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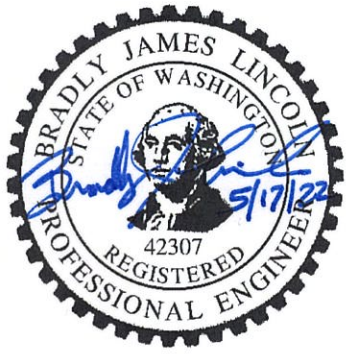
Smokey Point Development
Traffic Impact Analysis

Jurisdiction: City of Arlington

May 2022



090221218

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1. DEVELOPMENT IDENTIFICATION

Kimley-Horn and Associates, Inc. has been retained to provide a traffic impact analysis for the proposed Smokey Point development to address the City of Arlington, Snohomish County, and Washington State Department of Transportation (WSDOT) traffic impacts. The Smokey Point development is proposed to consist of 103 multifamily low-rise residential units and 3,984 square-feet (SF) or commercial space. The site is located in the southeast corner of 166th Place NE at Smokey Point Boulevard. A site vicinity map has been included in Figure 1. The development is anticipated to be constructed and occupied in the year 2025, which has been used for the future analysis year.

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

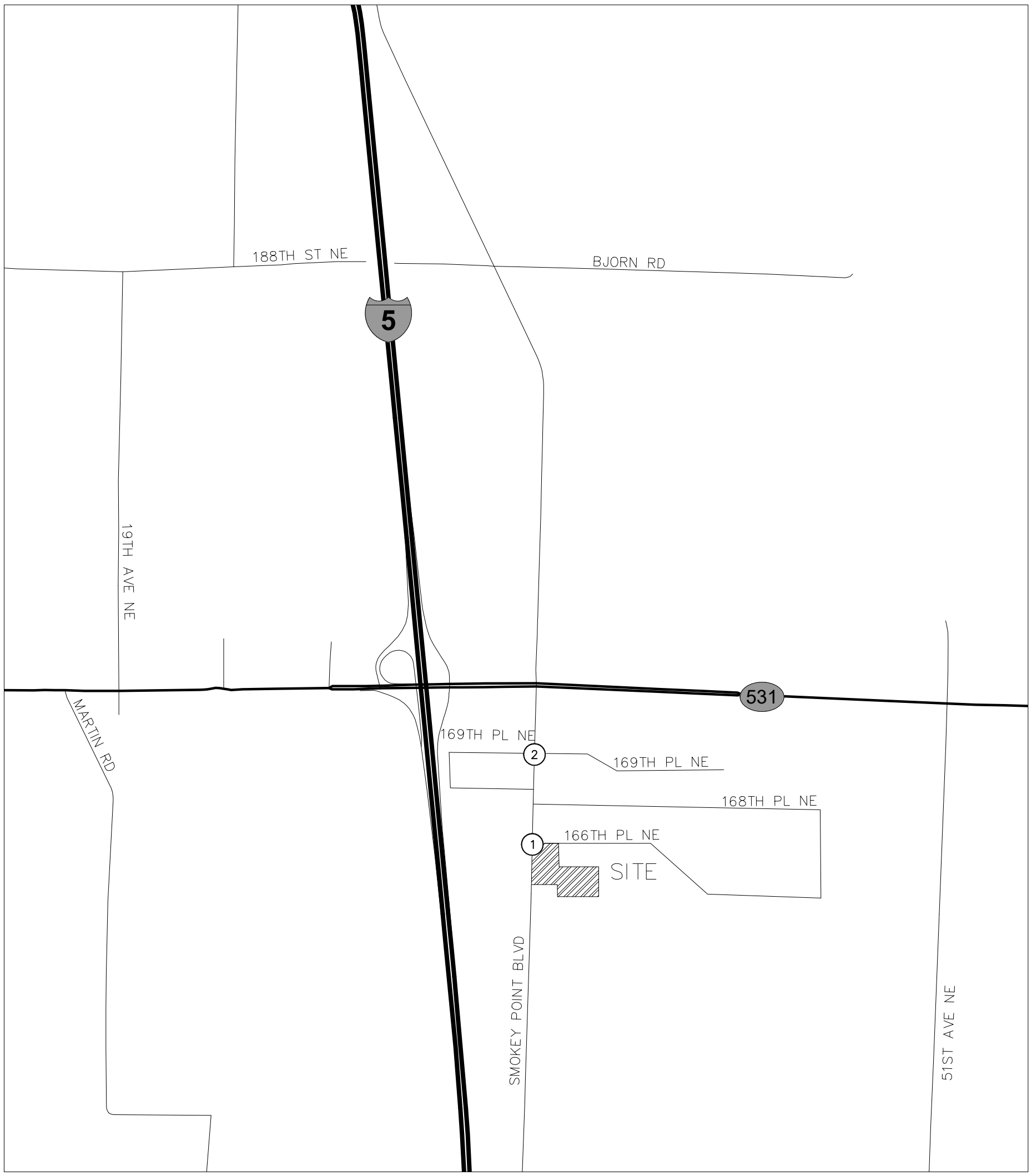
2. METHODOLOGY

Trip generation calculations for the Smokey Point Development have been performed according to data contained in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition (2017)*. The following intersections have been analyzed as part of this report:

1. 166th Place NE at Smokey Point Boulevard – Two-Way Stop-Control
2. 169th Place NE at Smokey Point Boulevard – Signalized

Additionally, impacts to the intersection of 172nd Street NE at Smokey Point Boulevard are discussed in this report. The intersections have been analyzed for the 2022 existing, 2025 baseline, and 2025 future with development conditions for the PM peak-hour. The 2025 future year has been utilized to correspond with the anticipated construction and occupancy year. The development is proposed to have one access to Smokey Point Boulevard, one access to 166th Place NE and a shared access to the south.

The peak-hour level of service (LOS) analysis calculations have been completed using the *Synchro 11.1, Build 0* software. This software applies the operational analysis methodology of the current *Highway Capacity Manual 6th Edition (HCM)*. Traffic congestion is generally measured in terms of level of service. In accordance with the HCM, road facilities and intersections are rated between LOS A and LOS F, with LOS A being free flow and LOS F being forced flow or over-capacity conditions. The level of service at two-way stop-controlled intersections is based on the approach with the highest average delay. The level of service at signalized and all-way stop-controlled intersections is based on the average delay for all approaches. Geometric characteristics and conflicting traffic movements are taken into consideration when determining level of service values. A summary of the level of service criteria has been included in Table 1.



NORTH

SMOKEY POINT

SNOHOMISH COUNTY

LEGEND

DEVELOPMENT SITE

(XX) STUDY INTERSECTION

FIGURE 1
VICINITY MAP

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Table 1: Level of Service Criteria for Intersections

Level of Service [1]	Expected Delay	Intersection Control Delay (Seconds per Vehicle)	
		Unsignalized Intersections	Signalized Intersections
A	Little/No Delay	≤10	≤10
B	Short Delays	>10 and ≤15	>10 and ≤20
C	Average Delays	>15 and ≤25	>20 and ≤35
D	Long Delays	>25 and ≤35	>35 and ≤55
E	Very Long Delays	>35 and ≤50	>55 and ≤80
F	Extreme Delays[2]	>50	>80

The City of Arlington has established an acceptable level of service of LOS D.

The City of Arlington and Snohomish County have an interlocal agreement that provides for reciprocal mitigation fees. Snohomish County mitigation fees can be calculated based on the default percentage in the interlocal agreement, which is 70%, or based on actual impacts. The City of Arlington also has an interlocal agreement with WSDOT that provides for mitigation fees to WSDOT for impacts to WSDOT improvement projects. WSDOT improvement projects and their associated fees are based on the most recent Exhibit C list, which is included in the attachments. City of Arlington developments are required to pay for any WSDOT improvement project on the Exhibit C list impacted with 3 or more directional PM peak-hour trips or based on the area wide mitigation fee.

3. TRIP GENERATION

The trip generation calculations for the Smokey Point development are based on national statistics published by the Institute of Transportation Engineers (ITE). The average trip generation rates for ITE Land Use Code 220, Multifamily Housing (Low-Rise), have been used for the trip generation calculations for the residential units. The average trip generation rates for ITE Land Use Code 822, Strip Retail Plaza (<40k), have been used for the commercial use.

[1] **Source:** *Highway Capacity Manual 6th Edition.*

LOS A: Free-flow traffic conditions, with minimal delay to stopped vehicles (no vehicle is delayed longer than one cycle at signalized intersection).

LOS B: Generally stable traffic flow conditions.

LOS C: Occasional back-ups may develop, but delay to vehicles is short term and still tolerable.

LOS D: During short periods of the peak hour, delays to approaching vehicles may be substantial but are tolerable during times of less demand (i.e. vehicles delayed one cycle or less at signal).

LOS E: Intersections operate at or near capacity, with long queues developing on all approaches and long delays.

LOS F: Jammed conditions on all approaches with excessively long delays and vehicles unable to move at times.

[2] When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection.

Internal crossover and pass-by trip reductions have also been applied to the trip generation calculations. The internal crossover trips account for trips between the two uses on the site. An internal crossover reduction of 12% has been calculated for the development. The pass-by trips account for vehicles currently traveling along Smokey Point Boulevard and 166th Place NE that will use the commercial use. ITE does not publish a pass-by reduction for ITE Land Use Code 822, but the industry standard 25% pass-by reduction has been applied to the commercial use. It is important to note that ITE does publish pass-by rates for similar retail uses and previously published a pass-by rate of 34% for general retail uses. The 12% internal crossover and 25% pass-by reductions should therefore by acceptable for the proposed uses. The trip generation of the Smokey Point development is summarized in Table 2.

Table 2: Trip Generation Summary

Land Use	Size	Average Daily Trips	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Multifamily Housing (Low-Rise) ITE LUC 220	103 units	694	10	31	41	33	20	53
Strip Retail Plaza (<40k) ITE LUC 822	3,984 SF	31	5	4	9	13	13	26
Internal Crossover Reduction	---	-87	-1	-5	-6	-4	-5	-9
Pass-By Reduction	---	-7	-1	-1	-2	-3	-3	-6
TOTAL		**631**	**13**	**29**	**42**	**39**	**25**	**64**

The Smokey Point development is anticipated to generate 631 new average daily trips (ADT) with 42 new AM peak-hour trips and 64 new PM peak-hour trips. The trip generation calculations are included in the attachments.

4. TRIP DISTRIBUTION

The distribution of trips generated by the Smokey Point development is based on surrounding land uses. It is anticipated that 35% of the trips generated by the development will travel along I-5, twenty-five percent to and from the south and ten percent to and from the north. Approximately 30% of the trips generated by the development will travel along SR-531, twenty-five percent to and from the east and five percent from the west. Approximately 25% of the trips generated by the development will travel to and from the south along Smokey Point Boulevard. The remaining 10% of trips generated by the development will travel to and from local areas in the site vicinity. Detailed distributions for the AM and PM peak-hours are shown in Figure 2 and Figure 3, respectively.

Snohomish County requires key intersections impacted with 3 or more directional peak-hour trips on any approach or departure to be shown. The trips generated by the Smokey Point development will not impact any key intersections during the AM or PM peak-hours.

188TH ST NE

BJORN RD

5

10 (3 / 63 / 2)

19TH AVE NE

5 (31: 2 ↔ 1)

25 (158: 3 ↔ 7)

531

10 LOCAL (63: 1 ↔ 3)

MARTIN RD

169TH PL NE

2

169TH PL NE

168TH PL NE

166TH PL NE

1

SITE

25 (158: 3 / 7)

SMOKEY POINT BLVD

25 (158: 3 / 7)

51ST AVE NE

NORTH

1

22

10

7

3

166TH PL NE &
SMOKEY PT BLVD

2

10

22

169TH PL NE &
SMOKEY PT BLVD

SMOKEY POINT

SNOHOMISH COUNTY

LEGEND

AWDT / AM ↔ PEAK	NEW DAILY TRAFFIC NEW PEAK-HOUR TRIPS
XX	TRIP DISTRIBUTION
XX	STUDY INTERSECTION
XX →	AM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 2

DEVELOPMENT
TRIP DISTRIBUTION
AM PEAK-HOUR

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188TH ST NE

BJORN RD

5

10 3 23 4

19TH AVE NE

5 31 1↔1

25 158 10↔6

531

10 LOCAL 63 4↔3

MARTIN RD

169TH PL NE

2

169TH PL NE

168TH PL NE

166TH PL NE

1

SITE

25 10 158 6

SMOKEY POINT BLVD

10 158 6 25

51ST AVE NE

NORTH

1

19

29

6

10

166TH PL NE &
SMOKEY PT BLVD

2

30

19

169TH PL NE &
SMOKEY PT BLVD

SMOKEY POINT

SNOHOMISH COUNTY

LEGEND

AWDT
PM↔PEAK — NEW DAILY TRAFFIC
NEW PEAK-HOUR TRIPS

XX — TRIP DISTRIBUTION

(XX) — STUDY INTERSECTION

XX → — PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 3

DEVELOPMENT
TRIP DISTRIBUTION
PM PEAK-HOUR

Kimley»Horn

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5. INTERSECTION ANALYSIS

The following intersections have been analyzed as part of this report:

1. 166th Pl NE at Smokey Point Blvd – Two-Way Stop-Control
2. 169th Pl NE at Smokey Point Blvd – Signalized

These intersections have been analyzed for the 2022 existing conditions, 2025 baseline, and 2025 future with development conditions.

5.1 Turning Movement Calculations

The 2022 existing peak-hour turning movement counts for the study intersections were collected by the independent count firm Traffic Data Gathering in March 2022. The 2022 existing turning movements at the study intersections for the PM peak-hour are shown in Figure 4.

The 2025 baseline turning movements at the study intersections have been calculated using a 2.0% annually compounding growth rate. The 2025 baseline turning movements for the PM peak-hour are shown in Figure 5.

The 2025 future with development conditions were analyzed by adding the trips generated by the Smokey Point development to the 2025 baseline turning movements. All of the trips generated by the Smokey Point development have been added to the intersection of 166th Place NE at Smokey Point Boulevard as though the east leg of the intersection also serves as the only access to the site. This results in a conservatively high estimate of the impacts to the intersection by the development and a conservatively high estimate of the operations of the site access to Smokey Point Boulevard. The 2025 future with development turning movements for the PM peak-hour are shown in Figure 6. The existing counts and turning movement calculations are included in the attachments.

5.2 Level of Service Analysis

The study intersections have been analyzed using the existing intersection control, channelization, peak-hour factors, and heavy vehicle factors. The level of service results at the study intersections are summarized in Table 3.

Table 3: Level of Service Summary – PM Peak-Hour

Intersection	2022 Existing Conditions		2025 Baseline Conditions		2025 Future w/ Dev. Conditions	
	LOS	Delay	LOS	Delay	LOS	Delay
1. 166th Place NE at Smokey Point Boulevard	C	20.1 sec	C	22.3 sec	D	26.9 sec
2. 169th Place NE at Smokey Point Boulevard	B	16.7 sec	B	17.3 sec	B	15.3 sec

The level of service analysis shows that the study intersections are all anticipated to operate at acceptable levels of service under the 2022 exiting, 2025 baseline, and 2025 future with development conditions. The level of service calculations are included in the attachments.

188TH ST NE

BJORN RD

5

19TH AVE NE

MARTIN RD

531

169TH PL NE

2

169TH PL NE

168TH PL NE

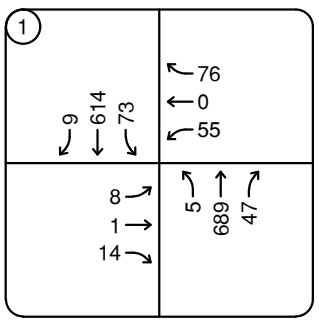
166TH PL NE

1

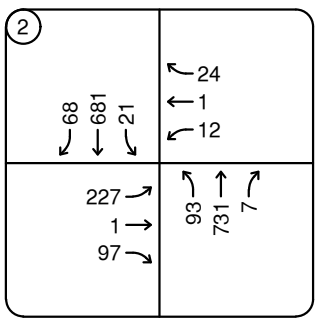
SITE

SMOKEY POINT BLVD

51ST AVE NE



166TH PL NE &
SMOKEY PT BLVD



169TH PL NE &
SMOKEY PT BLVD

NORTH

SMOKEY POINT

SNOHOMISH COUNTY

LEGEND

(XX) STUDY INTERSECTION

XX → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 4

2022 EXISTING TURNING MOVEMENTS

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188TH ST NE

BJORN RD

5

19TH AVE NE

MARTIN RD

531

169TH PL NE

2

169TH PL NE

168TH PL NE

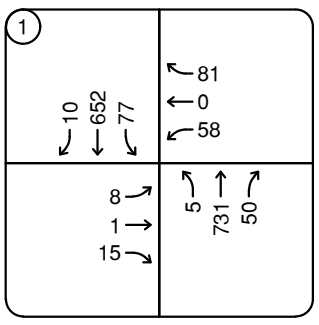
166TH PL NE

1

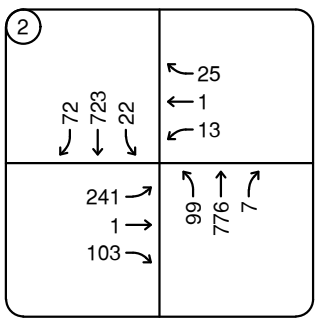
SITE

SMOKEY POINT BLVD

51ST AVE NE



166TH PL NE &
SMOKEY PT BLVD



169TH PL NE &
SMOKEY PT BLVD

NORTH

SMOKEY POINT

SNOHOMISH COUNTY

LEGEND

(XX) STUDY INTERSECTION

XX → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 5

2025 BASELINE
TURNING MOVEMENTS

Kimley»Horn

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188TH ST NE

BJORN RD

5

19TH AVE NE

531

MARTIN RD

169TH PL NE

2

169TH PL NE

168TH PL NE

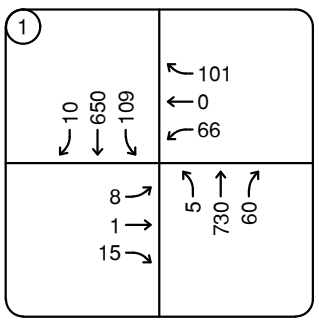
166TH PL NE

1

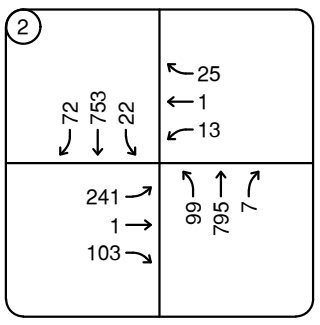
SITE

SMOKEY POINT BLVD

51ST AVE NE



166TH PL NE &
SMOKEY PT BLVD



169TH PL NE &
SMOKEY PT BLVD

NORTH

SMOKEY POINT

SNOHOMISH COUNTY

LEGEND

(XX) STUDY INTERSECTION

XX → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 6

2025 FUTURE WITH DEVELOPMENT TURNING MOVEMENTS

Kimley»Horn

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5.3 172nd Street NE at Smokey Point Boulevard

The intersection of 172nd Street NE at Smokey Point Boulevard will be impacted by more than 10 PM peak-hour trips generated by the development. The intersection is known to operate at LOS F in the future, regardless of the Smokey Point development. The City of Arlington identified in the *Manufacturing and Industrial Center Planned Action FEIS* that specific improvements for the intersection are being reviewed as part of a development application, but specific improvements have been determined. Additionally, there are improvements included in the *Connecting Washington* legislation to convert the current 156th Street NE undercrossing into a full interchange. This improvement would likely reduce the trips at the intersection of 172nd Street NE at Smokey Point Boulevard and would reduce the impacts on the intersection by trips generated by the Smokey Point development. Additional improvements or mitigation for impacts to the intersection of 172nd Street NE at Smokey Point Boulevard should not be required by the Smokey Point development.

6. TRAFFIC MITIGATION FEES

The City of Arlington collects traffic mitigation fees based on the number of PM peak-hour trips generated by a development. The City of Arlington also has interlocal agreements with Snohomish County and WSDOT for traffic mitigation fees.

6.1 City of Arlington

The City of Arlington currently has a standard traffic mitigation fee of $3,355 per PM peak-hour trip. The Smokey Point development is anticipated to generate 64 new PM peak-hour trips. These trips result in a City of Arlington traffic mitigation fee of $214,720.

It is important to note that City of Arlington traffic mitigation fees do not vest to the time of application. It is possible that the City of Arlington mitigation fees will increase between the time of this report and when the traffic mitigation fees are required to be paid.

6.2 Washington State Department of Transportation

WSDOT improvement projects and their associated fees are based on the most recent Exhibit C list, which is part of the interlocal agreement between Snohomish County and WSDOT and included in the attachments. City of Arlington developments are required to pay for WSDOT improvement projects on the Exhibit C list impacted with 10 or more PM peak-hour trips. The trip distribution shows that there are not any WSDOT intersections that are anticipated to be impacted by 10 PM peak-hour trips. WSDOT mitigation fees should therefore not be a condition of the Smokey Point development.

6.3 Snohomish County

The City of Arlington has an interlocal agreement with Snohomish County that provides for mitigation payments for impacts to Snohomish County arterials. City of Arlington developments that impact road improvement projects with 3 directional PM peak-hour trips identified in Snohomish County's Transportation Needs Report (TNR) are required to pay mitigation fees to Snohomish County. The trip distribution shows that there are not any Snohomish County projects identified on the TNR that will be impacted by 3 directional peak-hour trips generated by the Smokey Point development. Snohomish County traffic mitigation fees should therefore not be a condition of the Smokey Point development.

7. CONCLUSIONS

The Smokey Point development is proposed to include103 units of multifamily residential units and 3,984 SF of commercial space. The Smokey Point development is anticipated to generate 631 new average daily trips with 42 new total AM peak-hour trips and 64 new PM peak-hour trips. The analysis shows the study intersections will operate at acceptable levels of service. Intersection improvements at off-site intersections should therefore not be a condition of the development. The traffic mitigation fees to the City of Arlington should total $214,720, based on the current fee.

Trip Generation Calculations

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

									NET EXTERNAL TRIPS BY TYPE											
									IN BOTH DIRECTIONS						DIRECTIONAL ASSIGNMENTS					
			Gross Trips				Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Multifamily Housing (Low-Rise)	103 units	220	6.74	50%	50%	694	12%	83	611	0%	0	0.00	0	611	0	0	0	0	306	305
Strip Retail Plaza (<40k)	3.984 units	822	7.81	50%	50%	31	12%	4	27	25%	7	0.00	0	20	4	3	0	0	10	10
Totals						725		87	638		7		0	631	4	3	0	0	316	315

Smokey Point Development
090221218

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

									NET EXTERNAL TRIPS BY TYPE											
									IN BOTH DIRECTIONS						DIRECTIONAL ASSIGNMENTS					
			Gross Trips				Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Multifamily Housing (Low-Rise)	103 units	220	0.40	24%	76%	41	12%	5	36	0%	0	0.00	0	36	0	0	0	0	9	27
Strip Retail Plaza (<40k)	3.984 units	822	2.36	60%	40%	9	12%	1	8	25%	2	0.00	0	6	1	1	0	0	4	2
Totals						50		6	44		2		0	42	1	1	0	0	13	29

Smokey Point Development
090221218

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

									NET EXTERNAL TRIPS BY TYPE											
									IN BOTH DIRECTIONS						DIRECTIONAL ASSIGNMENTS					
			Gross Trips				Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Multifamily Housing (Low-Rise)	103 units	220	0.51	63%	37%	53	12%	6	47	0%	0	0.00	0	47	0	0	0	0	30	17
Strip Retail Plaza (<40k)	3.984 units	822	6.59	50%	50%	26	12%	3	23	25%	6	0.00	0	17	3	3	0	0	9	8
Totals						79		9	70		6		0	64	3	3	0	0	39	25

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Smokey Point Development	**Organization:**	Kimley-Horm
Project Location:	City of Arlington	**Performed By:**	Brad Lincoln
Scenario Description:	Full Build-Out	**Date:**	5/17/2022
Analysis Year:	---	**Checked By:**	-
Analysis Period:	**PM Street Peak Hour**	**Date:**	-

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				26	13	13
Restaurant				0		
Cinema/Entertainment				0		
Residential				53	33	20
Hotel				0		
All Other Land Uses[2]				0		
				79	46	33

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0.00	0.00
Retail	1.00	0%	0%	1.00	0.00	0.00
Restaurant	1.00	0%	0%	1.00	0.00	0.00
Cinema/Entertainment						
Residential	1.00	0%	0%	1.00	0.00	0.00
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	3	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	79	46	33
Internal Capture Percentage	10%	9%	12%
External Vehicle-Trips[5]	71	42	29
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	8%	23%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	9%	5%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

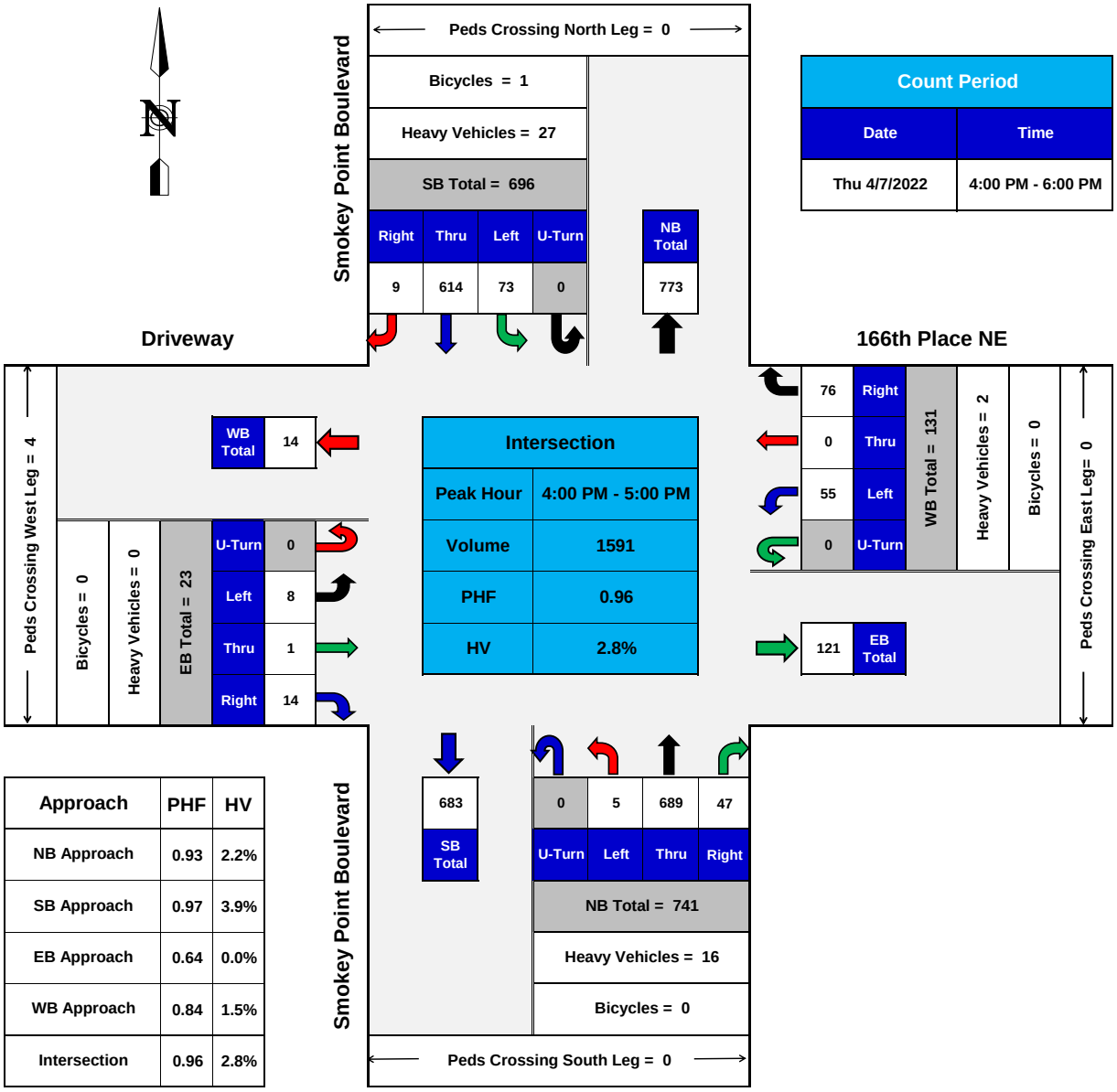
*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Counts and Turning Movement Calculations

Smokey Point Boulevard @ 166th Place NE

Marysville, WA



Count Period	
Date	Time
Thu 4/7/2022	4:00 PM - 6:00 PM

Approach	PHF	HV
NB Approach	0.93	2.2%
SB Approach	0.97	3.9%
EB Approach	0.64	0.0%
WB Approach	0.84	1.5%
Intersection	0.96	2.8%

PHF = Peak Hour Factor
HV = Heavy Vehicles

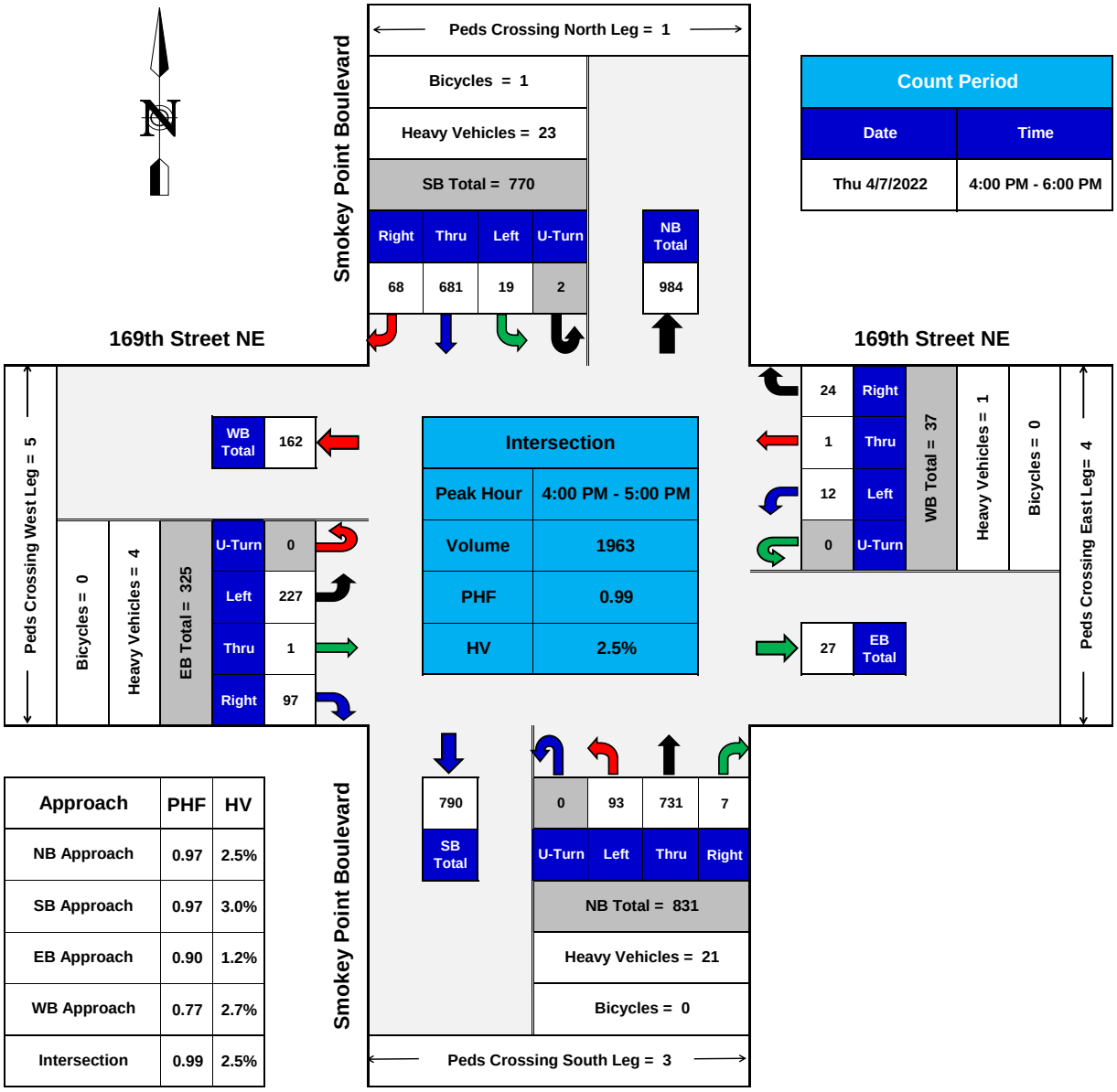
TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

Smokey Point Boulevard @ 169th Street NE

Marysville, WA



Approach	PHF	HV
NB Approach	0.97	2.5%
SB Approach	0.97	3.0%
EB Approach	0.90	1.2%
WB Approach	0.77	2.7%
Intersection	0.99	2.5%

PHF = Peak Hour Factor
HV = Heavy Vehicles

TURNING MOVEMENTS DIAGRAM

PEAK HOUR SUMMARY

TRAFFIC DATA GATHERING

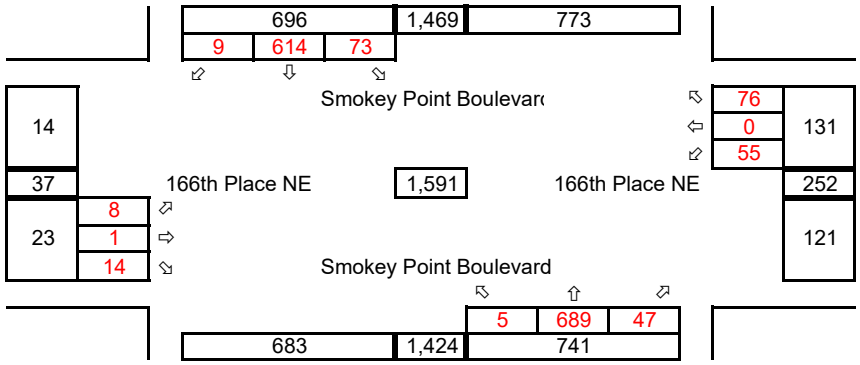
1 Smokey Pt Blvd at 166th Pl NE

Synchro ID: 1

Existing
Average Weekday
AM Peak-Hour

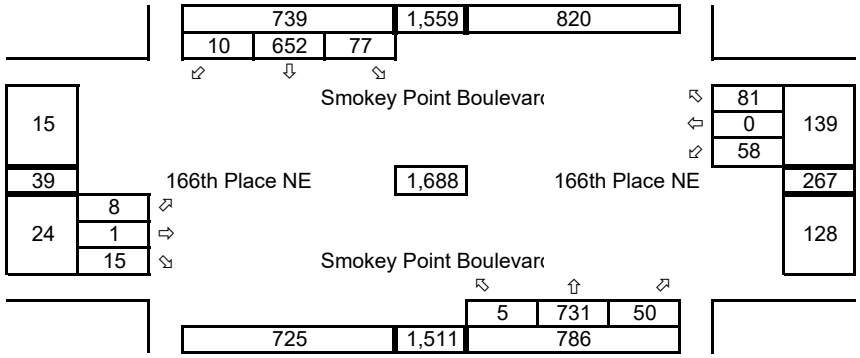
Year: **4/7/2022**

Data Source: **TDG**



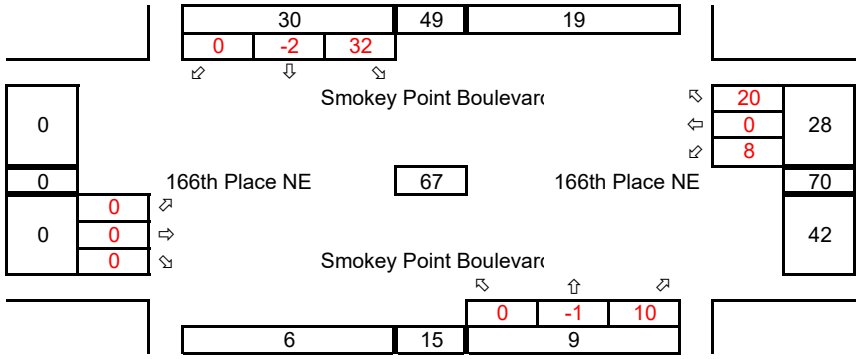
Baseline
Average Weekday
AM Peak-Hour

Year: 2025
Growth Rate = 2.0%
Years of Growth = 3
Total Growth = 1.0612

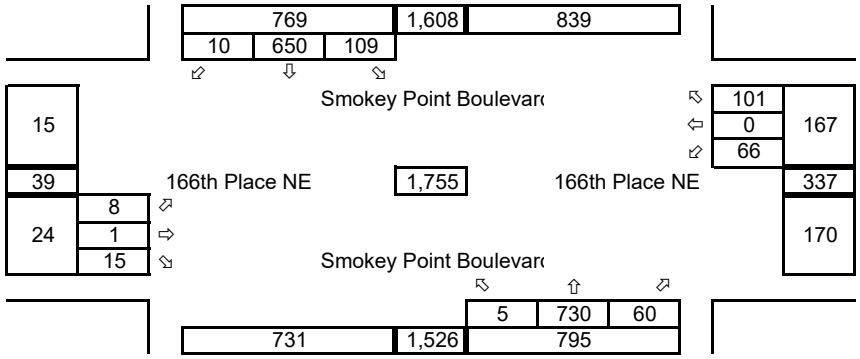


Development
Average Weekday
AM Peak-Hour

Includes Pass-By Trips



Future w Development
Average Weekday
AM Peak-Hour



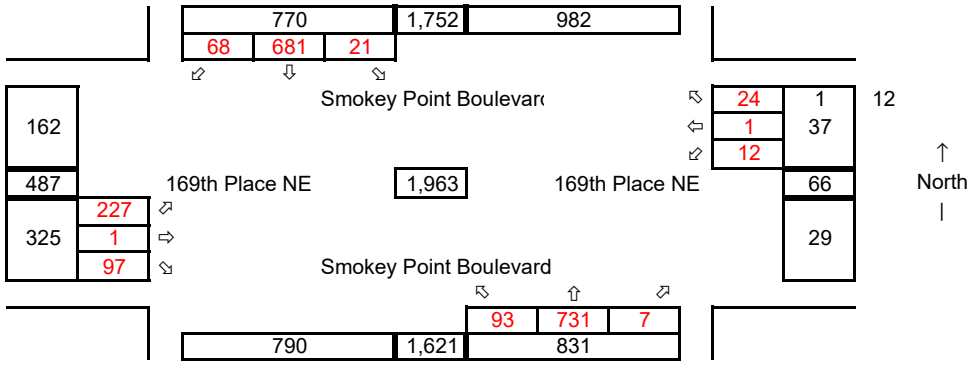
2 Smokey Pt Blvd at 169th St NE

Synchro ID: 2

Existing
Average Weekday
AM Peak-Hour

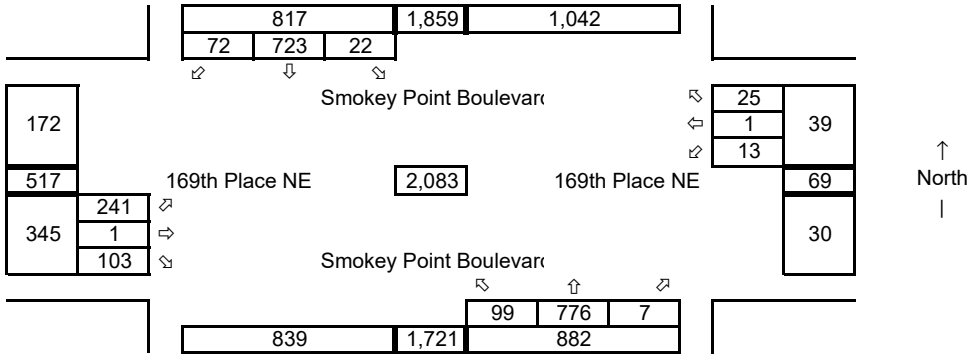
Year: **4/7/2022**

Data Source: **TDG**

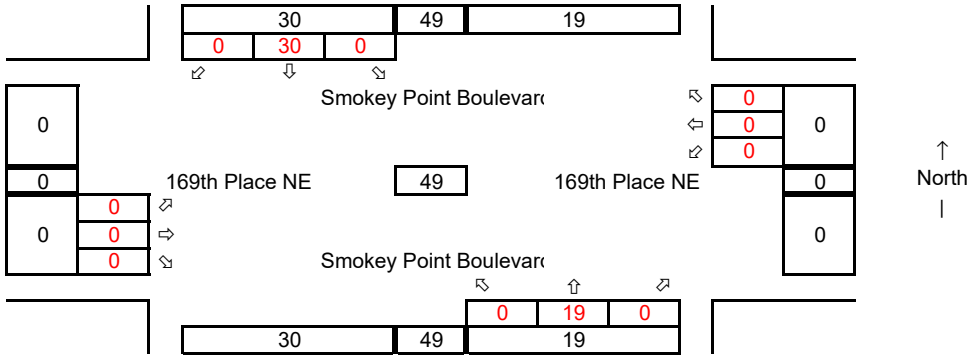


Baseline
Average Weekday
AM Peak-Hour

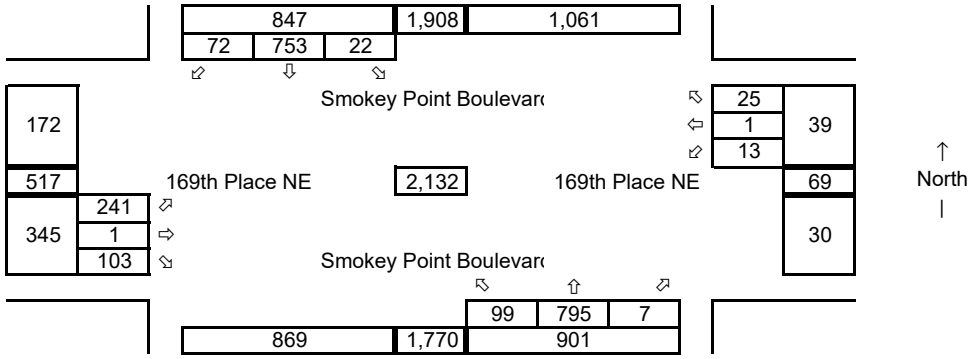
Year: 2025
Growth Rate = 2.0%
Years of Growth = 3
Total Growth = 1.0612



Development
Average Weekday
AM Peak-Hour



Future w Development
Average Weekday
AM Peak-Hour



Level of Service Calculations

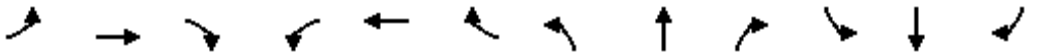
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	14	55	0	76	5	689	47	73	614	9
Future Vol, veh/h	8	1	14	55	0	76	5	689	47	73	614	9
Conflicting Peds, #/hr	0	0	0	0	0	0	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	1	15	57	0	79	5	718	49	76	640	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1170	1578	329	1226	1558	384	653	0	0	767	0	0
Stage 1	801	801	-	753	753	-	-	-	-	-	-	-
Stage 2	369	777	-	473	805	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	147	107	664	134	110	611	923	-	-	836	-	-
Stage 1	342	393	-	366	413	-	-	-	-	-	-	-
Stage 2	620	403	-	538	391	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	118	96	661	121	99	611	919	-	-	836	-	-
Mov Cap-2 Maneuver	230	199	-	242	217	-	-	-	-	-	-	-
Stage 1	339	356	-	364	411	-	-	-	-	-	-	-
Stage 2	537	401	-	477	354	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	20.1	0.1	1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	919	-	-	377	373	836	-	-
HCM Lane V/C Ratio	0.006	-	-	0.064	0.366	0.091	-	-
HCM Control Delay (s)	8.9	-	-	15.2	20.1	9.7	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	1.6	0.3	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	1	97	12	1	24	93	731	7	21	681	68
Future Volume (vph)	227	1	97	12	1	24	93	731	7	21	681	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.98		0.99	0.99			1.00		1.00	1.00	
Frt		0.852			0.856			0.999			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1544	0	1752	1558	0	1752	3500	0	1752	3444	0
Flt Permitted	0.430			0.833			0.284			0.349		
Satd. Flow (perm)	792	1544	0	1529	1558	0	524	3500	0	642	3444	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			24			1			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		406			369			1015			1179	
Travel Time (s)		9.2			8.4			23.1			26.8	
Confl. Peds. (#/hr)	1		3	3		1	5		4	4		5
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	99	0	12	25	0	94	745	0	21	757	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	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		9.5	22.5		9.5	22.5	
Total Split (s)	28.0	41.0		10.0	23.0		16.0	58.0		11.0	53.0	
Total Split (%)	23.3%	34.2%		8.3%	19.2%		13.3%	48.3%		9.2%	44.2%	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	22.8	21.2		9.6	7.8		61.8	58.5		56.9	52.3	
Actuated g/C Ratio	0.24	0.23		0.10	0.08		0.66	0.62		0.60	0.56	
v/c Ratio	0.62	0.23		0.07	0.17		0.21	0.34		0.05	0.40	
Control Delay	37.8	7.7		29.2	20.3		9.9	12.8		10.0	16.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.8	7.7		29.2	20.3		9.9	12.8		10.0	16.1	
LOS	D	A		C	C		A	B		A	B	
Approach Delay		28.7			23.2			12.4			15.9	
Approach LOS		C			C			B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	117	0		6	1		15	72		3	116	
Queue Length 95th (ft)	190	41		19	27		62	262		20	285	
Internal Link Dist (ft)		326			289			935			1099	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	492	673		169	333		500	2175		469	1915	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.15		0.07	0.08		0.19	0.34		0.04	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 94.2			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 56.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Smokey Pt Blvd & 169th Pl NE

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	15	58	0	81	5	731	50	77	652	10
Future Vol, veh/h	8	1	15	58	0	81	5	731	50	77	652	10
Conflicting Peds, #/hr	0	0	0	0	0	0	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	1	16	60	0	84	5	761	52	80	679	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1239	1671	349	1297	1650	407	693	0	0	813	0	0
Stage 1	848	848	-	797	797	-	-	-	-	-	-	-
Stage 2	391	823	-	500	853	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	131	94	644	118	97	591	891	-	-	803	-	-
Stage 1	320	373	-	344	394	-	-	-	-	-	-	-
Stage 2	602	384	-	519	371	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	103	84	642	105	86	591	888	-	-	803	-	-
Mov Cap-2 Maneuver	213	183	-	224	202	-	-	-	-	-	-	-
Stage 1	317	334	-	342	392	-	-	-	-	-	-	-
Stage 2	513	382	-	454	332	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.7	22.3	0.1	1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	888	-	-	362	351	803	-	-
HCM Lane V/C Ratio	0.006	-	-	0.069	0.413	0.1	-	-
HCM Control Delay (s)	9.1	-	-	15.7	22.3	10	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	2	0.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	1	103	0	0	25	99	776	7	22	723	72
Future Volume (vph)	241	1	103	0	0	25	99	776	7	22	723	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.98			0.99			1.00		1.00	1.00	
Frt		0.851			0.850			0.999			0.986	
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1770	1557	0	1863	1561	0	1770	3535	0	1770	3478	0
Flt Permitted	0.421						0.262			0.325		
Satd. Flow (perm)	783	1557	0	1863	1561	0	488	3535	0	603	3478	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		104			254			1			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		406			369			1015			1179	
Travel Time (s)		9.2			8.4			23.1			26.8	
Confl. Peds. (#/hr)	1		3	3		1	5		4	4		5
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	105	0	0	25	0	100	791	0	22	803	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	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		9.5	22.5		9.5	22.5	
Total Split (s)	28.0	41.0		10.0	23.0		16.0	58.0		11.0	53.0	
Total Split (%)	23.3%	34.2%		8.3%	19.2%		13.3%	48.3%		9.2%	44.2%	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	25.3	25.3			7.7		61.5	58.2		56.5	51.9	
Actuated g/C Ratio	0.26	0.26			0.08		0.64	0.60		0.59	0.54	
v/c Ratio	0.63	0.22			0.07		0.24	0.37		0.05	0.43	
Control Delay	36.9	6.2			0.4		10.9	13.8		10.6	17.6	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	36.9	6.2			0.4		10.9	13.8		10.6	17.6	
LOS	D	A			A		B	B		B	B	
Approach Delay		27.7			0.4			13.5			17.5	
Approach LOS		C			A			B			B	
Queue Length 50th (ft)	126	0			0		24	119		5	168	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	202	36			0		64	281		20	307	
Internal Link Dist (ft)		326			289			935			1099	
Turn Bay Length (ft)	100						100			100		
Base Capacity (vph)	494	692			511		470	2133		437	1877	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.49	0.15			0.05		0.21	0.37		0.05	0.43	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 96.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 59.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Smokey Pt Blvd & 169th Pl NE

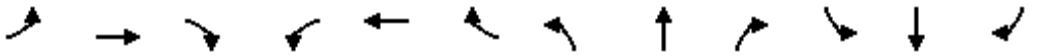
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1	15	66	0	101	5	745	60	109	650	10
Future Vol, veh/h	8	1	15	66	0	101	5	745	60	109	650	10
Conflicting Peds, #/hr	0	0	0	0	0	0	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	1	16	69	0	105	5	776	63	114	677	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1312	1763	348	1385	1737	420	691	0	0	839	0	0
Stage 1	914	914	-	818	818	-	-	-	-	-	-	-
Stage 2	398	849	-	567	919	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	115	82	645	102	86	579	893	-	-	785	-	-
Stage 1	292	348	-	334	386	-	-	-	-	-	-	-
Stage 2	596	373	-	473	346	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	83	69	643	88	73	579	890	-	-	785	-	-
Mov Cap-2 Maneuver	185	157	-	203	183	-	-	-	-	-	-	-
Stage 1	289	296	-	332	384	-	-	-	-	-	-	-
Stage 2	485	371	-	393	295	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.8	26.9	0.1	1.5
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	890	-	-	329	334	785	-	-
HCM Lane V/C Ratio	0.006	-	-	0.076	0.521	0.145	-	-
HCM Control Delay (s)	9.1	-	-	16.8	26.9	10.4	-	-
HCM Lane LOS	A	-	-	C	D	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	2.9	0.5	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	1	103	0	0	25	99	790	7	22	748	72
Future Volume (vph)	241	1	103	0	0	25	99	790	7	22	748	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.98			0.99			1.00		1.00	1.00	
Frt		0.851			0.850			0.999			0.987	
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1770	1557	0	1863	1561	0	1770	3535	0	1770	3482	0
Flt Permitted	0.625						0.258			0.324		
Satd. Flow (perm)	1162	1557	0	1863	1561	0	481	3535	0	602	3482	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		104			265			1			10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		406			369			1015			1179	
Travel Time (s)		9.2			8.4			23.1			26.8	
Confl. Peds. (#/hr)	1		3	3		1	5		4	4		5
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	105	0	0	25	0	100	805	0	22	829	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	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		9.5	22.5		9.5	22.5	
Total Split (s)	28.0	41.0		10.0	23.0		16.0	58.0		11.0	53.0	
Total Split (%)	23.3%	34.2%		8.3%	19.2%		13.3%	48.3%		9.2%	44.2%	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	21.3	21.3			5.6		60.9	57.7		56.2	51.6	
Actuated g/C Ratio	0.23	0.23			0.06		0.66	0.63		0.61	0.56	
v/c Ratio	0.63	0.24			0.07		0.23	0.36		0.05	0.42	
Control Delay	38.7	7.0			0.4		8.5	11.4		8.0	14.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	38.7	7.0			0.4		8.5	11.4		8.0	14.8	
LOS	D	A			A		A	B		A	B	
Approach Delay		29.1			0.4			11.1			14.6	
Approach LOS		C			A			B			B	
Queue Length 50th (ft)	126	0			0		16	84		3	136	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	207	39			0		50	231		16	256	
Internal Link Dist (ft)		326			289			935			1099	
Turn Bay Length (ft)	100						100			100		
Base Capacity (vph)	501	691			530		485	2218		454	1958	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.49	0.15			0.05		0.21	0.36		0.05	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 91.9			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Smokey Pt Blvd & 169th Pl NE