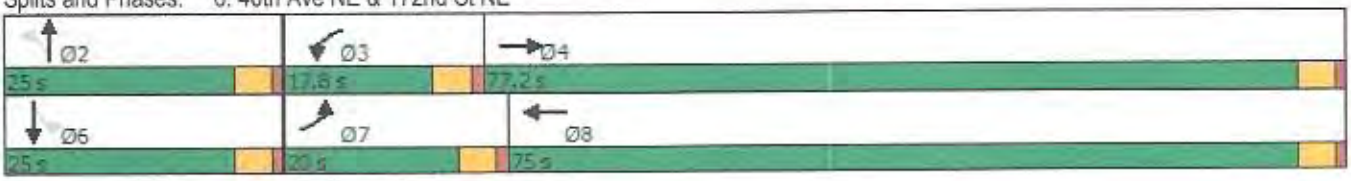
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	161	1023	21	76	1233	82	79	5	61	71	8	75
Future Volume (vph)	161	1023	21	76	1233	82	79	5	61	71	8	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	165		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00		0.98	0.97		0.98	0.97	
Frt		0.997			0.991			0.861			0.864	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3491	0	1752	3462	0	1752	1542	0	1752	1548	0
Flt Permitted	0.950			0.950			0.701			0.712		
Satd. Flow (perm)	1744	3491	0	1740	3462	0	1272	1542	0	1290	1548	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			10			64			79	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1557			1055			270			258	
Travel Time (s)		30.3			20.6			5.3			5.0	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	169	1077	22	80	1298	86	83	5	64	75	8	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	169	1099	0	80	1384	0	83	69	0	75	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	20.0	77.2		17.8	75.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	64.3%		14.8%	62.5%		20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	15.5	72.7		13.3	70.5		20.5	20.5		20.5	20.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		10			0		10	10		10	10	
Act Effct Green (s)	13.5	54.4		9.6	47.8		20.9	20.9		20.9	20.9	
Actuated g/C Ratio	0.14	0.57		0.10	0.50		0.22	0.22		0.22	0.22	
v/c Ratio	0.68	0.56		0.46	0.80		0.30	0.18		0.27	0.22	
Control Delay	56.6	14.9		52.5	23.7		39.6	12.4		39.0	12.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	56.6	14.9		52.5	23.7		39.6	12.4		39.0	12.1	
LOS	E	B		D	C		D	B		D	B	
Approach Delay		20.5			25.3			27.3			24.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 96			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 23.4		Intersection LOS: C	
Intersection Capacity Utilization 71.9%		ICU Level of Service C	
Analysis Period (min) 15			

w/ signal under construction

Splits and Phases: 6: 40th Ave NE & 172nd St NE

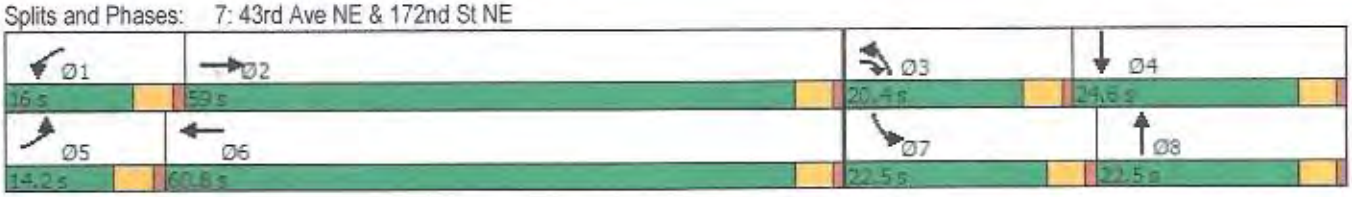


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	723	29	130	868	17	233	10	189	7	4	14
Future Volume (vph)	36	723	29	130	868	17	233	10	189	7	4	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	165		0	225		0	235		0	115		0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.95	0.99	1.00		0.97	0.95		0.98	0.98	
Frt			0.850		0.997			0.858			0.882	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1752	3491	0	3400	1504	0	1752	1586	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	1845	1485	1732	3491	0	3290	1504	0	1709	1586	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			55		2			199			15	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1055			398			529			738	
Travel Time (s)		20.6			7.8			10.3			14.4	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	761	31	137	914	18	245	11	199	7	4	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	761	31	137	932	0	245	210	0	7	19	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Detector Phase	5	2	3	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	14.2	59.0	20.4	16.0	60.8		20.4	22.5		22.5	24.6	
Total Split (%)	11.8%	49.2%	17.0%	13.3%	50.7%		17.0%	18.8%		18.8%	20.5%	
Maximum Green (s)	9.7	54.5	15.9	11.5	56.3		15.9	18.0		18.0	20.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min	None	None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		10			10			0		10	10	
Act Effct Green (s)	7.7	43.3	55.6	11.6	53.1		12.3	14.3		8.0	8.0	
Actuated g/C Ratio	0.09	0.49	0.63	0.13	0.60		0.14	0.16		0.09	0.09	
v/c Ratio	0.25	0.85	0.03	0.60	0.45		0.52	0.51		0.04	0.12	
Control Delay	50.1	31.9	0.8	55.3	14.0		43.9	12.7		44.6	25.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.1	31.9	0.8	55.3	14.0		43.9	12.7		44.6	25.6	
LOS	D	C	A	E	B		D	B		D	C	
Approach Delay		31.6			19.3			29.5			30.7	
Approach LOS		C			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 88.9			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 25.7		Intersection LOS: C	
Intersection Capacity Utilization 70.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 7: 43rd Ave NE & 172nd St NE



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	616	94	72	678	45	173	68	113	73	42	61
Future Volume (vph)	38	616	94	72	678	45	173	68	113	73	42	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	175		150	220		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.97		0.95	0.97	0.97	
Frt		0.980			0.991				0.850		0.911	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1795	0	1752	1822	0	1752	1845	1568	1752	1628	0
Flt Permitted	0.194			0.168			0.687			0.710		
Satd. Flow (perm)	358	1795	0	310	1822	0	1233	1845	1485	1270	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			4				119		62	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2207			2620			637			803	
Travel Time (s)		43.0			51.0			12.4			15.6	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	648	99	76	714	47	182	72	119	77	44	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	747	0	76	761	0	182	72	119	77	108	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.6	69.6		10.4	70.4		40.0	40.0	40.0	40.0	40.0	
Total Split (%)	8.0%	58.0%		8.7%	58.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Maximum Green (s)	5.1	65.1		5.9	65.9		35.5	35.5	35.5	35.5	35.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)		7.0			7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		10			10		0	0	0	10	10	
Act Effct Green (s)	43.3	39.5		45.4	42.4		19.4	19.4	19.4	19.4	19.4	
Actuated g/C Ratio	0.56	0.51		0.59	0.55		0.25	0.25	0.25	0.25	0.25	
v/c Ratio	0.13	0.81		0.25	0.76		0.59	0.16	0.26	0.24	0.24	
Control Delay	7.7	24.8		8.6	21.0		38.3	27.8	7.5	29.8	15.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	7.7	24.8		8.6	21.0		38.3	27.8	7.5	29.8	15.5	
LOS	A	C		A	C		D	C	A	C	B	
Approach Delay		23.9			19.9			26.4			21.5	
Approach LOS		C			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 77.1			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 22.6		Intersection LOS: C	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			

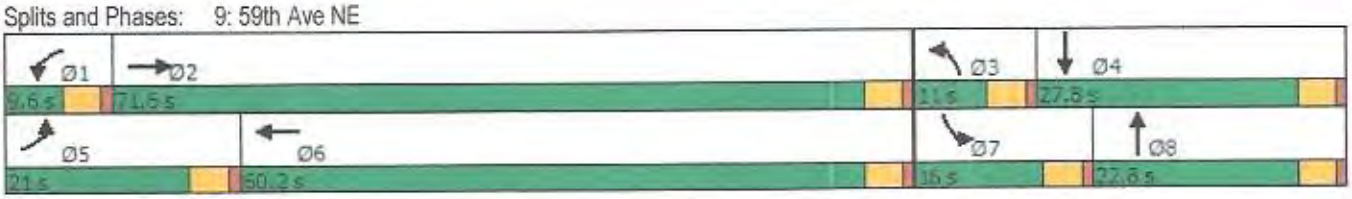
Splits and Phases: 8: 172nd St NE & 51st Ave NE (Airport Blvd)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	632	16	8	462	46	47	0	20	101	3	340
Future Volume (vph)	144	632	16	8	462	46	47	0	20	101	3	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	410		0	275		0	165		0	275		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98	1.00		0.99	1.00		0.98	0.95		0.97	0.95	
Frt		0.996			0.987			0.850			0.851	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1835	0	1752	1812	0	1752	1485	0	1752	1488	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1725	1835	0	1730	1812	0	1720	1485	0	1696	1488	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			6			278			358	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2620			806			790			731	
Travel Time (s)		51.0			15.7			15.4			14.2	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	152	665	17	8	486	48	49	0	21	106	3	358
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	682	0	8	534	0	49	21	0	106	361	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	21.0	71.6		9.6	60.2		11.0	22.8		16.0	27.8	
Total Split (%)	17.5%	59.7%		8.0%	50.2%		9.2%	19.0%		13.3%	23.2%	
Maximum Green (s)	16.5	67.1		5.1	55.7		6.5	18.3		11.5	23.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		10			10			10			10	
Act Effct Green (s)	12.4	44.7		5.8	28.4		7.0	7.9		10.2	10.9	
Actuated g/C Ratio	0.17	0.62		0.08	0.39		0.10	0.11		0.14	0.15	
v/c Ratio	0.51	0.60		0.06	0.75		0.29	0.05		0.43	0.69	
Control Delay	40.6	13.9		45.1	27.8		45.5	0.2		42.6	11.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.6	13.9		45.1	27.8		45.5	0.2		42.6	11.9	
LOS	D	B		D	C		D	A		D	B	
Approach Delay		18.8			28.1			31.9			18.8	
Approach LOS		B			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 72.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 21.9		Intersection LOS: C	
Intersection Capacity Utilization 79.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: 59th Ave NE



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	431	106	58	307	107	47	190	139	171	262	136
Future Volume (vph)	208	431	106	58	307	107	47	190	139	171	262	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		75	150		0	165		0	225		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.95	0.99	0.99		0.99	0.98			0.98	
Frt			0.850		0.961			0.937			0.949	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1752	1749	0	1752	1690	0	1752	1719	0
Flt Permitted	0.183			0.404			0.403			0.229		
Satd. Flow (perm)	338	1845	1485	735	1749	0	735	1690	0	422	1719	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		16			29			23	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		674			514			719			601	
Travel Time (s)		13.1			10.0			14.0			11.7	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	219	454	112	61	323	113	49	200	146	180	276	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	219	454	112	61	436	0	49	346	0	180	419	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	20.0	58.4	58.4	9.6	48.0		9.6	34.0		18.0	42.4	
Total Split (%)	16.7%	48.7%	48.7%	8.0%	40.0%		8.0%	28.3%		15.0%	35.3%	
Maximum Green (s)	15.5	53.9	53.9	5.1	43.5		5.1	29.5		13.5	37.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		10	10		10			10			10	
Act Effct Green (s)	46.9	39.6	39.6	34.0	28.6		28.3	22.9		39.8	34.7	
Actuated g/C Ratio	0.49	0.41	0.41	0.35	0.30		0.29	0.24		0.41	0.36	
v/c Ratio	0.60	0.60	0.16	0.19	0.82		0.18	0.81		0.53	0.66	
Control Delay	22.3	27.3	2.5	16.4	44.5		22.1	49.7		26.4	33.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.3	27.3	2.5	16.4	44.5		22.1	49.7		26.4	33.6	
LOS	C	C	A	B	D		C	D		C	C	
Approach Delay		22.4			41.0			46.3			31.4	
Approach LOS		C			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 96.1			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 33.0		Intersection LOS: C	
Intersection Capacity Utilization 77.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 10: 67th Ave NE & 172nd St NE

Intersection	
Intersection Delay, s/veh	30.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	5	15	265	15	70	20	280	250	50	240	10
Future Vol, veh/h	10	5	15	265	15	70	20	280	250	50	240	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	5	16	279	16	74	21	295	263	53	253	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.2	22.6	43.5	17.6
HCM LOS	B	C	E	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	33%	76%	17%
Vol Thru, %	51%	17%	4%	80%
Vol Right, %	45%	50%	20%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	550	30	350	300
LT Vol	20	10	265	50
Through Vol	280	5	15	240
RT Vol	250	15	70	10
Lane Flow Rate	579	32	368	316
Geometry Grp	1	1	1	1
Degree of Util (X)	0.923	0.066	0.678	0.566
Departure Headway (Hd)	5.742	7.521	6.622	6.447
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	631	473	545	559
Service Time	3.788	5.613	4.673	4.502
HCM Lane V/C Ratio	0.918	0.068	0.675	0.565
HCM Control Delay	43.5	11.2	22.6	17.6
HCM Lane LOS	E	B	C	C
HCM 95th-tile Q	12	0.2	5.1	3.5

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	285	60	65	270	90	70
Future Vol, veh/h	285	60	65	270	90	70
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	175	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	300	63	68	284	95	74

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	373	0	772	352
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	430	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1180	-	366	689
Stage 1	-	-	-	-	717	-
Stage 2	-	-	-	-	654	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1169	-	334	676
Mov Cap-2 Maneuver	-	-	-	-	334	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	603	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	16.1
HCM LOS			C

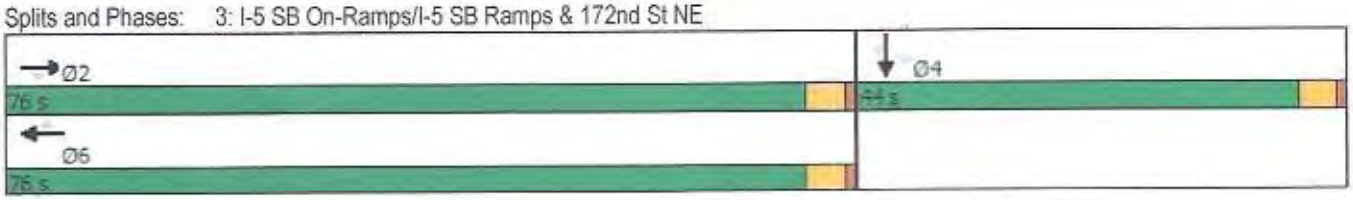
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	334	676	-	-	1169	-
HCM Lane V/C Ratio	0.284	0.109	-	-	0.059	-
HCM Control Delay (s)	20	11	-	-	8.3	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	1.1	0.4	-	-	0.2	-

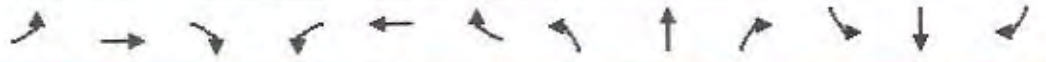
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑	↱				↰	↕	↱
Traffic Volume (vph)	0	1055	515	0	1465	760	0	0	0	365	5	375
Future Volume (vph)	0	1055	515	0	1465	760	0	0	0	365	5	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		275	0		0	0		0	400		435
Storage Lanes	0		1	0		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor			0.95			0.95				0.98	0.98	0.97
Frt			0.850			0.850						0.850
Flt Protected										0.950	0.954	
Satd. Flow (prot)	0	3505	1568	0	3505	1568	0	0	0	1665	1672	1568
Flt Permitted										0.950	0.954	
Satd. Flow (perm)	0	3505	1485	0	3505	1485	0	0	0	1632	1639	1518
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			542			800						32
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		681			942			352			655	
Travel Time (s)		13.3			18.4			6.9			12.8	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1111	542	0	1542	800	0	0	0	384	5	395
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	0	1111	542	0	1542	800	0	0	0	196	193	395
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1		2	1				1	2	1
Detector Template		Thru	Right		Thru	Right				Left	Thru	Right
Leading Detector (ft)		100	20		100	20				20	100	20
Trailing Detector (ft)		0	0		0	0				0	0	0
Detector 1 Position(ft)		0	0		0	0				0	0	0
Detector 1 Size(ft)		6	20		6	20				20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm		NA	Perm				Perm	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2			6						4	
Permitted Phases			2			6				4		4
Detector Phase		2	2		6	6				4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0		5.0	5.0				5.0	5.0	5.0
Minimum Split (s)		22.5	22.5		22.5	22.5				22.5	22.5	22.5
Total Split (s)		76.0	76.0		76.0	76.0				44.0	44.0	44.0
Total Split (%)		63.3%	63.3%		63.3%	63.3%				36.7%	36.7%	36.7%
Maximum Green (s)		71.5	71.5		71.5	71.5				39.5	39.5	39.5
Yellow Time (s)		3.5	3.5		3.5	3.5				3.5	3.5	3.5
All-Red Time (s)		1.0	1.0		1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5	4.5				4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0		3.0	3.0				3.0	3.0	3.0
Recall Mode		Min	Min		Min	Min				None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0				11.0	11.0	11.0
Pedestrian Calls (#/hr)		10	10		10	10				10	10	10
Act Effct Green (s)		62.8	62.8		62.8	62.8				31.0	31.0	31.0
Actuated g/C Ratio		0.61	0.61		0.61	0.61				0.30	0.30	0.30
v/c Ratio		0.52	0.49		0.72	0.66				0.40	0.39	0.83
Control Delay		13.3	2.5		17.4	3.7				32.9	32.7	47.7
Queue Delay		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Total Delay		13.3	2.5		17.4	3.7				32.9	32.7	47.7
LOS		B	A		B	A				C	C	D
Approach Delay		9.8			12.7						40.3	
Approach LOS		A			B						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 103.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 72.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: I-5 SB On-Ramps/I-5 SB Ramps & 172nd St NE



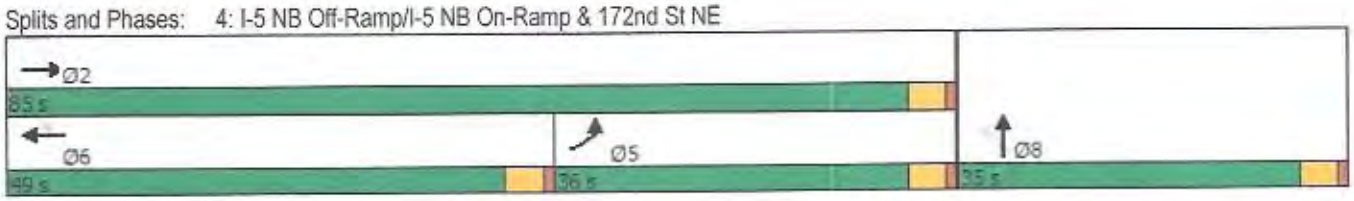


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	385	1055	0	0	1510	645	665	5	870	0	0	0
Future Volume (vph)	385	1055	0	0	1510	645	665	5	870	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	620		0	0		250	390		0	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.95	0.98	0.98	0.99			
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	1752	3505	0	0	5036	1568	1665	1670	1568	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	1746	3505	0	0	5036	1485	1632	1637	1545	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						539			396			
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		942			1058			803			393	
Travel Time (s)		18.4			20.6			15.6			7.7	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	405	1111	0	0	1589	679	700	5	916	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	405	1111	0	0	1589	679	350	355	916	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1	2	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	20	100			100	20	20	100	20			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	20	6			6	20	20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Detector Phase	5	2			6	6	8	8				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0	5.0				
Minimum Split (s)	9.5	22.5			22.5	22.5	22.5	22.5				
Total Split (s)	36.0	85.0			49.0	49.0	35.0	35.0				
Total Split (%)	30.0%	70.8%			40.8%	40.8%	29.2%	29.2%				
Maximum Green (s)	31.5	80.5			44.5	44.5	30.5	30.5				
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5				
Lead/Lag	Lag				Lead	Lead						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Recall Mode	None	Min			Min	Min	None	None				
Walk Time (s)		7.0			7.0	7.0	7.0	7.0				
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0				
Pedestrian Calls (#/hr)		10			10	10	0	0				
Act Effct Green (s)	29.3	78.3			44.4	44.4	28.1	28.1	115.4			
Actuated g/C Ratio	0.25	0.68			0.38	0.38	0.24	0.24	1.00			
v/c Ratio	0.91	0.47			0.82	0.75	0.88	0.89	0.59			
Control Delay	68.1	9.8			37.0	12.8	66.8	67.9	1.7			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	68.1	9.8			37.0	12.8	66.8	67.9	1.7			
LOS	E	A			D	B	E	E	A			
Approach Delay		25.4			29.8			30.2				
Approach LOS		C			C			C				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 115.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 28.7		Intersection LOS: C	
Intersection Capacity Utilization 92.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: I-5 NB Off-Ramp/I-5 NB On-Ramp & 172nd St NE

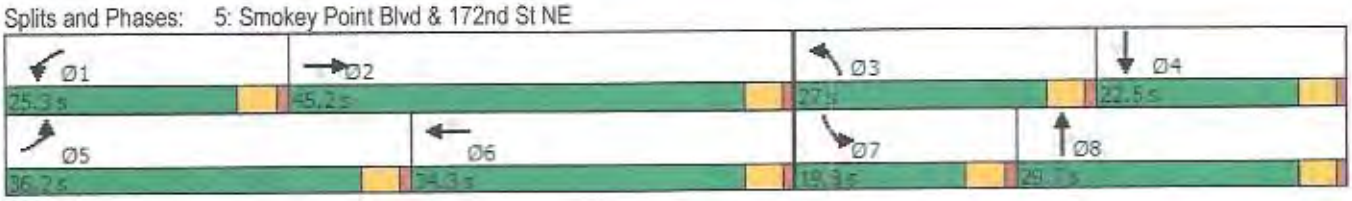


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	430	895	415	205	1025	125	585	545	210	200	280	355
Future Volume (vph)	430	895	415	205	1025	125	585	545	210	200	280	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	915		0	390		275	175		170	225		175
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.97	0.99		0.97	0.99		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	3505	1568	1752	3505	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1745	3505	1518	1743	5036	1518	3355	3505	1518	1737	3505	1518
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			433			177			217			374
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1058			1557			856			760	
Travel Time (s)		20.6			30.3			16.7			14.8	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	453	942	437	216	1079	132	616	574	221	211	295	374
Shared Lane Traffic (%)												
Lane Group Flow (vph)	453	942	437	216	1079	132	616	574	221	211	295	374
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	36.2	45.2	45.2	25.3	34.3	34.3	27.0	29.7	29.7	19.8	22.5	22.5
Total Split (%)	30.2%	37.7%	37.7%	21.1%	28.6%	28.6%	22.5%	24.8%	24.8%	16.5%	18.8%	18.8%
Maximum Green (s)	31.7	40.7	40.7	20.8	29.8	29.8	22.5	25.2	25.2	15.3	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		10	10		10	10		0	0		10	10
Act Effct Green (s)	31.7	43.2	43.2	18.3	29.8	29.8	22.5	23.5	23.5	15.3	16.3	16.3
Actuated g/C Ratio	0.27	0.36	0.36	0.15	0.25	0.25	0.19	0.20	0.20	0.13	0.14	0.14
v/c Ratio	0.97	0.74	0.53	0.80	0.85	0.26	0.95	0.82	0.47	0.93	0.61	0.70
Control Delay	77.7	37.7	5.4	69.8	50.0	3.1	73.6	56.3	9.0	96.7	53.8	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.7	37.7	5.4	69.8	50.0	3.1	73.6	56.3	9.0	96.7	53.8	12.6
LOS	E	D	A	E	D	A	E	E	A	F	D	B
Approach Delay		39.9			48.6			56.5			46.6	
Approach LOS		D			D			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 118.4			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 47.4		Intersection LOS: D	
Intersection Capacity Utilization 85.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 5: Smokey Point Blvd & 172nd St NE

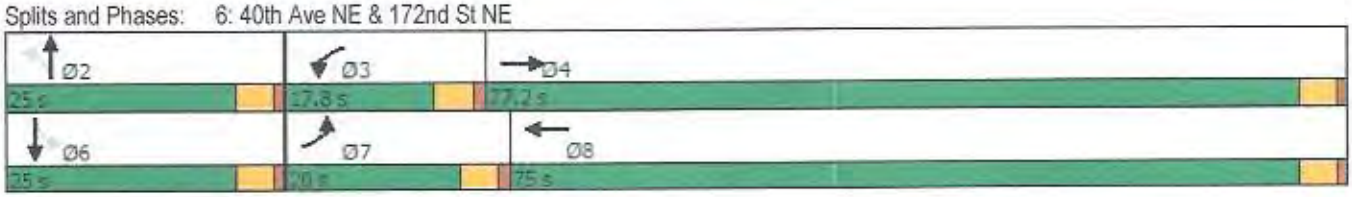


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	1310	25	90	1625	95	90	10	70	80	10	90
Future Volume (vph)	185	1310	25	90	1625	95	90	10	70	80	10	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	165		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.98	0.97		0.98	0.97	
Frt		0.997			0.992			0.869			0.866	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3491	0	1752	3467	0	1752	1559	0	1752	1552	0
Flt Permitted	0.950			0.950			0.639			0.694		
Satd. Flow (perm)	1749	3491	0	1744	3467	0	1159	1559	0	1258	1552	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			9			74			95	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1557			1055			270			258	
Travel Time (s)		30.3			20.6			5.3			5.0	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	195	1379	26	95	1711	100	95	11	74	84	11	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	1405	0	95	1811	0	95	85	0	84	106	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	20.0	77.2		17.8	75.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	64.3%		14.8%	62.5%		20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	15.5	72.7		13.3	70.5		20.5	20.5		20.5	20.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		10			0		10	10		10	10	
Act Effct Green (s)	14.9	70.9		11.0	66.9		20.6	20.6		20.6	20.6	
Actuated g/C Ratio	0.13	0.61		0.09	0.58		0.18	0.18		0.18	0.18	
v/c Ratio	0.87	0.66		0.58	0.90		0.46	0.25		0.38	0.30	
Control Delay	84.5	16.6		65.1	29.2		52.9	14.6		49.5	13.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	84.5	16.6		65.1	29.2		52.9	14.6		49.5	13.3	
LOS	F	B		E	C		D	B		D	B	
Approach Delay		24.9			31.0			34.8			29.3	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 116			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 28.6		Intersection LOS: C	
Intersection Capacity Utilization 84.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 6: 40th Ave NE & 172nd St NE

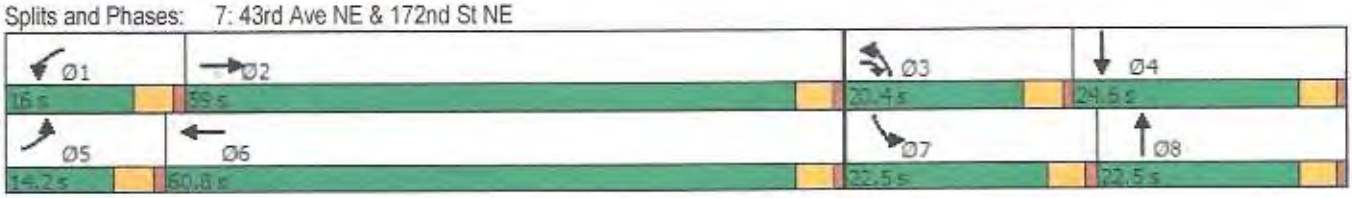


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	985	95	190	1190	20	400	15	240	10	5	20
Future Volume (vph)	45	985	95	190	1190	20	400	15	240	10	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	165		0	225		0	235		0	115		0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.95	0.99	1.00		0.97	0.95		0.98	0.97	
Frt			0.850		0.998			0.859			0.879	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1752	3495	0	3400	1506	0	1752	1580	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1742	1845	1485	1739	3495	0	3312	1506	0	1712	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2			253			21	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1055			398			529			738	
Travel Time (s)		20.6			7.8			10.3			14.4	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	47	1037	100	200	1253	21	421	16	253	11	5	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	1037	100	200	1274	0	421	269	0	11	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Detector Phase	5	2	3	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	14.2	59.0	20.4	16.0	60.8		20.4	22.5		22.5	24.6	
Total Split (%)	11.8%	49.2%	17.0%	13.3%	50.7%		17.0%	18.8%		18.8%	20.5%	
Maximum Green (s)	9.7	54.5	15.9	11.5	56.3		15.9	18.0		18.0	20.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min	None	None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		10			10			0		10	10	
Act Effct Green (s)	7.9	54.9	70.7	11.6	63.3		15.8	18.2		8.1	8.3	
Actuated g/C Ratio	0.08	0.53	0.68	0.11	0.61		0.15	0.17		0.08	0.08	
v/c Ratio	0.36	1.07	0.10	1.03	0.60		0.82	0.57		0.08	0.18	
Control Delay	56.0	75.7	2.7	120.6	17.6		58.0	12.2		46.8	24.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	56.0	75.7	2.7	120.6	17.6		58.0	12.2		46.8	24.0	
LOS	E	E	A	F	B		E	B		D	C	
Approach Delay		68.8			31.6			40.2			30.8	
Approach LOS		E			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 104.4			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 46.3		Intersection LOS: D	
Intersection Capacity Utilization 91.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 7: 43rd Ave NE & 172nd St NE

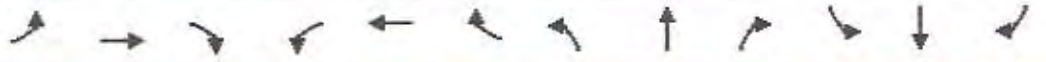


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	765	110	100	805	50	290	80	135	85	55	75
Future Volume (vph)	55	765	110	100	805	50	290	80	135	85	55	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	175		150	220		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.98		0.95	0.97	0.97	
Frt		0.981			0.991				0.850		0.914	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1798	0	1752	1822	0	1752	1845	1568	1752	1635	0
Flt Permitted	0.093			0.062			0.625			0.702		
Satd. Flow (perm)	172	1798	0	114	1822	0	1124	1845	1485	1257	1635	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			4				142		58	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2207			2620			637			803	
Travel Time (s)		43.0			51.0			12.4			15.6	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	805	116	105	847	53	305	84	142	89	58	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	921	0	105	900	0	305	84	142	89	137	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.6	69.6		10.4	70.4		40.0	40.0	40.0	40.0	40.0	
Total Split (%)	8.0%	58.0%		8.7%	58.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Maximum Green (s)	5.1	65.1		5.9	65.9		35.5	35.5	35.5	35.5	35.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)		7.0			7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		10			10		0	0	0	10	10	
Act Effct Green (s)	66.7	61.5		69.1	64.6		34.1	34.1	34.1	34.1	34.1	
Actuated g/C Ratio	0.58	0.53		0.60	0.56		0.30	0.30	0.30	0.30	0.30	
v/c Ratio	0.34	0.96		0.69	0.88		0.92	0.15	0.26	0.24	0.26	
Control Delay	14.3	46.2		41.2	34.5		73.2	32.0	6.5	34.0	20.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	14.3	46.2		41.2	34.5		73.2	32.0	6.5	34.0	20.2	
LOS	B	D		D	C		E	C	A	C	C	
Approach Delay		44.3			35.2			48.8			25.6	
Approach LOS		D			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 115.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 40.3		Intersection LOS: D	
Intersection Capacity Utilization 93.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 8: 172nd St NE & 51st Ave NE (Airport Blvd)

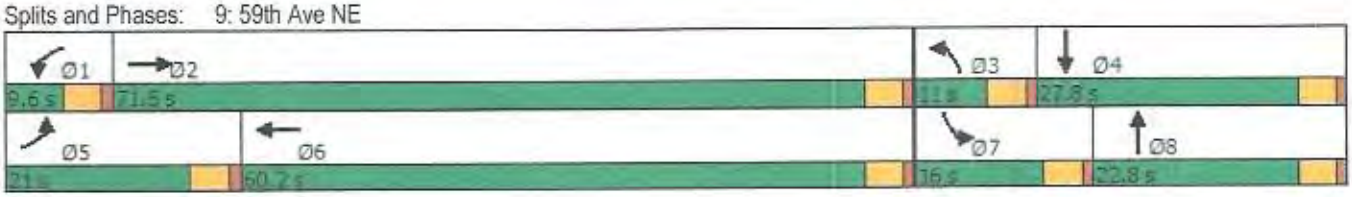


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	790	20	10	570	55	55	5	25	115	5	395
Future Volume (vph)	165	790	20	10	570	55	55	5	25	115	5	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	410		0	275		0	165		0	275		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		0.98	0.96		0.97	0.95	
Frt		0.996			0.987			0.874			0.852	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1835	0	1752	1812	0	1752	1541	0	1752	1490	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1729	1835	0	1735	1812	0	1720	1541	0	1696	1490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			26			333	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2620			806			790			731	
Travel Time (s)		51.0			15.7			15.4			14.2	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	174	832	21	11	600	58	58	5	26	121	5	416
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	853	0	11	658	0	58	31	0	121	421	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	21.0	71.6		9.6	60.2		11.0	22.8		16.0	27.8	
Total Split (%)	17.5%	59.7%		8.0%	50.2%		9.2%	19.0%		13.3%	23.2%	
Maximum Green (s)	16.5	67.1		5.1	55.7		6.5	18.3		11.5	23.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		10			10			10			10	
Act Effct Green (s)	14.2	55.6		5.7	37.8		7.0	10.0		13.0	13.7	
Actuated g/C Ratio	0.16	0.63		0.06	0.43		0.08	0.11		0.15	0.15	
v/c Ratio	0.63	0.74		0.10	0.85		0.42	0.16		0.47	0.82	
Control Delay	52.2	19.0		53.7	35.7		58.6	21.0		50.8	24.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.2	19.0		53.7	35.7		58.6	21.0		50.8	24.7	
LOS	D	B		D	D		E	C		D	C	
Approach Delay		24.6			36.0			45.5			30.5	
Approach LOS		C			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 88.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 30.1		Intersection LOS: C	
Intersection Capacity Utilization 91.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 9: 59th Ave NE



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	530	135	65	375	125	55	220	160	200	305	165
Future Volume (vph)	255	530	135	65	375	125	55	220	160	200	305	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		75	150		0	165		0	225		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.95	0.99	0.99			0.98			0.98	
Frt			0.850		0.962			0.937			0.947	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1752	1751	0	1752	1690	0	1752	1715	0
Flt Permitted	0.124			0.299			0.236			0.145		
Satd. Flow (perm)	229	1845	1485	547	1751	0	435	1690	0	267	1715	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		16			29			24	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		674			514			719			601	
Travel Time (s)		13.1			10.0			14.0			11.7	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	268	558	142	68	395	132	58	232	168	211	321	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	268	558	142	68	527	0	58	400	0	211	495	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	20.0	58.4	58.4	9.6	48.0		9.6	34.0		18.0	42.4	
Total Split (%)	16.7%	48.7%	48.7%	8.0%	40.0%		8.0%	28.3%		15.0%	35.3%	
Maximum Green (s)	15.5	53.9	53.9	5.1	43.5		5.1	29.5		13.5	37.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		10	10		10			10			10	
Act Effct Green (s)	56.0	48.7	48.7	41.5	36.3		32.5	27.3		45.0	37.7	
Actuated g/C Ratio	0.51	0.44	0.44	0.38	0.33		0.29	0.25		0.41	0.34	
v/c Ratio	0.82	0.68	0.19	0.26	0.90		0.31	0.91		0.74	0.82	
Control Delay	44.7	30.7	4.4	17.8	53.7		27.2	64.2		40.7	46.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	44.7	30.7	4.4	17.8	53.7		27.2	64.2		40.7	46.5	
LOS	D	C	A	B	D		C	E		D	D	
Approach Delay		30.7			49.6			59.5			44.8	
Approach LOS		C			D			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 110.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 43.3		Intersection LOS: D	
Intersection Capacity Utilization 89.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 10: 67th Ave NE & 172nd St NE

Intersection	
Intersection Delay, s/veh	34.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	5	15	277	15	82	20	280	254	53	240	10
Future Vol, veh/h	10	5	15	277	15	82	20	280	254	53	240	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	11	5	16	292	16	86	21	295	267	56	253	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.4	25.8	49.7	18.6
HCM LOS	B	D	E	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	33%	74%	17%
Vol Thru, %	51%	17%	4%	79%
Vol Right, %	46%	50%	22%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	554	30	374	303
LT Vol	20	10	277	53
Through Vol	280	5	15	240
RT Vol	254	15	82	10
Lane Flow Rate	583	32	394	319
Geometry Grp	1	1	1	1
Degree of Util (X)	0.952	0.069	0.73	0.585
Departure Headway (Hd)	5.875	7.826	6.677	6.602
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	618	460	539	545
Service Time	3.929	5.826	4.738	4.67
HCM Lane V/C Ratio	0.943	0.07	0.731	0.585
HCM Control Delay	49.7	11.4	25.8	18.6
HCM Lane LOS	E	B	D	C
HCM 95th-tile Q	13	0.2	6.1	3.7

Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	285	67	68	270	114	82
Future Vol, veh/h	285	67	68	270	114	82
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	175	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	300	71	72	284	120	86

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	381	0	784	356
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	438	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1172	-	361	686
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	648	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1161	-	328	673
Mov Cap-2 Maneuver	-	-	-	-	328	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	594	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	17.6
HCM LOS			C

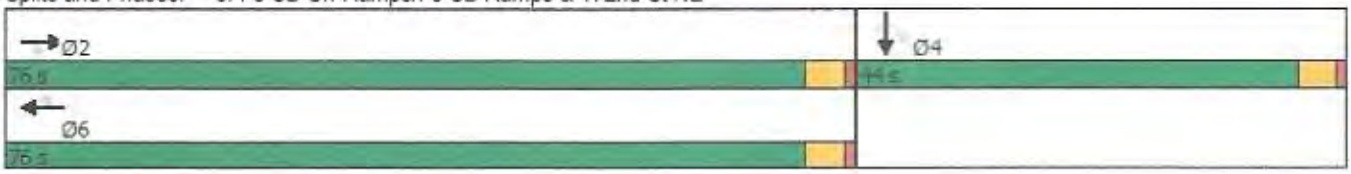
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	328	673	-	-	1161	-
HCM Lane V/C Ratio	0.366	0.128	-	-	0.062	-
HCM Control Delay (s)	22.2	11.1	-	-	8.3	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	1.6	0.4	-	-	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑	↱				↰	↕	↱
Traffic Volume (vph)	0	1058	515	0	1477	821	0	0	0	379	5	375
Future Volume (vph)	0	1058	515	0	1477	821	0	0	0	379	5	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		275	0		0	0		0	400		435
Storage Lanes	0		1	0		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor			0.95			0.95				0.98	0.98	0.97
Frt			0.850			0.850						0.850
Flt Protected										0.950	0.954	
Satd. Flow (prot)	0	3505	1568	0	3505	1568	0	0	0	1665	1672	1568
Flt Permitted										0.950	0.954	
Satd. Flow (perm)	0	3505	1485	0	3505	1485	0	0	0	1632	1639	1518
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			542			862						31
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		681			942			352			655	
Travel Time (s)		13.3			18.4			6.9			12.8	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1114	542	0	1555	864	0	0	0	399	5	395
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	0	1114	542	0	1555	864	0	0	0	203	201	395
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1		2	1				1	2	1
Detector Template		Thru	Right		Thru	Right				Left	Thru	Right
Leading Detector (ft)		100	20		100	20				20	100	20
Trailing Detector (ft)		0	0		0	0				0	0	0
Detector 1 Position(ft)		0	0		0	0				0	0	0
Detector 1 Size(ft)		6	20		6	20				20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm		NA	Perm				Perm	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2			6						4	
Permitted Phases			2			6				4		4
Detector Phase		2	2		6	6				4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0		5.0	5.0				5.0	5.0	5.0
Minimum Split (s)		22.5	22.5		22.5	22.5				22.5	22.5	22.5
Total Split (s)		76.0	76.0		76.0	76.0				44.0	44.0	44.0
Total Split (%)		63.3%	63.3%		63.3%	63.3%				36.7%	36.7%	36.7%
Maximum Green (s)		71.5	71.5		71.5	71.5				39.5	39.5	39.5
Yellow Time (s)		3.5	3.5		3.5	3.5				3.5	3.5	3.5
All-Red Time (s)		1.0	1.0		1.0	1.0				1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5		4.5	4.5				4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0	3.0		3.0	3.0				3.0	3.0	3.0
Recall Mode		Min	Min		Min	Min				None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0				7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0				11.0	11.0	11.0
Pedestrian Calls (#/hr)		10	10		10	10				10	10	10
Act Effct Green (s)		64.1	64.1		64.1	64.1				31.3	31.3	31.3
Actuated g/C Ratio		0.61	0.61		0.61	0.61				0.30	0.30	0.30
v/c Ratio		0.52	0.48		0.73	0.70				0.42	0.41	0.83
Control Delay		13.3	2.5		17.5	4.2				33.5	33.3	48.6
Queue Delay		0.0	0.0		0.0	0.0				0.0	0.0	0.0
Total Delay		13.3	2.5		17.5	4.2				33.5	33.3	48.6
LOS		B	A		B	A				C	C	D
Approach Delay		9.8			12.8						40.9	
Approach LOS		A			B						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 104.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 16.4		Intersection LOS: B	
Intersection Capacity Utilization 72.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: I-5 SB On-Ramps/I-5 SB Ramps & 172nd St NE

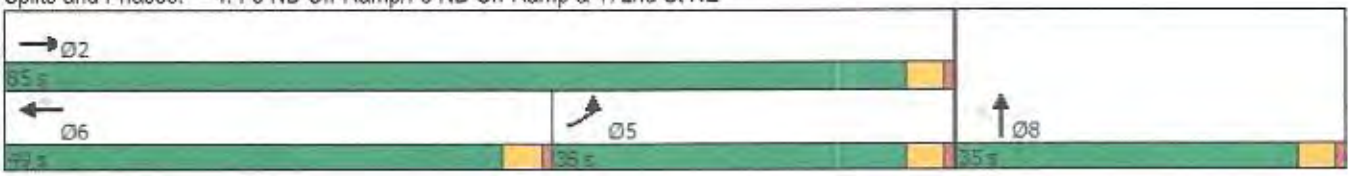


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	385	1071	0	0	1583	694	665	5	887	0	0	0
Future Volume (vph)	385	1071	0	0	1583	694	665	5	887	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	620		0	0		250	390		0	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.95	0.98	0.98	0.99			
Frt						0.850			0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	1752	3505	0	0	5036	1568	1665	1670	1568	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	1747	3505	0	0	5036	1485	1632	1637	1545	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						539			394			
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		942			1058			803			393	
Travel Time (s)		18.4			20.6			15.6			7.7	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	405	1127	0	0	1666	731	700	5	934	0	0	0
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	405	1127	0	0	1666	731	350	355	934	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1	2	1			
Detector Template	Left	Thru			Thru	Right	Left	Thru	Right			
Leading Detector (ft)	20	100			100	20	20	100	20			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Detector 1 Position(ft)	0	0			0	0	0	0	0			
Detector 1 Size(ft)	20	6			6	20	20	6	20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA	Perm	Perm	NA	Free			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2			6			8				
Permitted Phases						6	8		Free			
Detector Phase	5	2			6	6	8	8				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0	5.0				
Minimum Split (s)	9.5	22.5			22.5	22.5	22.5	22.5				
Total Split (s)	36.0	85.0			49.0	49.0	35.0	35.0				
Total Split (%)	30.0%	70.8%			40.8%	40.8%	29.2%	29.2%				
Maximum Green (s)	31.5	80.5			44.5	44.5	30.5	30.5				
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5				
Lead/Lag	Lag				Lead	Lead						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Recall Mode	None	Min			Min	Min	None	None				
Walk Time (s)		7.0			7.0	7.0	7.0	7.0				
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0				
Pedestrian Calls (#/hr)		10			10	10	0	0				
Act Effct Green (s)	29.3	78.5			44.7	44.7	28.0	28.0	115.6			
Actuated g/C Ratio	0.25	0.68			0.39	0.39	0.24	0.24	1.00			
v/c Ratio	0.91	0.47			0.86	0.81	0.89	0.89	0.60			
Control Delay	68.6	9.8			38.8	16.7	67.1	68.3	1.8			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	68.6	9.8			38.8	16.7	67.1	68.3	1.8			
LOS	E	A			D	B	E	E	A			
Approach Delay		25.4			32.1			30.1				
Approach LOS		C			C			C				

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 115.6	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 29.7	Intersection LOS: C
Intersection Capacity Utilization 95.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: I-5 NB Off-Ramp/I-5 NB On-Ramp & 172nd St NE

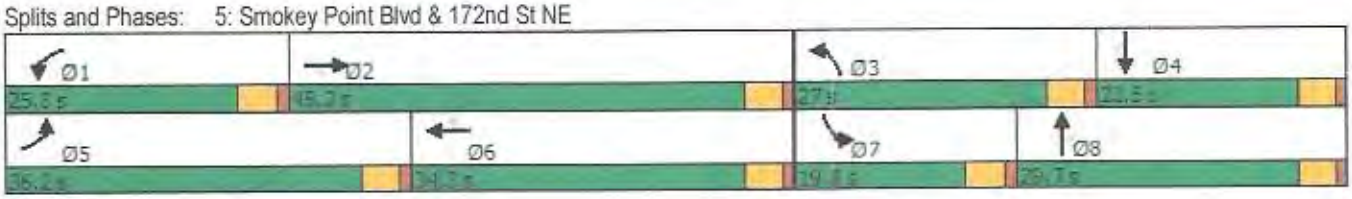


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	430	929	415	230	1147	125	585	545	217	200	280	355
Future Volume (vph)	430	929	415	230	1147	125	585	545	217	200	280	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	915		0	390		275	175		170	225		175
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.97	0.99		0.97	0.99		0.97	0.99		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	1568	1752	5036	1568	3400	3505	1568	1752	3505	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1746	3505	1518	1743	5036	1518	3355	3505	1518	1737	3505	1518
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			421			177			224			374
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1058			1557			856			760	
Travel Time (s)		20.6			30.3			16.7			14.8	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	453	978	437	242	1207	132	616	574	228	211	295	374
Shared Lane Traffic (%)												
Lane Group Flow (vph)	453	978	437	242	1207	132	616	574	228	211	295	374
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	36.2	45.2	45.2	25.3	34.3	34.3	27.0	29.7	29.7	19.8	22.5	22.5
Total Split (%)	30.2%	37.7%	37.7%	21.1%	28.6%	28.6%	22.5%	24.8%	24.8%	16.5%	18.8%	18.8%
Maximum Green (s)	31.7	40.7	40.7	20.8	29.8	29.8	22.5	25.2	25.2	15.3	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		10	10		10	10		0	0		10	10
Act Effct Green (s)	31.7	42.3	42.3	19.2	29.8	29.8	22.5	23.7	23.7	15.3	16.5	16.5
Actuated g/C Ratio	0.27	0.36	0.36	0.16	0.25	0.25	0.19	0.20	0.20	0.13	0.14	0.14
v/c Ratio	0.97	0.78	0.54	0.85	0.95	0.26	0.96	0.82	0.47	0.93	0.60	0.70
Control Delay	78.2	40.1	6.0	75.1	60.5	3.1	74.0	55.9	9.0	97.2	53.5	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	40.1	6.0	75.1	60.5	3.1	74.0	55.9	9.0	97.2	53.5	12.5
LOS	E	D	A	E	E	A	E	E	A	F	D	B
Approach Delay		41.4			57.9			56.2			46.6	
Approach LOS		D			E			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 118.6			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 50.4		Intersection LOS: D	
Intersection Capacity Utilization 87.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 5: Smokey Point Blvd & 172nd St NE

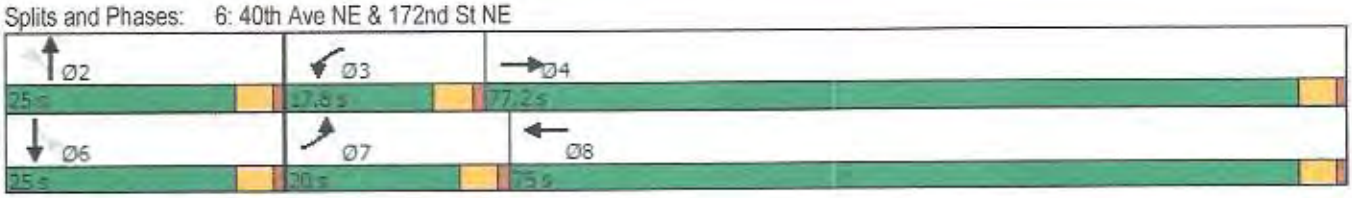


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	1351	25	90	1772	95	90	10	70	80	10	90
Future Volume (vph)	185	1351	25	90	1772	95	90	10	70	80	10	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	165		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.98	0.97		0.98	0.97	
Frt		0.997			0.992			0.869			0.866	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3491	0	1752	3467	0	1752	1559	0	1752	1552	0
Flt Permitted	0.950			0.950			0.632			0.688		
Satd. Flow (perm)	1749	3491	0	1745	3467	0	1147	1559	0	1247	1552	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			8			74			95	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1557			1055			270			258	
Travel Time (s)		30.3			20.6			5.3			5.0	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	195	1422	26	95	1865	100	95	11	74	84	11	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	1448	0	95	1965	0	95	85	0	84	106	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	20.0	77.2		17.8	75.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	64.3%		14.8%	62.5%		20.8%	20.8%		20.8%	20.8%	
Maximum Green (s)	15.5	72.7		13.3	70.5		20.5	20.5		20.5	20.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		10			0		10	10		10	10	
Act Effct Green (s)	15.1	74.4		11.1	70.4		20.5	20.5		20.5	20.5	
Actuated g/C Ratio	0.13	0.62		0.09	0.59		0.17	0.17		0.17	0.17	
v/c Ratio	0.88	0.67		0.59	0.96		0.48	0.26		0.39	0.31	
Control Delay	88.0	16.7		66.4	36.4		54.3	14.5		50.4	13.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	88.0	16.7		66.4	36.4		54.3	14.5		50.4	13.3	
LOS	F	B		E	D		D	B		D	B	
Approach Delay		25.2			37.7			35.5			29.7	
Approach LOS		C			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 119.5			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 32.2		Intersection LOS: C	
Intersection Capacity Utilization 88.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 6: 40th Ave NE & 172nd St NE



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	985	95	190	1190	22	400	15	240	15	5	167
Future Volume (vph)	86	985	95	190	1190	22	400	15	240	15	5	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	165		0	225		0	235		0	115		0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.95	0.99	1.00		0.97	0.95		0.98	0.97	
Frt			0.850		0.997			0.859			0.854	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1752	3491	0	3400	1506	0	1752	1527	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1742	1845	1485	1739	3491	0	3312	1506	0	1712	1527	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2			253			153	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1055			398			529			738	
Travel Time (s)		20.6			7.8			10.3			14.4	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	91	1037	100	200	1253	23	421	16	253	16	5	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	1037	100	200	1276	0	421	269	0	16	181	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Detector Phase	5	2	3	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	14.2	59.0	20.4	16.0	60.8		20.4	22.5		22.5	24.6	
Total Split (%)	11.8%	49.2%	17.0%	13.3%	50.7%		17.0%	18.8%		18.8%	20.5%	
Maximum Green (s)	9.7	54.5	15.9	11.5	56.3		15.9	18.0		18.0	20.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min	None	None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)		10			10			0		10	10	
Act Effct Green (s)	9.1	54.6	70.5	11.5	57.0		15.9	21.3		8.4	9.6	
Actuated g/C Ratio	0.08	0.50	0.64	0.10	0.52		0.14	0.19		0.08	0.09	
v/c Ratio	0.63	1.13	0.10	1.09	0.70		0.85	0.54		0.12	0.66	
Control Delay	69.0	99.9	2.8	138.8	23.5		63.8	11.4		48.3	23.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	69.0	99.9	2.8	138.8	23.5		63.8	11.4		48.3	23.4	
LOS	E	F	A	F	C		E	B		D	C	
Approach Delay		89.7			39.1			43.4			25.4	
Approach LOS		F			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 109.7			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 56.5		Intersection LOS: E	
Intersection Capacity Utilization 101.3%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 7: 43rd Ave NE & 172nd St NE

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	770	110	100	807	62	290	84	135	129	67	75
Future Volume (vph)	55	770	110	100	807	62	290	84	135	129	67	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	250		0	175		150	220		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.98		0.95	0.97	0.97	
Frt		0.981			0.989				0.850		0.921	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1798	0	1752	1818	0	1752	1845	1568	1752	1652	0
Flt Permitted	0.085			0.061			0.604			0.700		
Satd. Flow (perm)	157	1798	0	113	1818	0	1087	1845	1485	1253	1652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			5				142		47	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2207			2620			637			803	
Travel Time (s)		43.0			51.0			12.4			15.6	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	811	116	105	849	65	305	88	142	136	71	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	927	0	105	914	0	305	88	142	136	150	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5	22.5	22.5	22.5	
Total Split (s)	9.6	69.6		10.4	70.4		40.0	40.0	40.0	40.0	40.0	
Total Split (%)	8.0%	58.0%		8.7%	58.7%		33.3%	33.3%	33.3%	33.3%	33.3%	
Maximum Green (s)	5.1	65.1		5.9	65.9		35.5	35.5	35.5	35.5	35.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)		7.0			7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		10			10		0	0	0	10	10	
Act Effct Green (s)	67.1	62.0		69.6	65.0		34.2	34.2	34.2	34.2	34.2	
Actuated g/C Ratio	0.58	0.54		0.60	0.56		0.30	0.30	0.30	0.30	0.30	
v/c Ratio	0.36	0.96		0.69	0.89		0.95	0.16	0.26	0.37	0.29	
Control Delay	15.1	46.9		41.5	35.9		80.8	32.1	6.5	36.6	23.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	15.1	46.9		41.5	35.9		80.8	32.1	6.5	36.6	23.6	
LOS	B	D		D	D		F	C	A	D	C	
Approach Delay		45.0			36.5			53.1			29.8	
Approach LOS		D			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 115.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 41.9		Intersection LOS: D	
Intersection Capacity Utilization 94.4%		ICU Level of Service F	
Analysis Period (min) 15			

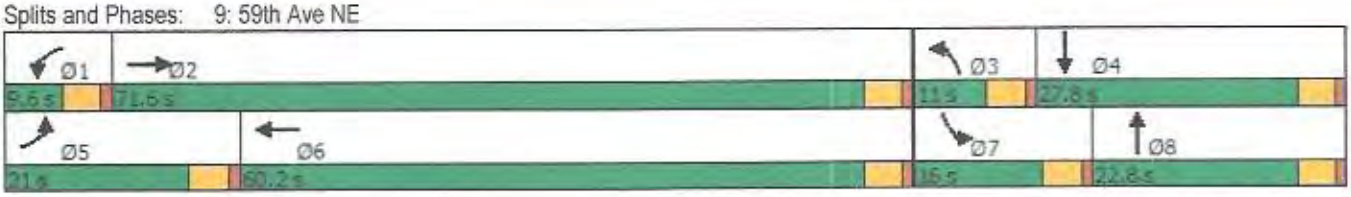
Splits and Phases: 8: 172nd St NE & 51st Ave NE (Airport Blvd)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	839	20	10	584	55	55	5	25	115	5	395
Future Volume (vph)	165	839	20	10	584	55	55	5	25	115	5	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	410		0	275		0	165		0	275		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		0.98	0.96		0.97	0.95	
Frt		0.997			0.987			0.874			0.852	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1837	0	1752	1812	0	1752	1541	0	1752	1490	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1729	1837	0	1736	1812	0	1720	1541	0	1696	1490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			26			327	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2620			806			790			731	
Travel Time (s)		51.0			15.7			15.4			14.2	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	174	883	21	11	615	58	58	5	26	121	5	416
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	904	0	11	673	0	58	31	0	121	421	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	21.0	71.6		9.6	60.2		11.0	22.8		16.0	27.8	
Total Split (%)	17.5%	59.7%		8.0%	50.2%		9.2%	19.0%		13.3%	23.2%	
Maximum Green (s)	16.5	67.1		5.1	55.7		6.5	18.3		11.5	23.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		10			10			10			10	
Act Effct Green (s)	14.3	57.1		5.7	39.3		7.0	10.3		13.2	14.2	
Actuated g/C Ratio	0.16	0.63		0.06	0.43		0.08	0.11		0.15	0.16	
v/c Ratio	0.64	0.78		0.10	0.86		0.43	0.16		0.48	0.83	
Control Delay	53.7	20.9		54.6	36.4		60.1	20.9		52.0	25.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	53.7	20.9		54.6	36.4		60.1	20.9		52.0	25.6	
LOS	D	C		D	D		E	C		D	C	
Approach Delay		26.2			36.7			46.4			31.5	
Approach LOS		C			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 90.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 31.2		Intersection LOS: C	
Intersection Capacity Utilization 94.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 9: 59th Ave NE

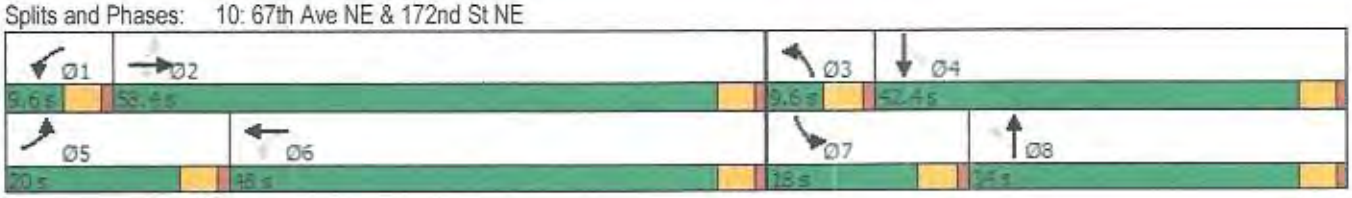


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	554	147	65	382	125	59	220	160	200	305	168
Future Volume (vph)	268	554	147	65	382	125	59	220	160	200	305	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		75	150		0	165		0	225		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.95	0.99	0.99			0.98			0.98	
Frt			0.850		0.963			0.937			0.947	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1752	1753	0	1752	1690	0	1752	1714	0
Flt Permitted	0.119			0.276			0.226			0.142		
Satd. Flow (perm)	220	1845	1485	505	1753	0	417	1690	0	262	1714	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		15			29			24	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		674			514			719			601	
Travel Time (s)		13.1			10.0			14.0			11.7	
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	282	583	155	68	402	132	62	232	168	211	321	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	282	583	155	68	534	0	62	400	0	211	498	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	20.0	58.4	58.4	9.6	48.0		9.6	34.0		18.0	42.4	
Total Split (%)	16.7%	48.7%	48.7%	8.0%	40.0%		8.0%	28.3%		15.0%	35.3%	
Maximum Green (s)	15.5	53.9	53.9	5.1	43.5		5.1	29.5		13.5	37.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		10	10		10			10			10	
Act Effct Green (s)	56.9	49.6	49.6	42.1	36.9		32.6	27.5		45.1	37.8	
Actuated g/C Ratio	0.51	0.45	0.45	0.38	0.33		0.29	0.25		0.41	0.34	
v/c Ratio	0.87	0.71	0.21	0.27	0.90		0.34	0.91		0.75	0.83	
Control Delay	51.6	31.7	5.3	18.1	54.4		28.2	64.9		41.9	47.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.6	31.7	5.3	18.1	54.4		28.2	64.9		41.9	47.7	
LOS	D	C	A	B	D		C	E		D	D	
Approach Delay		33.2			50.3			60.0			46.0	
Approach LOS		C			D			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 111.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 44.5		Intersection LOS: D	
Intersection Capacity Utilization 90.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 10: 67th Ave NE & 172nd St NE



Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	56	16	185	215	10
Future Vol, veh/h	36	56	16	185	215	10
Conflicting Peds, #/hr	10	10	10	0	0	10
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	38	59	17	195	226	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	481	252	247	0	-	0
Stage 1	242	-	-	-	-	-
Stage 2	239	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	539	779	1302	-	-	-
Stage 1	791	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	520	764	1290	-	-	-
Mov Cap-2 Maneuver	520	-	-	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1290	-	645	-	-
HCM Lane V/C Ratio	0.013	-	0.15	-	-
HCM Control Delay (s)	7.8	0	11.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	152	0	80	43	0	35
Future Vol, veh/h	152	0	80	43	0	35
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	160	0	84	45	0	37

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	164	127	0	0	139	0
Stage 1	117	-	-	-	-	-
Stage 2	47	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	820	915	-	-	1426	-
Stage 1	901	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	804	898	-	-	1412	-
Mov Cap-2 Maneuver	804	-	-	-	-	-
Stage 1	892	-	-	-	-	-
Stage 2	958	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	804	1412	-
HCM Lane V/C Ratio	-	-	0.199	-	-
HCM Control Delay (s)	-	-	10.6	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Intersection Delay, s/veh	28.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1228	1476	690	197
Demand Flow Rate, veh/h	1265	1521	711	202
Vehicles Circulating, veh/h	227	544	1178	1931
Vehicles Exiting, veh/h	1906	1345	314	134
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.991	0.994	1.000	1.000
Approach Delay, s/veh	10.3	33.1	50.3	37.1
Approach LOS	B	D	F	E

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	R	LT	R
Assumed Moves	LT	TR	LT	TR	LT	R	LT	R
RT Channelized								
Lane Util	0.470	0.530	0.470	0.530	0.633	0.367	0.104	0.896
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	595	670	715	806	450	261	21	181
Cap Entry Lane, veh/h	1095	1171	818	894	457	522	228	275
Entry HV Adj Factor	0.970	0.971	0.970	0.971	0.970	0.969	0.993	0.972
Flow Entry, veh/h	577	651	694	782	437	253	21	176
Cap Entry, veh/h	1053	1127	790	863	443	506	227	267
V/C Ratio	0.548	0.578	0.879	0.907	0.985	0.500	0.092	0.658
Control Delay, s/veh	10.2	10.4	32.1	34.0	69.8	16.5	17.9	39.3
LOS	B	B	D	D	F	C	C	E
95th %tile Queue, veh	3	4	11	13	12	3	0	4

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	985	1019	535	286
Demand Flow Rate, veh/h	1014	1049	551	294
Vehicles Circulating, veh/h	321	465	1035	1296
Vehicles Exiting, veh/h	1269	1121	300	218
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.992	0.993	1.000	1.000
Approach Delay, s/veh	9.4	12.3	25.8	18.1
Approach LOS	A	B	D	C

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	R	LT	R
Assumed Moves	LT	TR	LT	TR	LT	R	LT	R
RT Channelized								
Lane Util	0.470	0.530	0.470	0.530	0.735	0.265	0.724	0.276
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	477	537	493	556	405	146	213	81
Cap Entry Lane, veh/h	1005	1081	880	956	521	589	410	472
Entry HV Adj Factor	0.970	0.972	0.971	0.971	0.971	0.973	0.971	0.975
Flow Entry, veh/h	463	522	479	540	393	142	207	79
Cap Entry, veh/h	967	1042	849	922	506	573	398	460
V/C Ratio	0.479	0.501	0.564	0.585	0.777	0.248	0.520	0.172
Control Delay, s/veh	9.5	9.4	12.4	12.2	31.6	9.6	21.0	10.3
LOS	A	A	B	B	D	A	C	B
95th %tile Queue, veh	3	3	4	4	7	1	3	1

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1078	684	89	542
Demand Flow Rate, veh/h	1110	704	92	558
Vehicles Circulating, veh/h	141	244	1213	704
Vehicles Exiting, veh/h	1121	1061	38	244
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.990	0.991	1.000	0.996
Approach Delay, s/veh	7.9	6.5	9.9	11.8
Approach LOS	A	A	A	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	R	LT	R
Assumed Moves	LT	TR	LT	TR	LT	R	LT	R
RT Channelized								
Lane Util	0.470	0.530	0.470	0.530	0.707	0.293	0.233	0.767
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	522	588	331	373	65	27	130	428
Cap Entry Lane, veh/h	1186	1260	1078	1154	442	506	706	781
Entry HV Adj Factor	0.970	0.971	0.971	0.971	0.967	0.963	0.968	0.972
Flow Entry, veh/h	506	571	321	362	63	26	126	416
Cap Entry, veh/h	1139	1211	1037	1111	428	488	681	756
V/C Ratio	0.445	0.472	0.310	0.326	0.147	0.053	0.185	0.550
Control Delay, s/veh	7.9	8.0	6.6	6.4	10.6	8.1	7.4	13.2
LOS	A	A	A	A	B	A	A	B
95th %tile Queue, veh	2	3	1	1	1	0	1	3

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1020	602	462	709
Demand Flow Rate, veh/h	1050	620	476	730
Vehicles Circulating, veh/h	618	593	1107	548
Vehicles Exiting, veh/h	660	990	561	665
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.995	0.995	1.000	0.994
Approach Delay, s/veh	16.4	9.2	18.4	14.3
Approach LOS	C	A	C	B

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	R	LT	R
Assumed Moves	LT	TR	LT	TR	LT	R	LT	R
RT Channelized								
Lane Util	0.470	0.530	0.469	0.531	0.637	0.363	0.751	0.249
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	494	556	291	329	303	173	548	182
Cap Entry Lane, veh/h	765	840	782	858	488	554	815	891
Entry HV Adj Factor	0.970	0.972	0.972	0.970	0.970	0.971	0.971	0.973
Flow Entry, veh/h	479	540	283	319	294	168	532	177
Cap Entry, veh/h	738	812	757	827	473	538	788	862
V/C Ratio	0.649	0.665	0.374	0.386	0.621	0.312	0.676	0.205
Control Delay, s/veh	16.7	16.1	9.4	9.0	22.4	11.3	16.9	6.3
LOS	C	C	A	A	C	B	C	A
95th %tile Queue, veh	5	5	2	2	4	1	5	1

Washington State Ten Years + Current Year Crash Data Summary

City of Arlington, All Roads

Year	Total Crashes	Fatal	Suspected Serious Injury	Suspected Minor Injury	Possible Injury	No Apparent Injury	Drinking Driver Involved Crashes	Teen Driver Involved Crashes
2012	345	1	6	18	88	232	24	75
2013	337	3	7	6	65	256	16	69
2014	377	2	4	9	88	274	17	77
2015	371	2	2	29	88	250	23	85
2016	429	1	2	21	90	315	27	92
2017	437	2	9	16	92	318	40	88
2018	427	0	5	25	86	311	24	89
2019	401	0	6	18	83	294	28	61
2020	329	0	9	18	59	243	26	48
2021	379	0	4	23	72	280	23	56
2022	7	1	3	0	1	2	2	0

AM PROJECT PEAK TRIPS - ARLINGTON AIR INDUSTRIAL PARK NORTH

INTERSECTION	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
#30: Pioneer Hwy E @ 212 St E	0	3	0	0	0	1	0	0	0	2	0	0
#81: 51st Ave NE @ 132nd St NE	0	0	0	0	0	0	0	9	0	0	2	0
#82: 67th Ave NE @ 108th St NE	0	0	0	0	0	0	0	4	0	0	1	0
#83: 67th Ave NE @ 132nd St NE	0	0	0	0	0	0	0	7	0	0	1	0
#84: 67th Ave NE @ 152nd St NE	0	0	0	0	0	0	0	10	0	0	2	0
#85: 67th Ave NE @ SR 531	3	6	3	0	25	0	13	0	0	0	0	11
#95: SR 9 @ 132nd St NE	0	0	0	0	0	0	0	0	0	0	0	0
#98: SR 9 @ 84th St NE	0	0	0	0	0	0	0	0	0	0	0	0
#296: SR 9 @ 108th St NE	0	0	0	0	0	0	0	0	0	0	0	0
#300: 188th St NE @ 35th Ave NE	0	26	0	0	5	0	0	0	0	0	0	0
#432: Pioneer Hwy E @ I-5 SB Ramps	0	5	0	0	1	0	0	0	0	0	0	0
#453: Cemetery Rd @ 200th Pl NE	0	0	0	0	0	0	0	2	0	0	6	0
#466: 188th St NE @ 47th Ave NE	3	0	0	0	0	0	0	0	0	0	0	13
#476: 19th Dr NE @ SR 531	0	7	0	0	1	0	0	0	0	0	0	0
#485: SR 9 @ SR 531	0	2	0	0	7	0	0	0	0	0	0	0

See Figure 8A for location mapped with traffic volumes.

Peyton Whalen | Transportation Planner
Heath & Associates, Inc.
PO Box 397, Puyallup WA 98371
253-770-1401 | HeathTraffic.com

APPENDIX C

Traffic Mitigation Offer to Snohomish County
Snohomish County Traffic Worksheet
Supporting Data for Proportionate Share Calculation
Traffic Mitigation Offer to WSDOT

Traffic Mitigation Offer to Snohomish County

The applicant completes part one and submits it to the city with a completed county traffic worksheet. The city completes part two and sends it to the county. The county completes part three and sends it back to the city.

Part One to be completed by Applicant

Basic Development Information

Name of City in which development is located: Arlington

Name of Proposed Development: Arlington Air Industrial Park North

City Project File Number (if known)

Name of Applicant: Robert Shipley

Address of Applicant: 8201 164th Ave. NE, Suite 110, Redmond, WA 98502

Proportionate Share Calculation: *Choose Option A or B*

☐ Option A: Based on a percentage of the County's adopted impact fee (Attach traffic worksheet.)

1. The applicable percentage of the County's fee: _____%
2. Net New Average Daily Traffic: _____ADT
3. The adopted County impact fee for this development: _____$/ADT
4. Total Proportionate Share Amount: $_____

☒ Option B: Based on a comprehensive traffic study (Attach traffic worksheet and traffic study)

_____ No road improvements are impacted. Hence, proportionate share amount is zero.

__X__ The following road improvements are impacted. The calculation of proportionate shares is summarized below.

List by Names/Description the Impacted County Projects (attach other pages if necessary)	County Project ID#	PHTs Impacting Project	Capacity Cost per PHT	Proportionate Share Obligation per Impacted Project
1. 67th Ave. NE at 152nd St. NE	INT-007	12*	$5,157	$61,881, per Excel spreadsheet
2.				
3.				

* - the 12 PMPHT's are at project buildout

4. Total Proportionate Share Amount (sum of obligations for each impacted project) $ $61,881

☒ **Trip Distribution and Assignment if Required**

If required, attach AM and PM peak-hour trip distribution and assignment. (Attach traffic worksheet showing whether or not it is required and traffic study). Distribution data contained in the Traffic Impact Analysis

☒ **Mitigation of Other Impacts if Required for Developments Generating More than 50 Peak-Hour Trips**

Mitigation of Impacts on Level of Service

__X__ No impact or not applicable ____ Mitigation as described in attached traffic study.

Mitigation of Impacts on Inadequate Road Conditions

__X__ No impact or not applicable ____ Mitigation as described in attached traffic study.

Mitigation for Impacts on Access or Circulation

__X__ No impact or not applicable ____ Mitigation as described in attached traffic study.

☒ **Written Offer**

The Applicant hereby voluntarily agrees to pay the total proportionate share amount shown above for impacts of the proposed development on the capacity of Snohomish County roads and provide mitigation of all other impacts as indicated above and described in attached documents.

BY: _____ Date_____

Signature by Authorized Official of Applicant or Authorized Representative

Print Name and Title: Robert Shipley, Director of Development

Instructions to Applicant. Submit this offer, a completed county traffic worksheet, and any other attachments to the city with your initial application or send directly to Deb Werdal, Snohomish Co. DPW Traffic, 3000 Rockefeller M/S 607, Everett WA 98201.

Part Two: To be completed by the City

Receipt of Written Offer and Attachments by City and Routing to County

Name of Proposed Development

City Project File Number

Date Received

City Staffer Assigned to Project

Address

Phone

Instructions to City. Send this offer and all attachments to Deb Werdal, Snohomish Co. DPW Traffic Operations, 3000 Rockefeller M/S 607, Everett WA 98201. Send copy to staffer shown above.

BY:

_____Date_____ _____

Initialed by City Staffer Print Name and Title

Part Three: To be completed by Snohomish County

Receipt of Offer and Attachments by Snohomish County and Routing Back to City

Name of Proposed Development

City Project File Number

Received by:

_____Date_____ _____

Initialed by County Staffer Print Name and Title

Snohomish County Mitigation Request to City

Snohomish County has reviewed the traffic study worksheet and mitigation offer submitted by the applicant and has determined as follows:

☐ Snohomish County requests that the City impose the mitigation offered above as a condition of approval for the Development. Snohomish County agrees to accept changes in the mitigation payment amount shown above resulting from TDM or lot-yield adjustments approved by the City.

☐ Snohomish County requests that the City require additional supplemental information to adequately evaluate the proposed development's impacts. ☐ The information requested is shown in the notes below.

BY:

_____Date_____ _____

Signature by Authorized County Staffer Print Name and Title

Routing Back to City

Instructions to County Send this offer and all attachments to the City Staffer shown in Part Two above.

Sent by:

_____Date_____ _____

Initialed by City Staffer Print Name and Title

Notes

Snohomish County Traffic Worksheet and Traffic Study Requirements for Developments in the City of Arlington

Snohomish County government, through an interlocal agreement (ILA) with the City of Arlington, may request traffic mitigation measures from any new development in the city that impacts roads in the unincorporated county. The City will impose the requested mitigation to the extent that the City determines that the mitigation is reasonably related to the impacts of the development. To determine the impacts, and to determine reasonable mitigation measures, the City of Arlington requires a traffic study from any development in the city that may have impacts on county roads. This 'traffic study' may be as simple as completing sections one and two of the county traffic worksheet below, or having a professional traffic engineer conduct a formal traffic study consistent with the requirements in section three below.

- If a development generates less than ten peak-hour trips and the applicant chooses Option A for mitigation payment (standard payment by percent of county impact fee), then the applicant will generally only have to fill out the first two sections of this traffic worksheet and complete a mitigation offer (see section four).
- However, if a development generates more than ten peak-hour trips, or if the applicant chooses Option B for mitigation payment (comprehensive impact analysis), then the applicant will have to fill out the first section of this worksheet, complete a separate traffic study consistent with the requirements in section three, and complete a mitigation offer (see Section Four).
- Applicants should submit all documents *to the City* as part of their initial submittal.
- Traffic study requirements for impacts on county roads are based on the County's traffic mitigation ordinance (Chapter 30.66B) and the city/county ILA. At the end of this document find references to the county contacts and county web site (sources for may of the documents related to traffic mitigation).
- Following review of the documents submitted, the County may request supplemental information and analysis as necessary to determine the impacts of the development in accordance with the city/county ILA. The City will require the proposed development to submit the supplemental information and analysis to the extent that the City determines that it is necessary to determine the impacts of the development.

Section One (1) Worksheet General Information

1. Name of Proposed Development Arlington Air Industrial Park North

   City Development File Number (if known) Arlington

2. Name, Address and Phone Number of Applicant Robert Shipley, 425.422.3484
   8201 164th Ave NE, Suite 110
   Redmond, WA 98052

3. Development Site Address NWC Airport Blvd/51st Ave NE
   & 173rd St. NE intersection (future)

4. Is it a residential or commercial development? Commercial

5. Description of Development (size and specific type) ~ 521,465 sf of industrial space in five buildings (ITE LUC 130)

6. How many new vehicle trips are expected to be generated by the proposed development? (For many common types of developments this information can be provided by the city or the county. For more complex developments trip generation may have to be determined under section three below)

   313 AM Peak Hour 313 PM Peak Hour 3,105 Average Daily Trips (ADT)

7. Proportionate Share Impact Mitigation: All applicants have two options in determining the amount of their traffic mitigation payment:

   ____ For determining the amount based on a percentage of the county fee go to section two.

   X For determining the amount based on a comprehensive traffic study go to section three.

Section Two (2) Proportionate Share Determined by Percentage of County Impact Fee

2(a) Calculation of Payment Amount

1. Standard default estimated percentage of trips impacting county roads 70 %

or

2. Other Percentage: (Note: See author's qualifications in section three below.) Estimated percentage of trips impacting county roads from attached trip distribution: _____ %

3. Development New Average Daily Trip Generation (ADT)_____

4. Type of Development (Residential or Commercial)_____

5. County Commercial Fee Rate $_____ 6. County Residential Fee Rate $_____
(Note: Consistent with county code and the ILA, developments pay the rate in effect at the time of their submittal. As of 2/1/06 the rates were $206 for commercial developments and $242 for residential developments. Through ordinance, the County Council can change these rates at any time, so consult with the County or look at Snohomish County Code 30.66B.330 to find the latest fee rates.)

7. Calculation of Proportionate Share Impact Mitigation

_____	×	_____	×	_____	=	$_____
#1 or #2 above: % of trips		#3 above: ADT		#5 or #6 above: Fee Rate		proportionate share mitigating payment

2(b) Determining whether or not an additional traffic study is necessary

Will the development generate more than 10 peak-hour trips *or* are there other impacts that need to be addressed (e.g., level of service, safety, or access and circulation)

_____ No. Skip section three and go to section four.

X Yes. Read the introduction to section three and skip to section 3(b).

Section Three (3) Traffic Study Requirements

Introduction: This section outlines requirements for traffic studies for impacts on County roads. If an applicant chooses (or is required) to complete a traffic study, then it should be submitted along with this worksheet and a mitigation offer. (Note on Author's Qualifications: A traffic study under this section must be conducted by an engineer licensed to practice in the state of Washington with special training and experience in traffic engineering and, preferably, membership in the institute of transportation engineers. For individuals/firms not on the City's approved list, the developer will provide, with the traffic study, the credentials of the individual or firm performing the traffic study certifying compliance with these qualifications.)

3(a) Proportionate share impact mitigation based on comprehensive traffic study

1. Development's Trip Generation and Distribution. Determine the PM peak-hour trip generation and distribution for the development consistent with Section 3(b) below.
2. Impacted Improvements. Determine which of the road sections with planned improvements in the county's impact fee cost basis (Transportation Needs Report Appendix D) are impacted by three or more development-generated *directional* PM peak hour trips (PM PHT).
3. Current Counts. For each impacted improvement, provide current traffic counts to determine the PM PHT. ✓ 05.10.2022
4. Reserve Capacity. Determine "reserve capacity" for each impacted improvement by subtracting the current PM PHT from the maximum service volume (MSV) for the existing facility. Reserve capacity is set to zero if current PM PHT exceeds the MSV. For MSVs see County DPW Rule 4224. ✓
5. New Capacity. New capacity is the incremental increase in PHT that could be accommodated with the planned improvement. Determine the new capacity of each impacted improvement by subtracting the current MSV from the future MSV after the improvement. ✓
6. Chargeable Capacity. For each impacted improvement, add the reserve capacity to the new capacity. ✓
7. Final Adjusted Cost. Find the cost of each impacted improvement and make any adjustments used by the County for tax credits (see Transportation Needs Report Appendix D).
8. Capacity Cost per Peak-Hour Trip. For each impacted improvement, determine the capacity cost per PM PHT by dividing the final adjusted improvement cost by the chargeable capacity.
9. Traffic Impacts. From step one above, take the *total* number of PM PHT (in both directions) impacting each planned improvement.
10. Proportionate Share. For each impacted improvement, determine the proportionate share impact mitigation by multiplying the capacity cost per peak-hour trip by the number of PM PHT impacting the improvement.

3(b) Trip Generation and AM and PM Peak Hour Trip Distribution and Assignment

Calculate AM, PM and Daily trip generation consistent with the ITE Trip Generation Handbook and Snohomish County Public Works Rule 4220. Determine the trip distribution and assignments consistent with the County's document titled "Format for Trip Distributions"(available at County web site, see below).

- Within the developments transportation service area (TSA) the distributions will be carried out to each key intersection at which the approach or departure volumes on any leg have three (3) or more peak hour trips. Get the most current list of key intersections on the web site described below. Trips should be distributed onto the road system as it is expected to be in six years.
- The distribution should be a schematic map showing the broad distributions of trips in terms of percentages on different roads. Show all City boundaries.
- The assignment should be a schematic map with the impacted key intersections identified by ID# and turning movements for each shown in separate diagrams on the same page or on different pages. The assignment should also be presented in tabular form listing each intersection by intersection ID#, and the number of trips at each movement.

3(c) Additional Analysis for Developments Generating More Than Fifty (50) Peak Hour Trips

For large developments (i.e., those generating more than 50 peak-hour trips), the County may request mitigation for impacts on the level of service of County roads, documented safety locations (the County calls such locations "inadequate road conditions" or "IRCs"), and access or circulation. The traffic study requirements below are intended to disclose impacts. Based on this information the County may request through the City that the applicant provide additional information showing possible mitigation measures. If any off-site improvements were needed for mitigation the County would work with the applicant to determine requirements for right-of-way, construction plans, right-of-way use permits, construction/maintenance bonds, and other issues.

Impacts on Level of Service (LOS) of County Arterials

Contact Snohomish County Public Works for the most current list of arterial units in arrears and critical arterial units. Identify any arterial units in arrears or critical arterial units impacted by three or more directional peak-hour trips.

Impacts on Inadequate Road Conditions

Contact Snohomish County Public Works for a list of the current IRCs. Identify any IRCs impacted by three or more peak-hour trips. Note: Unlike LOS impacts in which at least three or more peak hour trips have to be added in one direction to require disclosure (e.g., 3 westbound), for IRCs, any three peak hour trips added to IRC locations are considered an impact for which disclosure is necessary (e.g., 2 westbound plus 1 eastbound).

Impacts on Access or Circulation

The County may request improvements to existing roads to provide safe and efficient access and/or circulation. In some instances, the County may request provisions for future County roads identified in the Comprehensive Plan or in Small Area Transportation Studies. If so, the County will request specific additional information through the City.

Section Four (4) Traffic Mitigation Offer to Snohomish County

The applicant should complete a traffic mitigation offer to Snohomish County that summarizes the mitigation identified in the county traffic worksheet and any additional traffic study. This will facilitate timely review of the development and processing of the application. The form to use for the mitigation offer is titled "Traffic Mitigation Offer to Snohomish County." This form is typically provided to all applicants along with this traffic study checklist. In addition, copies are available from the county contacts or the Snohomish County web site shown below.

Additional Information

County Web Site

Snohomish County Public Works has a web site with many documents related to traffic studies and mitigation requirements for developers. From the Snohomish County Home Page go to:

Departments/Public Works/Divisions/TES/ProgramPlanning/3066B

County Contacts

- ~~Deb Werdal~~, Snohomish County DPW Traffic, 3000 Rockefeller M/S 607, Everett WA 98201, ~~(425) 388-3184, debra.werdal@co.snohomish.wa.us~~
- ~~Maria Schmidt~~, Snohomish County DPW Traffic, 3000 Rockefeller M/S 607, Everett WA 98201, ~~(425) 388-3099, maria.schmidt@co.snohomish.wa.us~~

SNOHOMISH COUNTY TRAFFIC OPERATIONS
3000 Rockefeller Ave
Everett, WA 98201

LOCATION : 67 AVE NE @ 152 ST NE
REQUESTOR : G. DHALIWAL

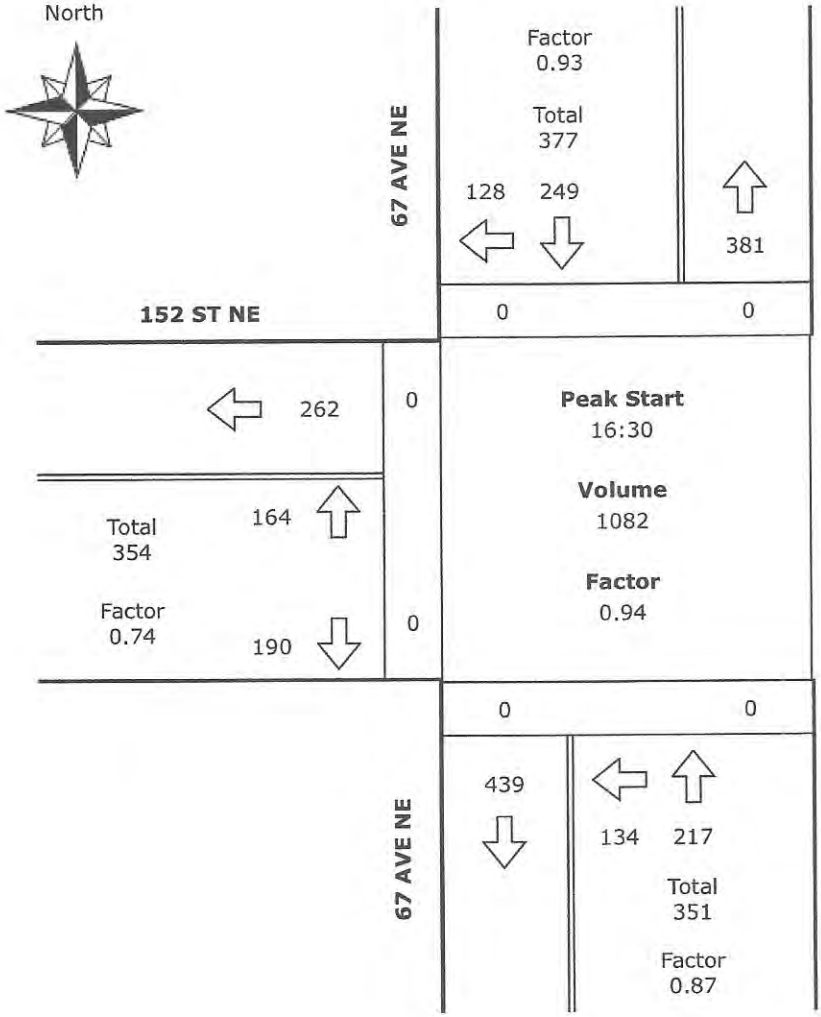
Site: 96867@2.880
5/10/2022
Tuesday

Intersection Peak Hour

Location 67 AVE NE at 152 ST NE
Weather DRY
File Number 05102223pA366K084

Counted by DLS
Prepared by DLS

	North	East	South	West
Total	758	0	790	616
Estimated ADT	7580	0	7900	6160
Autos	370 98.1%	-	347 98.9%	348 98.3%
Light Trucks	7 1.9%	-	3 0.9%	6 1.7%
Heavy Trucks	0	-	1 0.3%	0
Buses	0	-	0	0



(758 + 790)/2
= 774

SNOHOMISH COUNTY TRAFFIC OPERATIONS
3000 Rockefeller Ave
Everett, WA 98201

LOCATION : 67 AVE NE @ 152 ST NE
REQUESTOR : G. DHALIWAL

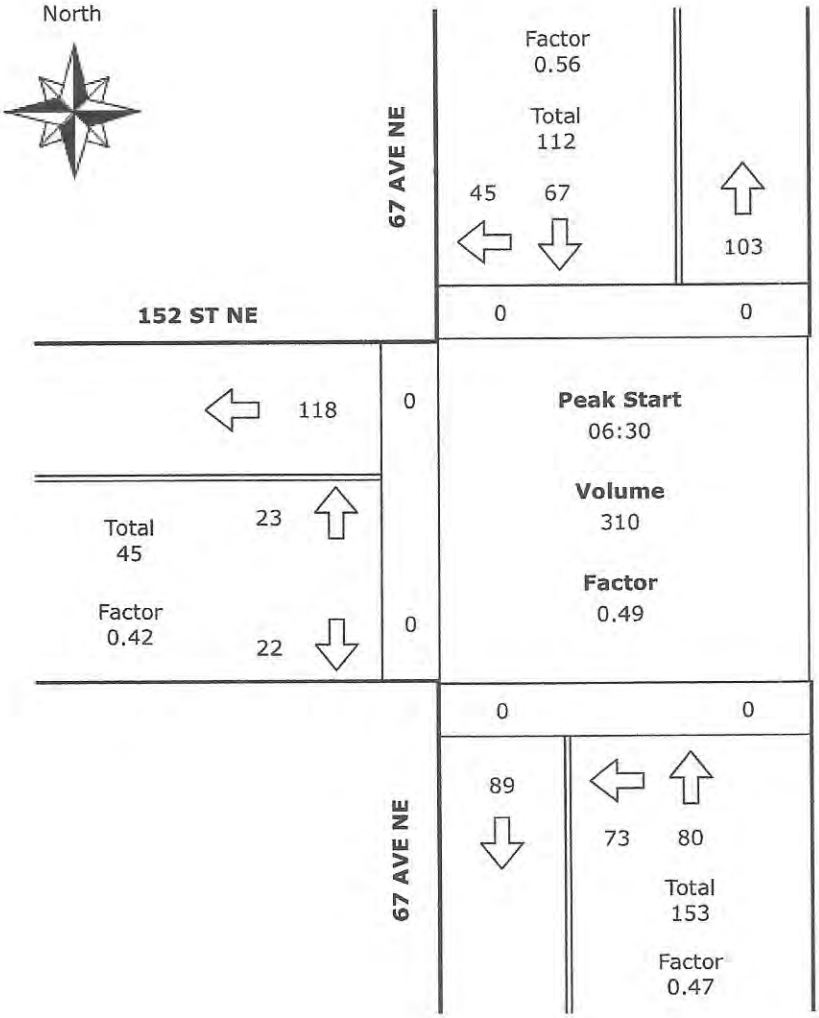
Site: 96867@2.880
3/22/2022
Tuesday

Intersection Peak Hour

Location 67 AVE NE at 152 ST NE
Weather MIXED
File Number 03222222aA366K084

Counted by DLS
Prepared by DLS

	North	East	South	West
Total	215	0	242	163
Estimated ADT	2150	0	2420	1630
Autos	110 98.2%	-	149 97.4%	43 95.6%
Light Trucks	1 0.9%	-	4 2.6%	1 2.2%
Heavy Trucks	1 0.9%	-	0	1 2.2%
Buses	0	-	0	0



SNOHOMISH COUNTY TRAFFIC OPERATIONS

LOS DATA SHEET - ALL INTERSECTIONS

PRIMARY RD 67 AVE NE RD LOG 96867 MP 2.88 DATE 05/10/2022

SECONDARY RD 152 ST NE RD LOG 69100 MP 1.955 SPEED LIMIT ON PRIMARY RD 50 MPH

INDICATE LANES FOR EACH APPROACH USING ARROWS

LANE WIDTHS & SIGNAL INDICATIONS REQUIRED FOR SIGNALIZED INTERSECTIONS

REQUESTOR: G.Dhaliwal

67 AVE NE ROAD NAME

152 AVE NE ROAD NAME

STOP / YIELD / NONE / SIGNAL

GRADE % 1

STOP / YIELD / NONE / SIGNAL

YIELD SIGNAL

GRADE % 0

NORTH ARROW

TSA	AU	ADT	KI
A	241	366	84

22	23
EAST	EAST
16-18:00	16-18:00
MIXED	DRY
DLS	DLS
57	57
03222222a NO CDF	05102223p NO CDF

STOP / YIELD / NONE / SIGNAL

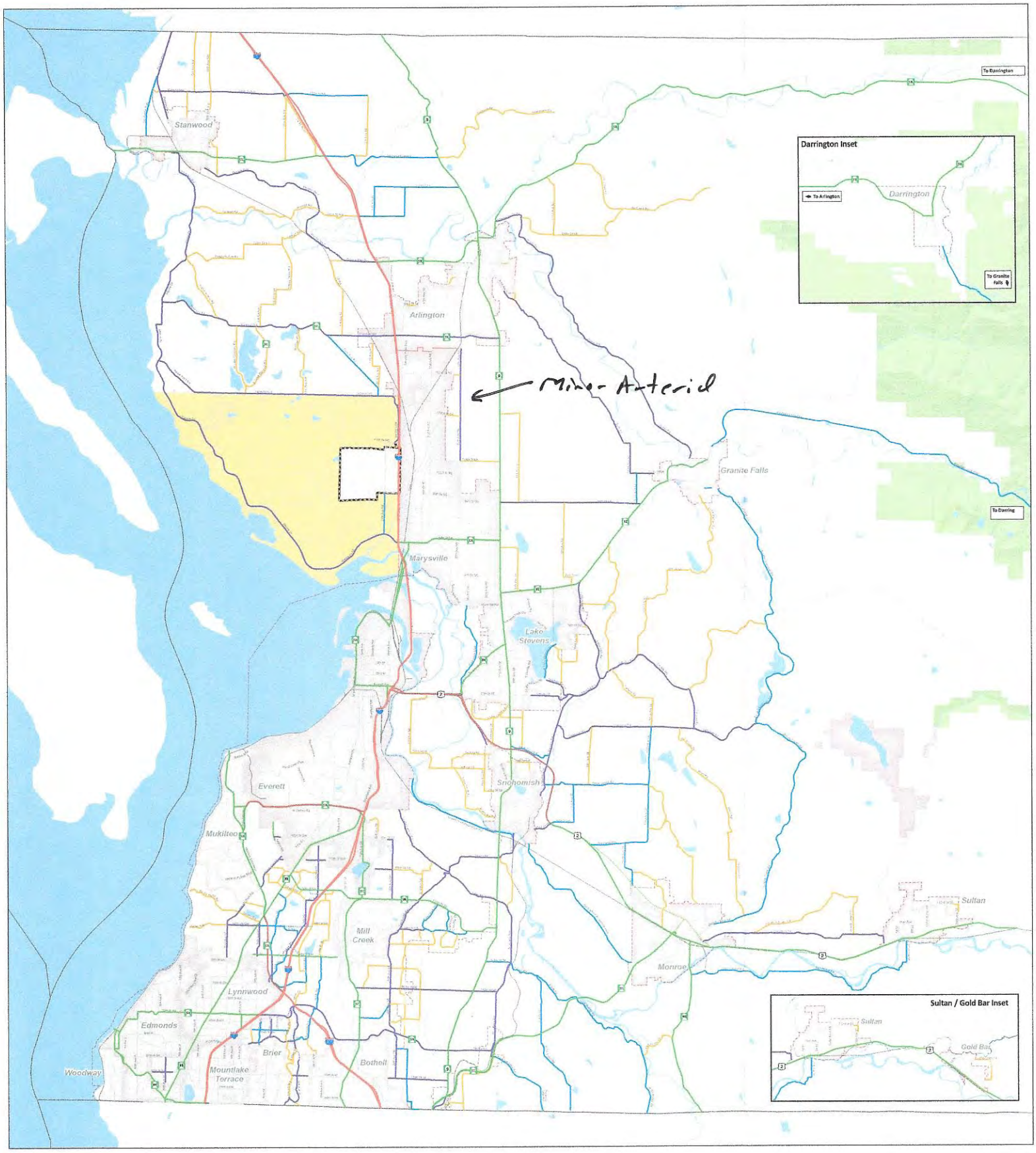
GRADE % 0

-4 -2 0 Approaching Intersection → Downhill (Minus)

Approaching Intersection → Uphill (Plus) 4 2 0

% GRADE

COMMENTS: _____



SNOHOMISH COUNTY GMA COMPREHENSIVE PLAN

Map 1 Arterial Circulation

EFFECTIVE DATE: November 29, 2018

	Existing	Recommended*
Interstate		
Freeway / Expressway		
Principal Arterial		
Minor Arterial		
Major Collector		
Minor Collector		

*Subject to Additional Study

Incorporated City
Tulalip Reservation
UGA Boundary
County Boundary
National Forest
The Consolidated Borough of Quil Ceda Village

Interstate Highway
Arterial Roadway
Local Road
Railroad
Water

0 1 2 4

N

Snohomish County

pertinent page

PROPOSED AMENDMENTS TO RULE 4224

4224 MAKING LEVEL-OF-SERVICE DETERMINATIONS FOR USE IN CONCURRENCY DETERMINATIONS

4224.010 Applicability and/or Purpose

Adopted: 7/13/95, First Revision: 7/18/96, Second Revision: 8/19/02, Third Revision 10/11/04

(1) This Rule will be used for establishing level of service (LOS) on county road arterial units for the purpose of making concurrency determinations in accordance with Chapter 30.66B SCC for developments determined to be complete on or after the effective date of Amended Ordinance No. 95-039 (7/13/95).

(2) This Rule will also be used in determining whether or not arterial units are in arrears based on either current or future level of service conditions.

4224.020 Level of Service Standards

Adopted: 7/13/95, First Revision: 7/18/96, Second Revision: 8/19/02, Third Revision 10/11/04, Fourth Revision 4/24/06

(1) The Transportation Element of the Snohomish County Comprehensive Plan and Chapter 30.66B SCC establish the level-of-service (LOS) standards for County arterials. These level-of-service standards shall be used as the basis against which to compare level-of-service conditions on County arterials.

(2) Level-of-service conditions shall be determined from systematic measurements or valid estimates of average daily traffic (ADT) and average travel speed (See Rule 4224.040).

(3) The level-of-service standards are established in Chapter 30.66B.100-102.

4224.030. Arterial Units

Adopted: 7/13/95, First Revision: 7/18/96, Second Revision: 8/19/02, Third Revision 10/11/04, Fourth Revision 4/24/06

(1) Arterial unit, as defined in SCC 30.91A.280, means "a road, segment of a road, or portion of a road or a system of roads . . . consistent with the criteria established by the director . . . for the purpose of making level-of-service and concurrency determinations."

(2) The list of arterial units shall in aggregate constitute the entire system of County arterials.

(3) The Department of Public Works (DPW) shall establish arterial units based on specific criteria.

(4) The designation of arterial units shall be maintained by DPW and updated on a periodic basis based on as many as possible of the following criteria:

(a) An arterial unit should not extend across the boundary of a transportation service area (TSA) . When an arterial unit comprises the boundary between two TSAs, the arterial unit will be considered to be in both TSAs.

PROPOSED AMENDMENTS TO RULE 4224
TABLE SET 1

0.0 - 0.50 Signalized Intersections Per Mile

Table 1a: Principal Arterial with Standard Lane Widths

Table 1a	12 ft	12 ft	24 ft	24 ft	37 ft	37 ft
LOS	2-lane	3-lane	4-lane	5-lane	6-lane	7-lane
A	200	240	420	500	640	770
B	1,390	1,670	2,840	3,410	4,290	5,150
C	1,500	1,800	3,050	3,660	4,600	5,520
D	1,560	1,870	3,170	3,800	4,780	5,740
E	1,580	1,900	3,200	3,840	4,830	5,800

Table 1b: Minor And Collector Arterials With Standard Lane Widths

Table 1b	12 ft	12 ft	23 ft	23 ft	34 ft	34 ft
LOS	2-lane	3-lane	4-lane	5-lane	6-lane	7-lane
A	200	240	420	500	640	770
B	1,360	1,630	2,770	3,320	4,190	5,030
C	1,460	1,750	2,970	3,560	4,480	5,380
D	1,520	1,820	3,090	3,710	4,660	5,590
E	1,540	1,850	3,120	3,740	4,710	5,650

Table 1c: Principal, Minor And Collector Arterials With Nonstandard Lane Widths

Table 1c	≤11 ft	≤11 ft	≤22 ft	≤22 ft	31 ft	31 ft	36 ft	36 ft
LOS	2-lane	3-lane	4-lane	5-lane	6-lane	7-lane	6-lane	7-lane
A	200	240	400	480	620	740	630	760
B	1,290	1,550	2,640	3,170	4,000	4,800	4250	5100
C	1,390	1,670	2,820	3,380	4,260	5,110	4550	5460
D	1,450	1,740	2,930	3,520	4,430	5,320	4730	5680
E	1,460	1,750	2,960	3,550	4,470	5,360	3,510	5740

** Interpolation is only appropriate for service volumes between 31 and 36 feet.*

Long Version Traffic Mitigation Offer to WSDOT

This three-page version is intended for developments required to submit a comprehensive traffic study consistent with Section One *and* Section Two of the WSDOT Traffic Analysis Checklist.

Section One: Offer of Mitigation by Applicant for Proposed Development

This section to be completed by applicant	
Name of Proposed Development Arlington Air Industrial Park North	Snohomish County Project File Number (Only if this offer is not submitted to PDS with initial application)
Name of Applicant Robert Shipley	
Address of Applicant 8201 164th Ave. NE, Suite 110 Redmond, WA 98502	

PROPORTIONATE SHARE CALCULATION: Choose (and mark) Option 1A or 1B Below

__X__ **Option 1A** for Proportionate Share Mitigation Based on Impacts to Projects in Exhibit C of the WSDOT/COUNTY Interlocal Agreement

WSDOT Improvement ID#	Title/Description of WSDOT Project	ADTs Impacting Improvement	Improvement Cost per ADT	Proportionate Share Obligation
DOT-05	SR-531: 43rd Ave. NE to 67th Ave. NE	2,639	$ 0*	$ 0
			$	$
* The WSDOT project is fully funded & underway and per the Interlocal Agreement 5.2d) no proportionate share obligation is required			$	$
			$	$
			$	$
			$	$
			$	$
			Proportionate Share Sum	$ 0

The APPLICANT hereby voluntarily agrees to pay the proportionate share sum amount shown above for impacts of the DEVELOPMENT on the capacity of state highways, based on the "proportionate share" method adopted in Section 5.2(a) of the applicable version of the WSDOT/COUNTY interlocal agreement (ILA), the list of projects in Exhibit C of the ILA, and information provided in the comprehensive Traffic Study attached hereto.

PROPORTIONATE SHARE CALCULATION

_____ **Option 1B** for Proportionate Share Mitigation based on standard amount

1. _____ *ADT New Average Daily Traffic (ADT) Generated (from Line 5a of* the WSDOT Traffic Study Checklist Section One)
2. $_____ *The "standard payment" rate in Section 5.2(b) of the applicable version of the WSDOT/COUNTY interlocal agreement (ILA)*

Proportionate Share Option 1B Continued

3. $_____ Proportionate share calculation (#1 x #2 = #3). The APPLICANT hereby voluntarily agrees to pay the amount shown on line #3 above for impacts of the DEVELOPMENT on the capacity of state highways, based on the "standard payment" rate and method adopted in Section 5.2(b) of the applicable version of the WSDOT/COUNTY interlocal agreement (ILA), and based on information provided in the WSDOT Traffic Study Checklist Section One (attached hereto).

HIGH ACCIDENT LOCATIONS (ILA SECTION 5.3.A)
none noted in the Traffic Impact Analysis
_____ No impact _____ Mitigation as described in attached document.

LEVEL OF SERVICE AT STATE HIGHWAY INTERSECTIONS (ILA SECTION 5.3.B)
No impact w/ WSDOT project under construction
_____ No impact _____ Mitigation as described in attached document.

INSTALLATION OF TRAFFIC SIGNAL (ILA SECTION 5.4)

_X_ No impact or not applicable _____ Mitigation or other provisions as described in attached document.

CHANNELIZATION REVISIONS (ILA SECTION 5.5)

_X_ No impact or not applicable _____ Mitigation or other provisions as described in attached document.

FRONTAGE IMPROVEMENTS (ILA SECTION 5.6)

_X_ No impact or not applicable _____ Mitigation or other provisions as described in attached document.

RIGHT-OF-WAY REQUIREMENTS (ILA SECTION 5.7)

_X_ No impact or not applicable _____ Mitigation or other provisions as described in attached document.

SETBACK REQUIREMENTS (ILA SECTION 5.8)

_X_ No impact or not applicable _____ Mitigation or other provisions as described in attached document.

ACCESS CONNECTIONS (ILA SECTION 5.9)

_X_ No impact or not applicable _____ Permitted Access to adjacent State Highway verified by DEVELOPER or application made with WSDOT

SUBMITTAL OPTIONS
If this offer and all necessary attachments are submitted to Snohomish County PDS (COUNTY) with the initial development application, then PDS will send all documents to WSDOT for review and comment(s) and WSDOT will send the written offer back to PDS. Otherwise, the applicant is responsible for working directly with WSDOT, submitting the required documents, obtaining WSDOT's signature, and submitting the written offer to PDS

_____ This offer, Sections One and Two of WSDOT Traffic Study Checklist, and all necessary supporting documentation (one original plus two copies) are hereby submitted to PDS with initial application

_____ Applicant is working directly with WSDOT

BY:

_____ Date_____ _____
Signature by Authorized Official Print Name and Title