

Appendix E - Traffic Calculations

APPENDIX E

LEVEL OF SERVICE REPORTS.....	E1
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Order for each Intersection:

- Existing 2016
- Existing Geometry 2030
- Alternative A – Optimized Null (2030)
- Alternative B – 1-1-1 Full Road Diet (2030)
- Alternative C – Half Corridor Road Diet (2030)
- Alternative D – 1-1-2 Eastbound (2030)
- Alternative E – 2-1-1 Westbound (2030)
- Roundabout Analysis – 2030 (as applicable)

1) Delaware Avenue/Elsmere Avenue/Groesbeck Place	E2
• AM Peak Hour.....	E3 to E13
• PM Peak Hour.....	E14 to E24
2) Delaware Avenue/Herrick Avenue	E25
• PM Peak Hour.....	E26 to E32
3) Delaware Avenue/Booth Road	E33
• PM Peak Hour.....	E34 to E40
4) Delaware Avenue/Handy Dandy West	E41
• PM Peak Hour.....	E42 to E48
5) Delaware Avenue/Handy Dandy East/My Place & Co. West.....	E49
• PM Peak Hour.....	E50 to E56
6) Delaware Avenue/Dunkin Donuts West/My Place & Co. East	E57
• PM Peak Hour.....	E58 to E64
7) Delaware Avenue/Dunkin Donuts East/School's Out Driveway	E65
• PM Peak Hour.....	E66 to E72
8) Delaware Avenue/Lincoln Avenue/Phillips Hardware.....	E73
• PM Peak Hour.....	E74 to E80
9) Delaware Avenue/Leonard Place.....	E81
• PM Peak Hour.....	E82 to E88
10) Delaware Avenue/Salisbury Road.....	E89
• PM Peak Hour.....	E90 to E96

11) Delaware Avenue/Snowden Avenue	E97
• PM Peak Hour.....	E98 to E104
12) Delaware Avenue/Euclid Avenue	E105
• PM Peak Hour.....	E106 to E112
13) Delaware Avenue/Normanskill Boulevard/Delaware Plaza	E113
• PM Peak Hour.....	E114 to E124
QUEUING REPORTS	E125
Order for each Intersection:	
• Existing 2016	
• Alternative A – Optimized Null (2020)	
• Alternative B – 1-1-1 Full Road Diet (2020)	
• Alternative C – Half Corridor Road Diet (2020)	
• Alternative D – 1-1-2 Eastbound (2020)	
• Alternative E – 2-1-1 Westbound (2020)	
1) Delaware Avenue/Elsmere Avenue/Groesbeck Place	E126
• AM Peak Hour.....	E127 to E132
• PM Peak Hour.....	E133 to E138
2) Delaware Avenue/Normanskill Boulevard/Delaware Plaza	E139
• PM Peak Hour.....	E140 to E145
Travel Time Studies	E146

LEVEL OF SERVICE REPORTS

1) Delaware Avenue/Elsmere Avenue/Groesbeck Place

HCM Signalized Intersection Capacity Analysis Delaware Avenue/Groesbeck Place & Delaware Avenue

Delaware Ave feasibility Study, 116-149

Existing 2016 Signal Imp_AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	684	70	159	489	6	98	9	514	23	11	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	3369		1727	1743			1784	1588		1661	
Flt Permitted	0.48	1.00		0.18	1.00			0.71	1.00		0.80	
Satd. Flow (perm)	934	3369		325	1743			1322	1588		1359	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.95
Adj. Flow (vph)	8	705	72	164	504	6	101	9	530	24	11	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	777	0	164	510	0	0	110	530	0	48	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	1%	1%	5%	17%	2%	0%	1%	9%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	31.9	31.9		49.3	49.3			10.1	29.4		10.1	
Effective Green, g (s)	31.9	31.9		49.3	49.3			10.1	29.4		10.1	
Actuated g/C Ratio	0.38	0.38		0.59	0.59			0.12	0.35		0.12	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	380	1296		519	1036			161	563		165	
v/s Ratio Prot	0.00	c0.23		0.07	0.29				c0.22			
v/s Ratio Perm	0.01			0.11				0.08	0.11		0.04	
v/c Ratio	0.02	0.60		0.32	0.49			0.68	0.94		0.29	
Uniform Delay, d1	15.8	20.4		9.3	9.6			34.9	25.9		33.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.9		0.1	0.8			11.3	24.0		1.3	
Delay (s)	15.8	21.3		9.5	10.4			46.2	49.9		34.5	
Level of Service	B	C		A	B			D	D		C	
Approach Delay (s)		21.2			10.2			49.3			34.5	
Approach LOS		C			B			D			C	
Intersection Summary												
HCM 2000 Control Delay			26.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			82.9			Sum of lost time (s)			18.5			
Intersection Capacity Utilization			73.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+30 (2030) Signal Imp_AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	718	74	167	513	6	103	9	540	24	12	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	3369		1727	1744			1783	1586		1670	
Flt Permitted	0.46	1.00		0.15	1.00			0.71	1.00		0.82	
Satd. Flow (perm)	913	3369		272	1744			1317	1586		1404	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.95
Adj. Flow (vph)	8	740	76	172	529	6	106	9	557	25	12	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	816	0	172	535	0	0	115	557	0	51	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	1%	1%	5%	17%	2%	0%	1%	9%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	32.0	32.0		49.0	49.0			13.3	32.3		13.3	
Effective Green, g (s)	32.0	32.0		49.0	49.0			13.3	32.3		13.3	
Actuated g/C Ratio	0.37	0.37		0.57	0.57			0.15	0.38		0.15	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	361	1252		475	992			203	594		216	
v/s Ratio Prot	0.00	c0.24		0.08	0.31				c0.21			
v/s Ratio Perm	0.01			0.13				0.09	0.14		0.04	
v/c Ratio	0.02	0.65		0.36	0.54			0.57	0.94		0.24	
Uniform Delay, d1	17.1	22.4		11.2	11.5			33.7	25.9		31.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.4		0.2	1.0			3.6	22.2		0.8	
Delay (s)	17.2	23.8		11.4	12.6			37.3	48.2		32.7	
Level of Service	B	C		B	B			D	D		C	
Approach Delay (s)		23.7			12.3			46.3			32.7	
Approach LOS		C			B			D			C	
Intersection Summary												
HCM 2000 Control Delay			27.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			86.1			Sum of lost time (s)			18.5			
Intersection Capacity Utilization			76.6%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+30 (2030) Signal Imp - Optimized_AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	718	74	167	513	6	103	9	540	24	12	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frft	1.00	0.99		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	3369		1727	1744			1783	1589		1662	
Flt Permitted	0.46	1.00		0.14	1.00			0.71	1.00		0.80	
Satd. Flow (perm)	913	3369		264	1744			1317	1589		1358	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.95
Adj. Flow (vph)	8	740	76	172	529	6	106	9	557	25	12	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	816	0	172	535	0	0	115	557	0	51	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	1%	1%	5%	17%	2%	0%	1%	9%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	29.2	29.2		50.0	50.0			10.2	32.6		10.2	
Effective Green, g (s)	29.2	29.2		50.0	50.0			10.2	32.6		10.2	
Actuated g/C Ratio	0.35	0.35		0.59	0.59			0.12	0.39		0.12	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	334	1168		545	1035			159	615		164	
v/s Ratio Prot	0.00	c0.24		0.08	0.31				c0.24			
v/s Ratio Perm	0.01			0.10				0.09	0.11		0.04	
v/c Ratio	0.02	0.70		0.32	0.52			0.72	0.91		0.31	
Uniform Delay, d1	18.1	23.7		10.1	10.0			35.6	24.3		33.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.0		0.1	0.9			15.0	16.6		1.5	
Delay (s)	18.1	25.7		10.2	10.9			50.6	40.9		35.3	
Level of Service	B	C		B	B			D	D		D	
Approach Delay (s)		25.6			10.7			42.6			35.3	
Approach LOS		C			B			D			D	

Intersection Summary

HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	84.2	Sum of lost time (s)	18.5
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 - Road Diet Signal Imps (HCS DELAY)_AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	691	70	164	498	12	98	11	551	31	12	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	
Satd. Flow (prot)	1865	1774		1728	1738			1786	1579		1666	
Flt Permitted	0.47	1.00		0.10	1.00			0.77	1.00		0.78	
Satd. Flow (perm)	921	1774		184	1738			1445	1579		1334	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.95
Adj. Flow (vph)	8	712	72	169	513	12	101	11	568	32	12	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	784	0	169	525	0	0	112	568	0	57	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	1%	1%	5%	17%	2%	0%	1%	9%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	41.1	41.1		61.0	61.0			12.7	34.1		12.7	
Effective Green, g (s)	41.1	41.1		61.0	61.0			12.7	34.1		12.7	
Actuated g/C Ratio	0.42	0.42		0.63	0.63			0.13	0.35		0.13	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	402	747		454	1087			188	552		173	
v/s Ratio Prot	0.00	c0.44		0.08	0.30				c0.23			
v/s Ratio Perm	0.01			0.15				0.08	0.13		0.04	
v/c Ratio	0.02	1.05		0.37	0.48			0.60	1.03		0.33	
Uniform Delay, d1	16.5	28.2		14.7	9.8			40.0	31.7		38.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	46.7		0.2	0.7			5.0	45.9		1.5	
Delay (s)	16.5	74.9		14.9	10.5			45.0	77.6		40.1	
Level of Service	B	E		B	B			D	E		D	
Approach Delay (s)		74.3			11.6			72.2			40.1	
Approach LOS		E			B			E			D	
Intersection Summary												
HCM 2000 Control Delay			53.2			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			97.5			Sum of lost time (s)			18.5			
Intersection Capacity Utilization			95.7%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis Delaware Avenue/Groesbeck Place & Delaware Avenue

Delaware Ave feasibility Study, 116-149 ETC+30 (2030) Signal Imp - Partial Road Diet - optimized_AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	718	74	167	513	6	103	9	540	24	12	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	3369		1727	1744			1783	1589		1662	
Flt Permitted	0.46	1.00		0.14	1.00			0.71	1.00		0.80	
Satd. Flow (perm)	913	3369		264	1744			1317	1589		1358	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.95
Adj. Flow (vph)	8	740	76	172	529	6	106	9	557	25	12	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	816	0	172	535	0	0	115	557	0	51	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	1%	1%	5%	17%	2%	0%	1%	9%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	29.2	29.2		50.0	50.0			10.2	32.6		10.2	
Effective Green, g (s)	29.2	29.2		50.0	50.0			10.2	32.6		10.2	
Actuated g/C Ratio	0.35	0.35		0.59	0.59			0.12	0.39		0.12	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	334	1168		545	1035			159	615		164	
v/s Ratio Prot	0.00	c0.24		0.08	0.31				c0.24			
v/s Ratio Perm	0.01			0.10				0.09	0.11		0.04	
v/c Ratio	0.02	0.70		0.32	0.52			0.72	0.91		0.31	
Uniform Delay, d1	18.1	23.7		10.1	10.0			35.6	24.3		33.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.0		0.1	0.9			15.0	16.6		1.5	
Delay (s)	18.1	25.7		10.2	10.9			50.6	40.9		35.3	
Level of Service	B	C		B	B			D	D		D	
Approach Delay (s)		25.6			10.7			42.6			35.3	
Approach LOS		C			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			26.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			84.2			Sum of lost time (s)			18.5			
Intersection Capacity Utilization			76.6%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 - 1-1-2 Alternative Signal Imps_AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	718	74	167	513	6	103	9	540	24	12	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	3369		1727	1744			1783	1589		1662	
Flt Permitted	0.46	1.00		0.14	1.00			0.71	1.00		0.80	
Satd. Flow (perm)	913	3369		264	1744			1317	1589		1358	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.95
Adj. Flow (vph)	8	740	76	172	529	6	106	9	557	25	12	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	816	0	172	535	0	0	115	557	0	51	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	1%	1%	5%	17%	2%	0%	1%	9%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	29.2	29.2		50.0	50.0			10.2	32.6		10.2	
Effective Green, g (s)	29.2	29.2		50.0	50.0			10.2	32.6		10.2	
Actuated g/C Ratio	0.35	0.35		0.59	0.59			0.12	0.39		0.12	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	334	1168		545	1035			159	615		164	
v/s Ratio Prot	0.00	c0.24		0.08	0.31				c0.24			
v/s Ratio Perm	0.01			0.10				0.09	0.11		0.04	
v/c Ratio	0.02	0.70		0.32	0.52			0.72	0.91		0.31	
Uniform Delay, d1	18.1	23.7		10.1	10.0			35.6	24.3		33.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.0		0.1	0.9			15.0	16.6		1.5	
Delay (s)	18.1	25.7		10.2	10.9			50.6	40.9		35.3	
Level of Service	B	C		B	B			D	D		D	
Approach Delay (s)		25.6			10.7			42.6			35.3	
Approach LOS		C			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			26.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			84.2			Sum of lost time (s)			18.5			
Intersection Capacity Utilization			76.6%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 - 2-1-1 Alternative Signal Imps_AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	718	74	167	513	6	103	9	540	24	12	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	1773		1728	1744			1783	1580		1663	
Flt Permitted	0.46	1.00		0.09	1.00			0.78	1.00		0.81	
Satd. Flow (perm)	913	1773		172	1744			1459	1580		1382	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.95
Adj. Flow (vph)	8	740	76	172	529	6	106	9	557	25	12	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	816	0	172	535	0	0	115	557	0	51	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	1%	1%	5%	17%	2%	0%	1%	9%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	44.1	44.1		64.6	64.6			13.0	35.4		13.0	
Effective Green, g (s)	44.1	44.1		64.6	64.6			13.0	35.4		13.0	
Actuated g/C Ratio	0.43	0.43		0.63	0.63			0.13	0.35		0.13	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	412	767		451	1105			186	548		176	
v/s Ratio Prot	0.00	c0.46		0.08	0.31				c0.22			
v/s Ratio Perm	0.01			0.16				0.08	0.13		0.04	
v/c Ratio	0.02	1.06		0.38	0.48			0.62	1.02		0.29	
Uniform Delay, d1	16.5	28.9		15.5	9.9			42.1	33.2		40.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	50.8		0.2	0.7			6.0	42.6		1.2	
Delay (s)	16.6	79.7		15.7	10.6			48.1	75.9		41.5	
Level of Service	B	E		B	B			D	E		D	
Approach Delay (s)		79.1			11.8			71.1			41.5	
Approach LOS		E			B			E			D	

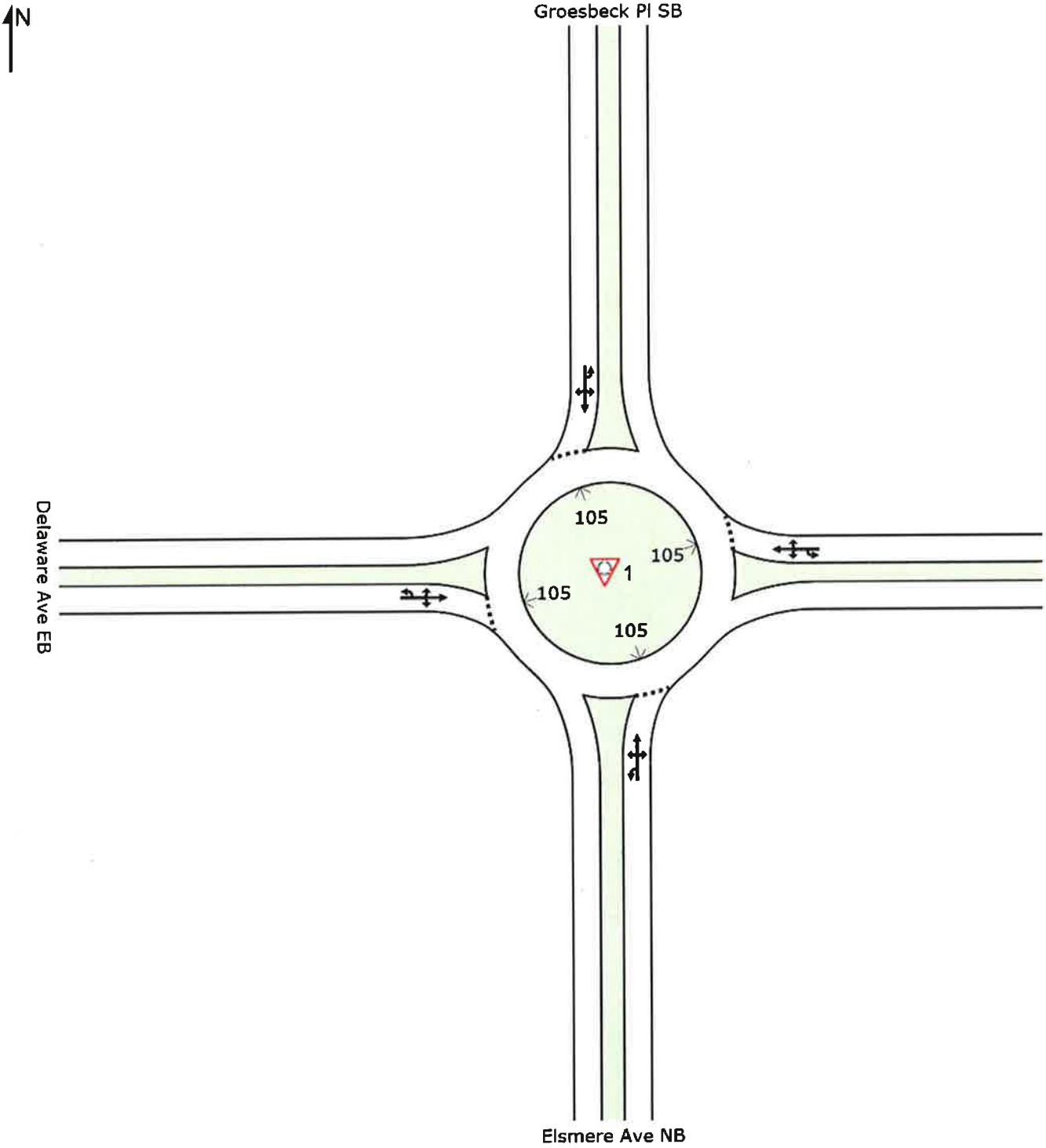
Intersection Summary

HCM 2000 Control Delay	54.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	101.9	Sum of lost time (s)	18.5
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

SITE LAYOUT

 **Site: 1 [Delaware Ave/Elsmere Ave/Groesbeck PI - AM Peak - 2030 Build]**

Delaware Ave/Elsmere Ave/Groesbeck PI
AM Peak Hour
2030 Build
Roundabout



LANE SUMMARY



Site: 1 [Delaware Ave/Elsmere Ave/Groesbeck PI - AM Peak - 2030 Build]

Delaware Ave/Elsmere Ave/Groesbeck PI
AM Peak Hour
2030 Build
Roundabout

Lane Use and Performance													
	Demand Flows			Deg.	Lane	Average	Level of	95% Back of Queue		Lane	Lane	Cap.	Prob.
	Total	HV	Cap.	Satn	Util.	Delay	Service	Veh	Dist	Config	Length	Adj.	Block.
	veh/h	%	veh/h	v/c	%	sec			ft		ft	%	%
South: Elsmere Ave NB													
Lane 1 ^d	673	1.1	471	1.430	100	218.6	LOS F	80.5	2032.0	Full	630	0.0	100.0
Approach	673	1.1		1.430		218.6	LOS F	80.5	2032.0				
East: Delaware Ave WB													
Lane 1 ^d	708	4.1	1194	0.593	100	5.4	LOS A	6.3	163.8	Full	310	0.0	0.0
Approach	708	4.1		0.593		5.4	LOS A	6.3	163.8				
North: Groesbeck PI SB													
Lane 1 ^d	52	4.3	502	0.103	100	11.7	LOS B	0.6	15.1	Full	670	0.0	0.0
Approach	52	4.3		0.103		11.7	LOS B	0.6	15.1				
West: Delaware Ave EB													
Lane 1 ^d	826	1.9	1041	0.793	100	9.1	LOS A	12.1	307.1	Full	550	0.0	0.0
Approach	826	1.9		0.793		9.1	LOS A	12.1	307.1				
Intersection	2259	2.4		1.430		70.5	LOS E	80.5	2032.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (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.

^d Dominant lane on roundabout approach

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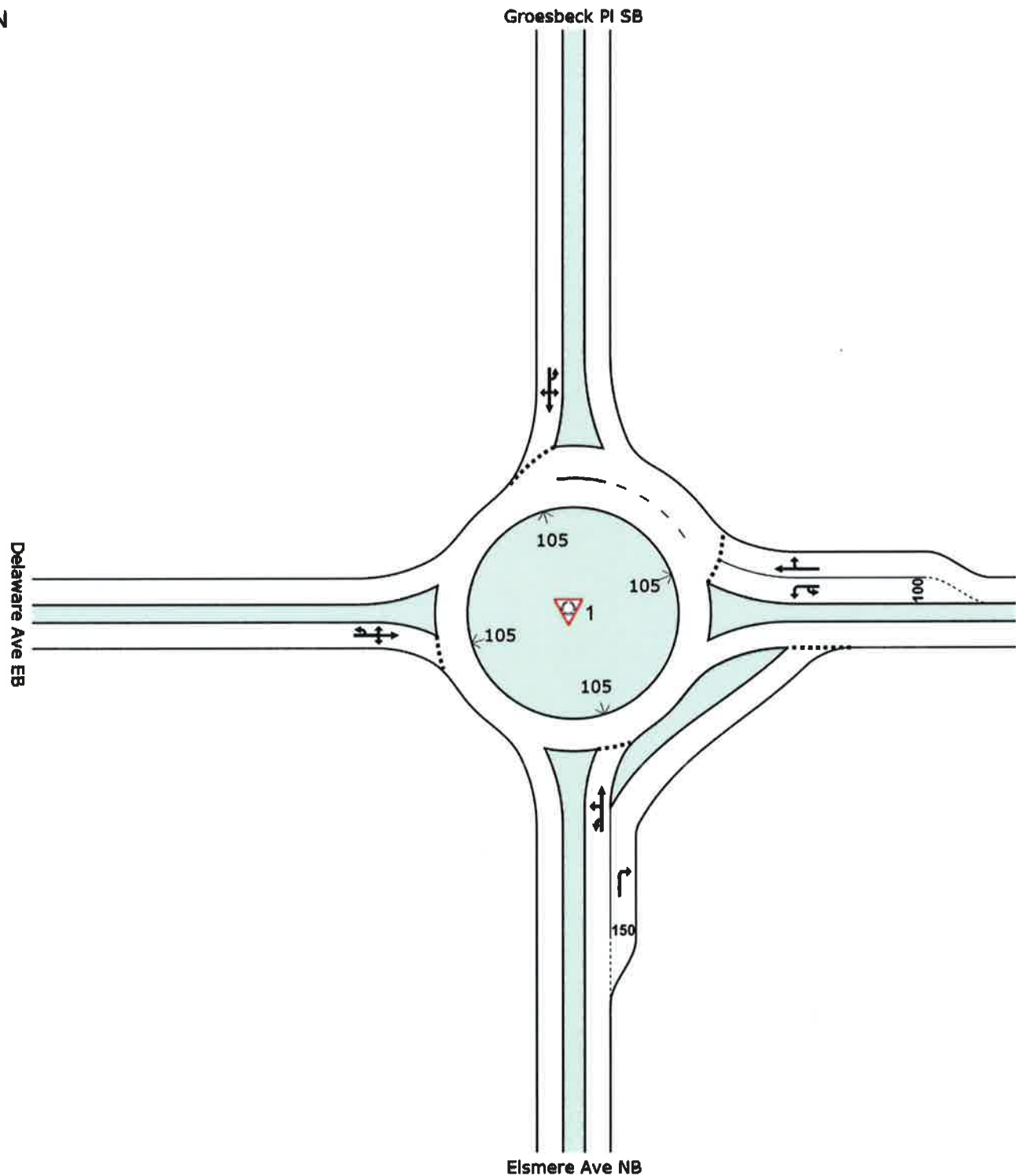
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SITE LAYOUT



Site: 1 [Delaware Ave/Elsmere Ave/Groesbeck PI - AM Peak - 2030 Build - Imp]

Delaware Ave/Elsmere Ave/Groesbeck PI
AM Peak Hour
2030 Build
Roundabout



LANE SUMMARY

Site: 1 [Delaware Ave/Elsmere Ave/Groesbeck PI - AM Peak - 2030 Build - Imp]

Delaware Ave/Elsmere Ave/Groesbeck PI
AM Peak Hour
2030 Build
Roundabout

Lane Use and Performance													
	Demand Total veh/h	Flows HV %	Cap. veh/h	Deg. Satn v/c	Lane Util %	Average Delay sec	Level of Service	95% Back of Veh	Queue Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Elsmere Ave NB													
Lane 1 ^d	116	1.8	611	0.191	100	14.2	LOS B	1.3	34.2	Full	630	0.0	0.0
Lane 2	557	1.0	627	0.888	100	28.1	LOS C	16.5	414.9	Short	150	0.0	NA
Approach	673	1.1		0.888		25.7	LOS C	16.5	414.9				
East: Delaware Ave WB													
Lane 1	173	1.0	883	0.196	100	8.3	LOS A	1.2	29.5	Short	100	0.0	NA
Lane 2 ^d	535	5.1	1269	0.422	100	4.3	LOS A	3.4	89.1	Full	310	0.0	0.0
Approach	708	4.1		0.422		5.3	LOS A	3.4	89.1				
North: Groesbeck PI SB													
Lane 1 ^d	52	4.3	559	0.092	100	9.4	LOS A	0.4	9.7	Full	670	0.0	0.0
Approach	52	4.3		0.092		9.4	LOS A	0.4	9.7				
West: Delaware Ave EB													
Lane 1 ^d	826	1.9	1046	0.789	100	9.0	LOS A	11.8	299.1	Full	550	0.0	0.0
Approach	826	1.9		0.789		9.0	LOS A	11.8	299.1				
Intersection	2259	2.4		0.888		12.8	LOS B	16.5	414.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (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.

^d Dominant lane on roundabout approach

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HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

Existing 2016_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	410	79	480	679	8	130	11	238	17	17	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	3326		1744	1815			1782	1585		1740	
Flt Permitted	0.39	1.00		0.30	1.00			0.71	1.00		0.86	
Satd. Flow (perm)	767	3326		555	1815			1319	1585		1531	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	432	83	505	715	8	137	12	251	18	18	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	21	515	0	505	723	0	0	149	251	0	49	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	2%	0%	1%	2%	2%	1%	1%	2%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	28.2	28.2		42.4	42.4			13.9	29.8		13.9	
Effective Green, g (s)	28.2	28.2		42.4	42.4			13.9	29.8		13.9	
Actuated g/C Ratio	0.35	0.35		0.53	0.53			0.17	0.37		0.17	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	294	1175		531	964			229	591		266	
v/s Ratio Prot	0.00	c0.15		c0.19	0.40				0.08			
v/s Ratio Perm	0.02			c0.32				c0.11	0.07		0.03	
v/c Ratio	0.07	0.44		0.95	0.75			0.65	0.42		0.18	
Uniform Delay, d1	17.2	19.7		13.6	14.6			30.7	18.6		28.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.4		27.0	4.0			6.5	0.2		0.5	
Delay (s)	17.2	20.1		40.6	18.5			37.2	18.8		28.6	
Level of Service	B	C		D	B			D	B		C	
Approach Delay (s)		20.0			27.6			25.6			28.6	
Approach LOS		B			C			C			C	

Intersection Summary

HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	79.8	Sum of lost time (s)	18.5
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 Signal Imps_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	413	79	509	723	18	130	11	256	23	18	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	3326		1744	1810			1782	1585		1747	
Flt Permitted	0.34	1.00		0.29	1.00			0.70	1.00		0.84	
Satd. Flow (perm)	668	3326		531	1810			1310	1585		1492	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	22	435	83	536	761	19	137	12	269	24	19	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	22	518	0	536	780	0	0	149	269	0	56	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	2%	0%	1%	2%	2%	1%	1%	2%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	27.4	27.4		42.5	42.5			14.3	31.3		14.3	
Effective Green, g (s)	27.4	27.4		42.5	42.5			14.3	31.3		14.3	
Actuated g/C Ratio	0.34	0.34		0.53	0.53			0.18	0.39		0.18	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	255	1132		536	955			232	616		265	
v/s Ratio Prot	0.00	c0.16		c0.21	0.43				0.09			
v/s Ratio Perm	0.03			c0.32				c0.11	0.08		0.04	
v/c Ratio	0.09	0.46		1.00	0.82			0.64	0.44		0.21	
Uniform Delay, d1	19.5	20.7		14.6	15.8			30.7	18.1		28.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.4		38.9	6.2			6.0	0.2		0.5	
Delay (s)	19.6	21.1		53.5	22.0			36.7	18.3		28.8	
Level of Service	B	C		D	C			D	B		C	
Approach Delay (s)		21.1			34.8			24.8			28.8	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	18.5
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 Signal Imps (Optimized)_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	413	79	509	723	18	130	11	256	23	18	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	3326		1745	1810			1782	1589		1744	
Flt Permitted	0.37	1.00		0.21	1.00			0.77	1.00		0.83	
Satd. Flow (perm)	727	3326		394	1810			1427	1589		1483	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	22	435	83	536	761	19	137	12	269	24	19	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	22	518	0	536	780	0	0	149	269	0	56	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	2%	0%	1%	2%	2%	1%	1%	2%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	23.9	23.9		49.6	49.6			14.3	42.4		14.3	
Effective Green, g (s)	23.9	23.9		49.6	49.6			14.3	42.4		14.3	
Actuated g/C Ratio	0.27	0.27		0.56	0.56			0.16	0.48		0.16	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	227	900		651	1016			231	763		240	
v/s Ratio Prot	0.00	c0.16		c0.26	0.43				0.11			
v/s Ratio Perm	0.02			c0.20				c0.10	0.06		0.04	
v/c Ratio	0.10	0.58		0.82	0.77			0.65	0.35		0.23	
Uniform Delay, d1	24.2	27.8		17.7	14.9			34.6	14.4		32.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	1.1		7.9	4.2			6.1	0.1		0.7	
Delay (s)	24.4	28.9		25.6	19.1			40.7	14.5		32.9	
Level of Service	C	C		C	B			D	B		C	
Approach Delay (s)		28.7			21.7			23.8			32.9	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.0			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			88.3			Sum of lost time (s)			18.5			
Intersection Capacity Utilization			70.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis Esbeck Place & Delaware Ave/Delaware AvenueDelaware Ave feasibility Study, 116-149 ETC+10 2030 - Road Diet Signal Imps (HCS DELAY)_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SET	SBR
Lane Configurations												
Volume (vph)	21	414	79	495	692	16	130	13	255	23	18	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	1751		1745	1811			1784	1582		1742	
Flt Permitted	0.38	1.00		0.14	1.00			0.77	1.00		0.83	
Satd. Flow (perm)	751	1751		261	1811			1443	1582		1475	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	22	436	83	521	728	17	137	14	268	24	19	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	22	519	0	521	745	0	0	151	268	0	56	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	2%	0%	1%	2%	2%	1%	1%	2%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	31.8	31.8		55.8	55.8			14.6	42.2		14.6	
Effective Green, g (s)	31.8	31.8		55.8	55.8			14.6	42.2		14.6	
Actuated g/C Ratio	0.33	0.33		0.58	0.58			0.15	0.44		0.15	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	289	578		576	1049			218	693		223	
v/s Ratio Prot	0.00	c0.30		c0.26	0.41				0.11			
v/s Ratio Perm	0.02			c0.27				c0.10	0.06		0.04	
v/c Ratio	0.08	0.90		0.90	0.71			0.69	0.39		0.25	
Uniform Delay, d1	22.3	30.7		24.9	14.5			38.7	18.3		36.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	16.9		17.3	2.8			9.1	0.1		0.8	
Delay (s)	22.3	47.6		42.2	17.3			47.9	18.4		36.8	
Level of Service	C	D		D	B			D	B		D	
Approach Delay (s)		46.6			27.5			29.0			36.8	
Approach LOS		D			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			32.6			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			96.3			Sum of lost time (s)			18.5			
Intersection Capacity Utilization			81.1%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 Signal Imps - Partial Road Diet_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	413	79	509	723	18	130	11	256	23	18	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	3326		1745	1810			1782	1589		1744	
Flt Permitted	0.37	1.00		0.21	1.00			0.77	1.00		0.83	
Satd. Flow (perm)	727	3326		394	1810			1427	1589		1483	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	22	435	83	536	761	19	137	12	269	24	19	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	22	518	0	536	780	0	0	149	269	0	56	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	2%	0%	1%	2%	2%	1%	1%	2%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	23.9	23.9		49.6	49.6			14.3	42.4		14.3	
Effective Green, g (s)	23.9	23.9		49.6	49.6			14.3	42.4		14.3	
Actuated g/C Ratio	0.27	0.27		0.56	0.56			0.16	0.48		0.16	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	227	900		651	1016			231	763		240	
v/s Ratio Prot	0.00	c0.16		c0.26	0.43				0.11			
v/s Ratio Perm	0.02			c0.20				c0.10	0.06		0.04	
v/c Ratio	0.10	0.58		0.82	0.77			0.65	0.35		0.23	
Uniform Delay, d1	24.2	27.8		17.7	14.9			34.6	14.4		32.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	1.1		7.9	4.2			6.1	0.1		0.7	
Delay (s)	24.4	28.9		25.6	19.1			40.7	14.5		32.9	
Level of Service	C	C		C	B			D	B		C	
Approach Delay (s)		28.7			21.7			23.8			32.9	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	88.3	Sum of lost time (s)	18.5
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 - 1-1-2 Alternative Signal Imps_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NER	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	413	79	509	723	18	130	11	256	23	18	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	3326		1745	1810			1782	1589		1744	
Flt Permitted	0.37	1.00		0.21	1.00			0.77	1.00		0.83	
Satd. Flow (perm)	727	3326		394	1810			1427	1589		1483	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	22	435	83	536	761	19	137	12	269	24	19	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	22	518	0	536	780	0	0	149	269	0	56	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	2%	0%	1%	2%	2%	1%	1%	2%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	23.9	23.9		49.6	49.6			14.3	42.4		14.3	
Effective Green, g (s)	23.9	23.9		49.6	49.6			14.3	42.4		14.3	
Actuated g/C Ratio	0.27	0.27		0.56	0.56			0.16	0.48		0.16	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	227	900		651	1016			231	763		240	
v/s Ratio Prot	0.00	c0.16		c0.26	0.43				0.11			
v/s Ratio Perm	0.02			c0.20				c0.10	0.06		0.04	
v/c Ratio	0.10	0.58		0.82	0.77			0.65	0.35		0.23	
Uniform Delay, d1	24.2	27.8		17.7	14.9			34.6	14.4		32.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	1.1		7.9	4.2			6.1	0.1		0.7	
Delay (s)	24.4	28.9		25.6	19.1			40.7	14.5		32.9	
Level of Service	C	C		C	B			D	B		C	
Approach Delay (s)		28.7			21.7			23.8			32.9	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	88.3	Sum of lost time (s)	18.5
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 - 2-1-1 Alternative Signal Imps_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	413	79	509	723	18	130	11	256	23	18	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	13	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1865	1751		1745	1810			1782	1582		1742	
Flt Permitted	0.37	1.00		0.14	1.00			0.77	1.00		0.83	
Satd. Flow (perm)	727	1751		261	1810			1442	1582		1476	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	22	435	83	536	761	19	137	12	269	24	19	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	22	518	0	536	780	0	0	149	269	0	56	0
Confl. Peds. (#/hr)			2	2					1	1		
Confl. Bikes (#/hr)			1			2			11			26
Heavy Vehicles (%)	0%	2%	2%	0%	1%	2%	2%	1%	1%	2%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	6		5	1			7	5		3	
Permitted Phases	6			1			7		7	3		
Actuated Green, G (s)	31.8	31.8		55.8	55.8			14.5	42.1		14.5	
Effective Green, g (s)	31.8	31.8		55.8	55.8			14.5	42.1		14.5	
Actuated g/C Ratio	0.33	0.33		0.58	0.58			0.15	0.44		0.15	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.5	4.0		2.0	5.0			3.0	2.0		4.0	
Lane Grp Cap (vph)	282	578		577	1049			217	692		222	
v/s Ratio Prot	0.00	c0.30		c0.27	0.43				0.11			
v/s Ratio Perm	0.02			c0.27				c0.10	0.06		0.04	
v/c Ratio	0.08	0.90		0.93	0.74			0.69	0.39		0.25	
Uniform Delay, d1	22.2	30.6		25.4	14.9			38.7	18.3		36.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	16.7		21.1	3.5			8.7	0.1		0.8	
Delay (s)	22.3	47.4		46.4	18.4			47.4	18.5		36.9	
Level of Service	C	D		D	B			D	B		D	
Approach Delay (s)		46.4			29.8			28.8			36.9	
Approach LOS		D			C			C			D	

Intersection Summary

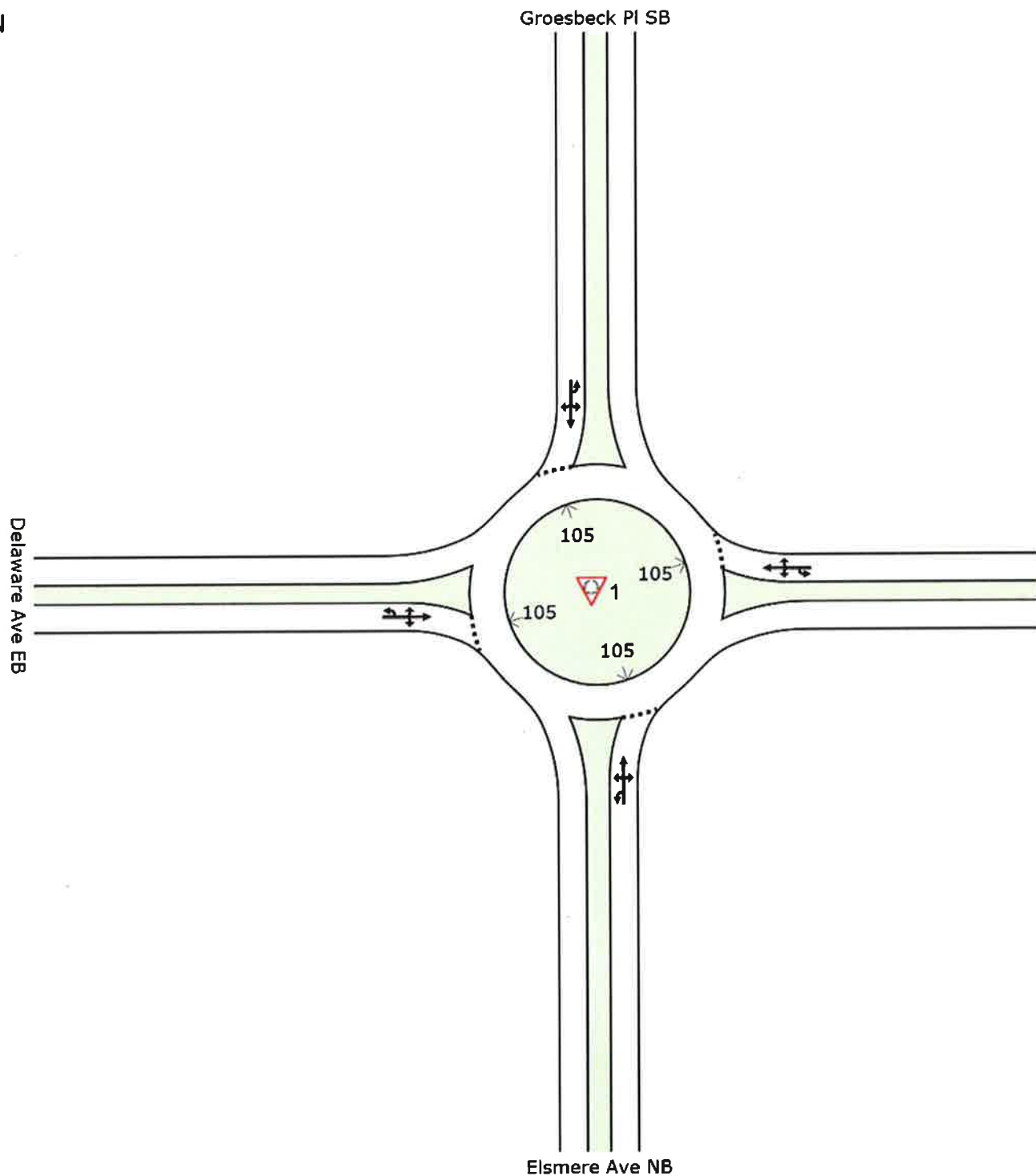
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	96.2	Sum of lost time (s)	18.5
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

SITE LAYOUT



Site: 1 [Delaware Ave/Elsmere Ave/Groesbeck PI - AM Peak - 2030 Build]

Delaware Ave/Elsmere Ave/Groesbeck PI
AM Peak Hour
2030 Build
Roundabout



LANE SUMMARY

Site: 1 [Delaware Ave/Elsmere Ave/Groesbeck PI - PM Peak - 2030 Build]

Delaware Ave/Elsmere Ave/Groesbeck PI
PM Peak Hour
2030 Build
Roundabout

Lane Use and Performance													
	Demand Flows			Deg.	Lane	Average	Level of	95% Back of Queue		Lane	Lane	Cap.	Prob.
	Total	HV	Cap.	Satn	Util.	Delay	Service	Veh	Dist	Config	Length	Adj.	Block.
	veh/h	%	veh/h	v/c	%	sec			ft		ft	%	%
South: Elsmere Ave NB													
Lane 1 ^d	419	1.3	683	0.613	100	11.6	LOS B	5.9	149.5	Full	630	0.0	0.0
Approach	419	1.3		0.613		11.6	LOS B	5.9	149.5				
East: Delaware Ave WB													
Lane 1 ^d	1317	0.6	1133	1.162	100	87.6	LOS F	92.8	2331.5	Full	310	0.0	100.0
Approach	1317	0.6		1.162		87.6	LOS F	92.8	2331.5				
North: Groesbeck PI SB													
Lane 1 ^d	57	1.3	204	0.278	100	22.4	LOS C	1.9	48.5	Full	670	0.0	0.0
Approach	57	1.3		0.278		22.4	LOS C	1.9	48.5				
West: Delaware Ave EB													
Lane 1 ^d	541	1.9	670	0.807	100	17.8	LOS B	11.5	292.3	Full	550	0.0	0.0
Approach	541	1.9		0.807		17.8	LOS B	11.5	292.3				
Intersection	2334	1.1		1.162		56.2	LOS E	92.8	2331.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (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.

^d Dominant lane on roundabout approach

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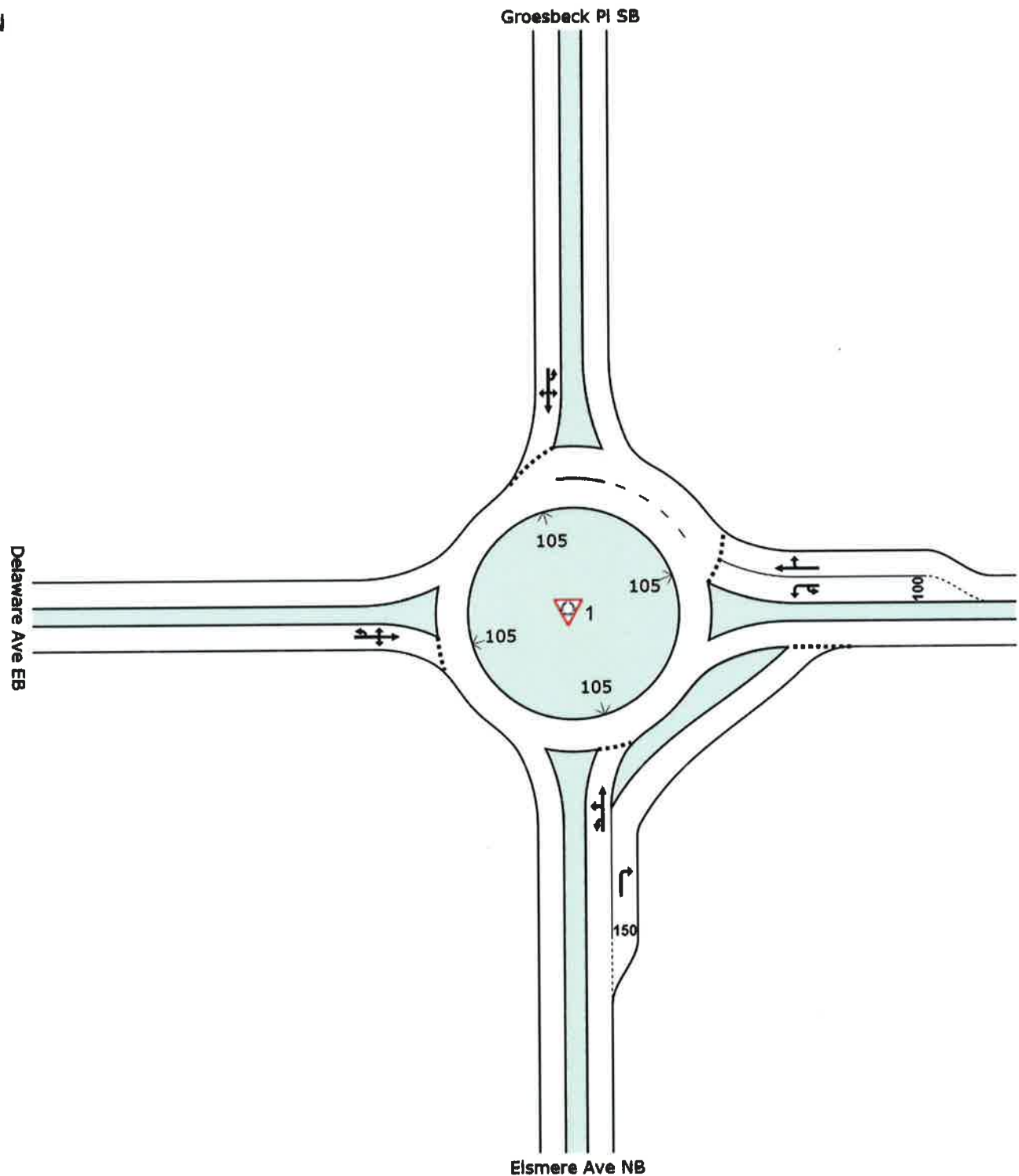
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SITE LAYOUT



Site: 1 [Delaware Ave/Elsmere Ave/Groesbeck PI - AM Peak - 2030 Build - Imp]

Delaware Ave/Elsmere Ave/Groesbeck PI
AM Peak Hour
2030 Build
Roundabout



LANE SUMMARY

 **Site: 1 [Delaware Ave/Elsmere Ave/Groesbeck PI - PM Peak - 2030 Build - Imp]**

Delaware Ave/Elsmere Ave/Groesbeck PI
PM Peak Hour
2030 Build
Roundabout

Lane Use and Performance													
	Demand Flows			Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	Cap. veh/h	v/c	%	sec		Veh	Dist ft		ft	%	%
South: Elsmere Ave NB													
Lane 1 ^d	149	1.9	858	0.174	100	11.8	LOS B	1.1	29.1	Full	630	0.0	0.0
Lane 2	269	1.0	891	0.303	100	4.7	LOS A	2.1	54.0	Short	150	0.0	NA
Approach	419	1.3		0.303		7.2	LOS A	2.1	54.0				
East: Delaware Ave WB													
Lane 1	537	0.0	1115	0.482	100	8.5	LOS A	3.8	96.0	Short	100	0.0	NA
Lane 2 ^d	780	1.0	1282	0.608	100	4.8	LOS A	5.9	148.3	Full	310	0.0	0.0
Approach	1317	0.6		0.608		6.4	LOS A	5.9	148.3				
North: Groesbeck PI SB													
Lane 1 ^d	57	1.3	389	0.146	100	11.5	LOS B	0.6	15.8	Full	670	0.0	0.0
Approach	57	1.3		0.146		11.5	LOS B	0.6	15.8				
West: Delaware Ave EB													
Lane 1 ^d	541	1.9	662	0.817	100	20.4	LOS C	11.8	300.6	Full	550	0.0	0.0
Approach	541	1.9		0.817		20.4	LOS C	11.8	300.6				
Intersection	2334	1.1		0.817		9.9	LOS A	11.8	300.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (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 (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

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2) Delaware Avenue/Herrick Avenue

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	8	657	1157	26	5	10
Conflicting Peds, #/hr	0	0	0	2	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, %	0	2	1	0	0	0
Mvmt Flow	8	692	1218	27	5	11

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1245	0	1595
Stage 1	-	-	1232
Stage 2	-	-	363
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	566	-	100
Stage 1	-	-	242
Stage 2	-	-	680
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	566	-	98
Mov Cap-2 Maneuver	-	-	98
Stage 1	-	-	242
Stage 2	-	-	664

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	24.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	566	-	-	-	203
HCM Lane V/C Ratio	0.015	-	-	-	0.078
HCM Control Delay (s)	11.5	0.1	-	-	24.2
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	8	684	1240	26	5	10
Conflicting Peds, #/hr	0	0	0	2	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, %	0	2	1	0	0	0
Mvmt Flow	8	720	1305	27	5	11

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1333	0	1696
Stage 1	-	-	1319
Stage 2	-	-	377
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	524	-	85
Stage 1	-	-	218
Stage 2	-	-	669
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	524	-	83
Mov Cap-2 Maneuver	-	-	83
Stage 1	-	-	218
Stage 2	-	-	652

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	27.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	524	-	-	-	177
HCM Lane V/C Ratio	0.016	-	-	-	0.089
HCM Control Delay (s)	12	0.1	-	-	27.3
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection							
Int Delay, s/veh		0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Vol, veh/h	8	684	1240	26	5	10	
Conflicting Peds, #/hr	0	0	0	2	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, %	0	2	1	0	0	0	
Mvmt Flow	8	720	1305	27	5	11	
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	1333	0	-	0	1696	666	
Stage 1	-	-	-	-	1319	-	
Stage 2	-	-	-	-	377	-	
Critical Hdwy	4.1	-	-	-	6.8	6.9	
Critical Hdwy Stg 1	-	-	-	-	5.8	-	
Critical Hdwy Stg 2	-	-	-	-	5.8	-	
Follow-up Hdwy	2.2	-	-	-	3.5	3.3	
Pot Cap-1 Maneuver	524	-	-	-	85	407	
Stage 1	-	-	-	-	218	-	
Stage 2	-	-	-	-	669	-	
Platoon blocked, %		-	-	-			
Mov Cap-1 Maneuver	524	-	-	-	83	407	
Mov Cap-2 Maneuver	-	-	-	-	83	-	
Stage 1	-	-	-	-	218	-	
Stage 2	-	-	-	-	652	-	
Approach	EB		WB		SB		
HCM Control Delay, s	0.2		0		27.3		
HCM LOS					D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	524	-	-	-	177		
HCM Lane V/C Ratio	0.016	-	-	-	0.089		
HCM Control Delay (s)	12	0.1	-	-	27.3		
HCM Lane LOS	B	A	-	-	D		
HCM 95th %tile Q(veh)	0	-	-	-	0.3		

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	8	692	1193	26	5	10
Conflicting Peds, #/hr	0	0	0	2	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, %	0	2	1	0	0	0
Mvmt Flow	8	728	1256	27	5	11

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1283	0	2014
Stage 1	-	-	1269
Stage 2	-	-	745
Critical Hdwy	4.1	-	6.6
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	548	-	58
Stage 1	-	-	232
Stage 2	-	-	473
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	548	-	57
Mov Cap-2 Maneuver	-	-	57
Stage 1	-	-	232
Stage 2	-	-	461

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	35.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	548	-	-	-	135
HCM Lane V/C Ratio	0.015	-	-	-	0.117
HCM Control Delay (s)	11.7	0	-	-	35.2
HCM Lane LOS	B	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	8	684	1240	26	5	10
Conflicting Peds, #/hr	0	0	0	2	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, %	0	2	1	0	0	0
Mvmt Flow	8	720	1305	27	5	11
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1333	0	-	0	1696	666
Stage 1	-	-	-	-	1319	-
Stage 2	-	-	-	-	377	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	524	-	-	-	85	407
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	524	-	-	-	83	407
Mov Cap-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	652	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.2		0		27.3	
HCM LOS					D	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	524	-	-	-	177	
HCM Lane V/C Ratio	0.016	-	-	-	0.089	
HCM Control Delay (s)	12	0.1	-	-	27.3	
HCM Lane LOS	B	A	-	-	D	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	8	684	1240	26	5	10
Conflicting Peds, #/hr	0	0	0	2	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, %	0	2	1	0	0	0
Mvmt Flow	8	720	1305	27	5	11

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1333	0	1696
Stage 1	-	-	1319
Stage 2	-	-	377
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	524	-	85
Stage 1	-	-	218
Stage 2	-	-	669
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	524	-	83
Mov Cap-2 Maneuver	-	-	83
Stage 1	-	-	218
Stage 2	-	-	652

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	27.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	524	-	-	-	177
HCM Lane V/C Ratio	0.016	-	-	-	0.089
HCM Control Delay (s)	12	0.1	-	-	27.3
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	8	684	1240	26	5	10
Conflicting Peds, #/hr	0	0	0	2	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, %	0	2	1	0	0	0
Mvmt Flow	8	720	1305	27	5	11

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1333	0	2056
Stage 1	-	-	1319
Stage 2	-	-	737
Critical Hdwy	4.1	-	6.6
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	524	-	55
Stage 1	-	-	218
Stage 2	-	-	477
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	524	-	54
Mov Cap-2 Maneuver	-	-	54
Stage 1	-	-	218
Stage 2	-	-	465

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	37
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	524	-	-	-	128
HCM Lane V/C Ratio	0.016	-	-	-	0.123
HCM Control Delay (s)	12	0	-	-	37
HCM Lane LOS	B	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.4

3) Delaware Avenue/Booth Road

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	652	10	11	1178	5	14
Conflicting Peds, #/hr	0	2	2	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	0	0	1	0	0
Mvmt Flow	686	11	12	1240	5	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	697	0	1335	350
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	643	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	909	-	148	652
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	491	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	908	-	142	651
Mov Cap-2 Maneuver	-	-	-	-	142	-
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	470	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	335	-	-	908	-
HCM Lane V/C Ratio	0.06	-	-	0.013	-
HCM Control Delay (s)	16.4	-	-	9	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection							
Int Delay, s/veh	0.4						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Vol, veh/h	679	10	11	1261	5	14	
Conflicting Peds, #/hr	0	2	2	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	0	0	1	0	0	
Mvmt Flow	715	11	12	1327	5	15	
Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	0	0	725	0	1407	365	
Stage 1	-	-	-	-	720	-	
Stage 2	-	-	-	-	687	-	
Critical Hdwy	-	-	4.1	-	6.8	6.9	
Critical Hdwy Stg 1	-	-	-	-	5.8	-	
Critical Hdwy Stg 2	-	-	-	-	5.8	-	
Follow-up Hdwy	-	-	2.2	-	3.5	3.3	
Pot Cap-1 Maneuver	-	-	887	-	132	638	
Stage 1	-	-	-	-	448	-	
Stage 2	-	-	-	-	466	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	886	-	125	637	
Mov Cap-2 Maneuver	-	-	-	-	125	-	
Stage 1	-	-	-	-	448	-	
Stage 2	-	-	-	-	441	-	
Approach	EB		WB		NB		
HCM Control Delay, s	0		0.3		17.5		
HCM LOS					C		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT		
Capacity (veh/h)	307	-	-	886	-		
HCM Lane V/C Ratio	0.065	-	-	0.013	-		
HCM Control Delay (s)	17.5	-	-	9.1	0.2		
HCM Lane LOS	C	-	-	A	A		
HCM 95th %tile Q(veh)	0.2	-	-	0	-		

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	679	10	11	1261	5	14
Conflicting Peds, #/hr	0	2	2	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	0	0	1	0	0
Mvmt Flow	715	11	12	1327	5	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	725	0	1407	365
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	687	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	887	-	132	638
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	466	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	886	-	125	637
Mov Cap-2 Maneuver	-	-	-	-	125	-
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	441	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	307	-	-	886	-
HCM Lane V/C Ratio	0.065	-	-	0.013	-
HCM Control Delay (s)	17.5	-	-	9.1	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	687	10	11	1208	5	14
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	723	11	12	1272	5	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	734	0	2023	730
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	1295	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	880	-	64	426
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	259	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	879	-	63	425
Mov Cap-2 Maneuver	-	-	-	-	178	-
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	255	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	311	-	-	879	-
HCM Lane V/C Ratio	0.064	-	-	0.013	-
HCM Control Delay (s)	17.4	-	-	9.2	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	679	10	11	1261	5	14
Conflicting Peds, #/hr	0	2	2	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	0	0	1	0	0
Mvmt Flow	715	11	12	1327	5	15

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	725
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	887
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	886
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	307	-	-	886	-
HCM Lane V/C Ratio	0.065	-	-	0.013	-
HCM Control Delay (s)	17.5	-	-	9.1	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	679	10	11	1261	5	14
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	715	11	12	1327	5	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	725	0	2071	365
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	1351	-
Critical Hdwy	-	-	4.1	-	6.6	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	887	-	54	638
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	244	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	886	-	53	637
Mov Cap-2 Maneuver	-	-	-	-	164	-
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	240	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	15.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	362	-	-	886	-
HCM Lane V/C Ratio	0.055	-	-	0.013	-
HCM Control Delay (s)	15.5	-	-	9.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	679	10	11	1261	5	14
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	715	11	12	1327	5	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	725	0	1407	722
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	687	-
Critical Hdwy	-	-	4.1	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	887	-	143	430
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	466	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	886	-	141	429
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	459	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	376	-	-	886	-
HCM Lane V/C Ratio	0.053	-	-	0.013	-
HCM Control Delay (s)	15.1	-	-	9.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

4) Delaware Avenue/Handy Dandy West

Intersection

Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	779	6	10	1118	16	14
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	0	0	1	0	0
Mvmt Flow	820	6	11	1177	17	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	826	0	1432	413
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	609	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	813	-	127	594
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	511	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	813	-	122	594
Mov Cap-2 Maneuver	-	-	-	-	122	-
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	491	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	27.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	194	-	-	813	-
HCM Lane V/C Ratio	0.163	-	-	0.013	-
HCM Control Delay (s)	27.1	-	-	9.5	0.2
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	801	6	10	1199	16	14
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	0	0	1	0	0
Mvmt Flow	843	6	11	1262	17	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	849	0	1498	425
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	652	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	798	-	115	583
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	486	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	798	-	110	583
Mov Cap-2 Maneuver	-	-	-	-	110	-
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	464	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	29.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	177	-	-	798	-
HCM Lane V/C Ratio	0.178	-	-	0.013	-
HCM Control Delay (s)	29.7	-	-	9.6	0.2
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection

Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	801	6	10	1199	16	14
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	0	0	1	0	0
Mvmt Flow	843	6	11	1262	17	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	849	0	1498	425
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	652	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	798	-	115	583
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	486	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	798	-	110	583
Mov Cap-2 Maneuver	-	-	-	-	110	-
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	464	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	29.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	177	-	-	798	-
HCM Lane V/C Ratio	0.178	-	-	0.013	-
HCM Control Delay (s)	29.7	-	-	9.6	0.2
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	794	6	10	1146	16	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	836	6	11	1206	17	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	842	0	2066	839
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	1227	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	802	-	61	369
Stage 1	-	-	-	-	427	-
Stage 2	-	-	-	-	280	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	802	-	60	369
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	427	-
Stage 2	-	-	-	-	276	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	22.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	236	-	-	802	-
HCM Lane V/C Ratio	0.134	-	-	0.013	-
HCM Control Delay (s)	22.6	-	-	9.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	801	6	10	1199	16	14
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	0	0	1	0	0
Mvmt Flow	843	6	11	1262	17	15
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	849	0	1498	425
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	652	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	798	-	115	583
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	486	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	798	-	110	583
Mov Cap-2 Maneuver	-	-	-	-	110	-
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	464	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		29.7	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	177	-	-	798	-	
HCM Lane V/C Ratio	0.178	-	-	0.013	-	
HCM Control Delay (s)	29.7	-	-	9.6	0.2	
HCM Lane LOS	D	-	-	A	A	
HCM 95th %tile Q(veh)	0.6	-	-	0	-	

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	801	6	10	1199	16	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	843	6	11	1262	17	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	849	0	2129	425
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	1283	-
Critical Hdwy	-	-	4.1	-	6.6	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	798	-	49	583
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	263	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	798	-	48	583
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	259	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	244	-	-	798	-
HCM Lane V/C Ratio	0.129	-	-	0.013	-
HCM Control Delay (s)	21.9	-	-	9.6	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	801	6	10	1199	16	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	843	6	11	1262	17	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	849	0	1498	846
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	652	-
Critical Hdwy	-	-	4.1	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	798	-	125	365
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	486	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	798	-	123	365
Mov Cap-2 Maneuver	-	-	-	-	261	-
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	479	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	301	-	-	798	-
HCM Lane V/C Ratio	0.105	-	-	0.013	-
HCM Control Delay (s)	18.4	-	-	9.6	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

5) Delaware Avenue/Handy Dandy East/My Place & Co. West

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	783	0	10	1108	10	2	0	6	2	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	11	824	0	11	1166	11	2	0	6	2	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1177	0	0	824	0	0	1449	2043	412	1626	2038	588
Stage 1	-	-	-	-	-	-	845	845	-	1193	1193	-
Stage 2	-	-	-	-	-	-	604	1198	-	433	845	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	601	-	-	815	-	-	94	57	595	69	57	457
Stage 1	-	-	-	-	-	-	328	382	-	202	263	-
Stage 2	-	-	-	-	-	-	457	261	-	577	382	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	601	-	-	815	-	-	85	53	595	65	53	457
Mov Cap-2 Maneuver	-	-	-	-	-	-	85	53	-	65	53	-
Stage 1	-	-	-	-	-	-	317	369	-	195	253	-
Stage 2	-	-	-	-	-	-	421	251	-	551	369	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	20.7	18.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	238	601	-	-	815	-	-	285
HCM Lane V/C Ratio	0.035	0.018	-	-	0.013	-	-	0.074
HCM Control Delay (s)	20.7	11.1	0.2	-	9.5	0.2	-	18.6
HCM Lane LOS	C	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.2

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	805	0	10	1189	10	2	0	6	2	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	11	847	0	11	1252	11	2	0	6	2	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1262	0	0	847	0	0	1515	2151	424	1723	2146	631
Stage 1	-	-	-	-	-	-	868	868	-	1278	1278	-
Stage 2	-	-	-	-	-	-	647	1283	-	445	868	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	558	-	-	799	-	-	84	49	584	59	49	429
Stage 1	-	-	-	-	-	-	318	372	-	179	239	-
Stage 2	-	-	-	-	-	-	431	238	-	567	372	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	558	-	-	799	-	-	75	45	584	55	45	429
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	45	-	55	45	-
Stage 1	-	-	-	-	-	-	306	358	-	172	228	-
Stage 2	-	-	-	-	-	-	393	227	-	540	358	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	22.3	20.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	217	558	-	-	799	-	-	255
HCM Lane V/C Ratio	0.039	0.019	-	-	0.013	-	-	0.083
HCM Control Delay (s)	22.3	11.6	0.2	-	9.6	0.2	-	20.4
HCM Lane LOS	C	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	805	0	10	1189	10	2	0	6	2	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	11	847	0	11	1252	11	2	0	6	2	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1262	0	0	847	0	0	1515	2151	424	1723	2146	631
Stage 1	-	-	-	-	-	-	868	868	-	1278	1278	-
Stage 2	-	-	-	-	-	-	647	1283	-	445	868	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	558	-	-	799	-	-	84	49	584	59	49	429
Stage 1	-	-	-	-	-	-	318	372	-	179	239	-
Stage 2	-	-	-	-	-	-	431	238	-	567	372	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	558	-	-	799	-	-	75	45	584	55	45	429
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	45	-	55	45	-
Stage 1	-	-	-	-	-	-	306	358	-	172	228	-
Stage 2	-	-	-	-	-	-	393	227	-	540	358	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	22.3	20.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	217	558	-	-	799	-	-	255
HCM Lane V/C Ratio	0.039	0.019	-	-	0.013	-	-	0.083
HCM Control Delay (s)	22.3	11.6	0.2	-	9.6	0.2	-	20.4
HCM Lane LOS	C	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	798	0	10	1136	10	2	0	6	2	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	11	840	0	11	1196	11	2	0	6	2	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1206	0	0	840	0	0	2093	2088	840	2086	2083	1201
Stage 1	-	-	-	-	-	-	861	861	-	1222	1222	-
Stage 2	-	-	-	-	-	-	1232	1227	-	864	861	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	586	-	-	804	-	-	39	53	368	39	54	227
Stage 1	-	-	-	-	-	-	353	375	-	222	254	-
Stage 2	-	-	-	-	-	-	219	253	-	352	375	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	586	-	-	804	-	-	35	51	368	37	52	227
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	154	-	136	157	-
Stage 1	-	-	-	-	-	-	346	368	-	218	251	-
Stage 2	-	-	-	-	-	-	198	250	-	339	368	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	20	23.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	248	586	-	-	804	-	-	213
HCM Lane V/C Ratio	0.034	0.018	-	-	0.013	-	-	0.099
HCM Control Delay (s)	20	11.3	-	-	9.5	-	-	23.7
HCM Lane LOS	C	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	805	0	10	1189	10	2	0	6	2	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	11	847	0	11	1252	11	2	0	6	2	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1262	0	0	847	0	0	1515	2151	424	1723	2146	631
Stage 1	-	-	-	-	-	-	868	868	-	1278	1278	-
Stage 2	-	-	-	-	-	-	647	1283	-	445	868	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	558	-	-	799	-	-	84	49	584	59	49	429
Stage 1	-	-	-	-	-	-	318	372	-	179	239	-
Stage 2	-	-	-	-	-	-	431	238	-	567	372	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	558	-	-	799	-	-	75	45	584	55	45	429
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	45	-	55	45	-
Stage 1	-	-	-	-	-	-	306	358	-	172	228	-
Stage 2	-	-	-	-	-	-	393	227	-	540	358	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	22.3	20.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	217	558	-	-	799	-	-	255
HCM Lane V/C Ratio	0.039	0.019	-	-	0.013	-	-	0.083
HCM Control Delay (s)	22.3	11.6	0.2	-	9.6	0.2	-	20.4
HCM Lane LOS	C	B	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection												
Int Delay, s/veh	0.4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	805	0	10	1189	10	2	0	6	2	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	11	847	0	11	1252	11	2	0	6	2	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1262	0	0	847	0	0	2155	2151	424	1723	2146	1257
Stage 1	-	-	-	-	-	-	868	868	-	1278	1278	-
Stage 2	-	-	-	-	-	-	1287	1283	-	445	868	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	558	-	-	799	-	-	31	49	584	64	49	211
Stage 1	-	-	-	-	-	-	318	372	-	206	239	-
Stage 2	-	-	-	-	-	-	204	238	-	567	372	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	558	-	-	799	-	-	28	47	584	62	47	211
Mov Cap-2 Maneuver	-	-	-	-	-	-	113	147	-	155	150	-
Stage 1	-	-	-	-	-	-	312	365	-	202	236	-
Stage 2	-	-	-	-	-	-	183	235	-	550	365	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	18	24.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	286	558	-	-	799	-	-	204
HCM Lane V/C Ratio	0.029	0.019	-	-	0.013	-	-	0.103
HCM Control Delay (s)	18	11.6	-	-	9.6	-	-	24.7
HCM Lane LOS	C	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	805	0	10	1189	10	2	0	6	2	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	11	847	0	11	1252	11	2	0	6	2	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1262	0	0	847	0	0	1515	2151	847	2150	2146	631
Stage 1	-	-	-	-	-	-	868	868	-	1278	1278	-
Stage 2	-	-	-	-	-	-	647	1283	-	872	868	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.2	7.3	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	558	-	-	799	-	-	91	49	365	31	49	429
Stage 1	-	-	-	-	-	-	350	372	-	179	239	-
Stage 2	-	-	-	-	-	-	431	238	-	348	372	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	558	-	-	799	-	-	85	47	365	30	47	429
Mov Cap-2 Maneuver	-	-	-	-	-	-	206	147	-	116	150	-
Stage 1	-	-	-	-	-	-	343	365	-	175	236	-
Stage 2	-	-	-	-	-	-	406	235	-	335	365	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	17.1	16.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	558	-	-	799	-	-	338
HCM Lane V/C Ratio	0.028	0.019	-	-	0.013	-	-	0.062
HCM Control Delay (s)	17.1	11.6	-	-	9.6	-	-	16.4
HCM Lane LOS	C	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.2

6) Delaware Avenue/Dunkin Donuts West/My Place & Co. East

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	18	757	16	10	1122	14	2	0	2	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	19	797	17	11	1181	15	2	0	2	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1196	0	0	814	0	0	1455	2060	407	1645	2061	598
Stage 1	-	-	-	-	-	-	843	843	-	1209	1209	-
Stage 2	-	-	-	-	-	-	612	1217	-	436	852	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	591	-	-	822	-	-	93	56	599	67	56	450
Stage 1	-	-	-	-	-	-	329	382	-	197	258	-
Stage 2	-	-	-	-	-	-	452	256	-	574	379	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	591	-	-	822	-	-	85	51	599	62	51	450
Mov Cap-2 Maneuver	-	-	-	-	-	-	85	51	-	62	51	-
Stage 1	-	-	-	-	-	-	310	359	-	185	248	-
Stage 2	-	-	-	-	-	-	430	246	-	538	357	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	29.9	13.1
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	149	591	-	-	822	-	-	450
HCM Lane V/C Ratio	0.028	0.032	-	-	0.013	-	-	0.009
HCM Control Delay (s)	29.9	11.3	0.3	-	9.4	0.2	-	13.1
HCM Lane LOS	D	B	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	18	779	16	10	1203	14	2	0	2	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	19	820	17	11	1266	15	2	0	2	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1281	0	0	837	0	0	1520	2168	418	1743	2170	641
Stage 1	-	-	-	-	-	-	866	866	-	1295	1295	-
Stage 2	-	-	-	-	-	-	654	1302	-	448	875	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	549	-	-	806	-	-	83	48	589	57	47	422
Stage 1	-	-	-	-	-	-	319	373	-	175	235	-
Stage 2	-	-	-	-	-	-	427	233	-	565	370	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	549	-	-	806	-	-	75	43	589	52	42	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	43	-	52	42	-
Stage 1	-	-	-	-	-	-	298	349	-	164	224	-
Stage 2	-	-	-	-	-	-	402	222	-	526	346	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.3	33	13.6
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	133	549	-	-	806	-	-	422
HCM Lane V/C Ratio	0.032	0.035	-	-	0.013	-	-	0.01
HCM Control Delay (s)	33	11.8	0.4	-	9.5	0.2	-	13.6
HCM Lane LOS	D	B	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0

Intersection												
Int Delay, s/veh	0.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	18	779	16	10	1203	14	2	0	2	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	19	820	17	11	1266	15	2	0	2	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1281	0	0	837	0	0	1520	2168	418	1743	2170	641
Stage 1	-	-	-	-	-	-	866	866	-	1295	1295	-
Stage 2	-	-	-	-	-	-	654	1302	-	448	875	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	549	-	-	806	-	-	83	48	589	57	47	422
Stage 1	-	-	-	-	-	-	319	373	-	175	235	-
Stage 2	-	-	-	-	-	-	427	233	-	565	370	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	549	-	-	806	-	-	75	43	589	52	42	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	43	-	52	42	-
Stage 1	-	-	-	-	-	-	298	349	-	164	224	-
Stage 2	-	-	-	-	-	-	402	222	-	526	346	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.3	33	13.6
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	133	549	-	-	806	-	-	422
HCM Lane V/C Ratio	0.032	0.035	-	-	0.013	-	-	0.01
HCM Control Delay (s)	33	11.8	0.4	-	9.5	0.2	-	13.6
HCM Lane LOS	D	B	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	18	772	16	10	1150	14	2	0	2	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	19	813	17	11	1211	15	2	0	2	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1225	0	0	829	0	0	2100	2105	821	2099	2106	1218
Stage 1	-	-	-	-	-	-	859	859	-	1239	1239	-
Stage 2	-	-	-	-	-	-	1241	1246	-	860	867	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	576	-	-	811	-	-	38	52	378	38	52	222
Stage 1	-	-	-	-	-	-	354	376	-	217	250	-
Stage 2	-	-	-	-	-	-	216	248	-	353	373	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	576	-	-	811	-	-	36	50	378	36	50	222
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	149	-	132	154	-
Stage 1	-	-	-	-	-	-	342	364	-	210	247	-
Stage 2	-	-	-	-	-	-	209	245	-	339	361	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	24.5	21.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	189	576	-	-	811	-	-	222
HCM Lane V/C Ratio	0.022	0.033	-	-	0.013	-	-	0.019
HCM Control Delay (s)	24.5	11.5	-	-	9.5	-	-	21.5
HCM Lane LOS	C	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	0.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	18	779	16	10	1203	14	2	0	2	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	19	820	17	11	1266	15	2	0	2	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1281	0	0	837	0	0	1520	2168	418	1743	2170	641
Stage 1	-	-	-	-	-	-	866	866	-	1295	1295	-
Stage 2	-	-	-	-	-	-	654	1302	-	448	875	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	549	-	-	806	-	-	83	48	589	57	47	422
Stage 1	-	-	-	-	-	-	319	373	-	175	235	-
Stage 2	-	-	-	-	-	-	427	233	-	565	370	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	549	-	-	806	-	-	75	43	589	52	42	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	75	43	-	52	42	-
Stage 1	-	-	-	-	-	-	298	349	-	164	224	-
Stage 2	-	-	-	-	-	-	402	222	-	526	346	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.3	33	13.6
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	133	549	-	-	806	-	-	422
HCM Lane V/C Ratio	0.032	0.035	-	-	0.013	-	-	0.01
HCM Control Delay (s)	33	11.8	0.4	-	9.5	0.2	-	13.6
HCM Lane LOS	D	B	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	18	779	16	10	1203	14	2	0	2	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	19	820	17	11	1266	15	2	0	2	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1281	0	0	837	0	0	2163	2168	418	1743	2170	1274
Stage 1	-	-	-	-	-	-	866	866	-	1295	1295	-
Stage 2	-	-	-	-	-	-	1297	1302	-	448	875	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	549	-	-	806	-	-	31	48	589	62	47	206
Stage 1	-	-	-	-	-	-	319	373	-	202	235	-
Stage 2	-	-	-	-	-	-	201	233	-	565	370	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	549	-	-	806	-	-	29	46	589	60	45	206
Mov Cap-2 Maneuver	-	-	-	-	-	-	114	141	-	151	146	-
Stage 1	-	-	-	-	-	-	308	360	-	195	232	-
Stage 2	-	-	-	-	-	-	194	230	-	543	357	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	24.3	22.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	191	549	-	-	806	-	-	206
HCM Lane V/C Ratio	0.022	0.035	-	-	0.013	-	-	0.02
HCM Control Delay (s)	24.3	11.8	-	-	9.5	-	-	22.8
HCM Lane LOS	C	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh		0.2										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	18	779	16	10	1203	14	2	0	2	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	19	820	17	11	1266	15	2	0	2	0	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1281	0	0	837	0	0	1520	2168	828	2162	2170	641
Stage 1	-	-	-	-	-	-	866	866	-	1295	1295	-
Stage 2	-	-	-	-	-	-	654	1302	-	867	875	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.2	7.3	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	549	-	-	806	-	-	90	48	374	31	47	422
Stage 1	-	-	-	-	-	-	351	373	-	175	235	-
Stage 2	-	-	-	-	-	-	427	233	-	350	370	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	549	-	-	806	-	-	86	46	374	30	45	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	206	141	-	114	146	-
Stage 1	-	-	-	-	-	-	339	360	-	169	232	-
Stage 2	-	-	-	-	-	-	417	230	-	336	357	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			18.8			13.6		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	266	549	-	-	806	-	-	422				
HCM Lane V/C Ratio	0.016	0.035	-	-	0.013	-	-	0.01				
HCM Control Delay (s)	18.8	11.8	-	-	9.5	-	-	13.6				
HCM Lane LOS	C	B	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0				

7) Delaware Avenue/Dunkin Donuts East/School's Out Driveway

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	745	0	10	1124	12	8	0	16	6	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	15	784	0	11	1183	13	8	0	17	6	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1196	0	0	784	0	0	1427	2031	392	1633	2025	598
Stage 1	-	-	-	-	-	-	814	814	-	1211	1211	-
Stage 2	-	-	-	-	-	-	613	1217	-	422	814	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	591	-	-	843	-	-	97	58	613	68	58	450
Stage 1	-	-	-	-	-	-	342	394	-	197	257	-
Stage 2	-	-	-	-	-	-	451	256	-	585	394	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	591	-	-	843	-	-	88	53	613	62	53	450
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	53	-	62	53	-
Stage 1	-	-	-	-	-	-	327	376	-	188	247	-
Stage 2	-	-	-	-	-	-	419	246	-	543	376	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	25	31.6
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	205	591	-	-	843	-	-	156
HCM Lane V/C Ratio	0.123	0.025	-	-	0.012	-	-	0.135
HCM Control Delay (s)	25	11.2	0.2	-	9.3	0.2	-	31.6
HCM Lane LOS	D	B	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.5

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	767	0	10	1205	12	8	0	16	6	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	15	807	0	11	1268	13	8	0	17	6	0	15
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1281	0	0	807	0	0	1492	2139	404	1729	2133	641
Stage 1	-	-	-	-	-	-	837	837	-	1296	1296	-
Stage 2	-	-	-	-	-	-	655	1302	-	433	837	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	549	-	-	827	-	-	87	50	602	58	50	422
Stage 1	-	-	-	-	-	-	332	385	-	174	234	-
Stage 2	-	-	-	-	-	-	426	233	-	577	385	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	549	-	-	827	-	-	78	45	602	52	45	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	78	45	-	52	45	-
Stage 1	-	-	-	-	-	-	315	366	-	165	223	-
Stage 2	-	-	-	-	-	-	392	222	-	533	366	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.3			27.4			36.5		
HCM LOS							D			E		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	186	549	-	-	827	-	-	135				
HCM Lane V/C Ratio	0.136	0.027	-	-	0.013	-	-	0.156				
HCM Control Delay (s)	27.4	11.7	0.3	-	9.4	0.2	-	36.5				
HCM Lane LOS	D	B	A	-	A	A	-	E				
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.5				

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	767	0	10	1205	12	8	0	16	6	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	15	807	0	11	1268	13	8	0	17	6	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1281	0	0	807	0	0	1492	2139	404	1729	2133	641
Stage 1	-	-	-	-	-	-	837	837	-	1296	1296	-
Stage 2	-	-	-	-	-	-	655	1302	-	433	837	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	549	-	-	827	-	-	87	50	602	58	50	422
Stage 1	-	-	-	-	-	-	332	385	-	174	234	-
Stage 2	-	-	-	-	-	-	426	233	-	577	385	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	549	-	-	827	-	-	78	45	602	52	45	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	78	45	-	52	45	-
Stage 1	-	-	-	-	-	-	315	366	-	165	223	-
Stage 2	-	-	-	-	-	-	392	222	-	533	366	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	27.4	36.5
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	186	549	-	-	827	-	-	135
HCM Lane V/C Ratio	0.136	0.027	-	-	0.013	-	-	0.156
HCM Control Delay (s)	27.4	11.7	0.3	-	9.4	0.2	-	36.5
HCM Lane LOS	D	B	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.5

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	760	0	10	1152	12	8	0	16	6	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	15	800	0	11	1213	13	8	0	17	6	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1225	0	0	800	0	0	2076	2075	800	2078	2069	1219
Stage 1	-	-	-	-	-	-	829	829	-	1240	1240	-
Stage 2	-	-	-	-	-	-	1247	1246	-	838	829	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	576	-	-	832	-	-	40	54	388	40	55	222
Stage 1	-	-	-	-	-	-	368	388	-	217	249	-
Stage 2	-	-	-	-	-	-	215	248	-	364	388	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	576	-	-	832	-	-	36	52	388	37	53	222
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	153	-	133	157	-
Stage 1	-	-	-	-	-	-	358	378	-	211	246	-
Stage 2	-	-	-	-	-	-	198	245	-	339	378	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	22.7	26.9
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	228	576	-	-	832	-	-	185
HCM Lane V/C Ratio	0.111	0.026	-	-	0.013	-	-	0.114
HCM Control Delay (s)	22.7	11.4	-	-	9.4	-	-	26.9
HCM Lane LOS	C	B	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.4

Intersection												
Int Delay, s/veh	1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	767	0	10	1205	12	8	0	16	6	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	15	807	0	11	1268	13	8	0	17	6	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1281	0	0	807	0	0	1492	2139	404	1729	2133	641
Stage 1	-	-	-	-	-	-	837	837	-	1296	1296	-
Stage 2	-	-	-	-	-	-	655	1302	-	433	837	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	549	-	-	827	-	-	87	50	602	58	50	422
Stage 1	-	-	-	-	-	-	332	385	-	174	234	-
Stage 2	-	-	-	-	-	-	426	233	-	577	385	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	549	-	-	827	-	-	78	45	602	52	45	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	78	45	-	52	45	-
Stage 1	-	-	-	-	-	-	315	366	-	165	223	-
Stage 2	-	-	-	-	-	-	392	222	-	533	366	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	27.4	36.5
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	186	549	-	-	827	-	-	135
HCM Lane V/C Ratio	0.136	0.027	-	-	0.013	-	-	0.156
HCM Control Delay (s)	27.4	11.7	0.3	-	9.4	0.2	-	36.5
HCM Lane LOS	D	B	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.5

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	767	0	10	1205	12	8	0	16	6	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	15	807	0	11	1268	13	8	0	17	6	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1281	0	0	807	0	0	2140	2139	404	1729	2133	1275
Stage 1	-	-	-	-	-	-	837	837	-	1296	1296	-
Stage 2	-	-	-	-	-	-	1303	1302	-	433	837	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	549	-	-	827	-	-	32	50	602	64	50	206
Stage 1	-	-	-	-	-	-	332	385	-	201	234	-
Stage 2	-	-	-	-	-	-	199	233	-	577	385	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	549	-	-	827	-	-	29	48	602	60	48	206
Mov Cap-2 Maneuver	-	-	-	-	-	-	112	145	-	151	149	-
Stage 1	-	-	-	-	-	-	323	374	-	196	231	-
Stage 2	-	-	-	-	-	-	182	230	-	546	374	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	21.4	26.8
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	245	549	-	-	827	-	-	186
HCM Lane V/C Ratio	0.103	0.027	-	-	0.013	-	-	0.113
HCM Control Delay (s)	21.4	11.7	-	-	9.4	-	-	26.8
HCM Lane LOS	C	B	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.4

Intersection												
Int Delay, s/veh		0.6										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	767	0	10	1205	12	8	0	16	6	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	2	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	15	807	0	11	1268	13	8	0	17	6	0	15
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1281	0	0	807	0	0	1492	2139	807	2141	2133	641
Stage 1	-	-	-	-	-	-	837	837	-	1296	1296	-
Stage 2	-	-	-	-	-	-	655	1302	-	845	837	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.2	7.3	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	549	-	-	827	-	-	95	50	385	32	50	422
Stage 1	-	-	-	-	-	-	364	385	-	174	234	-
Stage 2	-	-	-	-	-	-	426	233	-	360	385	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	549	-	-	827	-	-	89	48	385	30	48	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	210	145	-	114	149	-
Stage 1	-	-	-	-	-	-	354	374	-	169	231	-
Stage 2	-	-	-	-	-	-	406	230	-	335	374	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.1			18.1			22		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	301	549	-	-	827	-	-	233				
HCM Lane V/C Ratio	0.084	0.027	-	-	0.013	-	-	0.09				
HCM Control Delay (s)	18.1	11.7	-	-	9.4	-	-	22				
HCM Lane LOS	C	B	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.3				

8) Delaware Avenue/Lincoln Avenue/Phillips Hardware

Intersection												
Int Delay, s/veh	1.4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	748	5	8	1122	22	4	0	10	16	0	20
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	2	2	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	15	787	5	8	1181	23	4	0	11	17	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1204	0	0	793	0	0	1426	2040	398	1632	2031	604
Stage 1	-	-	-	-	-	-	819	819	-	1209	1209	-
Stage 2	-	-	-	-	-	-	607	1221	-	423	822	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.5	6.54	6.9	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.2	-	-	3.5	4.02	3.3	3.52	4.02	3.32
Pot Cap-1 Maneuver	575	-	-	837	-	-	97	56	607	67	57	441
Stage 1	-	-	-	-	-	-	340	388	-	194	254	-
Stage 2	-	-	-	-	-	-	455	251	-	579	386	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	574	-	-	836	-	-	87	52	606	62	53	440
Mov Cap-2 Maneuver	-	-	-	-	-	-	87	52	-	62	53	-
Stage 1	-	-	-	-	-	-	324	370	-	185	247	-
Stage 2	-	-	-	-	-	-	420	244	-	541	368	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	22.2	48.8
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	224	574	-	-	836	-	-	119
HCM Lane V/C Ratio	0.066	0.026	-	-	0.01	-	-	0.318
HCM Control Delay (s)	22.2	11.4	0.3	-	9.3	0.1	-	48.8
HCM Lane LOS	C	B	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1.2

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	770	5	8	1203	22	4	0	10	16	0	20
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	2	2	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	15	811	5	8	1266	23	4	0	11	17	0	21
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1289	0	0	816	0	0	1493	2149	410	1730	2140	647
Stage 1	-	-	-	-	-	-	843	843	-	1295	1295	-
Stage 2	-	-	-	-	-	-	650	1306	-	435	845	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.5	6.54	6.9	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.2	-	-	3.5	4.02	3.3	3.52	4.02	3.32
Pot Cap-1 Maneuver	534	-	-	820	-	-	87	48	596	57	48	414
Stage 1	-	-	-	-	-	-	329	378	-	172	231	-
Stage 2	-	-	-	-	-	-	429	228	-	570	377	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	533	-	-	819	-	-	77	44	595	52	44	413
Mov Cap-2 Maneuver	-	-	-	-	-	-	77	44	-	52	44	-
Stage 1	-	-	-	-	-	-	312	358	-	163	223	-
Stage 2	-	-	-	-	-	-	392	220	-	530	357	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.3			24			60.6		
HCM LOS							C			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	204	533	-	-	819	-	-	101				
HCM Lane V/C Ratio	0.072	0.028	-	-	0.01	-	-	0.375				
HCM Control Delay (s)	24	11.9	0.3	-	9.4	0.2	-	60.6				
HCM Lane LOS	C	B	A	-	A	A	-	F				
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1.5				

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	770	5	8	1203	22	4	0	10	16	0	20
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	2	2	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	15	811	5	8	1266	23	4	0	11	17	0	21
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1289	0	0	816	0	0	1493	2149	410	1730	2140	647
Stage 1	-	-	-	-	-	-	843	843	-	1295	1295	-
Stage 2	-	-	-	-	-	-	650	1306	-	435	845	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.5	6.54	6.9	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.2	-	-	3.5	4.02	3.3	3.52	4.02	3.32
Pot Cap-1 Maneuver	534	-	-	820	-	-	87	48	596	57	48	414
Stage 1	-	-	-	-	-	-	329	378	-	172	231	-
Stage 2	-	-	-	-	-	-	429	228	-	570	377	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	533	-	-	819	-	-	77	44	595	52	44	413
Mov Cap-2 Maneuver	-	-	-	-	-	-	77	44	-	52	44	-
Stage 1	-	-	-	-	-	-	312	358	-	163	223	-
Stage 2	-	-	-	-	-	-	392	220	-	530	357	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.3			24			60.6		
HCM LOS							C			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	204	533	-	-	819	-	-	101				
HCM Lane V/C Ratio	0.072	0.028	-	-	0.01	-	-	0.375				
HCM Control Delay (s)	24	11.9	0.3	-	9.4	0.2	-	60.6				
HCM Lane LOS	C	B	A	-	A	A	-	F				
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1.5				

Intersection												
Int Delay, s/veh	0.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	763	5	8	1150	22	4	0	10	16	0	20
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	15	803	5	8	1211	23	4	0	11	17	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1234	0	0	808	0	0	2084	2086	808	2080	2077	1224
Stage 1	-	-	-	-	-	-	835	835	-	1239	1239	-
Stage 2	-	-	-	-	-	-	1249	1251	-	841	838	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.1	6.52	6.2	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4.018	3.3	3.518	4.018	3.318
Pot Cap-1 Maneuver	565	-	-	826	-	-	39	53	384	39	54	218
Stage 1	-	-	-	-	-	-	365	383	-	215	247	-
Stage 2	-	-	-	-	-	-	214	244	-	359	382	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	564	-	-	825	-	-	34	51	383	37	52	218
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	150	-	133	156	-
Stage 1	-	-	-	-	-	-	355	373	-	209	245	-
Stage 2	-	-	-	-	-	-	191	242	-	339	372	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	21.2	32.1
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	237	564	-	-	825	-	-	170
HCM Lane V/C Ratio	0.062	0.026	-	-	0.01	-	-	0.223
HCM Control Delay (s)	21.2	11.6	-	-	9.4	-	-	32.1
HCM Lane LOS	C	B	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.8

Intersection												
Int Delay, s/veh	1.6											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	770	5	8	1203	22	4	0	10	16	0	20
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
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, %	2	2	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	15	811	5	8	1266	23	4	0	11	17	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1289	0	0	816	0	0	1493	2149	410	1730	2140	647
Stage 1	-	-	-	-	-	-	843	843	-	1295	1295	-
Stage 2	-	-	-	-	-	-	650	1306	-	435	845	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.5	6.54	6.9	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.2	-	-	3.5	4.02	3.3	3.52	4.02	3.32
Pot Cap-1 Maneuver	534	-	-	820	-	-	87	48	596	57	48	414
Stage 1	-	-	-	-	-	-	329	378	-	172	231	-
Stage 2	-	-	-	-	-	-	429	228	-	570	377	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	533	-	-	819	-	-	77	44	595	52	44	413
Mov Cap-2 Maneuver	-	-	-	-	-	-	77	44	-	52	44	-
Stage 1	-	-	-	-	-	-	312	358	-	163	223	-
Stage 2	-	-	-	-	-	-	392	220	-	530	357	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	24	60.6
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	204	533	-	-	819	-	-	101
HCM Lane V/C Ratio	0.072	0.028	-	-	0.01	-	-	0.375
HCM Control Delay (s)	24	11.9	0.3	-	9.4	0.2	-	60.6
HCM Lane LOS	C	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1.5

Intersection												
Int Delay, s/veh	0.8											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	770	5	8	1203	22	4	0	10	16	0	20
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	15	811	5	8	1266	23	4	0	11	17	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1289	0	0	816	0	0	2148	2149	410	1730	2140	1280
Stage 1	-	-	-	-	-	-	843	843	-	1295	1295	-
Stage 2	-	-	-	-	-	-	1305	1306	-	435	845	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.3	6.53	6.9	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.218	-	-	2.2	-	-	3.5	4.019	3.3	3.519	4.019	3.319
Pot Cap-1 Maneuver	538	-	-	820	-	-	31	48	596	63	49	202
Stage 1	-	-	-	-	-	-	329	379	-	199	232	-
Stage 2	-	-	-	-	-	-	199	229	-	571	378	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	537	-	-	819	-	-	27	46	595	60	47	202
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	142	-	150	148	-
Stage 1	-	-	-	-	-	-	320	368	-	193	230	-
Stage 2	-	-	-	-	-	-	176	227	-	544	367	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	19.6	31.2
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	262	537	-	-	819	-	-	175
HCM Lane V/C Ratio	0.056	0.027	-	-	0.01	-	-	0.217
HCM Control Delay (s)	19.6	11.9	-	-	9.4	-	-	31.2
HCM Lane LOS	C	B	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.8

Intersection												
Int Delay, s/veh		0.8										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	14	770	5	8	1203	22	4	0	10	16	0	20
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	25	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	0	0	1	2	0	2	0	2	2	2
Mvmt Flow	15	811	5	8	1266	23	4	0	11	17	0	21
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1289	0	0	816	0	0	1493	2149	815	2143	2140	647
Stage 1	-	-	-	-	-	-	843	843	-	1295	1295	-
Stage 2	-	-	-	-	-	-	650	1306	-	848	845	-
Critical Hdwy	4.14	-	-	4.1	-	-	7.3	6.53	6.2	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.22	-	-	2.2	-	-	3.5	4.019	3.3	3.519	4.019	3.319
Pot Cap-1 Maneuver	534	-	-	820	-	-	94	48	381	31	49	414
Stage 1	-	-	-	-	-	-	361	379	-	172	232	-
Stage 2	-	-	-	-	-	-	429	229	-	355	378	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	533	-	-	819	-	-	87	46	380	29	47	413
Mov Cap-2 Maneuver	-	-	-	-	-	-	208	142	-	113	148	-
Stage 1	-	-	-	-	-	-	351	368	-	167	230	-
Stage 2	-	-	-	-	-	-	403	227	-	335	367	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.1			17.3			28.8		
HCM LOS							C			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	307	533	-	-	819	-	-	189				
HCM Lane V/C Ratio	0.048	0.028	-	-	0.01	-	-	0.201				
HCM Control Delay (s)	17.3	11.9	-	-	9.4	-	-	28.8				
HCM Lane LOS	C	B	-	-	A	-	-	D				
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.7				

9) Delaware Avenue/Leonard Place

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	770	1147	2	3	5
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, %	0	2	1	0	0	0
Mvmt Flow	4	811	1207	2	3	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1209	0	1622
Stage 1	-	-	1208
Stage 2	-	-	414
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	584	-	95
Stage 1	-	-	250
Stage 2	-	-	641
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	584	-	94
Mov Cap-2 Maneuver	-	-	94
Stage 1	-	-	250
Stage 2	-	-	633

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	25.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	584	-	-	-	186
HCM Lane V/C Ratio	0.007	-	-	-	0.045
HCM Control Delay (s)	11.2	0.1	-	-	25.3
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	792	1228	2	3	5
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, %	0	2	1	0	0	0
Mvmt Flow	4	834	1293	2	3	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1295	0	1719
Stage 1	-	-	1294
Stage 2	-	-	425
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	542	-	82
Stage 1	-	-	225
Stage 2	-	-	633
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	542	-	81
Mov Cap-2 Maneuver	-	-	81
Stage 1	-	-	225
Stage 2	-	-	624

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	28.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	163
HCM Lane V/C Ratio	0.008	-	-	-	0.052
HCM Control Delay (s)	11.7	0.1	-	-	28.3
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	792	1228	2	3	5
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, %	0	2	1	0	0	0
Mvmt Flow	4	834	1293	2	3	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1295	0	1719
Stage 1	-	-	1294
Stage 2	-	-	425
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	542	-	82
Stage 1	-	-	225
Stage 2	-	-	633
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	542	-	81
Mov Cap-2 Maneuver	-	-	81
Stage 1	-	-	225
Stage 2	-	-	624

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	28.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	163
HCM Lane V/C Ratio	0.008	-	-	-	0.052
HCM Control Delay (s)	11.7	0.1	-	-	28.3
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	785	1175	2	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	4	826	1237	2	3	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1239	0	2073
Stage 1	-	-	1238
Stage 2	-	-	835
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	569	-	60
Stage 1	-	-	276
Stage 2	-	-	429
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	569	-	60
Mov Cap-2 Maneuver	-	-	179
Stage 1	-	-	276
Stage 2	-	-	426

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	569	-	-	-	200
HCM Lane V/C Ratio	0.007	-	-	-	0.042
HCM Control Delay (s)	11.4	-	-	-	23.8
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	792	1228	2	3	5
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, %	0	2	1	0	0	0
Mvmt Flow	4	834	1293	2	3	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1295	0	1719
Stage 1	-	-	1294
Stage 2	-	-	425
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	542	-	82
Stage 1	-	-	225
Stage 2	-	-	633
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	542	-	81
Mov Cap-2 Maneuver	-	-	81
Stage 1	-	-	225
Stage 2	-	-	624

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	28.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	163
HCM Lane V/C Ratio	0.008	-	-	-	0.052
HCM Control Delay (s)	11.7	0.1	-	-	28.3
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	792	1228	2	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	4	834	1293	2	3	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1295	0	1719
Stage 1	-	-	1294
Stage 2	-	-	425
Critical Hdwy	4.1	-	6.6
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	542	-	91
Stage 1	-	-	260
Stage 2	-	-	633
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	542	-	90
Mov Cap-2 Maneuver	-	-	200
Stage 1	-	-	260
Stage 2	-	-	628

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	23.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	201
HCM Lane V/C Ratio	0.008	-	-	-	0.042
HCM Control Delay (s)	11.7	-	-	-	23.7
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	4	792	1228	2	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	4	834	1293	2	3	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1295	0	2136
Stage 1	-	-	1294
Stage 2	-	-	842
Critical Hdwy	4.1	-	6.6
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	542	-	49
Stage 1	-	-	225
Stage 2	-	-	426
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	542	-	49
Mov Cap-2 Maneuver	-	-	154
Stage 1	-	-	225
Stage 2	-	-	423

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	19.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	254
HCM Lane V/C Ratio	0.008	-	-	-	0.033
HCM Control Delay (s)	11.7	-	-	-	19.7
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

10) Delaware Avenue/Salisbury Road

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	55	718	1124	17	5	25
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, %	0	2	1	0	0	0
Mvmt Flow	58	756	1183	18	5	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1201	0	1686
Stage 1	-	-	1192
Stage 2	-	-	494
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	588	-	87
Stage 1	-	-	255
Stage 2	-	-	584
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	588	-	72
Mov Cap-2 Maneuver	-	-	72
Stage 1	-	-	255
Stage 2	-	-	485

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	22.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	588	-	-	-	240
HCM Lane V/C Ratio	0.098	-	-	-	0.132
HCM Control Delay (s)	11.8	0.9	-	-	22.3
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	55	740	1205	17	5	25
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, %	0	2	1	0	0	0
Mvmt Flow	58	779	1268	18	5	26
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1286	0	-	0	1782	643
Stage 1	-	-	-	-	1277	-
Stage 2	-	-	-	-	505	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	546	-	-	-	75	421
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	546	-	-	-	61	421
Mov Cap-2 Maneuver	-	-	-	-	61	-
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	469	-
Approach	EB	WB	SB			
HCM Control Delay, s	1.8	0	24.9			
HCM LOS			C			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	546	-	-	-	212	
HCM Lane V/C Ratio	0.106	-	-	-	0.149	
HCM Control Delay (s)	12.4	1	-	-	24.9	
HCM Lane LOS	B	A	-	-	C	
HCM 95th %tile Q(veh)	0.4	-	-	-	0.5	

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	55	740	1205	17	5	25
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, %	0	2	1	0	0	0
Mvmt Flow	58	779	1268	18	5	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1286	0	1782
Stage 1	-	-	1277
Stage 2	-	-	505
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	546	-	75
Stage 1	-	-	229
Stage 2	-	-	577
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	546	-	61
Mov Cap-2 Maneuver	-	-	61
Stage 1	-	-	229
Stage 2	-	-	469

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	24.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	546	-	-	-	212
HCM Lane V/C Ratio	0.106	-	-	-	0.149
HCM Control Delay (s)	12.4	1	-	-	24.9
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.5

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	55	733	1152	17	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	58	772	1213	18	5	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1231	0	2109
Stage 1	-	-	1222
Stage 2	-	-	887
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	573	-	57
Stage 1	-	-	281
Stage 2	-	-	406
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	573	-	51
Mov Cap-2 Maneuver	-	-	168
Stage 1	-	-	281
Stage 2	-	-	365

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	25.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	573	-	-	-	210
HCM Lane V/C Ratio	0.101	-	-	-	0.15
HCM Control Delay (s)	12	-	-	-	25.2
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	55	740	1205	17	5	25
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, %	0	2	1	0	0	0
Mvmt Flow	58	779	1268	18	5	26
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1286	0	-	0	1782	643
Stage 1	-	-	-	-	1277	-
Stage 2	-	-	-	-	505	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	546	-	-	-	75	421
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	546	-	-	-	61	421
Mov Cap-2 Maneuver	-	-	-	-	61	-
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	469	-
Approach	EB	WB	SB			
HCM Control Delay, s	1.8	0	24.9			
HCM LOS			C			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	546	-	-	-	212	
HCM Lane V/C Ratio	0.106	-	-	-	0.149	
HCM Control Delay (s)	12.4	1	-	-	24.9	
HCM Lane LOS	B	A	-	-	C	
HCM 95th %tile Q(veh)	0.4	-	-	-	0.5	

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	55	740	1205	17	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	58	779	1268	18	5	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1286	0	1782
Stage 1	-	-	1277
Stage 2	-	-	505
Critical Hdwy	4.1	-	6.6
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	546	-	83
Stage 1	-	-	264
Stage 2	-	-	577
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	546	-	74
Mov Cap-2 Maneuver	-	-	189
Stage 1	-	-	264
Stage 2	-	-	516

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	26.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	546	-	-	-	202
HCM Lane V/C Ratio	0.106	-	-	-	0.156
HCM Control Delay (s)	12.4	-	-	-	26.1
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	0.5

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	55	740	1205	17	5	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	58	779	1268	18	5	26
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1286	0	-	0	2172	643
Stage 1	-	-	-	-	1277	-
Stage 2	-	-	-	-	895	-
Critical Hdwy	4.1	-	-	-	6.6	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	546	-	-	-	46	421
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	402	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	546	-	-	-	41	421
Mov Cap-2 Maneuver	-	-	-	-	145	-
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	359	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.9		0		17.5	
HCM LOS					C	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	546	-	-	-	320	
HCM Lane V/C Ratio	0.106	-	-	-	0.099	
HCM Control Delay (s)	12.4	-	-	-	17.5	
HCM Lane LOS	B	-	-	-	C	
HCM 95th %tile Q(veh)	0.4	-	-	-	0.3	

11) Delaware Avenue/Snowden Avenue

Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	707	16	9	1134	7	13
Conflicting Peds, #/hr	0	2	2	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	0	0	1	0	0
Mvmt Flow	744	17	9	1194	7	14

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1369
Stage 1	-	-	753
Stage 2	-	-	616
Critical Hdwy	-	4.1	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	860	140
Stage 1	-	-	431
Stage 2	-	-	507
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	859	135
Mov Cap-2 Maneuver	-	-	135
Stage 1	-	-	431
Stage 2	-	-	491

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	19.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	275	-	-	859	-
HCM Lane V/C Ratio	0.077	-	-	0.011	-
HCM Control Delay (s)	19.2	-	-	9.2	0.1
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	729	16	9	1215	7	13
Conflicting Peds, #/hr	0	2	2	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	0	0	1	0	0
Mvmt Flow	767	17	9	1279	7	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	784	0	1434	394
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	658	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	843	-	127	611
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	482	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	842	-	122	610
Mov Cap-2 Maneuver	-	-	-	-	122	-
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	463	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	20.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	254	-	-	842	-
HCM Lane V/C Ratio	0.083	-	-	0.011	-
HCM Control Delay (s)	20.5	-	-	9.3	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	729	16	9	1215	7	13
Conflicting Peds, #/hr	0	2	2	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	0	0	1	0	0
Mvmt Flow	767	17	9	1279	7	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	784	0	1434	394
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	658	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	843	-	127	611
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	482	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	842	-	122	610
Mov Cap-2 Maneuver	-	-	-	-	122	-
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	463	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	20.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	254	-	-	842	-
HCM Lane V/C Ratio	0.083	-	-	0.011	-
HCM Control Delay (s)	20.5	-	-	9.3	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	722	16	9	1162	7	13
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	760	17	9	1223	7	14

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	777
Stage 1	-	-	768
Stage 2	-	-	1242
Critical Hdwy	-	4.1	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	848	66
Stage 1	-	-	461
Stage 2	-	-	275
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	847	65
Mov Cap-2 Maneuver	-	-	183
Stage 1	-	-	461
Stage 2	-	-	272

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	284	-	-	847	-
HCM Lane V/C Ratio	0.074	-	-	0.011	-
HCM Control Delay (s)	18.7	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	729	16	9	1215	7	13
Conflicting Peds, #/hr	0	2	2	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	0	0	1	0	0
Mvmt Flow	767	17	9	1279	7	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	784	0	1434	394
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	658	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	843	-	127	611
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	482	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	842	-	122	610
Mov Cap-2 Maneuver	-	-	-	-	122	-
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	463	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	20.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	254	-	-	842	-
HCM Lane V/C Ratio	0.083	-	-	0.011	-
HCM Control Delay (s)	20.5	-	-	9.3	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	729	16	9	1215	7	13
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	767	17	9	1279	7	14

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	784
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	843
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	842
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	316	-	-	842	-
HCM Lane V/C Ratio	0.067	-	-	0.011	-
HCM Control Delay (s)	17.2	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	729	16	9	1215	7	13
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	0	0	1	0	0
Mvmt Flow	767	17	9	1279	7	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	784	0	1434	778
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	658	-
Critical Hdwy	-	-	4.1	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	843	-	138	400
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	482	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	842	-	136	399
Mov Cap-2 Maneuver	-	-	-	-	275	-
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	476	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	345	-	-	842	-
HCM Lane V/C Ratio	0.061	-	-	0.011	-
HCM Control Delay (s)	16.1	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

12) Delaware Avenue/Euclid Avenue

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	18	702	1118	30	9	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	40	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	19	739	1177	32	9	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1208	0	1600
Stage 1	-	-	1193
Stage 2	-	-	407
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	585	-	99
Stage 1	-	-	254
Stage 2	-	-	646
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	585	-	96
Mov Cap-2 Maneuver	-	-	199
Stage 1	-	-	254
Stage 2	-	-	625

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	17
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	585	-	-	-	336
HCM Lane V/C Ratio	0.032	-	-	-	0.107
HCM Control Delay (s)	11.4	-	-	-	17
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	18	724	1199	30	9	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	40	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	19	762	1262	32	9	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1294	0	1697
Stage 1	-	-	1278
Stage 2	-	-	419
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	542	-	85
Stage 1	-	-	229
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	542	-	82
Mov Cap-2 Maneuver	-	-	180
Stage 1	-	-	229
Stage 2	-	-	616

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	310
HCM Lane V/C Ratio	0.035	-	-	-	0.115
HCM Control Delay (s)	11.9	-	-	-	18.1
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	18	724	1199	30	9	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	40	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	19	762	1262	32	9	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1294	0	1697
Stage 1	-	-	1278
Stage 2	-	-	419
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	542	-	85
Stage 1	-	-	229
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	542	-	82
Mov Cap-2 Maneuver	-	-	180
Stage 1	-	-	229
Stage 2	-	-	616

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	310
HCM Lane V/C Ratio	0.035	-	-	-	0.115
HCM Control Delay (s)	11.9	-	-	-	18.1
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	18	717	1146	30	9	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	40	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	19	755	1206	32	9	26
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1238	0	-	0	2015	1222
Stage 1	-	-	-	-	1222	-
Stage 2	-	-	-	-	793	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	570	-	-	-	65	221
Stage 1	-	-	-	-	281	-
Stage 2	-	-	-	-	449	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	570	-	-	-	63	221
Mov Cap-2 Maneuver	-	-	-	-	183	-
Stage 1	-	-	-	-	281	-
Stage 2	-	-	-	-	434	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.3		0		25.8	
HCM LOS					D	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	570	-	-	-	209	
HCM Lane V/C Ratio	0.033	-	-	-	0.171	
HCM Control Delay (s)	11.5	-	-	-	25.8	
HCM Lane LOS	B	-	-	-	D	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6	

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	18	724	1199	30	9	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	40	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	19	762	1262	32	9	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1294	0	1697
Stage 1	-	-	1278
Stage 2	-	-	419
Critical Hdwy	4.1	-	6.8
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	542	-	85
Stage 1	-	-	229
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	542	-	82
Mov Cap-2 Maneuver	-	-	180
Stage 1	-	-	229
Stage 2	-	-	616

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	310
HCM Lane V/C Ratio	0.035	-	-	-	0.115
HCM Control Delay (s)	11.9	-	-	-	18.1
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	18	724	1199	30	9	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	40	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	19	762	1262	32	9	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1294	0	1697
Stage 1	-	-	1278
Stage 2	-	-	419
Critical Hdwy	4.1	-	6.6
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.8
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	542	-	94
Stage 1	-	-	264
Stage 2	-	-	638
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	542	-	91
Mov Cap-2 Maneuver	-	-	202
Stage 1	-	-	264
Stage 2	-	-	616

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	26.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	204
HCM Lane V/C Ratio	0.035	-	-	-	0.175
HCM Control Delay (s)	11.9	-	-	-	26.4
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	18	724	1199	30	9	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	40	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	19	762	1262	32	9	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1294	0	2078
Stage 1	-	-	1278
Stage 2	-	-	800
Critical Hdwy	4.1	-	6.6
Critical Hdwy Stg 1	-	-	5.8
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	542	-	53
Stage 1	-	-	229
Stage 2	-	-	446
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	542	-	51
Mov Cap-2 Maneuver	-	-	157
Stage 1	-	-	229
Stage 2	-	-	430

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	19.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	290
HCM Lane V/C Ratio	0.035	-	-	-	0.123
HCM Control Delay (s)	11.9	-	-	-	19.2
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

13) Delaware Avenue/Normanskill Boulevard/Delaware Plaza

HCM Signalized Intersection Capacity Analysis Plaza Drwy/Normanskill Blvd & Delaware Avenue Delaware Ave feasibility Study, 116-149

Existing 2016_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	490	12	87	826	2	257	6	23	64	9	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.88		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	3442		1728	3454		1738	1565		1790	1596	
Flt Permitted	0.16	1.00		0.35	1.00		0.71	1.00		0.74	1.00	
Satd. Flow (perm)	285	3442		635	3454		1293	1565		1390	1596	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	516	13	92	869	2	271	6	24	67	9	68
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	40	529	0	92	871	0	271	30	0	67	77	0
Confl. Peds. (#/hr)	2					2	5		10	10		5
Confl. Bikes (#/hr)						2						1
Heavy Vehicles (%)	3%	1%	2%	1%	1%	2%	0%	0%	2%	0%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Actuated Green, G (s)	27.9	25.0		41.2	33.3		32.2	32.2		32.2	32.2	
Effective Green, g (s)	27.9	25.0		41.2	33.3		32.2	32.2		32.2	32.2	
Actuated g/C Ratio	0.31	0.28		0.45	0.37		0.36	0.36		0.36	0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	132	948		423	1268		459	555		493	566	
v/s Ratio Prot	0.01	0.15		c0.03	c0.25			0.02			0.05	
v/s Ratio Perm	0.08			0.07			c0.21			0.05		
v/c Ratio	0.30	0.56		0.22	0.69		0.59	0.05		0.14	0.14	
Uniform Delay, d1	35.1	28.1		19.8	24.3		23.9	19.2		19.8	19.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.2		0.1	2.0		1.4	0.0		0.0	0.0	
Delay (s)	35.6	29.3		19.9	26.3		25.2	19.2		19.9	19.9	
Level of Service	D	C		B	C		C	B		B	B	
Approach Delay (s)		29.8			25.7			24.6			19.9	
Approach LOS		C			C			C			B	

Intersection Summary

HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.7	Sum of lost time (s)	18.5
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Plaza Drwy/Normanskill Blvd & Delaware Avenue

Delaware Ave feasibility Study, 116-149 ETC+10 2030 Signal Imps_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	494	18	83	876	5	265	6	15	78	13	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	3436		1728	3452		1738	1589		1790	1600	
Flt Permitted	0.15	1.00		0.34	1.00		0.69	1.00		0.74	1.00	
Satd. Flow (perm)	275	3436		614	3452		1259	1589		1400	1600	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	520	19	87	922	5	279	6	16	82	14	93
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	539	0	87	927	0	279	22	0	82	107	0
Confl. Peds. (#/hr)	2					2	5		10	10		5
Confl. Bikes (#/hr)						2						1
Heavy Vehicles (%)	3%	1%	2%	1%	1%	2%	0%	0%	2%	0%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Actuated Green, G (s)	30.5	25.9		44.6	35.0		32.0	32.0		32.0	32.0	
Effective Green, g (s)	30.5	25.9		44.6	35.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.32	0.28		0.47	0.37		0.34	0.34		0.34	0.34	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	158	945		453	1283		428	540		476	544	
v/s Ratio Prot	c0.02	0.16		0.03	c0.27			0.01			0.07	
v/s Ratio Perm	0.09			0.06			c0.22			0.06		
v/c Ratio	0.34	0.57		0.19	0.72		0.65	0.04		0.17	0.20	
Uniform Delay, d1	36.9	29.3		19.5	25.4		26.3	20.8		21.8	22.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.3		0.1	2.5		2.7	0.0		0.1	0.1	
Delay (s)	37.4	30.6		19.6	27.9		29.0	20.8		21.8	22.0	
Level of Service	D	C		B	C		C	C		C	C	
Approach Delay (s)		31.3			27.2			28.4			21.9	
Approach LOS		C			C			C			C	

Intersection Summary

HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	94.1	Sum of lost time (s)	18.5
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 Signal Imps (Optimized)_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	494	18	83	876	5	265	6	15	78	13	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	3436		1728	3452		1737	1587		1787	1599	
Flt Permitted	0.19	1.00		0.37	1.00		0.69	1.00		0.74	1.00	
Satd. Flow (perm)	338	3436		669	3452		1258	1587		1398	1599	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	520	19	87	922	5	279	6	16	82	14	93
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	539	0	87	927	0	279	22	0	82	107	0
Confl. Peds. (#/hr)	2						2	5		10	10	
Confl. Bikes (#/hr)							2					1
Heavy Vehicles (%)	3%	1%	2%	1%	1%	2%	0%	0%	2%	0%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Actuated Green, G (s)	23.9	21.1		34.1	26.3		21.9	21.9		21.9	21.9	
Effective Green, g (s)	23.9	21.1		34.1	26.3		21.9	21.9		21.9	21.9	
Actuated g/C Ratio	0.32	0.29		0.46	0.36		0.30	0.30		0.30	0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	161	985		425	1233		374	472		415	475	
v/s Ratio Prot	0.01	0.16		c0.02	c0.27			0.01			0.07	
v/s Ratio Perm	0.09			0.07			c0.22			0.06		
v/c Ratio	0.33	0.55		0.20	0.75		0.75	0.05		0.20	0.23	
Uniform Delay, d1	28.1	22.2		14.9	20.8		23.3	18.4		19.3	19.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.1		0.1	3.1		6.9	0.0		0.1	0.1	
Delay (s)	28.6	23.3		15.0	23.9		30.3	18.4		19.4	19.6	
Level of Service	C	C		B	C		C	B		B	B	
Approach Delay (s)		23.8			23.2			29.4			19.5	
Approach LOS		C			C			C			B	

Intersection Summary

HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	73.6	Sum of lost time (s)	18.5
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 - Road Diet Signal Imps (HCS DELAY)_PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEB	SEB
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Volume (vph)	49	492	14	89	819	6	268	6	14	78	13	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.98	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	1810		1728	1816		1731	1572		1772	1580	
Flt Permitted	0.07	1.00		0.29	1.00		0.67	1.00		0.74	1.00	
Satd. Flow (perm)	118	1810		535	1816		1221	1572		1387	1580	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	52	518	15	94	862	6	282	6	15	82	14	94
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	52	533	0	94	868	0	282	21	0	82	108	0
Confl. Peds. (#/hr)	2					2	5		10	10		5
Confl. Bikes (#/hr)						2						1
Heavy Vehicles (%)	3%	1%	2%	1%	1%	2%	0%	0%	2%	0%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Actuated Green, G (s)	66.3	60.7		69.3	62.2		32.5	32.5		32.5	32.5	
Effective Green, g (s)	66.3	60.7		69.3	62.2		32.5	32.5		32.5	32.5	
Actuated g/C Ratio	0.54	0.49		0.56	0.50		0.26	0.26		0.26	0.26	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	134	889		368	914		321	413		365	415	
v/s Ratio Prot	c0.02	0.29		0.01	c0.48			0.01			0.07	
v/s Ratio Perm	0.19			0.13			c0.23			0.06		
v/c Ratio	0.39	0.60		0.26	0.95		0.88	0.05		0.22	0.26	
Uniform Delay, d1	24.9	22.6		15.0	29.2		43.6	34.0		35.6	36.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.7		0.1	19.0		22.1	0.0		0.1	0.1	
Delay (s)	25.5	24.3		15.1	48.2		65.7	34.0		35.7	36.1	
Level of Service	C	C		B	D		E	C		D	D	
Approach Delay (s)		24.4			44.9			63.5			36.0	
Approach LOS		C			D			E			D	

Intersection Summary

HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	123.5	Sum of lost time (s)	18.5
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis - Plaza Drwy/Normanskill Blvd & Delaware Avenue

Delaware Ave feasibility Study, 116-149 ETC+10 2030 Signal Imps - Partial Road Diet_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	494	18	83	876	5	265	6	15	78	13	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	3436		1728	3452		1737	1587		1787	1599	
Flt Permitted	0.19	1.00		0.37	1.00		0.69	1.00		0.74	1.00	
Satd. Flow (perm)	338	3436		669	3452		1258	1587		1398	1599	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	520	19	87	922	5	279	6	16	82	14	93
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	539	0	87	927	0	279	22	0	82	107	0
Confl. Peds. (#/hr)	2					2	5		10	10		5
Confl. Bikes (#/hr)						2						1
Heavy Vehicles (%)	3%	1%	2%	1%	1%	2%	0%	0%	2%	0%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Actuated Green, G (s)	23.9	21.1		34.1	26.3		21.9	21.9		21.9	21.9	
Effective Green, g (s)	23.9	21.1		34.1	26.3		21.9	21.9		21.9	21.9	
Actuated g/C Ratio	0.32	0.29		0.46	0.36		0.30	0.30		0.30	0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	161	985		425	1233		374	472		415	475	
v/s Ratio Prot	0.01	0.16		c0.02	c0.27			0.01			0.07	
v/s Ratio Perm	0.09			0.07			c0.22			0.06		
v/c Ratio	0.33	0.55		0.20	0.75		0.75	0.05		0.20	0.23	
Uniform Delay, d1	28.1	22.2		14.9	20.8		23.3	18.4		19.3	19.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.1		0.1	3.1		6.9	0.0		0.1	0.1	
Delay (s)	28.6	23.3		15.0	23.9		30.3	18.4		19.4	19.6	
Level of Service	C	C		B	C		C	B		B	B	
Approach Delay (s)		23.8			23.2			29.4			19.5	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			23.9			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			73.6			Sum of lost time (s)			18.5			
Intersection Capacity Utilization			62.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 - 1-1-2 Alternative Signal Imps_PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEB	SBR
Lane Configurations												
Volume (vph)	50	494	18	83	876	5	265	6	15	78	13	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	3436		1728	1817		1731	1586		1785	1581	
Flt Permitted	0.07	1.00		0.39	1.00		0.67	1.00		0.74	1.00	
Satd. Flow (perm)	117	3436		718	1817		1224	1586		1396	1581	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	520	19	87	922	5	279	6	16	82	14	93
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	539	0	87	927	0	279	22	0	82	107	0
Confl. Peds. (#/hr)	2						2	5		10	10	
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	3%	1%	2%	1%	1%	2%	0%	0%	2%	0%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Actuated Green, G (s)	67.0	61.0		69.0	62.0		32.5	32.5		32.5	32.5	
Effective Green, g (s)	67.0	61.0		69.0	62.0		32.5	32.5		32.5	32.5	
Actuated g/C Ratio	0.54	0.49		0.56	0.50		0.26	0.26		0.26	0.26	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	139	1693		457	909		321	416		366	415	
v/s Ratio Prot	c0.02	0.16		0.01	c0.51			0.01			0.07	
v/s Ratio Perm	0.19			0.10			c0.23			0.06		
v/c Ratio	0.38	0.32		0.19	1.02		0.87	0.05		0.22	0.26	
Uniform Delay, d1	27.0	18.9		13.0	30.9		43.6	34.1		35.8	36.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.2		0.1	34.9		20.6	0.0		0.1	0.1	
Delay (s)	27.6	19.1		13.1	65.8		64.3	34.2		35.9	36.2	
Level of Service	C	B		B	E		E	C		D	D	
Approach Delay (s)		19.9			61.3			62.1			36.1	
Approach LOS		B			E			E			D	

Intersection Summary

HCM 2000 Control Delay	47.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	123.8	Sum of lost time (s)	18.5
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Delaware Ave feasibility Study, 116-149

ETC+10 2030 - 2-1-1 Alternative Signal Imps_PM Peak

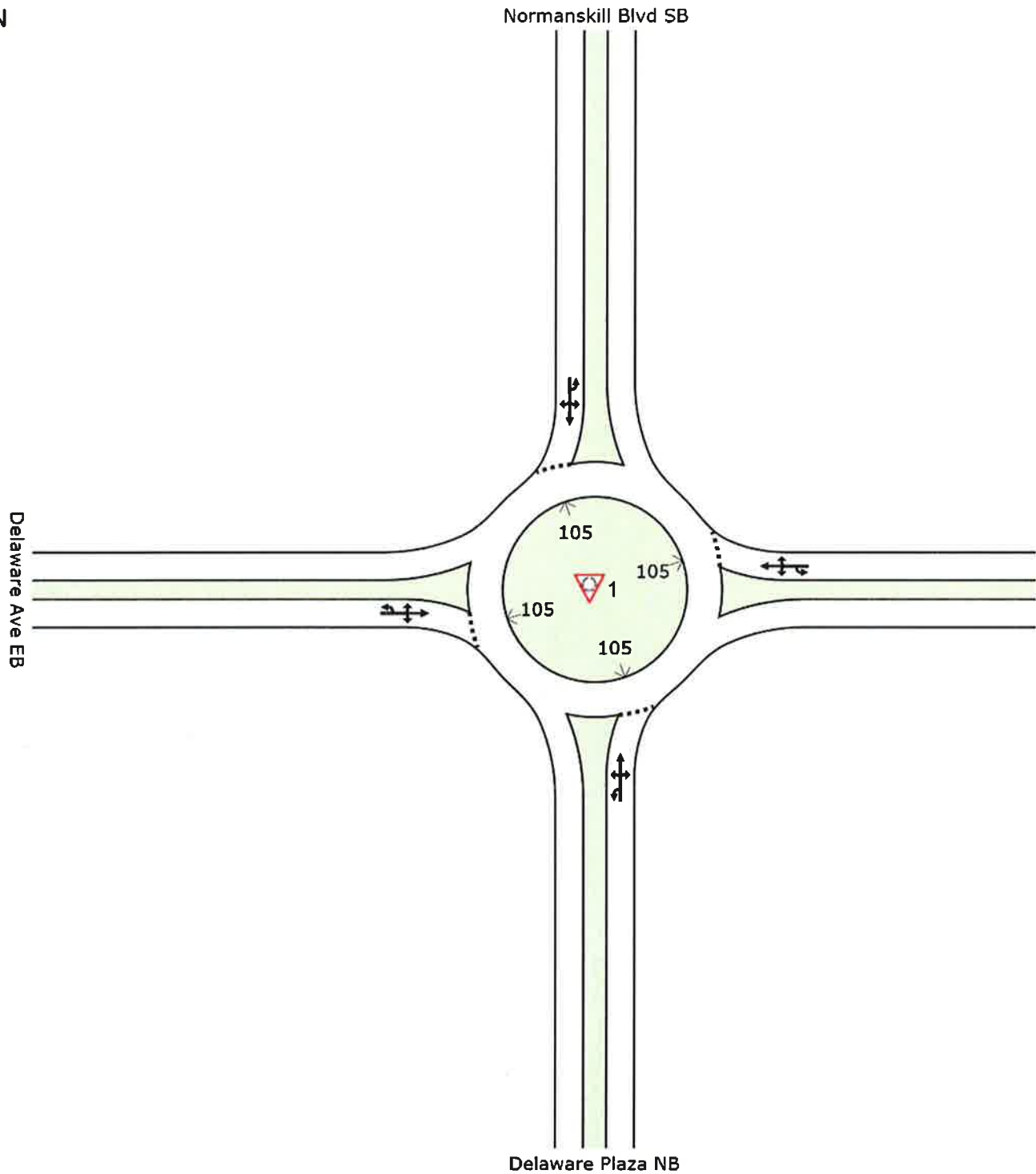
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	494	18	83	876	5	265	6	15	78	13	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	12	12	12
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.98	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1694	1808		1728	3452		1737	1569		1775	1599	
Flt Permitted	0.19	1.00		0.22	1.00		0.69	1.00		0.74	1.00	
Satd. Flow (perm)	336	1808		407	3452		1258	1569		1388	1599	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	520	19	87	922	5	279	6	16	82	14	93
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	539	0	87	927	0	279	22	0	82	107	0
Confl. Peds. (#/hr)	2					2	5		10	10		5
Confl. Bikes (#/hr)						2						1
Heavy Vehicles (%)	3%	1%	2%	1%	1%	2%	0%	0%	2%	0%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	6	1		2	5			7			3	
Permitted Phases	1			5			7			3		
Actuated Green, G (s)	37.5	34.0		39.1	34.8		24.7	24.7		24.7	24.7	
Effective Green, g (s)	37.5	34.0		39.1	34.8		24.7	24.7		24.7	24.7	
Actuated g/C Ratio	0.44	0.40		0.46	0.41		0.29	0.29		0.29	0.29	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	202	715		251	1398		361	451		399	459	
v/s Ratio Prot	0.01	c0.30		c0.02	0.27			0.01			0.07	
v/s Ratio Perm	0.10			0.14			c0.22			0.06		
v/c Ratio	0.26	0.75		0.35	0.66		0.77	0.05		0.21	0.23	
Uniform Delay, d1	15.2	22.3		15.5	20.8		28.0	22.1		23.2	23.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	5.4		0.3	1.6		9.0	0.0		0.1	0.1	
Delay (s)	15.5	27.7		15.8	22.4		37.1	22.1		23.3	23.5	
Level of Service	B	C		B	C		D	C		C	C	
Approach Delay (s)		26.6			21.8			36.0			23.4	
Approach LOS		C			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			25.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			85.9			Sum of lost time (s)			18.5			
Intersection Capacity Utilization			65.5%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

SITE LAYOUT



Site: 1 [Delaware Ave/Delaware Plaza/Normanskill Blvd - PM Peak - 2030 Build]

Delaware Ave/Delaware Plaza/Normanskill Blvd
PM Peak Hour
2030 Build
Roundabout



LANE SUMMARY

Site: 1 [Delaware Ave/Delaware Plaza/Normanskill Blvd - PM Peak - 2030 Build]

Delaware Ave/Delaware Plaza/Normanskill Blvd
PM Peak Hour
2030 Build
Roundabout

Lane Use and Performance													
	Demand Flows			Deg.	Lane	Average	Level of	95% Back of Queue		Lane	Lane	Cap.	Prob.
	Total	HV	Cap.	Satn	Util.	Delay	Service	Veh	Dist	Config	Length	Adj.	Block.
	veh/h	%	veh/h	v/c	%	sec			ft		ft	%	%
South: Delaware Plaza NB													
Lane 1 ^d	302	0.1	592	0.510	100	14.5	LOS B	4.1	102.8	Full	75	0.0	15.2
Approach	302	0.1		0.510		14.5	LOS B	4.1	102.8				
East: Delaware Ave WB													
Lane 1 ^d	1016	1.0	820	1.239	100	126.1	LOS F	84.2	2121.7	Full	930	0.0	41.5
Approach	1016	1.0		1.239		126.1	LOS F	84.2	2121.7				
North: Normanskill Blvd SB													
Lane 1 ^d	202	0.1	310	0.653	100	32.0	LOS C	6.1	153.9	Full	215	0.0	0.0
Approach	202	0.1		0.653		32.0	LOS C	6.1	153.9				
West: Delaware Ave EB													
Lane 1 ^d	593	1.2	947	0.626	100	7.0	LOS A	6.2	156.2	Full	280	0.0	0.0
Approach	593	1.2		0.626		7.0	LOS A	6.2	156.2				
Intersection	2113	0.8		1.239		67.7	LOS E	84.2	2121.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (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.

^d Dominant lane on roundabout approach

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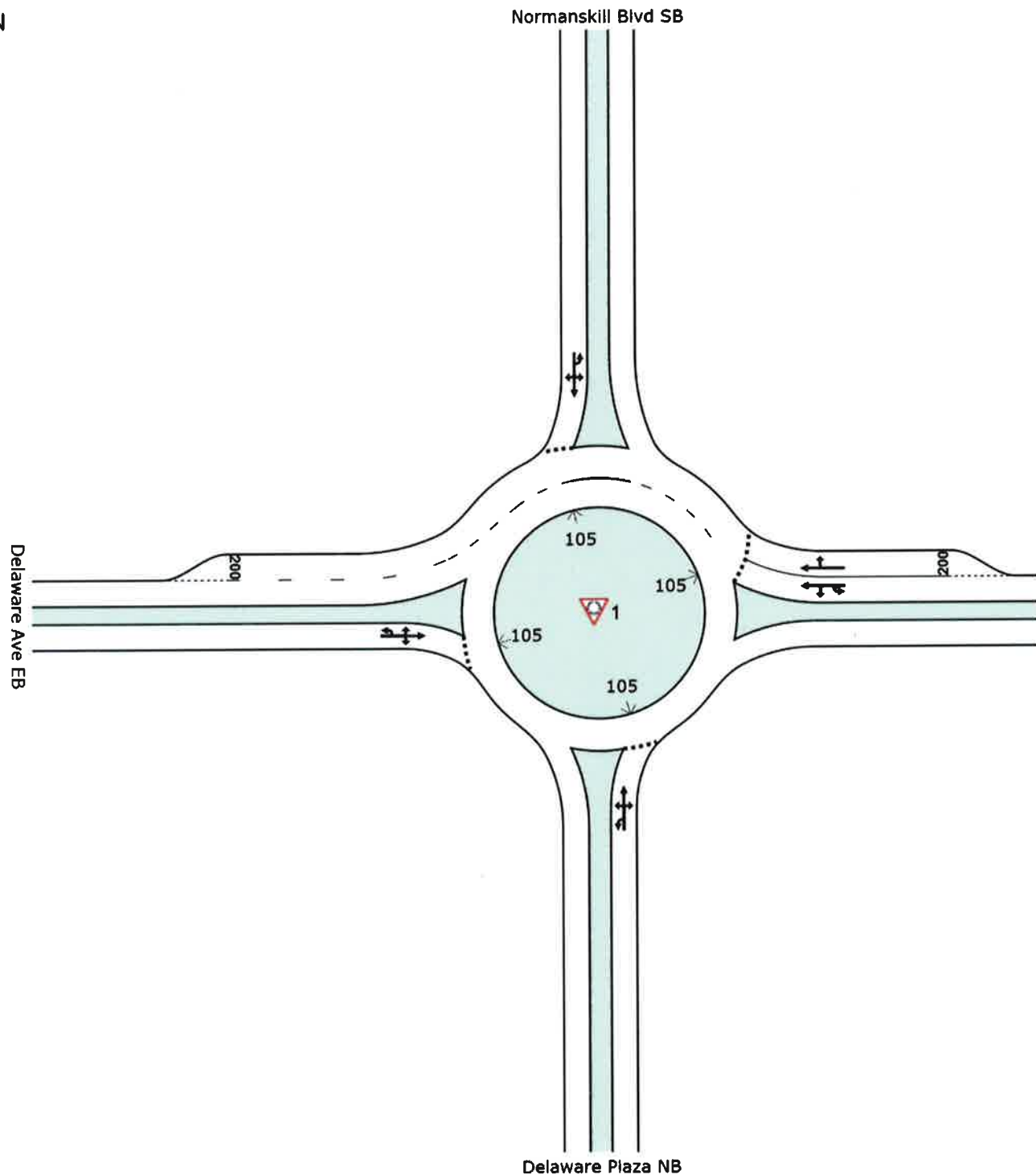
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SITE LAYOUT

 **Site: 1 [Delaware Ave/Delaware Plaza/Normanskill Blvd - PM Peak - 2030 Build - Imp]**

Delaware Ave/Delaware Plaza/Normanskill Blvd
PM Peak Hour
2030 Build
Roundabout



LANE SUMMARY



Site: 1 [Delaware Ave/Delaware Plaza/Normanskill Blvd - PM Peak - 2030 Build - Imp]

Delaware Ave/Delaware Plaza/Normanskill Blvd
PM Peak Hour
2030 Build
Roundabout

Lane Use and Performance													
	Demand Flows Total veh/h	HV %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Average Delay sec	Level of Service	95% Back of Queue Veh	Queue Dist ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Delaware Plaza NB													
Lane 1 ^d	302	0.1	591	0.511	100	14.6	LOS B	4.1	103.1	Full	75	0.0	15.4
Approach	302	0.1		0.511		14.6	LOS B	4.1	103.1				
East: Delaware Ave WB													
Lane 1 ^d	764	1.0	992	0.771	100	12.1	LOS B	11.2	281.3	Full	930	0.0	0.0
Lane 2	251	1.0	654	0.384	50 ⁶	8.1	LOS A	2.4	60.5	Short	200	0.0	NA
Approach	1016	1.0		0.771		11.1	LOS B	11.2	281.3				
North: Normanskill Blvd SB													
Lane 1 ^d	202	0.1	362	0.558	100	18.0	LOS B	3.5	88.1	Full	215	0.0	0.0
Approach	202	0.1		0.558		18.0	LOS B	3.5	88.1				
West: Delaware Ave EB													
Lane 1 ^d	593	1.2	934	0.634	100	7.5	LOS A	6.3	160.2	Full	280	0.0	0.0
Approach	593	1.2		0.634		7.5	LOS A	6.3	160.2				
Intersection	2113	0.8		0.771		11.2	LOS B	11.2	281.3				

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (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 (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

⁶ Lane under-utilisation due to downstream effects

^d Dominant lane on roundabout approach

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QUEUING REPORTS

1) Delaware Avenue/Elsmere Avenue/Groesbeck Place

Queues
Delaware Ave feasibility Study, 116-149

1: Elemere Avenue/Groesbeck Place & Delaware Avenue

Existing 2016 Signal Imp_AM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	8	777	164	510	110	530	48
v/c Ratio	0.02	0.64	0.28	0.43	0.46	0.85	0.20
Control Delay	22.2	25.6	14.0	15.7	40.7	33.2	34.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	25.6	14.0	15.7	40.7	33.2	34.9
Queue Length 50th (ft)	2	142	20	79	44	162	18
Queue Length 95th (ft)	17	355	150	#561	138	#447	69
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	542	1840	587	1152	488	636	505
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.42	0.28	0.44	0.23	0.83	0.10

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
Delaware Ave feasibility Study, 116-149

1: Elemere Avenue/Groesbeck Place & Delaware Avenue

ETC+30 (2030) Signal Imp - Optimized_AM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	8	816	172	535	115	557	51
v/c Ratio	0.02	0.75	0.29	0.47	0.66	0.83	0.29
Control Delay	23.0	30.5	11.3	13.9	54.7	31.4	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	30.5	11.3	13.9	54.7	31.4	38.4
Queue Length 50th (ft)	2	161	19	75	49	170	20
Queue Length 95th (ft)	16	#404	130	#498	#178	#488	69
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	451	1088	595	1129	173	670	177
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.75	0.29	0.47	0.66	0.83	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
Delaware Ave feasibility Study, 116-149

1: Elemere Avenue/Groesbeck Place & Delaware Ave/Delaware Avenue

ETC+10 2030 - Road Diet Signal Imps (HCS DELAY)_AM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	8	784	169	525	112	568	57
v/c Ratio	0.02	1.09	0.35	0.45	0.55	0.95	0.30
Control Delay	22.4	89.3	15.0	13.7	49.2	52.6	41.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	89.3	15.0	13.7	49.2	52.6	41.9
Queue Length 50th (ft)	2	~449	21	84	56	245	27
Queue Length 95th (ft)	17	#1058	154	484	141	#593	81
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	502	719	489	1170	293	595	271
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	1.09	0.35	0.45	0.38	0.95	0.21

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
Delaware Ave feasibility Study, 116-149

1: Elemere Avenue/Groesbeck Place & Delaware Avenue

ETC+30 (2030) Signal Imp - Partial Road Diet - optimized_AM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	8	816	172	535	115	557	51
v/c Ratio	0.02	0.75	0.29	0.47	0.66	0.83	0.29
Control Delay	23.0	30.5	11.3	13.9	54.7	31.4	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	30.5	11.3	13.9	54.7	31.4	38.4
Queue Length 50th (ft)	2	161	19	75	49	170	20
Queue Length 95th (ft)	16	#404	130	#498	#178	#488	69
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	451	1088	595	1129	173	670	177
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.75	0.29	0.47	0.66	0.83	0.29

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues 1: Elemere Avenue/Groesbeck Place & Delaware Ave/Delaware Avenue
Delaware Ave feasibility Study, 116-149 ETC+10 2030 - 1-1-2 Alternative Signal Imps_AM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	8	816	172	535	115	557	51
v/c Ratio	0.02	0.75	0.29	0.47	0.66	0.83	0.29
Control Delay	23.0	30.5	11.3	13.9	54.7	31.4	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	30.5	11.3	13.9	54.7	31.4	38.4
Queue Length 50th (ft)	2	161	19	75	49	170	20
Queue Length 95th (ft)	16	#404	130	#498	#178	#488	69
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	455	1088	595	1129	173	670	177
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.75	0.29	0.47	0.66	0.83	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues 1: Elemere Avenue/Groesbeck Place & Delaware Ave/Delaware Avenue
Delaware Ave feasibility Study, 116-149 ETC+10 2030 - 2-1-1 Alternative Signal Imps_AM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	8	816	172	535	115	557	51
v/c Ratio	0.02	1.10	0.35	0.45	0.57	0.94	0.27
Control Delay	22.4	92.3	16.0	13.9	52.2	52.2	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	92.3	16.0	13.9	52.2	52.2	42.9
Queue Length 50th (ft)	2	~499	22	89	61	255	26
Queue Length 95th (ft)	16	#1123	163	507	149	#594	77
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	530	742	485	1186	281	590	267
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	1.10	0.35	0.45	0.41	0.94	0.19

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues 1: Elemere Avenue/Groesbeck Place & Delaware Ave/Delaware Avenue
Delaware Ave feasibility Study, 116-149 Existing 2016_PM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	21	515	505	723	149	251	49
v/c Ratio	0.06	0.47	0.88	0.70	0.60	0.39	0.17
Control Delay	21.9	23.3	35.9	21.4	41.1	13.9	30.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	23.3	35.9	21.4	41.1	13.9	30.3
Queue Length 50th (ft)	4	80	80	135	51	50	15
Queue Length 95th (ft)	32	226	#612	#833	166	110	63
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	637	1905	573	1039	472	637	549
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.27	0.88	0.70	0.32	0.39	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues 1: Elemere Avenue/Groesbeck Place & Delaware Ave/Delaware Avenue
Delaware Ave feasibility Study, 116-149 ETC+10 2030 Signal Imps (Optimized)_PM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	22	518	536	780	149	269	56
v/c Ratio	0.08	0.63	0.77	0.72	0.60	0.33	0.22
Control Delay	28.8	33.1	27.0	21.7	45.3	10.3	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	33.1	27.0	21.7	45.3	10.3	35.4
Queue Length 50th (ft)	7	111	130	170	63	51	22
Queue Length 95th (ft)	36	250	#661	#933	180	109	78
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	392	1178	698	1089	361	819	375
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.44	0.77	0.72	0.41	0.33	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
Delaware Ave feasibility Study, 116-149

1: Elemere Avenue/Groesbeck Place & Delaware Ave/Delaware Avenue

ETC+10 2030 - Road Diet Signal Imps (HCS DELAY)_PM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	22	519	521	745	151	268	56
v/c Ratio	0.07	0.94	0.85	0.67	0.65	0.36	0.24
Control Delay	28.3	58.7	37.5	20.8	51.1	13.0	37.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	58.7	37.5	20.8	51.1	13.0	37.9
Queue Length 50th (ft)	8	258	180	162	75	72	26
Queue Length 95th (ft)	36	#710	#668	#873	181	109	78
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	363	553	613	1120	325	737	334
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.94	0.85	0.67	0.46	0.36	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues 1: Elemere Avenue/Groesbeck Place & Delaware Ave/Delaware Avenue
Delaware Ave feasibility Study, 116-149 ETC+10 2030 Signal Imps - Partial Road Diet_PM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	22	518	536	780	149	269	56
v/c Ratio	0.08	0.63	0.77	0.72	0.60	0.33	0.22
Control Delay	28.8	33.1	27.0	21.7	45.3	10.3	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	33.1	27.0	21.7	45.3	10.3	35.4
Queue Length 50th (ft)	7	111	130	170	63	51	22
Queue Length 95th (ft)	36	250	#661	#933	180	109	78
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	392	1178	698	1089	361	819	375
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.44	0.77	0.72	0.41	0.33	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

1: Elemere Avenue/Groesbeck Place & Delaware Ave/Delaware Avenue

Delaware Ave feasibility Study, 116-149

ETC+10 2030 - 1-1-2 Alternative Signal Imps_PM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	22	518	536	780	149	269	56
v/c Ratio	0.08	0.63	0.77	0.72	0.60	0.33	0.22
Control Delay	28.8	33.1	27.0	21.7	45.3	10.3	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	33.1	27.0	21.7	45.3	10.3	35.4
Queue Length 50th (ft)	7	111	130	170	63	51	22
Queue Length 95th (ft)	36	250	#661	#933	180	109	78
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	392	1178	698	1089	361	819	375
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.44	0.77	0.72	0.41	0.33	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues 1: Elemere Avenue/Groesbeck Place & Delaware Ave/Delaware Avenue
Delaware Ave feasibility Study, 116-149 ETC+10 2030 - 2-1-1 Alternative Signal Imps_PM Peak

							
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	22	518	536	780	149	269	56
v/c Ratio	0.07	0.94	0.87	0.70	0.65	0.37	0.24
Control Delay	28.4	58.1	39.9	21.6	50.8	13.0	38.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	58.1	39.9	21.6	50.8	13.0	38.0
Queue Length 50th (ft)	8	257	189	175	74	72	26
Queue Length 95th (ft)	36	#708	#694	#933	180	109	78
Internal Link Dist (ft)		416		174	446		584
Turn Bay Length (ft)	90						
Base Capacity (vph)	358	554	614	1119	326	736	334
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.94	0.87	0.70	0.46	0.37	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

2) Delaware Avenue/Normanskill Boulevard/Delaware Plaza

Queues

10: Delaware Plaza Drwy/Normanskill Blvd & Delaware Avenue

Delaware Ave feasibility Study, 116-149

Existing 2016_PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	40	529	92	871	271	30	67	77
v/c Ratio	0.21	0.53	0.21	0.65	0.56	0.05	0.13	0.13
Control Delay	22.1	30.8	18.3	25.8	33.6	27.9	27.8	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	30.8	18.3	25.8	33.6	27.9	27.8	27.4
Queue Length 50th (ft)	10	120	23	187	107	10	22	25
Queue Length 95th (ft)	42	276	81	410	#410	49	92	103
Internal Link Dist (ft)		176		301		119		398
Turn Bay Length (ft)	125		135					
Base Capacity (vph)	610	2145	751	2154	482	582	517	595
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.25	0.12	0.40	0.56	0.05	0.13	0.13

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

10: Delaware Plaza Drwy/Normanskill Blvd & Delaware Avenue

Delaware Ave feasibility Study, 116-149

ETC+10 2030 Signal Imps (Optimized)_PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	539	87	927	279	22	82	107
v/c Ratio	0.23	0.51	0.20	0.70	0.70	0.04	0.19	0.21
Control Delay	20.9	25.0	16.9	25.3	36.4	23.7	24.0	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	25.0	16.9	25.3	36.4	23.7	24.0	23.9
Queue Length 50th (ft)	10	97	16	162	97	6	24	31
Queue Length 95th (ft)	49	227	72	#473	#358	32	88	108
Internal Link Dist (ft)		176		301		119		398
Turn Bay Length (ft)	125		135					
Base Capacity (vph)	244	1182	473	1317	399	503	442	507
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.46	0.18	0.70	0.70	0.04	0.19	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
Delaware Ave feasibility Study, 116-149

10: Delaware Plaza Drwy/Normanskill Blvd & Delaware Avenue

ETC+10 2030 - Road Diet Signal Imps (HCS DELAY)_PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	533	94	868	282	21	82	108
v/c Ratio	0.34	0.59	0.25	0.92	0.85	0.05	0.22	0.25
Control Delay	18.9	27.2	14.1	44.2	66.8	38.8	40.1	40.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.9	27.2	14.1	44.2	66.8	38.8	40.1	40.0
Queue Length 50th (ft)	13	251	25	550	195	11	46	62
Queue Length 95th (ft)	51	589	82	#1276	#505	42	123	152
Internal Link Dist (ft)		176		301		119		398
Turn Bay Length (ft)	125		135					
Base Capacity (vph)	202	938	414	943	331	425	375	428
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.57	0.23	0.92	0.85	0.05	0.22	0.25

Intersection Summary

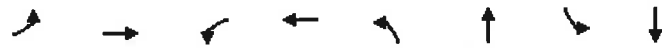
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

10: Delaware Plaza Drwy/Normanskill Blvd & Delaware Avenue

Delaware Ave feasibility Study, 116-149

ETC+10 2030 Signal Imps - Partial Road Diet_PM Peak



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	539	87	927	279	22	82	107
v/c Ratio	0.23	0.51	0.20	0.70	0.70	0.04	0.19	0.21
Control Delay	20.9	25.0	16.9	25.3	36.4	23.7	24.0	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	25.0	16.9	25.3	36.4	23.7	24.0	23.9
Queue Length 50th (ft)	10	97	16	162	97	6	24	31
Queue Length 95th (ft)	49	227	72	#473	#358	32	88	108
Internal Link Dist (ft)		176		301		119		398
Turn Bay Length (ft)	125		135					
Base Capacity (vph)	244	1182	473	1317	399	503	442	507
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.46	0.18	0.70	0.70	0.04	0.19	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
Delaware Ave feasibility Study, 116-149

10: Delaware Plaza Drwy/Normanskill Blvd & Delaware Avenue

ETC+10 2030 - 1-1-2 Alternative Signal Imps_PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	539	87	927	279	22	82	107
v/c Ratio	0.33	0.31	0.19	0.99	0.84	0.05	0.22	0.25
Control Delay	18.3	20.2	13.4	56.9	66.0	38.8	40.3	40.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	20.2	13.4	56.9	66.0	38.8	40.3	40.1
Queue Length 50th (ft)	14	111	23	633	193	12	47	62
Queue Length 95th (ft)	51	248	77	#1411	#498	44	123	151
Internal Link Dist (ft)		176		301		119		398
Turn Bay Length (ft)	125		135					
Base Capacity (vph)	202	1784	503	938	331	429	377	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.30	0.17	0.99	0.84	0.05	0.22	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

10: Delaware Plaza Drwy/Normanskill Blvd & Delaware Avenue

Delaware Ave feasibility Study, 116-149

ETC+10 2030 - 2-1-1 Alternative Signal Imps_PM Peak

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	539	87	927	279	22	82	107
v/c Ratio	0.21	0.73	0.31	0.63	0.73	0.05	0.20	0.22
Control Delay	15.5	31.0	17.2	24.1	41.6	26.1	27.2	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	31.0	17.2	24.1	41.6	26.1	27.2	27.0
Queue Length 50th (ft)	11	205	18	178	116	7	28	37
Queue Length 95th (ft)	50	#616	74	#482	#376	34	94	115
Internal Link Dist (ft)		176		301		119		398
Turn Bay Length (ft)	125		135					
Base Capacity (vph)	290	734	282	1479	382	476	420	486
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.73	0.31	0.63	0.73	0.05	0.20	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Summary of Peak Travel Time Runs
Delaware Avenue Complete Streets Feasibility Study
CM No. 116-149

	Distance (ft)	Total Travel Time (seconds) Includes stopped delay					Operating Speed (MPH) Includes stopped delay					Ave Speed	Ave Both Dir
		1	2	3	4	5	1	2	3	4	5		
Oakwood		63	563	1219	1788	2376							
Begin 30	775	77	577	1234	1805	2394	38	38	35	31	29	34	35
Rural Pl	430	86	584	1257	1815	2404	33	42	13	29	29	29	32
Elsmere	575	103	670	1270	1827	2457	23	5	30	33	7	20	25
Booth	415	112	682	1276	1835	2467	31	24	47	35	28	33	21
Leonard	660	127	694	1288	1847	2482	30	38	38	38	30	35	29
Salsbury	585	139	704	1298	1857	2495	33	40	40	40	31	37	36
Euclid	785	155	717	1310	1875	2510	33	41	45	30	36	37	37
Hannafor	320	163	726	1316	1910	2570	27	24	36	6	4	20	27
P&R	450	175	739	1325	1930	2582	26	24	34	15	26	25	24
Mason	540	185	749	1334	1940	2595	37	37	41	37	28	36	38
Old Delaware	1010	206	765	1353	1956	2617	33	43	36	43	31	37	40
Bridge 1	1435	230	787	1378	1979	2642	41	44	39	43	39	41	42
Bridge 2	1140	250	805	1398	1997	2661	39	43	39	43	41	41	43
Golder	615	261	818	1409	2007	2674	38	32	38	42	32	37	38
Total time Elsmere to B1		127	117	108	152	185	33	36	39	28	23	32	30 138
Golder		317	898	1471	2082	2738							
Bridge 2	725	330	911	1483	2095	2750	38	38	41	38	41	39	
Bridge 1	1140	347	927	1500	2114	2767	46	49	46	41	46	45	
Old Delaware	1435	370	951	1522	2138	2789	43	41	44	41	44	43	
Mason	1010	386	966	1538	2158	2804	43	46	43	34	46	42	
P&R	540	394	976	1547	2168	2813	46	37	41	37	41	40	
Hannafor	450	404	991	1558	2179	2863	31	20	28	28	6	23	
Euclid	435	412	1000	1566	2187	2873	37	33	37	37	30	35	
Salsbury	785	427	1014	1579	2205	2887	36	38	41	30	38	37	
Leonard	585	439	1025	1590	2219	2897	33	36	36	28	40	35	
Booth	660	456	1041	1625	2240	2912	26	28	13	21	30	24	
Elsmere	340	471	1067	1697	2267	2932	15	9	3	9	12	10	
Rural Pl	650	487	1081	1710	2283	2947	28	32	34	28	30	30	
End 40	430	496	1090	1718	2290	2956	33	33	37	42	33	35	
Oakwood	790	512	1107	1733	2303	2973	34	32	36	41	32	35	
Total time B1 to Elsmere		124	140	197	153	165	34	30	22	28	26	28	156

Runs 1 thru 5 T=0 at 4:35 p.m. Tuesday 10-25-16

Enter time without punctuation: enter 3:45 as 345

Date: March 29, 2017		Weather		Mostly Sunny with some clouds											
Delaware Avenue		TOB, Delmar													
Trip Start Time		4:25 PM		Start Mileage		30 miles total - subtract out home to Washington Ave to Wolf Rd									
Trip End Time		5:50 PM		End Mileage		Intersection		Link		Running		Average			
	Arrive	Depart (if Different)	Mileage	Number of Seconds	Depart	Stopped Delay	Distance (miles)	Speed (mph)	Overall Speed (mph)	Comments	Arrive	Depart			
Hudson Avenue			0.0	32	32						32	32			
Elsmere Avenue	53		0.2	53	53	0	0.2	34	34		53	53			
Normanskill Boulevard	151	207	0.7	111	127	16	0.7	31	24		151	127			
Normanskill Bridge	320		1.4	200	200	0	0.7	35	35		200	200			
McAlpin Street	426		2.0	266	266	0	0.6	33	33		266	266			
Total Seconds			234	234	0					Elsmere to Normanskill Bridge	179	234			
McAlpin Street	549		0.0	349	349						349	349			
Normanskill Bridge	647		0.45	407	407	0	0.5	28	28		407	407			
Normanskill Boulevard	756		1.3	476	476	0	0.9	44	44		476	476			
Elsmere Avenue	852	919	1.8	532	559	27	0.5	32	22		532	559			
Hudson Avenue	938		2.0	578	578	0	0.2	38	38		578	578			
Total Seconds			229	229							229	229			
Hudson Avenue	1042		0.0	642	642						642	642			
Elsmere Avenue	1103		0.2	663	663	0	0.2	34	34		663	663			
Normanskill Boulevard	1152	1221	0.7	712	741	29	0.5	37	23		712	741			
Normanskill Bridge	1336		1.4	816	816	0	0.7	34	34		816	816			
McAlpin Street	1436	1500	2.0	876	900	24	0.6	36	26		876	900			
Total Seconds			234	258							234	258			
McAlpin Street	1659	1729	0.0	1019	1049						1019	1049			
Normanskill Bridge	1811		0.45	1091	1091	0	0.5	39	39		1091	1091			
Normanskill Boulevard	1926	1933	1.3	1166	1173	7	0.9	41	37		1166	1173			
Elsmere Avenue	2033		1.8	1233	1233	0	0.5	30	30		1233	1233			
Hudson Avenue	2051		2.0	1251	1251	0	0.2	40	40		1251	1251			
Total Seconds			232	232							232	232			
Hudson Avenue	2148		0.0	1378	1378						1378	1378			
Elsmere Avenue	2316		0.2	1396	1396	0	0.2	40	40		1396	1396			
Normanskill Boulevard	2405	2459	0.7	1445	1499	54	0.5	37	17	Exclusive Ped phase triggered	1445	1499			
Normanskill Bridge	2605		1.4	1565	1565	0	0.7	38	38		1565	1565			
McAlpin Street	2716		2.0	1636	1636	0	0.6	30	30		1636	1636			
Total Seconds			258	258							258	258			
McAlpin Street	2923		0.0	1763	1763						1763	1763			
Normanskill Bridge	3017		0.45	1817	1817	0	0.5	30	30		1817	1817			
Normanskill Boulevard	3135	3139	1.3	1895	1899	4	0.9	39	37		1895	1899			
Elsmere Avenue	3235		1.8	1955	1955	0	0.5	32	32		1955	1955			
Hudson Avenue	3256		2.0	1976	1976	0	0.2	34	34		1976	1976			
Total Seconds			213	213							213	213			
Hudson Avenue	3448		0.0	2086	2086						2086	2086			
Elsmere Avenue	3459	3520	0.2	2099	2120	21	0.2	42	16		2099	2120			
Normanskill Boulevard	3612		0.7	2172	2172	0	0.6	38	38		2172	2172			
Normanskill Bridge	3716		1.4	2236	2236	0	0.7	39	39		2236	2236			
McAlpin Street	3819	3844	2.0	2299	2324	25	0.6	34	25		2299	2324			
Total Seconds			213	238							213	238			
McAlpin Street	4122		0.0	2482	2482						2482	2482			
Normanskill Bridge	4209		0.45	2529	2529	0	0.5	34	34		2529	2529			
Normanskill Boulevard	4322	4332	1.3	2602	2612	10	0.9	42	37		2602	2612			
Elsmere Avenue	4436	4660	1.8	2676	2760	84	0.5	28	12	Exclusive Ped phase triggered	2676	2760			
Hudson Avenue	4620		2.0	2780	2780	0	0.2	36	36		2780	2780			
Total Seconds			298	298							298	298			
Hudson Avenue	4751		0.0	2873	2873						2873	2873			
Elsmere Avenue	4804	4823	0.1	2884	2903	19	0.1	41	15		2884	2903			
Normanskill Boulevard	4926	5007	0.7	2966	3007	41	0.6	33	20	Exclusive Ped phase triggered	2966	3007			
Normanskill Bridge	5114		1.4	3074	3074	0	0.7	38	38		3074	3074			
McAlpin Street	5216		2.0	3136	3136	0	0.6	35	35		3136	3136			
Total Seconds			263	263							263	263			
McAlpin Street	5322	5349	0.0	3202	3229						3202	3229			
Normanskill Bridge	5435		0.45	3275	3275	0	0.5	35	35		3275	3275			
Normanskill Boulevard	5552		1.3	3352	3352	0	0.9	40	40		3352	3352			
Elsmere Avenue	5707	5726	1.8	3427	3446	18	0.5	24	19		3427	3446			
Hudson Avenue	5751		2.0	3471	3471	0	0.2	29	29		3471	3471			
Total Seconds			269	269							269	269			
Hudson Avenue	5848		0.0	3560	3560						3560	3560			
Elsmere Avenue	5938	6052	0.2	3578	3652	74	0.2	40	8		3578	3652			
Normanskill Boulevard	6150	6251	0.7	3710	3771	61	0.5	31	15		3710	3771			
Normanskill Bridge	6358		1.4	3838	3838	0	0.7	38	38		3838	3838			
McAlpin Street	6458	6522	2.0	3898	3922	24	0.6	36	26		3898	3922			
Total Seconds			338	362							338	362			
McAlpin Street	6652	6704	0.0	4012	4024						4012	4024			
Normanskill Bridge	6754		0.45	4074	4074	0	0.5	32	32		4074	4074			
Normanskill Boulevard	6907	6921	1.3	4147	4161	14	0.9	32	35		4147	4161			
Elsmere Avenue	7023		1.8	4223	4223	0	0.5	29	29		4223	4223			
Hudson Avenue	7039		2.0	4239	4239	0	0.2	45	45		4239	4239			
Total Seconds			227	227							227	227			
Hudson Avenue	7211		0.0	4333	4333						4333	4333			
Elsmere Avenue	7230	7243	0.2	4350	4363	13	0.2	37	21		4350	4363			
Normanskill Boulevard	7343		0.7	4423	4423	0	0.5	32	32		4423	4423			
Normanskill Bridge	7454		1.4	4494	4494	0	0.7	35	35		4494	4494			
McAlpin Street	7544	7618	2.0	4544	4578	34	0.6	43	26		4544	4578			
Total Seconds			211	245							211	245			
McAlpin Street	7836	7851	0.0	4716	4731						4716	4731			
Normanskill Bridge	7950		0.45	4790	4790	0	0.5	27	27		4790	4790			
Normanskill Boulevard	8104		1.3	4864	4864	0	0.9	41	41		4864	4864			
Elsmere Avenue	8158		1.8	4918	4918	0	0.5	33	33		4918	4918			
Hudson Avenue	8215		2.0	4935	4935	0	0.2	42	42		4935	4935			
Total Seconds			219	219							219	219			

Eastbound - OFF PEAK Direction
AVERAGE Travel Time Hudson Ave to McAlpin St
4 minutes 10.2 seconds

avg travel speed = 28.8 mph 4.17 minutes avg travel time

Westbound - PEAK Direction
AVERAGE Travel Time McAlpin St to Hudson Ave
4 minutes 1.2 seconds

avg travel speed = 29.9 mph 4.02 minutes avg travel time

comparison to CME findings

Eastbound - OFF PEAK Direction
AVERAGE Travel Time Elsmere to Normanskill Bridge
__ minutes __ seconds

avg travel speed = 28.8 mph minutes avg travel time

Westbound - PEAK Direction
AVERAGE Travel Time Normanskill Bridge to Elsmere
__ minutes __ seconds

avg travel speed = 29.9 mph minutes avg travel time

