City of Arlington
Draft
Transportation 2035 Plan
2016 Update

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and

City of Arlington
Public Works Department

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Cover photos: Photos of transportation planning and investment undertaken by the City of Arlington on behalf of its valued citizens.

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Index to Appendices

Appendix	Subject
A	Summary Of Previous Transportation Planning (7 pp)
B	Traffic Count Locations 3 pp)
C	Traffic Operations Analysis Definitions (5 pp)
D	Capacity Analysis Worksheets - 2011 (18 pp)
E	Capacity Analysis Worksheets – 2035 Baseline (18 pp)
F	Capacity Analysis Worksheets – 2035 With Improvements (22 pp)
G	Transportation Model Post-Process Calculations (8 pp)
H	Roadway Sections (5 pp)
I	Travel Demand Model Plot (3 pp)
J	Glossary Of Acronyms (4 pp)

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A Summary Of Previous Transportation Planning

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SUMMARY OF PREVIOUS TRANSPORTATION PLANNING

The 2035 Transportation Plan update inventoried previous transportation planning efforts in and around the City of Arlington. Recommended transportation improvements from these plans were considered in the development of the proposed improvements for the City of Arlington 2035 project list. Significant planning efforts included in this study inventory and analysis are listed below:

- City of Arlington Transportation Plan (2005)
- West Arlington Sub-Area Plan (2010)
- Arlington Municipal Airport Master Plan (2012)
- SR 531/ (43rd Avenue NE to 67th Avenue NE) Corridor Pre-Design Analysis (2010)
- Arterial Circulation Study for the Southeast Arlington Urban Growth Area and Vicinity (2009)
- SR 9 Corridor Planning Study (2011)
- City of Marysville Transportation Plan (2015)
- Snohomish County Transportation Plan (2015)

Projects identified in these plans that could significantly affect the transportation network in the City of Arlington are identified in **Table A1** and on the following **Figure A1**.

Table A1. Planned and Recommended Improvements

Project		Source								
		City of Arlington 2016-2021 Six-Year TIP	City of Arlington 2005 Transportation Plan	SR 531/43rd to 67th Corridor Pre-Design Analysis	Arterial Circulation Study for the SE Arlington UGA &Vicinity	West Arlington Subarea Plan	2015 Snohomish County Transportation Element	PSRC 2015-2018 TIP	2012 Arlington Municipal Airport Layout Plan Update	SR 9 Corridor Planning Study
Arlington 2005 Transportation Element Baseline CIP Projects										
1	172nd St NE (SR 531) – 43rd Ave to 67th Ave		✓	✓						
2	67th Ave NE – 204th St NE to Lebanon St.		✓					✓		
3	Smokey Point Blvd – 183rd St NE to 175th St NE		✓							
4	51st Ave Extension – 43rd Ave NE to 67th Ave NE		✓						✓	
5	188th St NE – 59th Ave NE to 67th Ave NE		✓							

Project		Source								
		City of Arlington 2016-2021 Six-Year TIP	City of Arlington 2005 Transportation Plan	SR 531/43rd to 67th Corridor Pre-Design Analysis	Arterial Circulation Study for the SE Arlington UGA &Vicinity	West Arlington Subarea Plan	2015 Snohomish County Transportation Element	PSRC 2015-2018 TIP	2012 Arlington Municipal Airport Layout Plan Update	SR 9 Corridor Planning Study
6	Arlington Valley Land Road – 67th Ave NE to 204th St NE	✓	✓							
7	SR 531 ramp improvements – WB SR 531 to SB I-5		✓							
Arlington 2005 Transportation Element Tier 1 Projects										
8	Smokey Point Blvd – 116th St NE to SR 530	✓	✓			✓				
9	SR 531-67th Ave NE to SR 9		✓							
10	SR 9 – 108th St. NE to north of SR 530		✓							
11	SR 530 – SR 5 to SR 9		✓							
Arlington 2005 Transportation Element Tier 2 Projects										
12	188th St NE –Smokey Point Blvd to 47th Ave NE		✓							
13	47th Ave NE – 188th St NE to Cemetery Road		✓							
14	51st Avenue NE – SR 531 to 164th St NE		✓							
15	186th St NE – SR 9 to 99th Ave NE	✓	✓		✓					
16	Cemetery Road Extension – 47th Ave NE to 67th Ave NE		✓							
17	211th Place NE – SR 530 to 67th Ave		✓							
18	59th Ave NE – SR 531 to 195th Ave		✓							
19	74th Ave NE extension – 204th to Jensen		✓							
20	63rd Ave NE – SR 531 to 59th Ave NE extension		✓							
21	92nd/Tveit Road to west of 92nd/Burn Road		✓							
Arlington 2005 Transportation Element Tier 3 Projects										
22	43rd Ave NE (new alignment) – 172nd St to 162nd St.		✓			✓				
23	Tveit Rd – 92nd St NE to Highland Drive				✓					
24	Hamlin/Maple Connection		✓							
25	Clara extension s of 4th St to 88th Ave NE, connection at 218th		✓							
26	180th St. NE – 59th Ave to 67th Ave NE		✓							
27	63rd Ave NE – SR 531 to 188th St NE		✓							
28	SR 531 – 91st Ave to McElroy		✓		✓					
29	38th Ave NE – 162nd St. NE to 165th St NE		✓							
30	36th Ave NE – 178th St. NE to 183rd St NE		✓							

Project		Source								
		City of Arlington 2016-2021 Six-Year TIP	City of Arlington 2005 Transportation Plan	SR 531/43rd to 67th Corridor Pre-Design Analysis	Arterial Circulation Study for the SE Arlington UGA &Vicinity	West Arlington Subarea Plan	2015 Snohomish County Transportation Element	PSRC 2015-2018 TIP	2012 Arlington Municipal Airport Layout Plan Update	SR 9 Corridor Planning Study
31	180th St NE – Smokey Point Blvd. to 36th Ave NE		✓							
32	45th Drive NE – 196th Pl to Cemetery Road		✓							
33	59th Ave – 195th St to Cemetery Road		✓						✓	
34	189th Place – 43rd Pl to 188th St		✓							
35	185th Pl – 31st Ave to Smoky Point Blvd/186th Pl – 31st Ave to Smokey Point Blvd/32nd Pl – 186th to 184th Pl		✓							
36	173rd Pl – Smokey Point Blvd to 43rd Ave 39th Ave – 172nd St. to 162nd St.		✓							
37	47th Ave -172nd St. to 162nd St.		✓							
38	74th Ave 204th to 67th		✓							
39	162nd St – Smokey Point Blvd to 63rd Ave.		✓							
Arlington 2005 Transportation Element Tier 3 Projects										
40	SR 9/SR 531		✓							✓
41	204th St NE/207th St NE – 67th Ave to Burn Rd		✓							
42	SR 530/SR 9		✓							✓
43	SR 9/4th St		✓							
44	SR 9/Burke Ave	✓	✓							✓
45	67th Ave NE – SR 531 to Upland Dr		✓							
46	67th Ave NE/SR 531		✓	✓						
47	188th St/67th Ave NE		✓							
48	204th St/SR 9	✓	✓							
49	Burn Rd/Highland Ave		✓							
50	SR 530 – Manhattan St to External		✓							
51	172nd St (SR 531)/I-5 NB Ramps		✓							
52	Burke Ave/Broadway St		✓							
53	Burn Rd/207th St		✓							
54	172nd St (SR 531)/Smokey Point Blvd		✓			✓				
55	SR 530/211th Pl		✓							
56	204th St/74th Ave		✓							
Other										
57	173rd St NE (new alignment)	✓				✓				

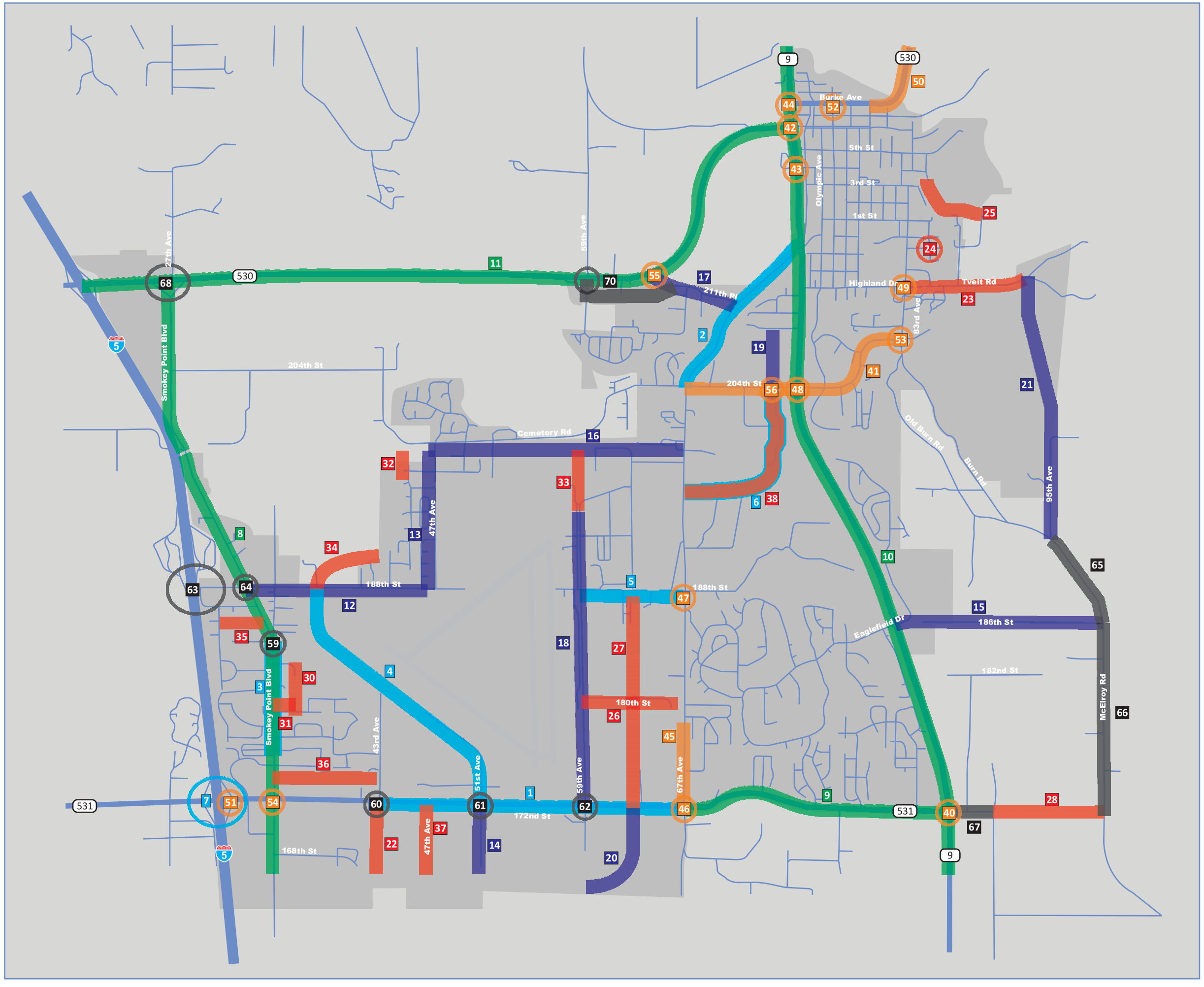
Project		Source								
		City of Arlington 2016-2021 Six-Year TIP	City of Arlington 2005 Transportation Plan	SR 531/43rd to 67th Corridor Pre-Design Analysis	Arterial Circulation Study for the SE Arlington UGA &Vicinity	West Arlington Subarea Plan	2015 Snohomish County Transportation Element	PSRC 2015-2018 TIP	2012 Arlington Municipal Airport Layout Plan Update	SR 9 Corridor Planning Study
58	169th St NE (new alignment)					✓				
59	35th Ave NE/Smokey Point Blvd					✓				
60	172nd St NE (SR 531)/43rd Avenue			✓		✓				
61	172nd St NE (SR 531)/51st Avenue			✓		✓				
62	172nd St NE (SR 531)/59th Avenue			✓						
63	188th Street Interchange					✓				
64	Smokey Point Blvd/188th St.	✓	✓			✓				
65	Burn/McElroy Road – 95th Avenue NE to 186th Street NE				✓					
66	McElroy Road – 172nd to 186th Streets NE				✓					
67	172nd Street NE – SR 9 to 91st Avenue NE				✓					
68	SR 530/Smokey Point Intersection	✓								
69	67th Ave NE/152 St NE						✓			
70	211th Place NE – Extension to 59th Ave/SR 530	✓								

City of Arlington

2035 Transportation Plan

Figure A1

Transportation Improvement Projects from Previous Studies



Arlington 2005 Transportation Element Baseline CIP Projects

1 172nd St NE (SR 531) - 43rd Ave to 67th Ave
2 67th Ave NE - 204th St to Lebanon St
3 Smokey Point Blvd - 183rd St to 175th St
4 51st Ave Extension - 43rd Ave to 67th Ave
5 188th St NE - 59th Ave to 67th Ave
6 Arlington Valley Land Rd - 67th Ave to 204th St
7 SR 531 Ramp Improvements - WB SR 531 to SB I-5

Arlington 2005 Transportation Element Tier 1 Projects

8 Smokey Point Blvd - 116th St to SR 530
9 SR 531 - 67th Ave to SR 9
10 SR 9 - 108th St to North of SR 530
11 SR 530 - SR 5 to SR 9

Arlington 2005 Transportation Element Tier 2 Projects

12 188th St NE - Smokey Point Blvd to 47th Ave
13 47th Ave NE - 188th St to Cemetery Rd
14 51st Ave NE - SR 531 to 164th St
15 186th St NE - SR 9 to 99th Ave
16 Cemetery Rd Extension - 47th Ave to 67th Ave
17 211th Pl NE - SR 530 to 67th Ave
18 59th Ave NE - SR 531 to 195th Ave
19 74th Ave NE Extension - 204th St to Jensen St
20 63rd Ave NE - SR 531 to 59th Ave Extension
21 92nd/Tveit Rd to West of 92nd/Burn Rd

Arlington 2005 Transportation Element Tier 3 Projects

22 43rd Ave NE (New Alignment) - 172nd St to 162nd St
23 Tveit Rd - 92nd St to 83rd Ave (Highland Dr)
24 Hamlin/Maple Connection
25 Clara Extension S of 4th St to 88th Ave, Connection at 218th
26 180th St NE - 59th Ave to 67th Ave
27 63rd Ave NE - SR 531 to 188th St
28 SR 531 - 91st Ave to McElroy Rd
29 38th Ave NE - 162nd St to 165th St (not shown)
30 36th Ave NE - 178th St to 183rd St
31 180th St NE - Smokey Point Blvd to 36th Ave
32 45th Dr NE - 196th Pl to Cemetery Rd
33 59th Ave NE - 195th St to Cemetery Rd
34 189th Pl - 43rd Pl to 188th St
35 185th Pl - 31st Ave to Smokey Point Blvd/186th Pl
36 173rd Pl - Smokey Point Blvd to 43rd Ave/39th Ave
37 47th Ave - 172nd St to 162nd St
38 74th Ave - 204th to 67th Ave
39 162nd St - Smokey Point Blvd to 63rd Ave (not shown)

Arlington 2005 Transportation Element - Alternative 2 Operational Needs

40 SR 9/SR 531
41 204th St NE/207th St NE - 67th Ave to Burn Rd
42 SR 530/SR 9
43 SR 9/4th St
44 SR 9/Burke Ave
45 67th Ave NE - SR 531 to Upland Dr
46 67th Ave/SR 531
47 188th St/67th Ave
48 204th St/SR 9
49 Burn Rd/Highland Dr
50 SR 530 - Manhattan St to External
51 172nd St (SR 531)/I-5 NB Ramp
52 Burke Ave/Broadway St
53 Burn Rd/207th St
54 172nd St (SR 531)/Smokey Point Blvd
55 SR 530/211th Pl
56 204th St/74th Ave

Projects From Other Sources

57 173rd St NE New Alignment (not shown)
58 169th St NE New Alignment (not shown)
59 35th Ave/Smokey Point Blvd
60 172nd St (SR 531)/43rd Ave
61 172nd St (SR 531)/51st Ave
62 172nd St (SR 531)/59th Ave
63 188th Street Interchange
64 Smokey Point Blvd/188th St
65 McElroy Rd/Burn Rd - 95th Ave to 186th St Extension
66 McElroy Rd - 172nd St NE to 186th St Extension
67 172nd St NE - SR 9 to 91st Ave NE
68 SR 530/Smokey Point Intersection
69 67th Ave NE/152nd St NE (not shown)
70 211th Pl NE - Extension to 59th Ave/SR 530

B Traffic Count Locations

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City of Arlington

2035 Transportation Plan

Figure B1

Traffic Counts

	Intersection TMC Location	Date of Count
1	E Burke Ave at N Manhattan Ave	Thursday, June 9th 2011
2	W Burke Ave at Hazel St	Thursday, June 9th 2011
3	E Division St at N Olympic Ave	Thursday, June 9th 2011
4	W Division St at Hazel St	Thursday, June 9th 2011
5	E Maple St at S Olympic Ave	Wednesday, June 8th 2011
6	Lebanon St at 67th Ave NE	Wednesday, June 8th 2011
7	E Highland Dr at S Stillaguamish Ave	Tuesday, June 7th 2011
8	211th Pl NE at 67th Ave NE	Thursday, June 9th 2011
9	204th St NE at SR-9	Tuesday, June 7th 2011
10	204th St NE at 67th Ave NE	Wednesday, June 8th 2011
11	211th Pl NE at SR-530	Thursday, June 9th 2011
12	SR-530 at I-5 NB Ramps	Wednesday, June 8th 2011
13	SR-530 at I-5 SB Ramps	Wednesday, June 8th 2011
14	Crown Ridge Blvd at SR-9	Wednesday, June 8th 2011
15	188th St NE at 67th Ave NE	Tuesday, June 7th 2011
16	188th St NE at Smokey Point Blvd	Wednesday, June 8th 2011
17	172nd St NE at SR-9	Tuesday, June 7th 2011
18	172nd St NE at Gleneagle Blvd	Tuesday, June 7th 2011
19	172nd St NE at 67th Ave NE	Wednesday, June 16th 2010
20	172nd St NE at 59th Ave NE	Wednesday, June 16th 2010
21	172nd St NE at 51st Ave NE	Thursday, September 1st 2008
22	172nd St NE at 43rd Ave NE	Wednesday, June 16th 2010
23	172nd St NE at Smokey Point Blvd	Wednesday, July 20th 2011
24	Smokey Point Dr at Smokey Point Blvd	Thursday, August 10th 2010
25	172nd St NE at I-5 NB Ramps	Wednesday, July 20th 2011
26	172nd St NE at I-5 SB Ramps	Wednesday, July 20th 2011
27	200th St NE at Smokey Point Blvd	Tuesday, March 31st, 2015
28	200th St NE at 23rd Ave NE	Tuesday, March 31st, 2015
29	SR-530 at Smokey Point Blvd - West Leg	Wednesday, July 25th, 2012
30	SR-530 at Smokey Point Blvd - East Leg	Tuesday, April 24th, 2007
31	Smokey Point Y at Smokey Point Blvd	Thursday, October 16th, 2008

	Tube Location	Year of Count
1	3rd St - 100ft East of Dunham Ave	2008
2	31st Ave - North of Church of Christ on Pole #3	2006
3	38th Dr - at 17625 38th Dr NE	2004
4	66th Ave - Ronning Rd, 1 Block South of 211th Pl	2008
5	80th Dr - Light Pole Between 17332 and 17321	2006
6	87th Ave - On Phone Pole Across From 21406	2004
7	176th Pl - Tied to 25mph Sign at 3612	2004
8	177th Pl - Tied to Phone Pole at 3716	2004
9	188th St - 200 Feet West of Fire Station #2	2008
10	208th St - Tied to Fence Post at 6426 208th St	2004
11	211th Pl - Pole 500 Feet East of Intx on South Side	2007
12	Broadway St - Phone Pole Across from Windermere	2004
13	Gilman St - Between RR Alley and Broadway St	2002
14	Gilman St - 211 Gilman St Tied to Phone Pole	2004
15	Highland View Dr - 17713 Tied to Light Pole	2004
16	MacLeod St - 100 Block South MecLeod St Below Hill Crest	2004
17	Oxford St - 7321 Eaglefield Dr, Tied to Light Pole	2004
18	RR Alley - Hydrant Between Gilman St and Division St	2002
19	Smokey Point Blvd - Light Pole West of Intx on 178th Pl and 37th Ave	2001
20	Smokey Point Blvd - 1000 Feet North of 166th Pl	2006
21	Smokey Point Dr - Stillaguamish Tribes Admin Building	2008
22	Stillaguamish Ave - 139 Haller Field	2008
23	Upland Dr - 17725, Tied to Light Pole	2004
24	West Ave - Pedestrian Pole North of Roundabout	2002
25	Woodbine Dr - Set at 18522 Woodbine on Light Pole	2007
26	Woodlands Way - East of 67th Ave on 25mph Sign	2001
27	172nd St East of SR-9	2011
28	SR-9 North of 204th St	2011
29	SR-9 South of Highland Dr	2011
30	SR-531 East of 59th Ave	2011
31	164th St - East of 91st ave	2009
32	164th St - West of McElroy Rd	2009
33	186th St - West of McElroy Rd	2009
34	186th St - East of SR-9	2001
35	204th St - Between 67th Ave and SR-9	2009
36	204th St - South of Jensen Farm Ln	2002
37	67th Ave - Between 185th St and Woodlands Way	2008
38	67th Ave - Between 204th St and 211th Pl	2009
39	67th Ave - Between 211th Pl and SR-9	2009
40	67th Ave - North of SR-531	2004
41	67th Ave - South of SR-531	2008
42	67th Ave - Between Woodlands Way and 204th St	2009
43	91st Ave - North of 164th St	2009
44	91st Ave - South of 164th St	2009
45	95th Ave - North of Burn Rd	2009
46	Burn Rd - Between 196th St and 95th Ave	2009
47	Burn Rd - Between 204th St and 196th St	2007
48	Burn Rd - Between 95th Ave and McElroy Rd	2009
49	Burn Rd - East of McElroy Rd	2009
50	Cemetery Rd - West of 67th Ave	2008
51	Highland Dr - East of French Ave	2008
52	McElroy Rd - Between Burn Rd and 186th St	2009
53	McElroy Rd - North of 164th St	2009
54	McElroy Rd - South of 164th St	2009
55	McElroy Rd - South of 186th St	2009
56	SR-531 - West of 67th Ave	2007
57	SR-531 - West of SR-9	2005
58	SR-531 - East of 67th Ave	2007
59	SR-9 - South of SR-531	2007
60	SR-9 - North of SR-531	2005

C Traffic Operations Analysis Definitions

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LEVEL OF SERVICE

Level of Service (LOS) means the capacity standard for traffic flow through a specified area as defined in the latest edition of the *Highway Capacity Manual (HCM).* The *HCM* uses Level of Service to describe the operating conditions at an intersection. LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion).

Intersection Level of Service Methodologies

The following sections describe the methodologies used in assessing traffic operations and impacts of project traffic. The acknowledged source for determining overall capacity for arterial segments and independent intersections is the current edition of the *Highway Capacity Manual* (*HCM*). Analysis techniques are found in Chapters 18, 19 and 20 for unsignalized and signalized intersections.

Observed peak hour factors (PHF) were used for the analyses. The intersection average values were applied with a maximum PHF of 0.95. Observed intersection average truck percentages were also used for the analyses.

Unsignalized Intersections

Stop sign-controlled intersections were analyzed using the Synchro software that uses the methodology in the 2010 *HCM*. The *HCM* uses Level of Service (LOS) to describe the operating conditions at an intersection. LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion).

Level of Service calculations for intersections determine the amount of "control delay" (in seconds) that drivers will experience while proceeding through an intersection. Control delay includes all deceleration delay, stopped delay and acceleration delay caused by the traffic control device. The Level of Service is directly related to the amount of delay experienced.

For intersections under minor street stop sign control, the LOS of the most difficult movement (typically the minor street left-turn) represents the intersection Level of Service. The table below shows the Level of Service criteria for unsignalized intersections.

Level of Service Criteria for Stop Sign-Controlled Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	≤ 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

Signalized Intersections

Signalized intersection analysis was performed using the Synchro software package. The software implements the methods of the 2010 *Highway Capacity Manual*.

The *Highway Capacity Manual* also presents capacity analysis results in terms of LOS for signalized intersections. The *HCM* bases the LOS criteria in terms of overall average delay a vehicle may experience at the intersection during the analysis period (for this study, the evening peak hour). LOS delay criteria for signalized intersections are shown in the table below.

Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

Roundabout Intersections

The roundabout analysis was prepared using the SIDRA software package. The table below lists LOS Delay criteria used to assess roundabout intersections.

Level of Service Criteria for Roundabout Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

Volume to Capacity Ratio

Another measure of the function of a signalized intersection is the "degree of saturation" which is typically presented as the "volume to capacity" (v/c) ratio. Many factors affect the volume of traffic an intersection can accommodate during a specific time interval. These factors include the number of lanes, lane widths, the type of signal phasing, the number of parking maneuvers on the adjacent street, etc. Based on these factors, the intersection (or individual lane group) is determined to have a total vehicle carrying capacity "c" for the analysis period. The analysis period volume "v" is compared to the calculated carrying capacity and presented as a ratio. If the v/c ratio is below 1.0, the demand volume is less than the maximum capacity. If the v/c ratio is over 1.0, the demand volume is exceeding the available capacity.

Vehicle Queuing

The vehicle queue is the number of stopped vehicles waiting to travel through an intersection. The queue length includes all vehicles that stop at an intersection even after vehicles at the front begin to move forward. The 95th percentile queue value reflects the "peak typical" queue that occurs during the analysis period, discarding the highest 5 percent of queue occurrences.

Vehicle queues at Smokey Point Blvd and SR 531

D Capacity Analysis Worksheets - 2011

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Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	685	15	20	400	5	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	5	5	8	8	0	0
Mvmt Flow	815	18	24	476	6	77

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	833	0	1348	824
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	524	-
Critical Hdwy	-	-	4.18	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.272	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	774	-	168	376
Stage 1	-	-	-	-	434	-
Stage 2	-	-	-	-	598	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	774	-	163	376
Mov Cap-2 Maneuver	-	-	-	-	299	-
Stage 1	-	-	-	-	434	-
Stage 2	-	-	-	-	579	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	17.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	369	-	-	774	-
HCM Lane V/C Ratio	0.226	-	-	0.031	-
HCM Control Delay (s)	17.6	-	-	9.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	235	75	380	435	60	245
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	5	5	4	4	2	2
Mvmt Flow	250	80	404	463	64	261

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	792	404	0	0	404	0
Stage 1	404	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.12	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.218	-
Pot Cap-1 Maneuver	354	640	-	-	1155	-
Stage 1	668	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	334	640	-	-	1155	-
Mov Cap-2 Maneuver	451	-	-	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	641	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.6	0	1.6
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	486	1155	-
HCM Lane V/C Ratio	-	-	0.679	0.055	-
HCM Control Delay (s)	-	-	26.6	8.3	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	5	0.2	-

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Vol, veh/h	0	305	90	0	90	200	0	95	130
Peak Hour Factor	0.92	0.91	0.91	0.92	0.91	0.91	0.92	0.91	0.91
Heavy Vehicles, %	2	1	1	2	1	1	2	0	0
Mvmt Flow	0	335	99	0	99	220	0	104	143
Number of Lanes	0	1	0	0	0	1	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	14.8	12.9	10.5
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	31%
Vol Thru, %	0%	0%	77%	69%
Vol Right, %	0%	100%	23%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	95	130	395	290
LT Vol	95	0	0	90
Through Vol	0	0	305	200
RT Vol	0	130	90	0
Lane Flow Rate	104	143	434	319
Geometry Grp	7	7	2	2
Degree of Util (X)	0.199	0.224	0.587	0.468
Departure Headway (Hd)	6.877	5.657	4.986	5.291
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	524	637	729	682
Service Time	4.591	3.371	2.986	3.307
HCM Lane V/C Ratio	0.198	0.224	0.595	0.468
HCM Control Delay	11.3	10	14.8	12.9
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	0.7	0.9	3.9	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	340	250	175	70	160	140	180	355	40	80	230	180
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1881	1881	1881	1881	1881	1881	1881	1881	1881
Adj Flow Rate, veh/h	358	263	52	74	168	15	189	374	16	84	242	52
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
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
Percent Heavy Veh, %	2	2	2	1	1	1	1	1	1	1	1	1
Cap, veh/h	484	508	432	315	243	206	574	816	694	463	740	629
Arrive On Green	0.19	0.27	0.27	0.05	0.13	0.13	0.08	0.43	0.43	0.04	0.39	0.39
Sat Flow, veh/h	1774	1863	1583	1792	1881	1599	1792	1881	1599	1792	1881	1599
Grp Volume(v), veh/h	358	263	52	74	168	15	189	374	16	84	242	52
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1792	1881	1599	1792	1881	1599	1792	1881	1599
Q Serve(g_s), s	13.2	9.6	2.0	2.8	6.8	0.7	4.8	11.2	0.5	2.2	7.2	1.6
Cycle Q Clear(g_c), s	13.2	9.6	2.0	2.8	6.8	0.7	4.8	11.2	0.5	2.2	7.2	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	484	508	432	315	243	206	574	816	694	463	740	629
V/C Ratio(X)	0.74	0.52	0.12	0.23	0.69	0.07	0.33	0.46	0.02	0.18	0.33	0.08
Avail Cap(c_a), veh/h	519	652	554	340	376	320	623	816	694	495	740	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	24.6	21.9	28.2	33.3	30.6	12.0	16.0	13.0	13.7	16.9	15.2
Incr Delay (d2), s/veh	5.2	0.8	0.1	0.4	3.5	0.1	0.3	1.9	0.1	0.2	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	5.0	0.9	1.4	3.8	0.3	2.4	6.2	0.2	1.1	3.9	0.8
LnGrp Delay(d),s/veh	27.3	25.4	22.0	28.6	36.9	30.8	12.3	17.9	13.0	13.9	18.1	15.5
LnGrp LOS	C	C	C	C	D	C	B	B	B	B	B	B
Approach Vol, veh/h		673			257			579			378	
Approach Delay, s/veh		26.2			34.1			15.9			16.8	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	38.7	7.9	25.8	10.8	35.5	19.4	14.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	26.0	5.0	28.0	9.0	22.0	17.0	16.0
Max Q Clear Time (g_c+I1), s	4.8	13.2	4.8	11.6	6.8	9.2	15.2	8.8
Green Ext Time (p_c), s	0.0	3.0	0.0	2.3	0.1	3.0	0.2	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	22.2
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	125	5	35	0	0	2	2	0	25	115	5	0	2	105	130
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	132	5	37	0	0	2	2	0	26	121	5	0	2	111	137
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	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	9.3	7.8	8.8	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	76%	0%	1%
Vol Thru, %	79%	3%	50%	44%
Vol Right, %	3%	21%	50%	55%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	145	165	4	237
LT Vol	25	125	0	2
Through Vol	115	5	2	105
RT Vol	5	35	2	130
Lane Flow Rate	153	174	4	249
Geometry Grp	1	1	1	1
Degree of Util (X)	0.196	0.232	0.006	0.29
Departure Headway (Hd)	4.616	4.805	4.713	4.19
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	777	745	756	856
Service Time	2.651	2.844	2.765	2.22
HCM Lane V/C Ratio	0.197	0.234	0.005	0.291
HCM Control Delay	8.8	9.3	7.8	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.9	0	1.2

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR
Vol, veh/h	0	5	250	145	0	10	160	1	0	5	0	5	0	135	0	15
Peak Hour Factor	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94	0.92	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	1	1	1	2	25	25	25	2	0	0	0
Mvmt Flow	0	5	266	154	0	11	170	1	0	5	0	5	0	144	0	16
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	NB	SB	SE	NW
Opposing Approach	SB	NB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	SB	NB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	NB	SB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.2	9.5	8.9	10.2
HCM LOS	B	A	A	B

Lane	NBLn1	NWLn1	SELn1	SBLn1
Vol Left, %	1%	90%	50%	6%
Vol Thru, %	62%	0%	0%	94%
Vol Right, %	36%	10%	50%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	400	150	10	171
LT Vol	5	135	5	10
Through Vol	250	0	0	160
RT Vol	145	15	5	1
Lane Flow Rate	426	160	11	182
Geometry Grp	1	1	1	1
Degree of Util (X)	0.52	0.238	0.017	0.245
Departure Headway (Hd)	4.402	5.379	5.847	4.856
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	817	662	616	735
Service Time	2.447	3.455	3.847	2.915
HCM Lane V/C Ratio	0.521	0.242	0.018	0.248
HCM Control Delay	12.2	10.2	8.9	9.5
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	3.1	0.9	0.1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	60	75	5	65	5	65	80	15	10	75	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1881	1900	1845	1845	1900	1900	1881	1900
Adj Flow Rate, veh/h	55	66	38	5	71	5	71	88	11	11	82	60
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	1	1	1	3	3	3	1	1	1
Cap, veh/h	145	117	56	72	248	17	1011	1152	144	100	600	409
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.72	0.72	0.60	0.60	0.60
Sat Flow, veh/h	422	795	382	44	1685	114	1757	1608	201	57	998	681
Grp Volume(v), veh/h	159	0	0	81	0	0	71	0	99	153	0	0
Grp Sat Flow(s),veh/h/ln	1599	0	0	1842	0	0	1757	0	1809	1736	0	0
Q Serve(g_s), s	3.1	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.4	0.0	0.0	2.3	0.0	0.0	0.8	0.0	1.0	2.2	0.0	0.0
Prop In Lane	0.35		0.24	0.06		0.06	1.00		0.11	0.07		0.39
Lane Grp Cap(c), veh/h	318	0	0	337	0	0	1011	0	1296	1110	0	0
V/C Ratio(X)	0.50	0.00	0.00	0.24	0.00	0.00	0.07	0.00	0.08	0.14	0.00	0.00
Avail Cap(c_a), veh/h	880	0	0	996	0	0	1169	0	1296	1110	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.5	0.0	0.0	22.3	0.0	0.0	3.1	0.0	2.5	5.1	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	1.2	0.0	0.0	0.4	0.0	0.5	1.1	0.0	0.0
LnGrp Delay(d),s/veh	24.7	0.0	0.0	22.7	0.0	0.0	3.1	0.0	2.6	5.4	0.0	0.0
LnGrp LOS	C			C			A		A	A		
Approach Vol, veh/h		159			81			170			153	
Approach Delay, s/veh		24.7			22.7			2.8			5.4	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		46.0		12.6	6.7	39.3		12.6
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		42.0		30.0	8.0	30.0		30.0
Max Q Clear Time (g_c+I1), s		3.0		7.4	2.8	4.2		4.3
Green Ext Time (p_c), s		1.7		1.4	0.1	1.6		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	5

Movement	SBR	SEL	SER	NEL
Vol, veh/h	205	45	140	255
Conflicting Peds, #/hr	0	0	0	0
Sign Control	Free	Stop	Stop	Free
RT Channelized	-	-	None	None
Storage Length	0	0	-	0
Veh in Median Storage, #	0	0	-	0
Grade, %	0	0	-	0
Peak Hour Factor	82	82	82	82
Heavy Vehicles, %	8	7	7	4
Mvmt Flow	250	55	171	311

Major/Minor	Major2	Minor2		Major1
Conflicting Flow All	0	847	268	287
Stage 1	-	268	-	-
Stage 2	-	579	-	-
Critical Hdwy	-	6.47	6.27	4.14
Critical Hdwy Stg 1	-	5.47	-	-
Critical Hdwy Stg 2	-	5.47	-	-
Follow-up Hdwy	-	3.563	3.363	2.236
Pot Cap-1 Maneuver	-	326	759	1264
Stage 1	-	766	-	-
Stage 2	-	551	-	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	284	759	1264
Mov Cap-2 Maneuver	-	284	-	-
Stage 1	-	766	-	-
Stage 2	-	480	-	-

Approach	SB	SE	NE
HCM Control Delay, s	0	16.4	2.5
HCM LOS		C	

Minor Lane/Major Mvmt	NEL2	NEL	SELn1	SBR	SBR2
Capacity (veh/h)	1264	-	540	-	-
HCM Lane V/C Ratio	0.106	-	0.418	-	-
HCM Control Delay (s)	8.2	0	16.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	2	-	-

HCM 2010 Signalized Intersection Summary
9: 204th St/204th Ave & SR-9

Existing 2011
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	175	245	155	160	220	150	80	295	115	70	255	155
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1881	1881	1900	1792	1792	1792
Adj Flow Rate, veh/h	188	263	22	172	237	21	86	317	108	75	274	65
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	6	6	6
Cap, veh/h	245	321	273	217	292	248	609	504	172	490	672	571
Arrive On Green	0.04	0.06	0.06	0.12	0.15	0.15	0.14	0.38	0.38	0.14	0.38	0.38
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1792	1343	458	1707	1792	1524
Grp Volume(v), veh/h	188	263	22	172	237	21	86	0	425	75	274	65
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1792	0	1800	1707	1792	1524
Q Serve(g_s), s	8.2	11.0	1.0	7.4	9.7	0.9	0.0	0.0	15.4	0.0	9.0	2.2
Cycle Q Clear(g_c), s	8.2	11.0	1.0	7.4	9.7	0.9	0.0	0.0	15.4	0.0	9.0	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	245	321	273	217	292	248	609	0	675	490	672	571
V/C Ratio(X)	0.77	0.82	0.08	0.79	0.81	0.08	0.14	0.00	0.63	0.15	0.41	0.11
Avail Cap(c_a), veh/h	294	404	343	294	404	343	609	0	675	490	672	571
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	36.6	31.9	34.2	32.7	29.0	15.8	0.0	20.5	20.2	18.4	16.3
Incr Delay (d2), s/veh	9.3	9.8	0.1	10.0	8.5	0.1	0.1	0.0	4.4	0.1	1.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	6.6	0.5	4.3	5.8	0.4	1.3	0.0	8.5	1.2	4.8	1.0
LnGrp Delay(d),s/veh	46.2	46.3	32.0	44.3	41.3	29.2	15.9	0.0	24.9	20.4	20.3	16.7
LnGrp LOS	D	D	C	D	D	C	B		C	C	C	B
Approach Vol, veh/h		473			430			511			414	
Approach Delay, s/veh		45.6			41.9			23.4			19.7	
Approach LOS		D			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	34.0	13.6	17.5	14.9	34.0	14.8	16.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	30.0	13.0	17.0	4.0	30.0	13.0	17.0
Max Q Clear Time (g_c+I1), s	2.0	17.4	9.4	13.0	2.0	11.0	10.2	11.7
Green Ext Time (p_c), s	0.1	1.8	0.4	0.6	0.1	1.6	0.3	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
10: 67th Ave & 204th St

Existing 2011
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	65	90	25	190	130	105	30	275	185	115	180	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1845	1845	1900	1863	1863	1863	1743	1743	1900
Adj Flow Rate, veh/h	76	105	12	221	151	75	35	320	70	134	209	64
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	3	3	3	2	2	2	9	9	9
Cap, veh/h	248	169	19	375	216	107	628	936	796	559	686	210
Arrive On Green	0.05	0.11	0.11	0.09	0.12	0.12	0.03	0.50	0.50	0.06	0.54	0.54
Sat Flow, veh/h	1723	1595	182	1757	1164	578	1774	1863	1583	1660	1281	392
Grp Volume(v), veh/h	76	0	117	221	0	226	35	320	70	134	0	273
Grp Sat Flow(s),veh/h/ln	1723	0	1777	1757	0	1743	1774	1863	1583	1660	0	1674
Q Serve(g_s), s	3.1	0.0	5.0	8.5	0.0	10.0	0.8	8.3	1.8	3.0	0.0	7.2
Cycle Q Clear(g_c), s	3.1	0.0	5.0	8.5	0.0	10.0	0.8	8.3	1.8	3.0	0.0	7.2
Prop In Lane	1.00		0.10	1.00		0.33	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	248	0	188	375	0	323	628	936	796	559	0	896
V/C Ratio(X)	0.31	0.00	0.62	0.59	0.00	0.70	0.06	0.34	0.09	0.24	0.00	0.30
Avail Cap(c_a), veh/h	266	0	378	407	0	523	669	936	796	585	0	896
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.90	0.00	0.90	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.8	0.0	34.2	26.5	0.0	32.9	9.2	11.9	10.4	8.6	0.0	10.3
Incr Delay (d2), s/veh	0.7	0.0	3.3	1.7	0.0	2.5	0.0	1.0	0.2	0.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	2.6	4.3	0.0	5.0	0.4	4.4	0.8	1.4	0.0	3.6
LnGrp Delay(d),s/veh	30.5	0.0	37.6	28.3	0.0	35.4	9.2	12.9	10.6	8.8	0.0	11.2
LnGrp LOS	C		D	C		D	A	B	B	A		B
Approach Vol, veh/h		193			447			425			407	
Approach Delay, s/veh		34.8			31.9			12.2			10.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	44.2	14.5	12.5	6.2	46.8	8.2	18.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	29.0	12.0	17.0	4.0	31.0	5.0	24.0
Max Q Clear Time (g_c+I1), s	5.0	10.3	10.5	7.0	2.8	9.2	5.1	12.0
Green Ext Time (p_c), s	0.0	3.6	0.1	1.4	0.0	3.8	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	16.6

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Vol, veh/h	660	225	5	485	170	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	5	5	3	3	3	3
Mvmt Flow	725	247	5	533	187	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	725	0	1269	725
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	544	-
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	-	0	873	-	~ 185	423
Stage 1	-	0	-	-	478	-
Stage 2	-	0	-	-	580	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	873	-	~ 184	423
Mov Cap-2 Maneuver	-	-	-	-	~ 184	-
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	575	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.1	125.2
HCM LOS			F

Minor Lane/Major Mvmt	NWLn1	EBT	WBL	WBT
Capacity (veh/h)	187	-	873	-
HCM Lane V/C Ratio	1.028	-	0.006	-
HCM Control Delay (s)	125.2	-	9.2	0
HCM Lane LOS	F	-	A	A
HCM 95th %tile Q(veh)	8.8	-	0	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	390	0	0	425	440	135	5	635	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1792	1792	0	0	1863	1863	1900	1810	1810			
Adj Flow Rate, veh/h	34	438	0	0	478	118	152	6	567			
Adj No. of Lanes	1	1	0	0	1	1	0	1	1			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	6	6	0	0	2	2	5	5	5			
Cap, veh/h	173	661	0	0	545	463	882	35	817			
Arrive On Green	0.01	0.12	0.00	0.00	0.29	0.29	0.53	0.53	0.53			
Sat Flow, veh/h	1707	1792	0	0	1863	1583	1661	66	1538			
Grp Volume(v), veh/h	34	438	0	0	478	118	158	0	567			
Grp Sat Flow(s),veh/h/ln	1707	1792	0	0	1863	1583	1726	0	1538			
Q Serve(g_s), s	1.1	18.7	0.0	0.0	19.5	4.6	3.8	0.0	21.9			
Cycle Q Clear(g_c), s	1.1	18.7	0.0	0.0	19.5	4.6	3.8	0.0	21.9			
Prop In Lane	1.00		0.00	0.00		1.00	0.96		1.00			
Lane Grp Cap(c), veh/h	173	661	0	0	545	463	917	0	817			
V/C Ratio(X)	0.20	0.66	0.00	0.00	0.88	0.25	0.17	0.00	0.69			
Avail Cap(c_a), veh/h	213	739	0	0	582	495	917	0	817			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.85	0.85	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.0	30.4	0.0	0.0	26.9	21.6	9.7	0.0	13.9			
Incr Delay (d2), s/veh	0.5	1.6	0.0	0.0	13.7	0.3	0.4	0.0	4.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.5	9.6	0.0	0.0	12.0	2.0	1.9	0.0	10.2			
LnGrp Delay(d),s/veh	21.4	32.0	0.0	0.0	40.6	21.9	10.1	0.0	18.8			
LnGrp LOS	C	C			D	C	B		B			
Approach Vol, veh/h		472			596			725				
Approach Delay, s/veh		31.2			36.9			16.9				
Approach LOS		C			D			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		46.5		33.5			6.1	27.4
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0
Max Green Setting (Gmax), s		39.0		33.0			4.0	25.0
Max Q Clear Time (g_c+I1), s		23.9		20.7			3.1	21.5
Green Ext Time (p_c), s		2.9		4.6			0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	27.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	105	85	325	245	0	0	0	0	355	1	50
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1681	1681	1827	1827	0				1900	1792	1900
Adj Flow Rate, veh/h	0	113	5	349	263	0				382	1	49
Adj No. of Lanes	0	1	1	1	1	0				0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	13	13	4	4	0				0	6	0
Cap, veh/h	0	179	152	485	646	0				814	2	104
Arrive On Green	0.00	0.11	0.11	0.20	0.35	0.00				0.55	0.55	0.55
Sat Flow, veh/h	0	1681	1429	1740	1827	0				1489	4	191
Grp Volume(v), veh/h	0	113	5	349	263	0				432	0	0
Grp Sat Flow(s),veh/h/ln	0	1681	1429	1740	1827	0				1684	0	0
Q Serve(g_s), s	0.0	5.2	0.3	13.5	8.7	0.0				12.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.2	0.3	13.5	8.7	0.0				12.5	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.88		0.11
Lane Grp Cap(c), veh/h	0	179	152	485	646	0				920	0	0
V/C Ratio(X)	0.00	0.63	0.03	0.72	0.41	0.00				0.47	0.00	0.00
Avail Cap(c_a), veh/h	0	336	286	534	868	0				920	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.38	0.38	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	34.2	32.1	23.0	19.5	0.0				11.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.6	0.1	1.6	0.2	0.0				1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.6	0.1	6.6	4.4	0.0				6.2	0.0	0.0
LnGrp Delay(d),s/veh	0.0	37.9	32.1	24.6	19.7	0.0				12.8	0.0	0.0
LnGrp LOS		D	C	C	B					B		
Approach Vol, veh/h		118			612						432	
Approach Delay, s/veh		37.6			22.5						12.8	
Approach LOS		D			C						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			19.8	12.5		47.7		32.3
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s			18.0	16.0		34.0		38.0
Max Q Clear Time (g_c+I1), s			15.5	7.2		14.5		10.7
Green Ext Time (p_c), s			0.3	1.4		2.7		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	20.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	30	25	80	20	105	35	325	110	105	450	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1827	1827	1827	1845	1845	1845
Adj Flow Rate, veh/h	58	32	5	84	21	6	37	342	63	111	474	58
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
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
Percent Heavy Veh, %	0	0	0	0	0	0	4	4	4	3	3	3
Cap, veh/h	228	75	12	233	92	26	614	1123	955	141	1375	1169
Arrive On Green	0.04	0.05	0.05	0.06	0.06	0.06	0.61	0.61	0.61	0.08	0.75	0.75
Sat Flow, veh/h	1810	1605	251	1810	1422	406	852	1827	1553	1757	1845	1568
Grp Volume(v), veh/h	58	0	37	84	0	27	37	342	63	111	474	58
Grp Sat Flow(s),veh/h/ln	1810	0	1856	1810	0	1828	852	1827	1553	1757	1845	1568
Q Serve(g_s), s	2.4	0.0	1.6	3.5	0.0	1.1	1.4	7.1	1.3	5.0	7.0	0.8
Cycle Q Clear(g_c), s	2.4	0.0	1.6	3.5	0.0	1.1	1.4	7.1	1.3	5.0	7.0	0.8
Prop In Lane	1.00		0.14	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	0	87	233	0	118	614	1123	955	141	1375	1169
V/C Ratio(X)	0.25	0.00	0.43	0.36	0.00	0.23	0.06	0.30	0.07	0.78	0.34	0.05
Avail Cap(c_a), veh/h	246	0	371	241	0	389	614	1123	955	242	1375	1169
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	0.0	37.1	33.6	0.0	35.5	6.2	7.3	6.2	36.1	3.5	2.7
Incr Delay (d2), s/veh	0.6	0.0	3.3	0.9	0.0	1.0	0.2	0.7	0.1	9.2	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.9	1.8	0.0	0.6	0.4	3.7	0.6	2.8	3.8	0.4
LnGrp Delay(d),s/veh	35.1	0.0	40.4	34.6	0.0	36.5	6.4	8.0	6.3	45.3	4.2	2.8
LnGrp LOS	D		D	C		D	A	A	A	D	A	A
Approach Vol, veh/h		95			111			442			643	
Approach Delay, s/veh		37.1			35.0			7.6			11.1	
Approach LOS		D			D			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	10.4	53.2	8.6	7.7		63.6	7.2	9.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	11.0	32.0	5.0	16.0		47.0	4.0	17.0
Max Q Clear Time (g_c+I1), s	7.0	9.1	5.5	3.6		9.0	4.4	3.1
Green Ext Time (p_c), s	0.1	5.0	0.0	0.2		5.5	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	90	1	75	15	0	10	25	390	15	5	340	75
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	100	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	0	0	0	9	9	9	2	2	2
Mvmt Flow	99	1	82	16	0	11	27	429	16	5	374	82

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	882	885	374	918	877	437	374	0	0	445	0	0
Stage 1	385	385	-	492	492	-	-	-	-	-	-	-
Stage 2	497	500	-	426	385	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.19	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.281	-	-	2.218	-	-
Pot Cap-1 Maneuver	267	284	672	254	289	624	1147	-	-	1115	-	-
Stage 1	638	611	-	562	551	-	-	-	-	-	-	-
Stage 2	555	543	-	610	614	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	257	276	672	217	281	624	1147	-	-	1115	-	-
Mov Cap-2 Maneuver	257	276	-	217	281	-	-	-	-	-	-	-
Stage 1	623	608	-	549	538	-	-	-	-	-	-	-
Stage 2	532	530	-	532	611	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20	18.1	0.5	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1147	-	-	257	660	217	624	1115	-	-
HCM Lane V/C Ratio	0.024	-	-	0.385	0.127	0.076	0.018	0.005	-	-
HCM Control Delay (s)	8.2	-	-	27.5	11.2	22.9	10.9	8.2	-	-
HCM Lane LOS	A	-	-	D	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	0.4	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	5	25	190	5	10	25	180	185	10	190	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	9	9	9	4	4	4	2	2	2	0	0	0
Mvmt Flow	5	5	27	209	5	11	27	198	203	11	209	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	599	692	214	607	596	299	220	0	0	401	0	0
Stage 1	236	236	-	354	354	-	-	-	-	-	-	-
Stage 2	363	456	-	253	242	-	-	-	-	-	-	-
Critical Hdwy	7.19	6.59	6.29	7.14	6.54	6.24	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.19	5.59	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.19	5.59	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.581	4.081	3.381	3.536	4.036	3.336	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	403	359	809	406	414	736	1349	-	-	1169	-	-
Stage 1	752	697	-	659	627	-	-	-	-	-	-	-
Stage 2	642	556	-	747	702	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	382	345	809	376	398	736	1349	-	-	1169	-	-
Mov Cap-2 Maneuver	382	345	-	376	398	-	-	-	-	-	-	-
Stage 1	732	689	-	641	610	-	-	-	-	-	-	-
Stage 2	610	541	-	708	694	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	26.6	0.5	0.4
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1349	-	-	598	386	1169	-	-
HCM Lane V/C Ratio	0.02	-	-	0.064	0.584	0.009	-	-
HCM Control Delay (s)	7.7	0	-	11.4	26.6	8.1	0	-
HCM Lane LOS	A	A	-	B	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	3.6	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	120	85	210	5	30	15	145	245	2	20	325	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1759	1759	1900	1727	1727	1900	1792	1792	1900
Adj Flow Rate, veh/h	128	90	90	5	32	5	154	261	2	21	346	101
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	8	8	8	10	10	10	6	6	6
Cap, veh/h	267	127	127	145	223	35	448	899	7	790	833	243
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.08	0.52	0.52	0.18	0.62	0.62
Sat Flow, veh/h	1352	848	848	1133	1486	232	1645	1712	13	1707	1334	389
Grp Volume(v), veh/h	128	0	180	5	0	37	154	0	263	21	0	447
Grp Sat Flow(s),veh/h/ln	1352	0	1695	1133	0	1718	1645	0	1725	1707	0	1724
Q Serve(g_s), s	7.3	0.0	8.1	0.3	0.0	1.5	4.1	0.0	6.8	0.0	0.0	10.5
Cycle Q Clear(g_c), s	8.8	0.0	8.1	8.4	0.0	1.5	4.1	0.0	6.8	0.0	0.0	10.5
Prop In Lane	1.00		0.50	1.00		0.14	1.00		0.01	1.00		0.23
Lane Grp Cap(c), veh/h	267	0	254	145	0	257	448	0	906	790	0	1077
V/C Ratio(X)	0.48	0.00	0.71	0.03	0.00	0.14	0.34	0.00	0.29	0.03	0.00	0.42
Avail Cap(c_a), veh/h	437	0	466	287	0	473	529	0	906	790	0	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	0.0	32.4	36.4	0.0	29.6	12.2	0.0	10.6	8.3	0.0	7.6
Incr Delay (d2), s/veh	1.3	0.0	3.6	0.1	0.0	0.3	0.5	0.0	0.8	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	4.1	0.1	0.0	0.7	1.9	0.0	3.4	0.2	0.0	5.3
LnGrp Delay(d),s/veh	34.7	0.0	36.0	36.4	0.0	29.8	12.7	0.0	11.5	8.3	0.0	8.8
LnGrp LOS	C		D	D		C	B		B	A		A
Approach Vol, veh/h		308			42			417			468	
Approach Delay, s/veh		35.4			30.6			11.9			8.8	
Approach LOS		D			C			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.0	46.0		16.0	10.0	54.0		16.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	4.0	42.0		22.0	10.0	36.0		22.0
Max Q Clear Time (g_c+I1), s	2.0	8.8		10.8	6.1	12.5		10.4
Green Ext Time (p_c), s	0.0	1.3		1.2	0.1	3.0		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	130	435	255	15	15	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	350	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	0	0
Mvmt Flow	141	473	277	16	16	71

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	293	0	-	0	1040	285
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	755	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1269	-	-	-	257	759
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	468	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1269	-	-	-	228	759
Mov Cap-2 Maneuver	-	-	-	-	228	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	416	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1269	-	-	-	528
HCM Lane V/C Ratio	0.111	-	-	-	0.165
HCM Control Delay (s)	8.2	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	260	455	95	40	305	45	75	160	65	80	195	230
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1759	1759	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	277	484	37	43	324	43	80	170	48	85	207	192
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	8	8	8	6	6	6	4	4	4
Cap, veh/h	377	654	556	302	374	50	347	454	128	499	295	273
Arrive On Green	0.28	0.71	0.71	0.03	0.25	0.25	0.08	0.34	0.34	0.08	0.34	0.34
Sat Flow, veh/h	1757	1845	1568	1675	1522	202	1707	1346	380	1740	874	810
Grp Volume(v), veh/h	277	484	37	43	0	367	80	0	218	85	0	399
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1675	0	1724	1707	0	1725	1740	0	1684
Q Serve(g_s), s	9.1	12.9	0.4	1.5	0.0	16.3	0.0	0.0	7.7	0.0	0.0	16.5
Cycle Q Clear(g_c), s	9.1	12.9	0.4	1.5	0.0	16.3	0.0	0.0	7.7	0.0	0.0	16.5
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.22	1.00		0.48
Lane Grp Cap(c), veh/h	377	654	556	302	0	423	347	0	582	499	0	568
V/C Ratio(X)	0.74	0.74	0.07	0.14	0.00	0.87	0.23	0.00	0.37	0.17	0.00	0.70
Avail Cap(c_a), veh/h	395	669	568	334	0	452	347	0	582	499	0	568
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	0.44	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.1	9.4	4.0	21.6	0.0	28.9	27.3	0.0	20.1	20.0	0.0	23.0
Incr Delay (d2), s/veh	3.0	1.9	0.0	0.2	0.0	15.5	0.3	0.0	1.8	0.2	0.0	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	6.5	0.2	0.7	0.0	9.6	1.6	0.0	3.9	1.4	0.0	8.8
LnGrp Delay(d),s/veh	19.1	11.3	4.0	21.8	0.0	44.4	27.7	0.0	21.9	20.2	0.0	30.1
LnGrp LOS	B	B	A	C		D	C		C	C		C
Approach Vol, veh/h		798			410			298			484	
Approach Delay, s/veh		13.7			42.0			23.5			28.4	
Approach LOS		B			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	31.0	6.5	32.3	10.2	31.0	15.2	23.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	27.0	4.0	29.0	4.0	27.0	12.0	21.0
Max Q Clear Time (g_c+I1), s	2.0	9.7	3.5	14.9	2.0	18.5	11.1	18.3
Green Ext Time (p_c), s	0.1	1.1	0.0	4.4	0.1	1.6	0.1	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	24.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	100	760	15	5	570	35	25	1	5	35	5	285
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1827	1827	1900	1776	1776	1900	1776	1776	1900
Adj Flow Rate, veh/h	105	800	16	5	600	32	26	1	5	37	5	84
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
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
Percent Heavy Veh, %	5	5	5	4	4	4	7	7	7	7	7	7
Cap, veh/h	131	783	16	54	684	36	458	77	385	531	32	541
Arrive On Green	0.15	0.89	0.89	0.02	0.27	0.27	0.30	0.30	0.30	0.03	0.38	0.38
Sat Flow, veh/h	1723	1768	35	1740	1719	92	1242	258	1290	1691	86	1437
Grp Volume(v), veh/h	105	0	816	5	0	632	26	0	6	37	0	89
Grp Sat Flow(s),veh/h/ln	1723	0	1803	1740	0	1811	1242	0	1548	1691	0	1522
Q Serve(g_s), s	4.7	0.0	35.4	0.2	0.0	26.7	1.2	0.0	0.2	1.2	0.0	3.1
Cycle Q Clear(g_c), s	4.7	0.0	35.4	0.2	0.0	26.7	1.3	0.0	0.2	1.2	0.0	3.1
Prop In Lane	1.00		0.02	1.00		0.05	1.00		0.83	1.00		0.94
Lane Grp Cap(c), veh/h	131	0	799	54	0	720	458	0	462	531	0	573
V/C Ratio(X)	0.80	0.00	1.02	0.09	0.00	0.88	0.06	0.00	0.01	0.07	0.00	0.16
Avail Cap(c_a), veh/h	151	0	902	87	0	837	458	0	462	568	0	573
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.45	0.00	0.45	0.55	0.00	0.55	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	0.0	4.6	38.1	0.0	27.5	20.2	0.0	19.8	17.2	0.0	16.5
Incr Delay (d2), s/veh	11.8	0.0	25.5	0.4	0.0	5.5	0.2	0.0	0.1	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	19.8	0.1	0.0	14.4	0.4	0.0	0.1	0.5	0.0	1.4
LnGrp Delay(d),s/veh	45.2	0.0	30.1	38.5	0.0	33.0	20.5	0.0	19.8	17.3	0.0	17.1
LnGrp LOS	D		F	D		C	C		B	B		B
Approach Vol, veh/h		921			637			32			126	
Approach Delay, s/veh		31.8			33.0			20.3			17.2	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	6.2	27.2	5.4	41.1		33.5	10.1	36.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	16.0	4.0	40.0		24.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	3.2	3.3	2.2	37.4		5.1	6.7	28.7
Green Ext Time (p_c), s	0.0	0.4	0.7	1.3		0.5	0.0	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	31.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	805	140	15	850	90	155	5	85	30	20	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1759	1759	1759	1810	1810	1900
Adj Flow Rate, veh/h	16	847	136	16	895	90	163	5	15	32	21	5
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	0
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
Percent Heavy Veh, %	3	3	3	3	3	3	8	8	8	5	5	5
Cap, veh/h	117	889	143	136	945	95	417	461	392	440	370	88
Arrive On Green	0.01	0.57	0.57	0.01	0.57	0.57	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1757	1552	249	1757	1650	166	1302	1759	1495	1347	1414	337
Grp Volume(v), veh/h	16	0	983	16	0	985	163	5	15	32	0	26
Grp Sat Flow(s),veh/h/ln	1757	0	1801	1757	0	1815	1302	1759	1495	1347	0	1750
Q Serve(g_s), s	0.3	0.0	41.1	0.0	0.0	40.5	8.6	0.2	0.6	1.4	0.0	0.9
Cycle Q Clear(g_c), s	0.3	0.0	41.1	0.0	0.0	40.5	9.5	0.2	0.6	1.6	0.0	0.9
Prop In Lane	1.00		0.14	1.00		0.09	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	117	0	1032	136	0	1040	417	461	392	440	0	458
V/C Ratio(X)	0.14	0.00	0.95	0.12	0.00	0.95	0.39	0.01	0.04	0.07	0.00	0.06
Avail Cap(c_a), veh/h	179	0	1080	198	0	1089	417	461	392	440	0	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.00	0.47	0.52	0.00	0.52	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	16.1	37.2	0.0	15.9	25.7	21.9	22.0	22.4	0.0	22.1
Incr Delay (d2), s/veh	0.2	0.0	9.8	0.2	0.0	9.7	2.7	0.0	0.2	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	23.0	0.4	0.0	22.8	3.4	0.1	0.3	0.6	0.0	0.5
LnGrp Delay(d),s/veh	19.9	0.0	25.8	37.4	0.0	25.6	28.4	21.9	22.2	22.8	0.0	22.4
LnGrp LOS	B		C	D		C	C	C	C	C		C
Approach Vol, veh/h		999			1001			183			58	
Approach Delay, s/veh		25.7			25.8			27.7			22.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		25.0	5.2	49.8		25.0	5.2	49.8
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	48.0		16.0	4.0	48.0
Max Q Clear Time (g_c+I1), s		11.5	2.0	43.1		3.6	2.3	42.5
Green Ext Time (p_c), s		0.3	1.3	2.8		0.6	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	895	10	10	880	15	25	1	10	10	0	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1900	1484	1484	1900	1900	1759	1900
Adj Flow Rate, veh/h	42	942	6	11	926	11	26	1	6	11	0	5
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	0	1	0
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
Percent Heavy Veh, %	5	5	5	5	5	5	28	28	28	8	8	8
Cap, veh/h	207	1014	862	109	912	11	403	51	308	328	13	121
Arrive On Green	0.06	0.56	0.56	0.02	1.00	1.00	0.28	0.28	0.28	0.28	0.00	0.28
Sat Flow, veh/h	1723	1810	1538	1723	1785	21	1120	184	1105	906	47	433
Grp Volume(v), veh/h	42	942	6	11	0	937	26	0	7	16	0	0
Grp Sat Flow(s),veh/h/ln	1723	1810	1538	1723	0	1806	1120	0	1289	1386	0	0
Q Serve(g_s), s	0.0	38.2	0.1	0.3	0.0	40.0	1.0	0.0	0.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	38.2	0.1	0.3	0.0	40.0	1.3	0.0	0.3	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.01	1.00		0.86	0.69		0.31
Lane Grp Cap(c), veh/h	207	1014	862	109	0	923	403	0	359	462	0	0
V/C Ratio(X)	0.20	0.93	0.01	0.10	0.00	1.02	0.06	0.00	0.02	0.03	0.00	0.00
Avail Cap(c_a), veh/h	207	1086	923	176	0	1083	403	0	359	462	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.43	0.00	0.43	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.0	16.1	7.8	19.5	0.0	0.0	21.3	0.0	20.9	21.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	13.0	0.0	0.2	0.0	21.3	0.3	0.0	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	22.5	0.1	0.1	0.0	5.4	0.5	0.0	0.1	0.3	0.0	0.0
LnGrp Delay(d),s/veh	35.5	29.1	7.8	19.6	0.0	21.3	21.6	0.0	21.0	21.0	0.0	0.0
LnGrp LOS	D	C	A	B		F	C		C	C		
Approach Vol, veh/h		990			948			33			16	
Approach Delay, s/veh		29.3			21.2			21.5			21.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		25.4	4.9	49.7		25.4	7.6	47.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		16.0	4.0	48.0		16.0	4.0	48.0
Max Q Clear Time (g_c+I1), s		3.3	2.3	40.2		2.6	2.0	42.0
Green Ext Time (p_c), s		0.1	0.0	3.8		0.1	1.2	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	25.2
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
23: Smokey Point Blvd & 172nd St

Existing 2011
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	330	805	340	155	755	125	555	355	180	215	210	240
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	347	847	84	163	795	21	584	374	36	226	221	42
Adj No. of Lanes	1	2	1	1	3	1	2	2	1	1	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	377	1009	451	200	941	293	602	889	398	268	805	360
Arrive On Green	0.07	0.09	0.09	0.11	0.19	0.19	0.17	0.25	0.25	0.05	0.08	0.08
Sat Flow, veh/h	1774	3539	1583	1774	5085	1583	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	347	847	84	163	795	21	584	374	36	226	221	42
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1695	1583	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	15.6	18.8	3.9	7.2	12.1	0.9	13.5	7.1	1.4	10.1	4.7	2.0
Cycle Q Clear(g_c), s	15.6	18.8	3.9	7.2	12.1	0.9	13.5	7.1	1.4	10.1	4.7	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	377	1009	451	200	941	293	602	889	398	268	805	360
V/C Ratio(X)	0.92	0.84	0.19	0.82	0.84	0.07	0.97	0.42	0.09	0.84	0.27	0.12
Avail Cap(c_a), veh/h	377	1009	451	244	1017	317	602	889	398	288	805	360
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	36.5	34.4	27.7	34.7	31.5	26.9	32.8	25.1	22.9	37.1	30.8	29.5
Incr Delay (d2), s/veh	25.6	5.9	0.2	16.1	6.3	0.1	29.1	1.5	0.4	18.6	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	10.0	1.7	4.4	6.2	0.4	8.8	3.6	0.7	6.4	2.4	0.9
LnGrp Delay(d),s/veh	62.1	40.3	27.9	50.8	37.8	27.0	61.9	26.5	23.4	55.7	31.6	30.2
LnGrp LOS	E	D	C	D	D	C	E	C	C	E	C	C
Approach Vol, veh/h		1278			979			994			489	
Approach Delay, s/veh		45.4			39.7			47.2			42.6	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	24.1	13.0	26.8	18.0	22.2	21.0	18.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	13.0	18.0	11.0	22.0	14.0	17.0	17.0	16.0
Max Q Clear Time (g_c+I1), s	12.1	9.1	9.2	20.8	15.5	6.7	17.6	14.1
Green Ext Time (p_c), s	0.1	2.6	0.1	1.0	0.0	2.8	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	44.0
HCM 2010 LOS	D

HCM 2010 Signalized Intersection Summary
24: Smokey Point Blvd & Smokey Point Dr

Existing 2011
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	1	95	0	0	10	90	655	15	0	500	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1810	1900	1900	1900	1900	1863	1863	1900	1845	1845	1900
Adj Flow Rate, veh/h	58	1	5	0	0	6	95	689	11	0	526	27
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
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
Percent Heavy Veh, %	5	5	5	0	0	0	2	2	2	3	3	3
Cap, veh/h	88	4	1	50	0	538	795	3047	49	90	2899	149
Arrive On Green	0.05	0.05	0.05	0.00	0.00	0.05	1.00	1.00	1.00	0.00	0.85	0.85
Sat Flow, veh/h	43	94	12	0	0	1615	852	3565	57	736	3393	174
Grp Volume(v), veh/h	64	0	0	0	0	6	95	342	358	0	271	282
Grp Sat Flow(s),veh/h/ln	148	0	0	0	0	1615	852	1770	1853	736	1752	1814
Q Serve(g_s), s	2.3	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.0	2.1	2.1
Cycle Q Clear(g_c), s	2.3	0.0	0.0	0.0	0.0	0.2	2.5	0.0	0.0	0.0	2.1	2.1
Prop In Lane	0.91		0.08	0.00		1.00	1.00		0.03	1.00		0.10
Lane Grp Cap(c), veh/h	0	0	0	0	0	0	795	1512	1583	90	1497	1550
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.23	0.23	0.00	0.18	0.18
Avail Cap(c_a), veh/h	0	0	0	0	0	0	795	1512	1583	90	1497	1550
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	1.00	0.75	0.75	0.75	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	1.1	1.1
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	1.3	1.3
LnGrp LOS							A	A	A		A	A
Approach Vol, veh/h		64			6			795			553	
Approach Delay, s/veh		0.0			0.0			0.3			1.3	
Approach LOS		A			A			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		72.4		7.6		72.4		7.6
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		40.0		24.0		40.0		24.0
Max Q Clear Time (g_c+I1), s		4.5		4.3		4.1		2.2
Green Ext Time (p_c), s		9.6		0.3		9.6		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	0.6
HCM 2010 LOS	A

HCM 2010 Signalized Intersection Summary
25: I-5 NB Ramps & 172nd St

Existing 2011
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	220	795	0	0	1230	420	575	0	775	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1881	1881	1881	0	1881			
Adj Flow Rate, veh/h	232	837	0	0	1295	0	605	0	0			
Adj No. of Lanes	1	2	0	0	3	1	2	0	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	1	1	0	0	1	1	1	0	1			
Cap, veh/h	513	2475	0	0	1830	570	721	0	332			
Arrive On Green	0.57	1.00	0.00	0.00	0.12	0.00	0.21	0.00	0.00			
Sat Flow, veh/h	1792	3668	0	0	5305	1599	3476	0	1599			
Grp Volume(v), veh/h	232	837	0	0	1295	0	605	0	0			
Grp Sat Flow(s),veh/h/ln	1792	1787	0	0	1712	1599	1738	0	1599			
Q Serve(g_s), s	6.0	0.0	0.0	0.0	19.4	0.0	13.4	0.0	0.0			
Cycle Q Clear(g_c), s	6.0	0.0	0.0	0.0	19.4	0.0	13.4	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	513	2475	0	0	1830	570	721	0	332			
V/C Ratio(X)	0.45	0.34	0.00	0.00	0.71	0.00	0.84	0.00	0.00			
Avail Cap(c_a), veh/h	513	2475	0	0	1830	570	912	0	420			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00	0.00	0.50	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	13.5	0.0	0.0	0.0	31.3	0.0	30.4	0.0	0.0			
Incr Delay (d2), s/veh	0.5	0.3	0.0	0.0	1.2	0.0	5.7	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.9	0.1	0.0	0.0	9.4	0.0	7.0	0.0	0.0			
LnGrp Delay(d),s/veh	14.0	0.3	0.0	0.0	32.5	0.0	36.1	0.0	0.0			
LnGrp LOS	B	A			C		D					
Approach Vol, veh/h		1069			1295			605				
Approach Delay, s/veh		3.3			32.5			36.1				
Approach LOS		A			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		59.4			26.9	32.5		20.6
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0
Max Green Setting (Gmax), s		51.0			18.5	28.5		21.0
Max Q Clear Time (g_c+I1), s		2.0			8.0	21.4		15.4
Green Ext Time (p_c), s		7.8			4.6	4.5		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	22.7
HCM 2010 LOS	C

HCM 2010 Signalized Intersection Summary
26: I-5 SB Ramps & 172nd St

Existing 2011
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	775	450	0	1245	560	0	0	0	240	1	215
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	0	1845	1845				1900	1810	1810
Adj Flow Rate, veh/h	0	816	0	0	1311	389				253	1	179
Adj No. of Lanes	0	2	0	0	2	1				0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	3	3				5	5	5
Cap, veh/h	0	2528	0	0	2503	1120				319	1	286
Arrive On Green	0.00	0.71	0.00	0.00	1.00	1.00				0.19	0.19	0.19
Sat Flow, veh/h	0	3725	0	0	3597	1568				1717	7	1538
Grp Volume(v), veh/h	0	816	0	0	1311	389				254	0	179
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1752	1568				1724	0	1538
Q Serve(g_s), s	0.0	6.9	0.0	0.0	0.0	0.0				11.3	0.0	8.6
Cycle Q Clear(g_c), s	0.0	6.9	0.0	0.0	0.0	0.0				11.3	0.0	8.6
Prop In Lane	0.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2528	0	0	2503	1120				320	0	286
V/C Ratio(X)	0.00	0.32	0.00	0.00	0.52	0.35				0.79	0.00	0.63
Avail Cap(c_a), veh/h	0	2528	0	0	2503	1120				517	0	461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.67	0.67				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.2	0.0	0.0	0.0	0.0				31.1	0.0	30.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.5	0.6				4.4	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	0.0	0.0	0.2	0.2				5.8	0.0	3.8
LnGrp Delay(d),s/veh	0.0	4.6	0.0	0.0	0.5	0.6				35.5	0.0	32.3
LnGrp LOS		A			A	A				D		C
Approach Vol, veh/h		816			1700						433	
Approach Delay, s/veh		4.6			0.5						34.2	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		61.1		18.9		61.1		
Change Period (Y+Rc), s		4.0		4.0		4.0		
Max Green Setting (Gmax), s		48.0		24.0		48.0		
Max Q Clear Time (g_c+I1), s		8.9		13.3		2.0		
Green Ext Time (p_c), s		25.6		1.6		28.3		

Intersection Summary	
HCM 2010 Ctrl Delay	6.6
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	25	25	25	235	190	30
Conflicting Peds, #/hr	0	0	0	0	0	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	3	5	5
Mvmt Flow	27	27	27	255	207	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	533	223	239	0	-	0
Stage 1	223	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	507	817	1322	-	-	-
Stage 1	814	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	495	817	1322	-	-	-
Mov Cap-2 Maneuver	495	-	-	-	-	-
Stage 1	814	-	-	-	-	-
Stage 2	726	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1322	-	616	-	-
HCM Lane V/C Ratio	0.021	-	0.088	-	-
HCM Control Delay (s)	7.8	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	15	2	25	35	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	7	7	7	7	8	8
Mvmt Flow	17	2	29	41	12	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	20	0	118	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	99	-
Critical Hdwy	-	-	4.17	-	6.48	6.28
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.263	-	3.572	3.372
Pot Cap-1 Maneuver	-	-	1564	-	864	1042
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	910	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1564	-	848	1042
Mov Cap-2 Maneuver	-	-	-	-	848	-
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	893	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	986	-	-	1564	-
HCM Lane V/C Ratio	0.047	-	-	0.019	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	27.8

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Vol, veh/h	785	195	0	650	155	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	853	212	0	707	168	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	853	0	1560	853
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	707	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	786	-	~ 123	359
Stage 1	-	0	-	-	418	-
Stage 2	-	0	-	-	489	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	786	-	~ 123	359
Mov Cap-2 Maneuver	-	-	-	-	~ 123	-
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	489	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0	277.5
HCM LOS			F

Minor Lane/Major Mvmt	NWLn1	EBT	WBL	WBT
Capacity (veh/h)	126	-	786	-
HCM Lane V/C Ratio	1.38	-	-	-
HCM Control Delay (s)	277.5	-	0	-
HCM Lane LOS	F	-	A	-
HCM 95th %tile Q(veh)	11.6	-	0	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NEL	NER
Vol, veh/h	785	5	90	640	0	175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	853	5	98	696	0	190

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	859	0	1747	856
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	891	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	782	-	95	357
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	401	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	782	-	76	357
Mov Cap-2 Maneuver	-	-	-	-	76	-
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	319	-

Approach	EB	WB	NE
HCM Control Delay, s	0	1.3	26
HCM LOS			D

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	357	-	-	782	-
HCM Lane V/C Ratio	0.533	-	-	0.125	-
HCM Control Delay (s)	26	-	-	10.3	0
HCM Lane LOS	D	-	-	B	A
HCM 95th %tile Q(veh)	3	-	-	0.4	-

Intersection	
Int Delay, s/veh	5.2

Movement	NBL	NBT	SBT	SBR	SEL	SER
Vol, veh/h	175	165	95	0	0	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	190	179	103	0	0	212

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	103	0	-	0	663	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	560	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1489	-	-	-	426	952
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	572	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1489	-	-	-	366	952
Mov Cap-2 Maneuver	-	-	-	-	366	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	491	-

Approach	NB	SB	SE
HCM Control Delay, s	4	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	1489	-	952	-	-
HCM Lane V/C Ratio	0.128	-	0.223	-	-
HCM Control Delay (s)	7.8	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0.9	-	-

E Capacity Analysis Worksheets – 2035 Baseline

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Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	655	20	55	460	25	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	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	8	8	0	0
Mvmt Flow	689	21	58	484	26	68

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	711	0	1300	700
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	600	-
Critical Hdwy	-	-	4.18	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.272	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	861	-	180	443
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	552	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	861	-	168	443
Mov Cap-2 Maneuver	-	-	-	-	307	-
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	515	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	17
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	394	-	-	861	-
HCM Lane V/C Ratio	0.24	-	-	0.067	-
HCM Control Delay (s)	17	-	-	9.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-

Intersection	
Int Delay, s/veh	39.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	285	120	705	325	70	330
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	100	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	5	4	4	2	2
Mvmt Flow	300	126	742	342	74	347

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1237	742	0	0	742	0
Stage 1	742	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.12	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.218	-
Pot Cap-1 Maneuver	~ 191	411	-	-	865	-
Stage 1	465	-	-	-	-	-
Stage 2	606	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 175	411	-	-	865	-
Mov Cap-2 Maneuver	310	-	-	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	554	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	178.3	0	1.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	334	865	-
HCM Lane V/C Ratio	-	-	1.276	0.085	-
HCM Control Delay (s)	-	-	178.3	9.5	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	19.7	0.3	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Vol, veh/h	0	265	65	0	100	215	0	105	120
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	1	1	2	1	1	2	0	0
Mvmt Flow	0	279	68	0	105	226	0	111	126
Number of Lanes	0	1	0	0	0	1	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	12.3	12.5	10.2
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	32%
Vol Thru, %	0%	0%	80%	68%
Vol Right, %	0%	100%	20%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	120	330	315
LT Vol	105	0	0	100
Through Vol	0	0	265	215
RT Vol	0	120	65	0
Lane Flow Rate	111	126	347	332
Geometry Grp	7	7	2	2
Degree of Util (X)	0.205	0.192	0.469	0.464
Departure Headway (Hd)	6.689	5.472	4.857	5.144
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	539	659	733	706
Service Time	4.389	3.172	2.956	3.144
HCM Lane V/C Ratio	0.206	0.191	0.473	0.47
HCM Control Delay	11.1	9.5	12.3	12.5
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	0.8	0.7	2.5	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	375	275	255	75	195	195	200	480	55	85	325	220
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1881	1881	1881	1881	1881	1881	1881	1881	1881
Adj Flow Rate, veh/h	395	289	71	79	205	36	211	505	19	89	342	65
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
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
Percent Heavy Veh, %	2	2	2	1	1	1	1	1	1	1	1	1
Cap, veh/h	439	472	401	333	317	270	474	700	595	341	606	516
Arrive On Green	0.14	0.25	0.25	0.05	0.17	0.17	0.10	0.37	0.37	0.05	0.32	0.32
Sat Flow, veh/h	1774	1863	1583	1792	1881	1599	1792	1881	1599	1792	1881	1599
Grp Volume(v), veh/h	395	289	71	79	205	36	211	505	19	89	342	65
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1792	1881	1599	1792	1881	1599	1792	1881	1599
Q Serve(g_s), s	8.0	8.1	2.1	2.1	6.0	1.1	4.4	13.6	0.4	1.9	8.9	1.7
Cycle Q Clear(g_c), s	8.0	8.1	2.1	2.1	6.0	1.1	4.4	13.6	0.4	1.9	8.9	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	439	472	401	333	317	270	474	700	595	341	606	516
V/C Ratio(X)	0.90	0.61	0.18	0.24	0.65	0.13	0.45	0.72	0.03	0.26	0.56	0.13
Avail Cap(c_a), veh/h	439	632	537	363	511	434	474	700	595	369	606	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	19.4	17.2	18.9	22.9	20.8	11.5	15.9	11.8	13.2	16.5	14.1
Incr Delay (d2), s/veh	21.2	1.3	0.2	0.4	2.2	0.2	0.7	6.3	0.1	0.4	3.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	4.3	0.9	1.1	3.3	0.5	2.2	8.2	0.2	1.0	5.2	0.8
LnGrp Delay(d),s/veh	40.6	20.7	17.4	19.2	25.1	21.1	12.2	22.2	11.9	13.6	20.3	14.6
LnGrp LOS	D	C	B	B	C	C	B	C	B	B	C	B
Approach Vol, veh/h		755			320			735			496	
Approach Delay, s/veh		30.8			23.2			19.1			18.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	25.9	7.0	18.9	10.0	23.0	12.0	13.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	21.0	4.0	20.0	6.0	19.0	8.0	16.0
Max Q Clear Time (g_c+I1), s	3.1	15.6	4.1	10.1	6.4	10.9	10.0	8.0
Green Ext Time (p_c), s	0.0	2.5	0.0	2.2	0.0	3.3	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	23.3
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	165	5	130	0	5	5	5	0	105	115	5	0	5	130	155
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	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0
Mvmt Flow	0	174	5	137	0	5	5	5	0	111	121	5	0	5	137	163
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	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	12.3	8.9	11.2	11.1
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	55%	33%	2%
Vol Thru, %	51%	2%	33%	45%
Vol Right, %	2%	43%	33%	53%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	225	300	15	290
LT Vol	105	165	5	5
Through Vol	115	5	5	130
RT Vol	5	130	5	155
Lane Flow Rate	237	316	16	305
Geometry Grp	1	1	1	1
Degree of Util (X)	0.349	0.451	0.025	0.402
Departure Headway (Hd)	5.308	5.142	5.697	4.871
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	680	704	629	745
Service Time	3.329	3.156	3.723	2.871
HCM Lane V/C Ratio	0.349	0.449	0.025	0.409
HCM Control Delay	11.2	12.3	8.9	11.1
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.6	2.3	0.1	1.9

Intersection	
Intersection Delay, s/veh	39.1
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	5	5	5	0	240	5	20	0	5	460	280	0	15	265	5
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	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	25	25	25	2	0	0	0	2	2	2	2	2	1	1	1
Mvmt Flow	0	5	5	5	0	253	5	21	0	5	484	295	0	16	279	5
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	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	10.9	16.2	57.1	14.6
HCM LOS	B	C	F	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	33%	91%	5%
Vol Thru, %	62%	33%	2%	93%
Vol Right, %	38%	33%	8%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	745	15	265	285
LT Vol	5	5	240	15
Through Vol	460	5	5	265
RT Vol	280	5	20	5
Lane Flow Rate	784	16	279	300
Geometry Grp	1	1	1	1
Degree of Util (X)	1	0.033	0.507	0.49
Departure Headway (Hd)	5.285	7.633	6.546	5.874
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	690	472	552	609
Service Time	3.285	5.633	4.579	3.965
HCM Lane V/C Ratio	1.136	0.034	0.505	0.493
HCM Control Delay	57.1	10.9	16.2	14.6
HCM Lane LOS	F	B	C	B
HCM 95th-tile Q	16	0.1	2.8	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	175	170	20	95	15	105	105	20	145	145	75
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1881	1900	1845	1845	1900	1900	1881	1900
Adj Flow Rate, veh/h	58	184	140	21	100	10	111	111	14	153	153	68
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	0	1	0
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
Percent Heavy Veh, %	4	4	4	1	1	1	3	3	3	1	1	1
Cap, veh/h	107	244	170	102	413	38	748	973	123	359	348	141
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.05	0.61	0.61	0.50	0.50	0.50
Sat Flow, veh/h	173	867	602	152	1465	134	1757	1606	203	576	697	283
Grp Volume(v), veh/h	382	0	0	131	0	0	111	0	125	374	0	0
Grp Sat Flow(s),veh/h/ln	1642	0	0	1751	0	0	1757	0	1809	1556	0	0
Q Serve(g_s), s	9.5	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.1	7.9	0.0	0.0
Cycle Q Clear(g_c), s	15.4	0.0	0.0	3.9	0.0	0.0	2.0	0.0	2.1	10.8	0.0	0.0
Prop In Lane	0.15		0.37	0.16		0.08	1.00		0.11	0.41		0.18
Lane Grp Cap(c), veh/h	521	0	0	552	0	0	748	0	1095	848	0	0
V/C Ratio(X)	0.73	0.00	0.00	0.24	0.00	0.00	0.15	0.00	0.11	0.44	0.00	0.00
Avail Cap(c_a), veh/h	725	0	0	762	0	0	758	0	1095	848	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.7	0.0	0.0	19.7	0.0	0.0	6.8	0.0	5.9	11.5	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.2	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.0	0.0	2.0	0.0	0.0	1.0	0.0	1.1	5.2	0.0	0.0
LnGrp Delay(d),s/veh	26.1	0.0	0.0	19.9	0.0	0.0	6.9	0.0	6.2	13.2	0.0	0.0
LnGrp LOS	C			B			A		A	B		
Approach Vol, veh/h		382			131			236			374	
Approach Delay, s/veh		26.1			19.9			6.5			13.2	
Approach LOS		C			B			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		8
Phs Duration (G+Y+Rc), s		47.0		24.0	7.6	39.4		24.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		43.0		29.0	4.0	35.0		29.0
Max Q Clear Time (g_c+I1), s		4.1		17.4	4.0	12.8		5.9
Green Ext Time (p_c), s		3.8		2.7	0.0	3.4		3.6

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	120	190	160	515	310	135
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1776	1776	1827	1827	1759	1900
Adj Flow Rate, veh/h	126	28	168	542	326	117
Adj No. of Lanes	1	1	1	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	4	4	8	8
Cap, veh/h	181	161	217	1208	520	187
Arrive On Green	0.11	0.11	0.12	0.66	0.42	0.42
Sat Flow, veh/h	1691	1509	1740	1827	1237	444
Grp Volume(v), veh/h	126	28	168	542	0	443
Grp Sat Flow(s),veh/h/ln	1691	1509	1740	1827	0	1681
Q Serve(g_s), s	2.5	0.6	3.2	4.9	0.0	7.1
Cycle Q Clear(g_c), s	2.5	0.6	3.2	4.9	0.0	7.1
Prop In Lane	1.00	1.00	1.00			0.26
Lane Grp Cap(c), veh/h	181	161	217	1208	0	707
V/C Ratio(X)	0.70	0.17	0.78	0.45	0.00	0.63
Avail Cap(c_a), veh/h	785	701	454	1909	0	1122
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.9	14.0	14.6	2.8	0.0	7.9
Incr Delay (d2), s/veh	4.8	0.5	5.8	0.3	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.5	1.9	2.5	0.0	3.4
LnGrp Delay(d),s/veh	19.6	14.5	20.5	3.1	0.0	8.8
LnGrp LOS	B	B	C	A		A
Approach Vol, veh/h	154			710	443	
Approach Delay, s/veh	18.7			7.2	8.8	
Approach LOS	B			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		26.8		7.7	8.3	18.5		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	9.0	23.0		
Max Q Clear Time (g_c+I1), s		6.9		4.5	5.2	9.1		
Green Ext Time (p_c), s		7.2		0.3	0.1	5.3		

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	200	415	335	175	290	175	120	350	110	105	405	150
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1881	1881	1900	1792	1792	1792
Adj Flow Rate, veh/h	211	437	136	184	305	33	126	368	98	111	426	44
Adj No. of Lanes	1	1	1	1	1	1	1	1	0	1	1	1
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
Percent Heavy Veh, %	0	0	0	0	0	0	1	1	1	6	6	6
Cap, veh/h	320	499	425	201	375	318	311	454	121	282	568	482
Arrive On Green	0.18	0.26	0.26	0.11	0.20	0.20	0.06	0.32	0.32	0.06	0.32	0.32
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1792	1432	381	1707	1792	1524
Grp Volume(v), veh/h	211	437	136	184	305	33	126	0	466	111	426	44
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1792	0	1814	1707	1792	1524
Q Serve(g_s), s	6.9	13.9	4.3	6.4	9.7	1.1	0.0	0.0	14.9	0.0	13.5	1.3
Cycle Q Clear(g_c), s	6.9	13.9	4.3	6.4	9.7	1.1	0.0	0.0	14.9	0.0	13.5	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	320	499	425	201	375	318	311	0	574	282	568	482
V/C Ratio(X)	0.66	0.87	0.32	0.92	0.81	0.10	0.40	0.00	0.81	0.39	0.75	0.09
Avail Cap(c_a), veh/h	320	541	460	201	481	409	324	0	574	293	568	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	22.3	18.7	27.8	24.3	20.8	25.6	0.0	19.8	26.5	19.3	15.2
Incr Delay (d2), s/veh	5.0	14.1	0.4	41.2	8.2	0.1	0.8	0.0	11.8	0.9	8.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	9.2	2.0	5.5	5.9	0.5	2.1	0.0	9.3	1.9	8.0	0.6
LnGrp Delay(d),s/veh	29.2	36.4	19.2	69.0	32.4	20.9	26.5	0.0	31.7	27.4	28.2	15.6
LnGrp LOS	C	D	B	E	C	C	C		C	C	C	B
Approach Vol, veh/h		784			522			592			581	
Approach Delay, s/veh		31.4			44.6			30.6			27.1	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	24.0	11.0	20.6	7.6	24.0	15.2	16.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	20.0	7.0	18.0	4.0	20.0	9.0	16.0
Max Q Clear Time (g_c+I1), s	2.0	16.9	8.4	15.9	2.0	15.5	8.9	11.7
Green Ext Time (p_c), s	0.1	0.8	0.0	0.7	0.1	1.1	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	33.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	130	300	35	235	195	125	60	505	310	145	290	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1845	1845	1900	1863	1863	1863	1743	1743	1900
Adj Flow Rate, veh/h	137	316	30	247	205	95	63	532	110	153	305	73
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	0
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
Percent Heavy Veh, %	5	5	5	3	3	3	2	2	2	9	9	9
Cap, veh/h	335	376	36	325	313	145	391	672	572	295	519	124
Arrive On Green	0.06	0.23	0.23	0.09	0.26	0.26	0.04	0.36	0.36	0.06	0.38	0.38
Sat Flow, veh/h	1723	1628	155	1757	1194	553	1774	1863	1583	1660	1360	326
Grp Volume(v), veh/h	137	0	346	247	0	300	63	532	110	153	0	378
Grp Sat Flow(s),veh/h/ln	1723	0	1782	1757	0	1747	1774	1863	1583	1660	0	1686
Q Serve(g_s), s	3.9	0.0	11.8	6.0	0.0	9.7	1.4	16.3	3.0	3.7	0.0	11.4
Cycle Q Clear(g_c), s	3.9	0.0	11.8	6.0	0.0	9.7	1.4	16.3	3.0	3.7	0.0	11.4
Prop In Lane	1.00		0.09	1.00		0.32	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	335	0	411	325	0	458	391	672	572	295	0	643
V/C Ratio(X)	0.41	0.00	0.84	0.76	0.00	0.65	0.16	0.79	0.19	0.52	0.00	0.59
Avail Cap(c_a), veh/h	335	0	448	325	0	494	427	672	572	295	0	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.8	0.0	23.4	19.7	0.0	20.9	12.6	18.2	14.0	14.3	0.0	15.7
Incr Delay (d2), s/veh	0.8	0.0	12.7	10.0	0.0	2.8	0.2	9.2	0.7	1.6	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	7.2	2.3	0.0	5.0	0.7	10.0	1.4	1.7	0.0	5.9
LnGrp Delay(d),s/veh	18.6	0.0	36.0	29.7	0.0	23.7	12.8	27.4	14.7	15.9	0.0	19.6
LnGrp LOS	B		D	C		C	B	C	B	B		B
Approach Vol, veh/h		483			547			705			531	
Approach Delay, s/veh		31.1			26.5			24.1			18.5	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	27.0	10.0	18.7	6.7	28.3	8.0	20.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	23.0	6.0	16.0	4.0	23.0	4.0	18.0
Max Q Clear Time (g_c+I1), s	5.7	18.3	8.0	13.8	3.4	13.4	5.9	11.7
Green Ext Time (p_c), s	0.0	2.5	0.0	0.9	0.0	4.2	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	103.7

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Vol, veh/h	785	255	10	570	275	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	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	3	3	3	3
Mvmt Flow	826	268	11	600	289	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	826	0	1447	826
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	621	-
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	-	0	800	-	~ 144	370
Stage 1	-	0	-	-	428	-
Stage 2	-	0	-	-	534	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	800	-	~ 141	370
Mov Cap-2 Maneuver	-	-	-	-	~ 141	-
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	523	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0.2	$ 575.1
HCM LOS			F

Minor Lane/Major Mvmt	NWLn1	EBT	WBL	WBT
Capacity (veh/h)	149	-	800	-
HCM Lane V/C Ratio	2.119	-	0.013	-
HCM Control Delay (s)	$ 575.1	-	9.6	0
HCM Lane LOS	F	-	A	A
HCM 95th %tile Q(veh)	25.5	-	0	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	95	400	0	0	650	615	175	5	670	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1792	1792	0	0	1863	1863	1900	1810	1810			
Adj Flow Rate, veh/h	100	421	0	0	684	243	184	5	423			
Adj No. of Lanes	1	1	0	0	1	1	0	1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	6	6	0	0	2	2	5	5	5			
Cap, veh/h	222	932	0	0	744	632	582	16	533			
Arrive On Green	0.07	0.69	0.00	0.00	0.40	0.40	0.35	0.35	0.35			
Sat Flow, veh/h	1707	1792	0	0	1863	1583	1680	46	1538			
Grp Volume(v), veh/h	100	421	0	0	684	243	189	0	423			
Grp Sat Flow(s),veh/h/ln	1707	1792	0	0	1863	1583	1726	0	1538			
Q Serve(g_s), s	0.0	6.3	0.0	0.0	20.9	6.5	4.8	0.0	14.9			
Cycle Q Clear(g_c), s	0.0	6.3	0.0	0.0	20.9	6.5	4.8	0.0	14.9			
Prop In Lane	1.00		0.00	0.00		1.00	0.97		1.00			
Lane Grp Cap(c), veh/h	222	932	0	0	744	632	598	0	533			
V/C Ratio(X)	0.45	0.45	0.00	0.00	0.92	0.38	0.32	0.00	0.79			
Avail Cap(c_a), veh/h	244	986	0	0	776	660	598	0	533			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.83	0.83	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.3	5.4	0.0	0.0	17.1	12.8	14.4	0.0	17.7			
Incr Delay (d2), s/veh	1.2	0.3	0.0	0.0	15.7	0.4	1.4	0.0	11.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	3.0	0.0	0.0	13.9	2.9	2.5	0.0	7.9			
LnGrp Delay(d),s/veh	27.5	5.7	0.0	0.0	32.9	13.2	15.8	0.0	29.2			
LnGrp LOS	C	A			C	B	B		C			
Approach Vol, veh/h		521			927			612				
Approach Delay, s/veh		9.9			27.7			25.0				
Approach LOS		A			C			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		24.8		35.2			7.2	28.0
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0
Max Green Setting (Gmax), s		19.0		33.0			4.0	25.0
Max Q Clear Time (g_c+I1), s		16.9		8.3			2.0	22.9
Green Ext Time (p_c), s		0.7		3.0			0.6	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	160	175	435	405	0	0	0	0	380	1	95
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1681	1681	1827	1827	0				1900	1792	1900
Adj Flow Rate, veh/h	0	168	27	458	426	0				400	1	86
Adj No. of Lanes	0	1	1	1	1	0				0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	13	13	4	4	0				0	6	0
Cap, veh/h	0	230	196	419	677	0				681	2	147
Arrive On Green	0.00	0.14	0.14	0.28	0.62	0.00				0.50	0.50	0.50
Sat Flow, veh/h	0	1681	1429	1740	1827	0				1373	3	295
Grp Volume(v), veh/h	0	168	27	458	426	0				487	0	0
Grp Sat Flow(s),veh/h/ln	0	1681	1429	1740	1827	0				1672	0	0
Q Serve(g_s), s	0.0	5.7	1.0	10.0	8.7	0.0				12.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.7	1.0	10.0	8.7	0.0				12.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.82		0.18
Lane Grp Cap(c), veh/h	0	230	196	419	677	0				830	0	0
V/C Ratio(X)	0.00	0.73	0.14	1.09	0.63	0.00				0.59	0.00	0.00
Avail Cap(c_a), veh/h	0	448	381	419	913	0				830	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.31	0.31	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	24.8	22.8	20.1	8.9	0.0				10.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.4	0.3	53.9	0.3	0.0				3.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	0.4	13.1	4.2	0.0				6.4	0.0	0.0
LnGrp Delay(d),s/veh	0.0	29.2	23.1	74.0	9.2	0.0				13.8	0.0	0.0
LnGrp LOS		C	C	F	A					B		
Approach Vol, veh/h		195			884						487	
Approach Delay, s/veh		28.4			42.7						13.8	
Approach LOS		C			D						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			14.0	12.2		33.8		26.2
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s			10.0	16.0		22.0		30.0
Max Q Clear Time (g_c+I1), s			12.0	7.7		14.4		10.7
Green Ext Time (p_c), s			0.0	0.5		1.9		4.1

Intersection Summary	
HCM 2010 Ctrl Delay	31.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	60	30	225	85	40	115	60	400	130	115	760	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1827	1827	1827	1845	1845	1845
Adj Flow Rate, veh/h	63	32	76	89	42	15	63	421	51	121	800	35
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	1
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
Percent Heavy Veh, %	0	0	0	0	0	0	4	4	4	3	3	3
Cap, veh/h	363	55	131	321	163	58	318	751	638	154	1073	912
Arrive On Green	0.05	0.11	0.11	0.06	0.12	0.12	0.41	0.41	0.41	0.09	0.58	0.58
Sat Flow, veh/h	1810	501	1189	1810	1338	478	643	1827	1553	1757	1845	1568
Grp Volume(v), veh/h	63	0	108	89	0	57	63	421	51	121	800	35
Grp Sat Flow(s),veh/h/ln	1810	0	1690	1810	0	1816	643	1827	1553	1757	1845	1568
Q Serve(g_s), s	1.5	0.0	2.9	2.1	0.0	1.4	3.9	8.5	1.0	3.2	15.4	0.5
Cycle Q Clear(g_c), s	1.5	0.0	2.9	2.1	0.0	1.4	11.1	8.5	1.0	3.2	15.4	0.5
Prop In Lane	1.00		0.70	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	363	0	186	321	0	221	318	751	638	154	1073	912
V/C Ratio(X)	0.17	0.00	0.58	0.28	0.00	0.26	0.20	0.56	0.08	0.79	0.75	0.04
Avail Cap(c_a), veh/h	427	0	562	364	0	604	318	751	638	219	1073	912
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	20.4	17.6	0.0	19.2	14.6	10.9	8.6	21.5	7.4	4.3
Incr Delay (d2), s/veh	0.2	0.0	2.8	0.5	0.0	0.6	1.4	3.0	0.2	11.4	4.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.5	1.1	0.0	0.7	0.8	4.8	0.4	2.1	9.0	0.2
LnGrp Delay(d),s/veh	17.9	0.0	23.2	18.0	0.0	19.8	16.0	13.9	8.9	32.9	12.2	4.4
LnGrp LOS	B		C	B		B	B	B	A	C	B	A
Approach Vol, veh/h		171			146			535			956	
Approach Delay, s/veh		21.3			18.7			13.6			14.5	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	8.2	23.8	6.8	9.3		32.0	6.3	9.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.0	4.0	16.0		28.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	5.2	13.1	4.1	4.9		17.4	3.5	3.4
Green Ext Time (p_c), s	0.0	3.2	0.0	0.6		5.7	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	31.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	270	5	400	15	5	5	15	400	15	5	425	170
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	100	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	0	0	0	9	9	9	2	2	2
Mvmt Flow	284	5	421	16	5	5	16	421	16	5	447	179

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	924	926	447	1132	919	429	447	0	0	437	0	0
Stage 1	458	458	-	461	461	-	-	-	-	-	-	-
Stage 2	466	468	-	671	458	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.1	6.5	6.2	4.19	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.5	4	3.3	2.281	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 250	269	612	182	273	630	1077	-	-	1123	-	-
Stage 1	583	567	-	584	569	-	-	-	-	-	-	-
Stage 2	577	561	-	449	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 241	264	612	55	268	630	1077	-	-	1123	-	-
Mov Cap-2 Maneuver	~ 241	264	-	55	268	-	-	-	-	-	-	-
Stage 1	574	564	-	575	561	-	-	-	-	-	-	-
Stage 2	558	553	-	138	567	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	77.7	62.9	0.3	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1077	-	-	241	602	55	376	1123	-	-
HCM Lane V/C Ratio	0.015	-	-	1.179	0.708	0.287	0.028	0.005	-	-
HCM Control Delay (s)	8.4	-	-	158	24.2	94.9	14.9	8.2	-	-
HCM Lane LOS	A	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	13.4	5.8	1	0.1	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	701.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	5	25	430	10	490	20	425	340	75	335	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	9	9	9	4	4	4	2	2	2	0	0	0
Mvmt Flow	5	5	26	453	11	516	21	447	358	79	353	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1445	1360	355	1197	1184	626	358	0	0	805	0	0
Stage 1	513	513	-	668	668	-	-	-	-	-	-	-
Stage 2	932	847	-	529	516	-	-	-	-	-	-	-
Critical Hdwy	7.19	6.59	6.29	7.14	6.54	6.24	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.19	5.59	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.19	5.59	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.581	4.081	3.381	3.536	4.036	3.336	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	106	144	673	~ 161	188	~ 481	1201	-	-	828	-	-
Stage 1	531	525	-	~ 444	453	-	-	-	-	-	-	-
Stage 2	311	368	-	530	531	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	123	673	~ 133	160	~ 481	1201	-	-	828	-	-
Mov Cap-2 Maneuver	-	123	-	~ 133	160	-	-	-	-	-	-	-
Stage 1	513	463	-	~ 429	438	-	-	-	-	-	-	-
Stage 2	-	355	-	~ 444	468	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		$ 1632.2	0.2	1.8
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1201	-	-	-	216	828	-	-
HCM Lane V/C Ratio	0.018	-	-	-	4.532	0.095	-	-
HCM Control Delay (s)	8.1	0	-	$ 1632.2	9.8	0	-	
HCM Lane LOS	A	A	-	-	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	99.1	0.3	-	-

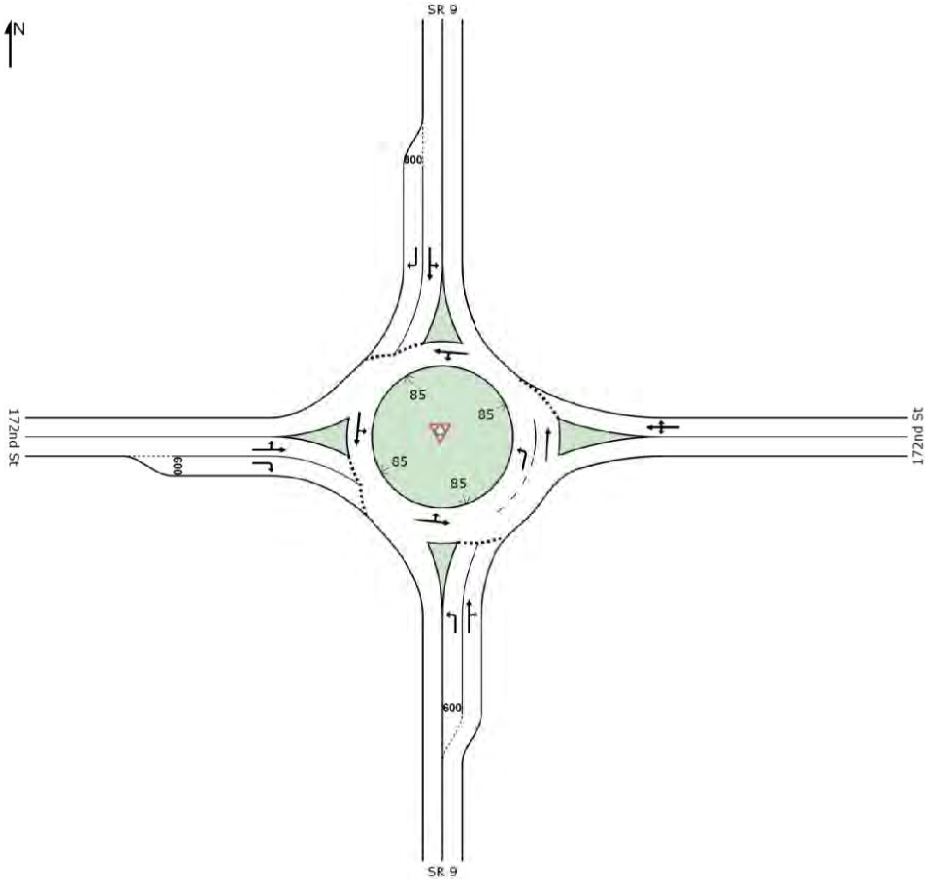
Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

SITE LAYOUT

Site: SR 9 at 172nd St

Projected 2035 Baseline
Roundabout



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SIDRA INTERSECTION 6

MOVEMENT SUMMARY

Site: SR 9 at 172nd St

Projected 2035 Baseline
Roundabout

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: SR 9											
3	L2	207	10.0	0.369	15.8	LOS B	2.5	67.4	0.86	0.92	31.9
8	T1	250	10.0	0.370	8.9	LOS A	2.7	73.7	0.87	0.85	34.8
18	R2	5	10.0	0.370	9.0	LOS A	2.7	73.7	0.87	0.85	33.6
Approach		462	10.0	0.370	12.0	LOS B	2.7	73.7	0.86	0.88	33.4
East: 172nd St											
1	L2	5	8.0	0.813	20.4	LOS C	8.3	220.4	0.91	1.13	32.3
6	T1	348	8.0	0.813	14.5	LOS B	8.3	220.4	0.91	1.13	32.3
16	R2	174	8.0	0.813	14.4	LOS B	8.3	220.4	0.91	1.13	31.5
Approach		527	8.0	0.813	14.6	LOS B	8.3	220.4	0.91	1.13	32.0
North: SR 9											
7	L2	190	6.0	1.065	65.7	LOS F	45.0	1179.2	1.00	2.16	19.5
4	T1	728	6.0	1.065	59.7	LOS F	45.0	1179.2	1.00	2.16	19.5
14	R2	130	6.0	0.247	9.8	LOS A	1.4	36.8	0.74	0.82	33.4
Approach		1049	6.0	1.065	54.6	LOS D	45.0	1179.2	0.97	2.00	20.6
West: 172nd St											
5	L2	126	3.0	1.155	114.2	LOS F	46.1	1179.8	1.00	2.34	13.8
2	T1	479	3.0	1.155	108.2	LOS F	46.1	1179.8	1.00	2.34	13.8
12	R2	332	3.0	0.844	35.5	LOS D	11.3	290.0	1.00	1.32	24.1
Approach		937	3.0	1.155	83.3	LOS F	46.1	1179.8	1.00	1.98	16.2
All Vehicles		2975	6.0	1.155	49.9	LOS D	46.1	1179.8	0.95	1.66	21.4

Level of Service (LOS) Method: Delay & v/c (HCM 2010).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA INTERSECTION 6.0.24.4877
Project: N:\Projects\0698 City of Arlington\0698.01 Transportation Plan Update\Phase 05 - Updated Analysis \Operations\Sidra\17 - SR 9 at 172nd.sip6
8001450, 6017302, SCJ ALLIANCE, PLUS / 1PC

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SIDRA INTERSECTION 6

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	50	935	480	45	5	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	350	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	0	0
Mvmt Flow	53	984	505	47	5	121

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	553	0	-	0	1618	529
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	1089	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1017	-	-	-	115	554
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	326	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1017	-	-	-	109	554
Mov Cap-2 Maneuver	-	-	-	-	109	-
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	309	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1017	-	-	-	473
HCM Lane V/C Ratio	0.052	-	-	-	0.267
HCM Control Delay (s)	8.7	-	-	-	15.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	250	715	435	175	495	35	160	370	160	70	390	215
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1759	1759	1900	1792	1792	1900	1827	1827	1900
Adj Flow Rate, veh/h	263	753	362	184	521	35	168	389	154	74	411	209
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	1	1	0
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
Percent Heavy Veh, %	3	3	3	8	8	8	6	6	6	4	4	4
Cap, veh/h	288	722	614	172	571	38	174	459	182	188	391	199
Arrive On Green	0.11	0.39	0.39	0.07	0.35	0.35	0.07	0.38	0.38	0.03	0.34	0.34
Sat Flow, veh/h	1757	1845	1568	1675	1630	110	1707	1223	484	1740	1143	581
Grp Volume(v), veh/h	263	753	362	184	0	556	168	0	543	74	0	620
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1675	0	1740	1707	0	1707	1740	0	1724
Q Serve(g_s), s	11.1	47.0	21.9	8.0	0.0	36.6	7.5	0.0	35.0	3.3	0.0	41.0
Cycle Q Clear(g_c), s	11.1	47.0	21.9	8.0	0.0	36.6	7.5	0.0	35.0	3.3	0.0	41.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.28	1.00		0.34
Lane Grp Cap(c), veh/h	288	722	614	172	0	609	174	0	640	188	0	589
V/C Ratio(X)	0.91	1.04	0.59	1.07	0.00	0.91	0.97	0.00	0.85	0.39	0.00	1.05
Avail Cap(c_a), veh/h	288	722	614	172	0	609	174	0	640	188	0	589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.1	36.5	28.9	30.1	0.0	37.3	29.8	0.0	34.4	28.9	0.0	39.5
Incr Delay (d2), s/veh	4.6	23.5	0.1	89.0	0.0	18.3	58.2	0.0	13.2	1.3	0.0	51.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	28.6	9.5	9.9	0.0	20.7	8.4	0.0	18.8	1.7	0.0	27.9
LnGrp Delay(d),s/veh	31.7	60.0	29.0	119.2	0.0	55.5	88.0	0.0	47.5	30.2	0.0	91.1
LnGrp LOS	C	F	C	F		E	F		D	C		F
Approach Vol, veh/h		1378			740			711			694	
Approach Delay, s/veh		46.4			71.3			57.1			84.6	
Approach LOS		D			E			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	49.0	12.0	51.0	12.0	45.0	17.0	46.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	45.0	8.0	47.0	8.0	41.0	13.0	42.0
Max Q Clear Time (g_c+I1), s	5.3	37.0	10.0	49.0	9.5	43.0	13.1	38.6
Green Ext Time (p_c), s	0.0	4.6	0.0	0.0	0.0	0.0	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	61.3
HCM 2010 LOS	E

HCM 2010 Signalized Intersection Summary
20: 59th Ave & 172nd St (SR-531)

Projected 2035
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	275	965	180	130	760	40	320	205	415	35	45	340
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1827	1827	1900	1776	1776	1900	1776	1776	1900
Adj Flow Rate, veh/h	289	1016	183	137	800	40	337	216	375	37	47	163
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
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
Percent Heavy Veh, %	5	5	5	4	4	4	7	7	7	7	7	7
Cap, veh/h	187	659	119	101	676	34	401	200	348	100	140	485
Arrive On Green	0.11	0.44	0.44	0.06	0.39	0.39	0.34	0.34	0.34	0.02	0.40	0.40
Sat Flow, veh/h	1723	1493	269	1740	1725	86	1112	584	1013	1691	350	1212
Grp Volume(v), veh/h	289	0	1199	137	0	840	337	0	591	37	0	210
Grp Sat Flow(s),veh/h/ln	1723	0	1762	1740	0	1812	1112	0	1597	1691	0	1562
Q Serve(g_s), s	13.0	0.0	53.0	7.0	0.0	47.0	36.2	0.0	41.2	1.7	0.0	11.2
Cycle Q Clear(g_c), s	13.0	0.0	53.0	7.0	0.0	47.0	40.5	0.0	41.2	1.7	0.0	11.2
Prop In Lane	1.00		0.15	1.00		0.05	1.00		0.63	1.00		0.78
Lane Grp Cap(c), veh/h	187	0	778	101	0	710	401	0	548	100	0	625
V/C Ratio(X)	1.55	0.00	1.54	1.35	0.00	1.18	0.84	0.00	1.08	0.37	0.00	0.34
Avail Cap(c_a), veh/h	187	0	778	101	0	710	401	0	548	116	0	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	0.26	0.00	0.26	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	33.5	56.5	0.0	36.5	41.4	0.0	39.4	31.1	0.0	25.0
Incr Delay (d2), s/veh	249.0	0.0	243.9	173.4	0.0	86.7	18.7	0.0	61.4	2.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	0.0	78.4	8.2	0.0	40.6	13.1	0.0	27.5	0.8	0.0	5.1
LnGrp Delay(d),s/veh	302.5	0.0	277.4	229.9	0.0	123.2	60.0	0.0	100.9	33.4	0.0	26.4
LnGrp LOS	F		F	F		F	E		F	C		C
Approach Vol, veh/h		1488			977			928			247	
Approach Delay, s/veh		282.3			138.2			86.0			27.4	
Approach LOS		F			F			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	6.8	45.2	11.0	57.0		52.0	17.0	51.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	40.0	7.0	53.0		48.0	13.0	47.0
Max Q Clear Time (g_c+I1), s	3.7	43.2	9.0	55.0		13.2	15.0	49.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0		8.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	176.3
HCM 2010 LOS	F

HCM 2010 Signalized Intersection Summary
21: 51st Ave & 172nd St (SR-531)

Projected 2035
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	920	295	110	975	320	225	420	225	50	115	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1845	1845	1900	1759	1759	1759	1810	1810	1900
Adj Flow Rate, veh/h	58	968	300	116	1026	326	237	442	137	53	121	36
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	1	0
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
Percent Heavy Veh, %	3	3	3	3	3	3	8	8	8	5	5	5
Cap, veh/h	119	856	265	119	850	270	242	410	349	60	313	93
Arrive On Green	0.03	0.63	0.63	0.04	0.84	0.84	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1757	1352	419	1757	1343	427	1157	1759	1495	808	1340	399
Grp Volume(v), veh/h	58	0	1268	116	0	1352	237	442	137	53	0	157
Grp Sat Flow(s),veh/h/ln	1757	0	1771	1757	0	1769	1157	1759	1495	808	0	1739
Q Serve(g_s), s	0.0	0.0	76.0	3.8	0.0	76.0	18.9	28.0	9.3	0.0	0.0	9.1
Cycle Q Clear(g_c), s	0.0	0.0	76.0	3.8	0.0	76.0	28.0	28.0	9.3	28.0	0.0	9.1
Prop In Lane	1.00		0.24	1.00		0.24	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	119	0	1121	119	0	1121	242	410	349	60	0	406
V/C Ratio(X)	0.49	0.00	1.13	0.98	0.00	1.21	0.98	1.08	0.39	0.88	0.00	0.39
Avail Cap(c_a), veh/h	119	0	1121	119	0	1121	242	410	349	60	0	406
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.00	0.56	0.09	0.00	0.09	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.1	0.0	22.0	56.3	0.0	9.5	52.8	46.0	38.8	60.0	0.0	38.8
Incr Delay (d2), s/veh	1.8	0.0	65.8	19.7	0.0	93.8	52.9	66.5	3.3	86.1	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	57.3	4.5	0.0	64.1	11.4	21.2	4.2	3.2	0.0	4.7
LnGrp Delay(d),s/veh	57.8	0.0	87.8	76.0	0.0	103.2	105.7	112.5	42.1	146.1	0.0	41.5
LnGrp LOS	E		F	E		F	F	F	D	F		D
Approach Vol, veh/h		1326			1468			816			210	
Approach Delay, s/veh		86.5			101.1			98.7			67.9	
Approach LOS		F			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		32.0	8.0	80.0		32.0	8.0	80.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		28.0	4.0	76.0		28.0	4.0	76.0
Max Q Clear Time (g_c+I1), s		30.0	5.8	78.0		30.0	2.0	78.0
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	93.7
HCM 2010 LOS	F

HCM 2010 Signalized Intersection Summary
22: 43rd Ave & 172nd St (SR-531)

Projected 2035
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	110	1085	10	10	1140	65	25	5	10	15	5	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1810	1810	1810	1900	1484	1484	1900	1900	1759	1900
Adj Flow Rate, veh/h	116	1142	9	11	1200	67	26	5	0	16	5	1
Adj No. of Lanes	1	1	1	1	1	0	1	1	0	0	1	0
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
Percent Heavy Veh, %	5	5	5	5	5	5	28	28	28	8	8	8
Cap, veh/h	136	1342	1141	181	1208	67	228	220	0	197	56	10
Arrive On Green	0.04	0.74	0.74	0.01	0.95	0.95	0.15	0.15	0.00	0.15	0.15	0.15
Sat Flow, veh/h	1723	1810	1538	1723	1698	95	1119	1484	0	984	378	65
Grp Volume(v), veh/h	116	1142	9	11	0	1267	26	5	0	22	0	0
Grp Sat Flow(s),veh/h/ln	1723	1810	1538	1723	0	1793	1119	1484	0	1427	0	0
Q Serve(g_s), s	3.4	53.0	0.2	0.2	0.0	75.7	0.9	0.3	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	3.4	53.0	0.2	0.2	0.0	75.7	2.1	0.3	0.0	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.00	0.73		0.05
Lane Grp Cap(c), veh/h	136	1342	1141	181	0	1276	228	220	0	263	0	0
V/C Ratio(X)	0.85	0.85	0.01	0.06	0.00	0.99	0.11	0.02	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	138	1342	1141	220	0	1285	228	220	0	263	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.00	0.09	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	55.9	10.8	4.0	18.9	0.0	3.0	44.4	43.7	0.0	44.1	0.0	0.0
Incr Delay (d2), s/veh	37.1	5.4	0.0	0.0	0.0	6.1	1.0	0.2	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	28.0	0.1	0.2	0.0	32.2	0.8	0.2	0.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	93.0	16.3	4.0	19.0	0.0	9.0	45.4	43.9	0.0	44.3	0.0	0.0
LnGrp LOS	F	B	A	B		A	D	D		D		
Approach Vol, veh/h		1267			1278			31			22	
Approach Delay, s/veh		23.2			9.1			45.2			44.3	
Approach LOS		C			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		22.7	5.2	92.1		22.7	8.9	88.4
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		17.0	4.0	87.0		17.0	5.0	86.0
Max Q Clear Time (g_c+I1), s		4.1	2.2	55.0		3.4	5.4	77.7
Green Ext Time (p_c), s		0.1	0.0	11.6		0.1	0.0	5.8

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

HCM 2010 Signalized Intersection Summary
23: Smokey Point Blvd & 172nd St (SR-531)

Projected 2035
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	355	925	440	240	1285	315	845	405	270	310	210	450
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	374	974	147	253	1353	100	889	426	42	326	221	158
Adj No. of Lanes	1	2	1	1	3	1	2	2	1	1	2	1
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	370	1121	501	266	1314	409	860	717	321	350	531	237
Arrive On Green	0.42	0.63	0.63	0.15	0.26	0.26	0.25	0.20	0.20	0.33	0.25	0.25
Sat Flow, veh/h	1774	3539	1583	1774	5085	1583	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	374	974	147	253	1353	100	889	426	42	326	221	158
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1695	1583	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	25.0	26.9	2.7	17.0	31.0	3.9	30.0	13.1	2.6	21.3	6.3	10.8
Cycle Q Clear(g_c), s	25.0	26.9	2.7	17.0	31.0	3.9	30.0	13.1	2.6	21.3	6.3	10.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	370	1121	501	266	1314	409	860	717	321	350	531	237
V/C Ratio(X)	1.01	0.87	0.29	0.95	1.03	0.24	1.03	0.59	0.13	0.93	0.42	0.67
Avail Cap(c_a), veh/h	370	1121	501	266	1314	409	860	717	321	399	531	237
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	35.0	20.0	4.6	50.6	44.5	14.6	45.0	43.4	39.2	39.4	40.6	42.3
Incr Delay (d2), s/veh	47.6	6.9	0.3	41.8	32.8	0.3	39.5	3.6	0.8	25.8	2.3	13.2
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.0	13.8	1.2	11.4	18.5	1.7	18.9	6.7	1.2	12.9	3.2	5.6
LnGrp Delay(d),s/veh	82.6	26.8	4.9	92.3	77.3	14.9	84.5	47.0	40.0	65.2	42.9	55.5
LnGrp LOS	F	C	A	F	F	B	F	D	D	E	D	E
Approach Vol, veh/h		1495			1706			1357			705	
Approach Delay, s/veh		38.6			75.9			71.4			56.0	
Approach LOS		D			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	28.3	22.0	42.0	34.0	22.0	29.0	35.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	27.0	21.0	18.0	38.0	30.0	18.0	25.0	31.0
Max Q Clear Time (g_c+I1), s	23.3	15.1	19.0	28.9	32.0	12.8	27.0	33.0
Green Ext Time (p_c), s	0.4	3.2	0.0	5.3	0.0	0.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	61.5
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	5	95	5	5	10	95	915	15	5	800	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1810	1900	1900	1900	1900	1863	1863	1900	1845	1845	1900
Adj Flow Rate, veh/h	58	5	5	5	5	0	100	963	16	5	842	32
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
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
Percent Heavy Veh, %	5	5	5	0	0	0	2	2	2	3	3	3
Cap, veh/h	186	6	6	129	72	0	589	2870	48	577	2774	105
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.00	1.00	1.00	1.00	0.81	0.81	0.81
Sat Flow, veh/h	1219	105	105	633	1181	0	632	3563	59	567	3443	131
Grp Volume(v), veh/h	68	0	0	10	0	0	100	478	501	5	429	445
Grp Sat Flow(s),veh/h/ln	1429	0	0	1814	0	0	632	1770	1852	567	1752	1822
Q Serve(g_s), s	2.5	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.1	3.8	3.8
Cycle Q Clear(g_c), s	2.8	0.0	0.0	0.3	0.0	0.0	4.7	0.0	0.0	0.1	3.8	3.8
Prop In Lane	0.85		0.07	0.50		0.00	1.00		0.03	1.00		0.07
Lane Grp Cap(c), veh/h	198	0	0	201	0	0	589	1426	1492	577	1412	1468
V/C Ratio(X)	0.34	0.00	0.00	0.05	0.00	0.00	0.17	0.34	0.34	0.01	0.30	0.30
Avail Cap(c_a), veh/h	510	0	0	563	0	0	589	1426	1492	577	1412	1468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.61	0.61	0.61	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	0.0	0.0	26.6	0.0	0.0	0.2	0.0	0.0	1.1	1.5	1.5
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.1	0.0	0.0	0.4	0.4	0.4	0.0	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.2	0.0	0.0	0.2	0.2	0.2	0.0	2.0	2.1
LnGrp Delay(d),s/veh	28.8	0.0	0.0	26.7	0.0	0.0	0.6	0.4	0.4	1.2	2.1	2.0
LnGrp LOS	C			C			A	A	A	A	A	A
Approach Vol, veh/h		68			10			1079			879	
Approach Delay, s/veh		28.8			26.7			0.4			2.0	
Approach LOS		C			C			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		52.3		7.7		52.3		7.7
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		35.0		17.0		35.0		17.0
Max Q Clear Time (g_c+I1), s		6.7		4.8		5.8		2.3
Green Ext Time (p_c), s		15.2		0.2		15.4		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	2.2
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	380	945	0	0	2125	580	675	0	730	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1881	1881	1881	0	1881			
Adj Flow Rate, veh/h	400	995	0	0	2237	0	711	0	0			
Adj No. of Lanes	1	2	0	0	3	1	2	0	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	1	1	0	0	1	1	1	0	1			
Cap, veh/h	403	2562	0	0	2354	733	753	0	346			
Arrive On Green	0.45	1.00	0.00	0.00	0.46	0.00	0.22	0.00	0.00			
Sat Flow, veh/h	1792	3668	0	0	5305	1599	3476	0	1599			
Grp Volume(v), veh/h	400	995	0	0	2237	0	711	0	0			
Grp Sat Flow(s),veh/h/ln	1792	1787	0	0	1712	1599	1738	0	1599			
Q Serve(g_s), s	26.6	0.0	0.0	0.0	50.2	0.0	24.2	0.0	0.0			
Cycle Q Clear(g_c), s	26.6	0.0	0.0	0.0	50.2	0.0	24.2	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	403	2562	0	0	2354	733	753	0	346			
V/C Ratio(X)	0.99	0.39	0.00	0.00	0.95	0.00	0.94	0.00	0.00			
Avail Cap(c_a), veh/h	403	2562	0	0	2354	733	753	0	346			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.35	0.35	0.00	0.00	0.09	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	32.9	0.0	0.0	0.0	31.2	0.0	46.3	0.0	0.0			
Incr Delay (d2), s/veh	24.6	0.2	0.0	0.0	1.2	0.0	20.4	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.6	0.1	0.0	0.0	23.9	0.0	13.7	0.0	0.0			
LnGrp Delay(d),s/veh	57.5	0.2	0.0	0.0	32.4	0.0	66.6	0.0	0.0			
LnGrp LOS	E	A			C		E					
Approach Vol, veh/h		1395			2237			711				
Approach Delay, s/veh		16.6			32.4			66.6				
Approach LOS		B			C			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		90.0			31.0	59.0		30.0
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0
Max Green Setting (Gmax), s		86.0			27.0	55.0		26.0
Max Q Clear Time (g_c+I1), s		2.0			28.6	52.2		26.2
Green Ext Time (p_c), s		64.2			0.0	2.8		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1150	655	0	1740	1065	0	0	0	170	1	430
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	0	1845	1845				1900	1810	1810
Adj Flow Rate, veh/h	0	1211	0	0	1832	732				179	1	442
Adj No. of Lanes	0	2	0	0	2	1				0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	3	3				5	5	5
Cap, veh/h	0	2224	0	0	2202	985				523	3	469
Arrive On Green	0.00	0.63	0.00	0.00	1.00	1.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3725	0	0	3597	1568				1714	10	1538
Grp Volume(v), veh/h	0	1211	0	0	1832	732				180	0	442
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1752	1568				1724	0	1538
Q Serve(g_s), s	0.0	23.2	0.0	0.0	0.0	0.0				9.7	0.0	33.6
Cycle Q Clear(g_c), s	0.0	23.2	0.0	0.0	0.0	0.0				9.7	0.0	33.6
Prop In Lane	0.00		0.00	0.00		1.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	2224	0	0	2202	985				526	0	469
V/C Ratio(X)	0.00	0.54	0.00	0.00	0.83	0.74				0.34	0.00	0.94
Avail Cap(c_a), veh/h	0	2224	0	0	2202	985				560	0	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.21	0.21				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.6	0.0	0.0	0.0	0.0				32.4	0.0	40.7
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.0	0.8	1.1				0.4	0.0	25.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.6	0.0	0.0	0.3	0.3				4.7	0.0	17.6
LnGrp Delay(d),s/veh	0.0	13.6	0.0	0.0	0.8	1.1				32.7	0.0	66.4
LnGrp LOS		B			A	A				C		E
Approach Vol, veh/h		1211			2564						622	
Approach Delay, s/veh		13.6			0.9						56.7	
Approach LOS		B			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		79.4		40.6		79.4		
Change Period (Y+Rc), s		4.0		4.0		4.0		
Max Green Setting (Gmax), s		73.0		39.0		73.0		
Max Q Clear Time (g_c+I1), s		25.2		35.6		2.0		
Green Ext Time (p_c), s		42.9		1.0		60.8		

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	210.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	140	85	300	700	325	300
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	147	89	316	737	342	316

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1868	500	658	0	-	0
Stage 1	500	-	-	-	-	-
Stage 2	1368	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 80	571	930	-	-	-
Stage 1	609	-	-	-	-	-
Stage 2	237	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 34	571	930	-	-	-
Mov Cap-2 Maneuver	~ 34	-	-	-	-	-
Stage 1	609	-	-	-	-	-
Stage 2	~ 101	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 1716.9	3.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	930	-	53	-	-
HCM Lane V/C Ratio	0.34	-	4.469	-	-
HCM Control Delay (s)	10.8	$	1716.9	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	1.5	-	26.4	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	8.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	60	10	440	160	35	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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, %	2	2	2	2	2	2
Mvmt Flow	63	11	463	168	37	163

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	74	0	1163	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	1095	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1526	-	215	995
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	321	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1526	-	143	995
Mov Cap-2 Maneuver	-	-	-	-	143	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	213	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.1	18
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	474	-	-	1526	-
HCM Lane V/C Ratio	0.422	-	-	0.304	-
HCM Control Delay (s)	18	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	1.3	-

Intersection	
Int Delay, s/veh	56.2

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Vol, veh/h	690	320	0	715	440	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	726	337	0	753	463	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	726	0	1479	726
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	753	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	877	-	~ 138	425
Stage 1	-	0	-	-	479	-
Stage 2	-	0	-	-	465	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	877	-	~ 138	425
Mov Cap-2 Maneuver	-	-	-	-	~ 342	-
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	465	-

Approach	EB	WB	NW
HCM Control Delay, s	0	0	228
HCM LOS			F

Minor Lane/Major Mvmt	NWLn1	EBT	WBL	WBT
Capacity (veh/h)	345	-	877	-
HCM Lane V/C Ratio	1.404	-	-	-
HCM Control Delay (s)	228	-	0	-
HCM Lane LOS	F	-	A	-
HCM 95th %tile Q(veh)	24.7	-	0	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	29.3

Movement	EBT	EBR	WBL	WBT	NEL	NER
Vol, veh/h	690	0	280	700	0	470
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	300	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	726	0	295	737	0	495

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	726	0	2052	726
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	1326	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	877	-	61	~ 425
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	248	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	877	-	40	~ 425
Mov Cap-2 Maneuver	-	-	-	-	40	-
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	165	-

Approach	EB	WB	NE
HCM Control Delay, s	0	3.2	126.6
HCM LOS			F

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	425	-	-	877	-
HCM Lane V/C Ratio	1.164	-	-	0.336	-
HCM Control Delay (s)	126.6	-	-	11.2	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	18.7	-	-	1.5	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	6

Movement	NBL	NBT	SBT	SBR	SEL	SER
Vol, veh/h	475	455	280	0	0	335
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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, %	2	2	2	2	2	2
Mvmt Flow	500	479	295	0	0	353

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	295	0	-	0	1774	295
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	1479	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1266	-	-	-	91	744
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	209	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1266	-	-	-	42	744
Mov Cap-2 Maneuver	-	-	-	-	42	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	97	-

Approach	NB	SB	SE
HCM Control Delay, s	4.9	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	1266	-	744	-	-
HCM Lane V/C Ratio	0.395	-	0.474	-	-
HCM Control Delay (s)	9.7	0	14.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	1.9	-	2.6	-	-