Appendix C

Background Future Traffic Forecasts

ZONING COMMISSION
District of Columbia
CASE NO.05-22
EXHIBIT NO.6A2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	18	34	500	15	23	1067
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	37	543	16	25	1160
Pedestrians	114		12			14
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	10		1			1
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			371			
pX, platoon unblocked	0.96	0.96			0.96	
vC, conflicting volume	1308	408			674	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1277	338			615	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	93			97	
cM capacity (veh/h)	132	564			832	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	57	362	197	412	773
Volume Left	20	0	0	25	0
Volume Right	37	0	16	0	0
cSH	264	1700	1700	832	1700
Volume to Capacity	0.21	0.21	0.12	0.03	0.45
Queue Length 95th (ft)	20	0	0	2	0
Control Delay (s)	22.3	0.0	0.0	0.9	0.0
Lane LOS	C			A	
Approach Delay (s)	22.3	0.0		0.3	
Approach LOS	C				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	36	0	0	47	4	2	0	1	1	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	39	0	0	51	4	2	0	1	1	0	2
Pedestrians		10			2			20			22	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			0			2			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	77			59			129	141	61	122	139	85
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	77			59			129	141	61	122	139	85
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1493			1519			799	723	986	812	725	948

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	41	55	3	3
Volume Left	2	0	2	1
Volume Right	0	4	1	2
cSH	1493	1519	852	898
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.4	0.0	9.2	9.0
Lane LOS	A		A	A
Approach Delay (s)	0.4	0.0	9.2	9.0
Approach LOS			A	A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	15	26	29	360	732	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	28	32	391	796	25
Pedestrians	113			21	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	9			2	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				213		
pX, platoon unblocked	0.92					
vC, conflicting volume	1378	942	934			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1409	942	934			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	90	95			
cM capacity (veh/h)	122	284	664			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	45	423	821
Volume Left	16	32	0
Volume Right	28	0	25
cSH	191	664	1700
Volume to Capacity	0.23	0.05	0.48
Queue Length 95th (ft)	22	4	0
Control Delay (s)	29.6	1.4	0.0
Lane LOS	D	A	
Approach Delay (s)	29.6	1.4	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00			1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.99			0.99	
Flpb, ped/bikes		1.00			0.99		0.99	1.00			1.00	
Frt		0.97			0.98		1.00	0.98			0.99	
Flt Protected		0.99			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		1744			1771		1743	1809			1821	
Flt Permitted		0.78			0.93		0.31	1.00			0.97	
Satd. Flow (perm)		1363			1659		561	1809			1772	
Volume (vph)	52	203	59	31	265	67	34	269	38	37	656	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	221	64	34	288	73	37	292	41	40	713	72
RTOR Reduction (vph)	0	8	0	0	8	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	334	0	0	387	0	37	328	0	0	822	0
Confl. Peds. (#/hr)	40		77	77		40	66		84	84		66
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		28.0			28.0		61.0	61.0			61.0	
Effective Green, g (s)		30.0			30.0		62.0	62.0			62.0	
Actuated g/C Ratio		0.30			0.30		0.62	0.62			0.62	
Clearance Time (s)		6.0			6.0		5.0	5.0			5.0	
Lane Grp Cap (vph)		409			498		348	1122			1099	
v/s Ratio Prot								0.18				
v/s Ratio Perm		c0.24			0.23		0.07				c0.46	
v/c Ratio		0.82			0.78		0.11	0.29			0.75	
Uniform Delay, d1		32.4			31.9		7.7	8.8			13.5	
Progression Factor		1.09			1.00		1.00	1.00			1.00	
Incremental Delay, d2		14.3			11.3		0.6	0.7			4.7	
Delay (s)		49.8			43.2		8.3	9.5			18.1	
Level of Service		D			D		A	A			B	
Approach Delay (s)		49.8			43.2			9.4			18.1	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.99		1.00	0.99			0.99	
Flpb, ped/bikes		1.00			1.00		0.98	1.00			1.00	
Frt		0.97			0.98		1.00	0.98			0.99	
Flt Protected		0.99			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		1751			1775		1742	1807			1820	
Flt Permitted		0.84			0.95		0.28	1.00			0.97	
Satd. Flow (perm)		1486			1695		516	1807			1770	
Volume (vph)	52	203	59	31	265	67	34	269	38	37	656	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	221	64	34	288	73	37	292	41	40	713	72
RTOR Reduction (vph)	0	8	0	0	8	0	0	5	0	0	4	0
Lane Group Flow (vph)	0	334	0	0	387	0	37	328	0	0	821	0
Confl. Peds. (#/hr)	40		77	77		40	66		84	84		66
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		34.0			34.0		55.0	55.0			55.0	
Effective Green, g (s)		36.0			36.0		56.0	56.0			56.0	
Actuated g/C Ratio		0.36			0.36		0.56	0.56			0.56	
Clearance Time (s)		6.0			6.0		5.0	5.0			5.0	
Lane Grp Cap (vph)		535			610		289	1012			991	
v/s Ratio Prot								0.18				
v/s Ratio Perm		0.22			c0.23		0.07				c0.46	
v/c Ratio		0.62			0.63		0.13	0.32			0.83	
Uniform Delay, d1		26.4			26.5		10.4	11.8			18.1	
Progression Factor		1.16			1.00		1.00	1.00			1.00	
Incremental Delay, d2		4.7			5.0		0.9	0.9			8.0	
Delay (s)		35.3			31.5		11.3	12.7			26.0	
Level of Service		D			C		B	B			C	
Approach Delay (s)		35.3			31.5			12.5			26.0	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	13	313	364	2	3	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	340	396	2	3	4
Pedestrians		25	64		34	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	5		3	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		196	451			
pX, platoon unblocked	0.85				0.89	0.85
vC, conflicting volume	432				863	456
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	329				700	358
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1013				327	553

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	354	398	8
Volume Left	14	0	3
Volume Right	0	2	4
cSH	1013	1700	427
Volume to Capacity	0.01	0.23	0.02
Queue Length 95th (ft)	1	0	1
Control Delay (s)	0.5	0.0	13.6
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	13.6
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.98			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			0.99	
Frt		1.00			0.97			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1822			1738			3467			3408	
Flt Permitted		0.82			0.85			0.91			0.82	
Satd. Flow (perm)		1501			1497			3164			2822	
Volume (vph)	50	176	5	76	209	75	13	412	30	108	876	101
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	191	5	83	227	82	14	448	33	117	952	110
RTOR Reduction (vph)	0	1	0	0	9	0	0	5	0	0	8	0
Lane Group Flow (vph)	0	249	0	0	383	0	0	490	0	0	1171	0
Confl. Peds. (#/hr)	70		118	118		70	144		124	124		144
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		32.0			32.0			57.0			57.0	
Effective Green, g (s)		34.0			34.0			58.0			58.0	
Actuated g/C Ratio		0.34			0.34			0.58			0.58	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		510			509			1835			1637	
v/s Ratio Prot												
v/s Ratio Perm		0.17			c0.26			0.15			c0.42	
v/c Ratio		0.49			0.75			0.27			0.72	
Uniform Delay, d1		26.1			29.3			10.4			15.1	
Progression Factor		1.00			0.83			1.00			1.00	
Incremental Delay, d2		3.3			7.0			0.4			2.7	
Delay (s)		29.5			31.4			10.8			17.8	
Level of Service		C			C			B			B	
Approach Delay (s)		29.5			31.4			10.8			17.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	132.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			0.99	
Frt		1.00			0.97			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1824			1745			3464			3401	
Flt Permitted		0.85			0.88			0.91			0.81	
Satd. Flow (perm)		1568			1544			3158			2771	
Volume (vph)	50	176	5	76	209	75	13	412	30	108	876	101
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	191	5	83	227	82	14	448	33	117	952	110
RTOR Reduction (vph)	0	1	0	0	10	0	0	5	0	0	8	0
Lane Group Flow (vph)	0	249	0	0	382	0	0	490	0	0	1171	0
Confl. Peds. (#/hr)	70		118	118		70	144		124	124		144
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.0			38.0			51.0			51.0	
Effective Green, g (s)		40.0			40.0			52.0			52.0	
Actuated g/C Ratio		0.40			0.40			0.52			0.52	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		627			618			1642			1441	
v/s Ratio Prot												
v/s Ratio Perm		0.16			c0.25			0.16			c0.42	
v/c Ratio		0.40			0.62			0.30			0.81	
Uniform Delay, d1		21.4			23.9			13.6			20.0	
Progression Factor		1.00			0.92			1.00			1.00	
Incremental Delay, d2		1.9			3.6			0.5			5.1	
Delay (s)		23.3			25.7			14.1			25.1	
Level of Service		C			C			B			C	
Approach Delay (s)		23.3			25.7			14.1			25.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	22.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑↑↑			↑↑↑	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	13	0	39	0	0	0	32	500	0	0	1045	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	0	42	0	0	0	35	543	0	0	1136	35
Pedestrians		168			127			12			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		14			11			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								191				
pX, platoon unblocked	0.94	0.94		0.94	0.94	0.94				0.94		
vC, conflicting volume	1669	2061	765	1362	2079	405	1339			670		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1647	2065	765	1322	2084	303	1339			586		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	65	100	86	100	100	100	92			100		
cM capacity (veh/h)	41	36	294	63	35	580	439			828		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	57	0	307	272	568	603
Volume Left	14	0	35	0	0	0
Volume Right	42	0	0	0	0	35
cSH	115	1700	439	1700	828	1700
Volume to Capacity	0.49	0.00	0.08	0.16	0.00	0.35
Queue Length 95th (ft)	56	0	6	0	0	0
Control Delay (s)	63.3	0.0	2.7	0.0	0.0	0.0
Lane LOS	F	A	A			
Approach Delay (s)	63.3	0.0	1.5		0.0	
Approach LOS	F	A				

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	51.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	15	23	1011	12	27	748
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	25	1099	13	29	813
Pedestrians	103		12			17
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	9		1			1
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			371			
pX, platoon unblocked	0.85	0.85			0.85	
vC, conflicting volume	1686	676			1215	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1630	442			1076	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	94			94	
cM capacity (veh/h)	67	431			500	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	41	733	379	300	542
Volume Left	16	0	0	29	0
Volume Right	25	0	13	0	0
cSH	137	1700	1700	500	1700
Volume to Capacity	0.30	0.43	0.22	0.06	0.32
Queue Length 95th (ft)	29	0	0	5	0
Control Delay (s)	42.3	0.0	0.0	2.0	0.0
Lane LOS	E			A	
Approach Delay (s)	42.3	0.0		0.7	
Approach LOS	E				

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	39	1	1	35	4	1	0	0	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	42	1	1	38	4	1	0	0	2	0	1
Pedestrians		10			2			5			28	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			0			0			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	70			48			101	120	50	115	119	78
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	70			48			101	120	50	115	119	78
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1494			1552			849	748	1012	822	750	951

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	43	43	1	3
Volume Left	0	1	1	2
Volume Right	1	4	0	1
cSH	1494	1552	849	861
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	0.0	0.2	9.2	9.2
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.2	9.2	9.2
Approach LOS			A	A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	22.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	17	24	18	624	475	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	26	20	678	516	24
Pedestrians	31			8		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	3			1		
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				213		
pX, platoon unblocked	0.81					
vC, conflicting volume	1277	567	571			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1344	567	571			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	95	98			
cM capacity (veh/h)	129	506	976			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	45	698	540
Volume Left	18	20	0
Volume Right	26	0	24
cSH	228	976	1700
Volume to Capacity	0.20	0.02	0.32
Queue Length 95th (ft)	18	2	0
Control Delay (s)	24.5	0.5	0.0
Lane LOS	C	A	
Approach Delay (s)	24.5	0.5	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00			1.00	
Frpb, ped/bikes		1.00			0.99		1.00	1.00			0.99	
Flpb, ped/bikes		1.00			1.00		0.98	1.00			1.00	
Frt		0.99			0.98		1.00	0.99			0.99	
Flt Protected		0.99			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1815			1787		1728	1831			1808	
Flt Permitted		0.79			0.89		0.45	1.00			0.89	
Satd. Flow (perm)		1444			1599		818	1831			1615	
Volume (vph)	66	323	29	29	236	55	45	521	49	51	357	51
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	351	32	32	257	60	49	566	53	55	388	55
RTOR Reduction (vph)	0	3	0	0	8	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	452	0	0	341	0	49	616	0	0	493	0
Confl. Peds. (#/hr)	30		30	30		30	63		41	41		63
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		28.0			28.0		61.0	61.0			61.0	
Effective Green, g (s)		30.0			30.0		62.0	62.0			62.0	
Actuated g/C Ratio		0.30			0.30		0.62	0.62			0.62	
Clearance Time (s)		6.0			6.0		5.0	5.0			5.0	
Lane Grp Cap (vph)		433			480		507	1135			1001	
v/s Ratio Prot								c0.34				
v/s Ratio Perm		c0.31			0.21		0.06				0.31	
v/c Ratio		1.04			0.71		0.10	0.54			0.49	
Uniform Delay, d1		35.0			31.1		7.7	10.9			10.4	
Progression Factor		1.08			1.00		1.00	1.00			1.00	
Incremental Delay, d2		43.1			8.7		0.4	1.9			1.7	
Delay (s)		81.0			39.8		8.1	12.7			12.1	
Level of Service		F			D		A	B			B	
Approach Delay (s)		81.0			39.8			12.4			12.1	
Approach LOS		F			D			B			B	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00			1.00	
Frpb, ped/bikes		1.00			0.99		1.00	1.00			0.99	
Flpb, ped/bikes		1.00			1.00		0.97	1.00			1.00	
Frt		0.99			0.98		1.00	0.99			0.99	
Flt Protected		0.99			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1817			1789		1725	1830			1807	
Flt Permitted		0.85			0.93		0.43	1.00			0.81	
Satd. Flow (perm)		1552			1668		781	1830			1471	
Volume (vph)	66	323	29	29	236	55	45	521	49	51	357	51
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	351	32	32	257	60	49	566	53	55	388	55
RTOR Reduction (vph)	0	3	0	0	8	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	452	0	0	341	0	49	615	0	0	494	0
Confl. Peds. (#/hr)	30		30	30		30	63		41	41		63
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		34.0			34.0		55.0	55.0			55.0	
Effective Green, g (s)		36.0			36.0		56.0	56.0			56.0	
Actuated g/C Ratio		0.36			0.36		0.56	0.56			0.56	
Clearance Time (s)		6.0			6.0		5.0	5.0			5.0	
Lane Grp Cap (vph)		559			600		437	1025			824	
v/s Ratio Prot								c0.34				
v/s Ratio Perm		c0.29			0.20		0.06				0.34	
v/c Ratio		0.81			0.57		0.11	0.60			0.60	
Uniform Delay, d1		28.9			25.8		10.3	14.6			14.6	
Progression Factor		1.13			1.00		1.00	1.00			1.00	
Incremental Delay, d2		8.1			3.9		0.5	2.6			3.2	
Delay (s)		40.9			29.6		10.8	17.2			17.8	
Level of Service		D			C		B	B			B	
Approach Delay (s)		40.9			29.6			16.7			17.8	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



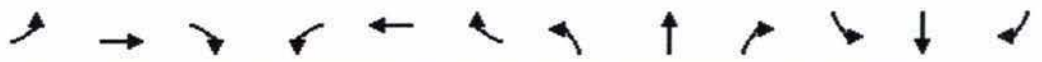
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	413	328	7	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	449	357	8	1	2
Pedestrians		20	32		33	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	3		3	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		196	451			
pX, platoon unblocked	0.88				0.87	0.88
vC, conflicting volume	397				909	413
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	311				682	330
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	1063				338	596

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	466	364	3
Volume Left	17	0	1
Volume Right	0	8	2
cSH	1063	1700	475
Volume to Capacity	0.02	0.21	0.01
Queue Length 95th (ft)	1	0	1
Control Delay (s)	0.5	0.0	12.6
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	12.6
Approach LOS			B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		1.00			0.96			0.99			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1813			1734			3467			3441	
Flt Permitted		0.70			0.73			0.94			0.71	
Satd. Flow (perm)		1282			1289			3258			2466	
Volume (vph)	129	275	15	83	142	93	13	829	64	77	653	55
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	299	16	90	154	101	14	901	70	84	710	60
RTOR Reduction (vph)	0	1	0	0	15	0	0	5	0	0	5	0
Lane Group Flow (vph)	0	454	0	0	330	0	0	980	0	0	849	0
Confl. Peds. (#/hr)	36		55	55		36	147		118	118		147
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		32.0			32.0			57.0			57.0	
Effective Green, g (s)		34.0			34.0			58.0			58.0	
Actuated g/C Ratio		0.34			0.34			0.58			0.58	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		436			438			1890			1430	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.26			0.30			c0.34	
v/c Ratio		1.04			0.75			0.52			0.59	
Uniform Delay, d1		33.0			29.3			12.6			13.4	
Progression Factor		1.00			0.79			1.00			1.00	
Incremental Delay, d2		54.0			9.4			1.0			1.8	
Delay (s)		87.0			32.5			13.6			15.3	
Level of Service		F			C			B			B	
Approach Delay (s)		87.0			32.5			13.6			15.3	
Approach LOS		F			C			B			B	

Intersection Summary			
HCM Average Control Delay	29.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			0.96			0.99			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1814			1737			3464			3437	
Flt Permitted		0.73			0.76			0.94			0.69	
Satd. Flow (perm)		1346			1339			3254			2375	
Volume (vph)	129	275	15	83	142	93	13	829	64	77	653	55
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	299	16	90	154	101	14	901	70	84	710	60
RTOR Reduction (vph)	0	1	0	0	15	0	0	6	0	0	6	0
Lane Group Flow (vph)	0	454	0	0	330	0	0	979	0	0	848	0
Confl. Peds. (#/hr)	36		55	55		36	147		118	118		147
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.0			38.0			51.0			51.0	
Effective Green, g (s)		40.0			40.0			52.0			52.0	
Actuated g/C Ratio		0.40			0.40			0.52			0.52	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		538			536			1692			1235	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.25			0.30			c0.36	
v/c Ratio		0.84			0.62			0.58			0.69	
Uniform Delay, d1		27.2			23.9			16.5			17.9	
Progression Factor		1.00			0.88			1.00			1.00	
Incremental Delay, d2		14.9			4.6			1.5			3.1	
Delay (s)		42.1			25.6			17.9			21.0	
Level of Service		D			C			B			C	
Approach Delay (s)		42.1			25.6			17.9			21.0	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	29	0	59	0	0	0	64	986	0	0	726	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	0	64	0	0	0	70	1072	0	0	789	40
Pedestrians		170			89			10			9	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		14			7			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								191				
pX, platoon unblocked	0.84	0.84		0.84	0.84	0.84				0.84		
vC, conflicting volume	1663	2279	595	1769	2299	634	999			1161		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1598	2333	595	1724	2357	371	999			999		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	19	100	83	100	100	100	88			100		
cM capacity (veh/h)	39	21	381	28	21	483	591			534		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	96	0	605	536	395	435
Volume Left	32	0	70	0	0	0
Volume Right	64	0	0	0	0	40
cSH	98	1700	591	1700	534	1700
Volume to Capacity	0.98	0.00	0.12	0.32	0.00	0.26
Queue Length 95th (ft)	146	0	10	0	0	0
Control Delay (s)	163.3	0.0	3.2	0.0	0.0	0.0
Lane LOS	F	A	A			
Approach Delay (s)	163.3	0.0	1.7		0.0	
Approach LOS	F	A				

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

Appendix D

Total Future Levels of Service

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	19	41	500	15	26	1067
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	45	543	16	28	1160
Pedestrians	114		12			14
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	10		1			1
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			371			
pX, platoon unblocked	0.96	0.96			0.96	
vC, conflicting volume	1314	408			674	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1284	338			616	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	92			97	
cM capacity (veh/h)	130	564			832	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	65	362	197	415	773
Volume Left	21	0	0	28	0
Volume Right	45	0	16	0	0
cSH	274	1700	1700	832	1700
Volume to Capacity	0.24	0.21	0.12	0.03	0.45
Queue Length 95th (ft)	23	0	0	3	0
Control Delay (s)	22.2	0.0	0.0	1.0	0.0
Lane LOS	C			A	
Approach Delay (s)	22.2	0.0		0.4	
Approach LOS	C				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	36	3	2	47	4	10	0	5	1	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	39	3	2	51	4	11	0	5	1	0	2
Pedestrians		10			2			20			22	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			0			2			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	77			62			135	147	63	132	146	85
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	77			62			135	147	63	132	146	85
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	99	100	100	100
cM capacity (veh/h)	1493			1515			791	717	984	795	717	948

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	45	58	16	3
Volume Left	2	2	11	1
Volume Right	3	4	5	2
cSH	1493	1515	846	891
Volume to Capacity	0.00	0.00	0.02	0.00
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	0.4	0.3	9.3	9.1
Lane LOS	A	A	A	A
Approach Delay (s)	0.4	0.3	9.3	9.1
Approach LOS			A	A

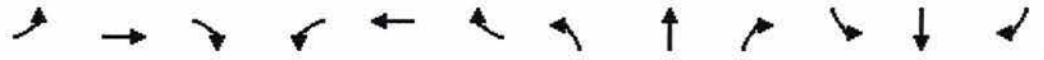
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	19	26	29	360	732	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	28	32	391	796	27
Pedestrians	113			21	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	9			2	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				213		
pX, platoon unblocked	0.92					
vC, conflicting volume	1379	943	936			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1410	943	936			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	83	90	95			
cM capacity (veh/h)	121	283	663			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	49	423	823
Volume Left	21	32	0
Volume Right	28	0	27
cSH	181	663	1700
Volume to Capacity	0.27	0.05	0.48
Queue Length 95th (ft)	26	4	0
Control Delay (s)	32.1	1.4	0.0
Lane LOS	D	A	
Approach Delay (s)	32.1	1.4	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00			1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.99			0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00			1.00	
Frt		0.97			0.98		1.00	0.98			0.99	
Flt Protected		0.99			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		1734			1772		1743	1809			1821	
Flt Permitted		0.78			0.93		0.31	1.00			0.97	
Satd. Flow (perm)		1364			1651		561	1809			1772	
Volume (vph)	52	208	68	31	267	67	37	269	38	37	656	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	226	74	34	290	73	40	292	41	40	713	72
RTOR Reduction (vph)	0	9	0	0	8	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	348	0	0	389	0	40	328	0	0	822	0
Confl. Peds. (#/hr)	40		77	77		40	66		84	84		66
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		28.0			28.0		61.0	61.0			61.0	
Effective Green, g (s)		30.0			30.0		62.0	62.0			62.0	
Actuated g/C Ratio		0.30			0.30		0.62	0.62			0.62	
Clearance Time (s)		6.0			6.0		5.0	5.0			5.0	
Lane Grp Cap (vph)		409			495		348	1122			1099	
v/s Ratio Prot								0.18				
v/s Ratio Perm		c0.25			0.24		0.07				c0.46	
v/c Ratio		0.85			0.79		0.11	0.29			0.75	
Uniform Delay, d1		32.9			32.0		7.8	8.8			13.5	
Progression Factor		1.08			1.00		1.00	1.00			1.00	
Incremental Delay, d2		17.8			11.8		0.7	0.7			4.7	
Delay (s)		53.4			43.9		8.4	9.5			18.1	
Level of Service		D			D		A	A			B	
Approach Delay (s)		53.4			43.9			9.4			18.1	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00			1.00	
Frpb, ped/bikes		0.97			0.99		1.00	0.99			0.99	
Flpb, ped/bikes		1.00			1.00		0.98	1.00			1.00	
Frt		0.97			0.98		1.00	0.98			0.99	
Flt Protected		0.99			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		1743			1776		1742	1807			1820	
Flt Permitted		0.85			0.95		0.28	1.00			0.97	
Satd. Flow (perm)		1486			1692		516	1807			1770	
Volume (vph)	52	208	68	31	267	67	37	269	38	37	656	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	226	74	34	290	73	40	292	41	40	713	72
RTOR Reduction (vph)	0	10	0	0	8	0	0	5	0	0	4	0
Lane Group Flow (vph)	0	347	0	0	389	0	40	328	0	0	821	0
Confl. Peds. (#/hr)	40		77	77		40	66		84	84		66
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		34.0			34.0		55.0	55.0			55.0	
Effective Green, g (s)		36.0			36.0		56.0	56.0			56.0	
Actuated g/C Ratio		0.36			0.36		0.56	0.56			0.56	
Clearance Time (s)		6.0			6.0		5.0	5.0			5.0	
Lane Grp Cap (vph)		535			609		289	1012			991	
v/s Ratio Prot								0.18				
v/s Ratio Perm		c0.23			0.23		0.08				c0.46	
v/c Ratio		0.65			0.64		0.14	0.32			0.83	
Uniform Delay, d1		26.7			26.6		10.5	11.8			18.1	
Progression Factor		1.14			1.00		1.00	1.00			1.00	
Incremental Delay, d2		5.5			5.1		1.0	0.9			8.0	
Delay (s)		35.9			31.6		11.5	12.7			26.0	
Level of Service		D			C		B	B			C	
Approach Delay (s)		35.9			31.6			12.6			26.0	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	24	313	364	14	32	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	340	396	15	35	38
Pedestrians		25	64		34	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	5		3	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		196	451			
pX, platoon unblocked	0.85				0.89	0.85
vC, conflicting volume	445				894	462
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	343				733	364
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				89	93
cM capacity (veh/h)	999				309	548

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	366	411	73
Volume Left	26	0	35
Volume Right	0	15	38
cSH	999	1700	400
Volume to Capacity	0.03	0.24	0.18
Queue Length 95th (ft)	2	0	16
Control Delay (s)	0.9	0.0	16.0
Lane LOS	A		C
Approach Delay (s)	0.9	0.0	16.0
Approach LOS			C

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.98			0.99			0.99	
Flpb, ped/bikes		0.99			0.98			1.00			0.99	
Frt		1.00			0.97			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1823			1737			3460			3408	
Flt Permitted		0.81			0.82			0.91			0.82	
Satd. Flow (perm)		1493			1447			3158			2819	
Volume (vph)	50	177	5	89	213	75	13	412	34	108	876	101
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	192	5	97	232	82	14	448	37	117	952	110
RTOR Reduction (vph)	0	1	0	0	9	0	0	6	0	0	8	0
Lane Group Flow (vph)	0	250	0	0	402	0	0	493	0	0	1171	0
Confl. Peds. (#/hr)	70		118	118		70	144		124	124		144
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		32.0			32.0			57.0			57.0	
Effective Green, g (s)		34.0			34.0			58.0			58.0	
Actuated g/C Ratio		0.34			0.34			0.58			0.58	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		508			492			1832			1635	
v/s Ratio Prot												
v/s Ratio Perm		0.17			c0.28			0.16			c0.42	
v/c Ratio		0.49			0.82			0.27			0.72	
Uniform Delay, d1		26.2			30.2			10.5			15.1	
Progression Factor		1.00			0.85			1.00			1.00	
Incremental Delay, d2		3.4			11.0			0.4			2.7	
Delay (s)		29.6			36.7			10.8			17.8	
Level of Service		C			D			B			B	
Approach Delay (s)		29.6			36.7			10.8			17.8	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	134.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			0.99	
Frt		1.00			0.97			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1824			1743			3457			3401	
Flt Permitted		0.84			0.85			0.91			0.81	
Satd. Flow (perm)		1558			1501			3152			2766	
Volume (vph)	50	177	5	89	213	75	13	412	34	108	876	101
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	192	5	97	232	82	14	448	37	117	952	110
RTOR Reduction (vph)	0	1	0	0	9	0	0	6	0	0	8	0
Lane Group Flow (vph)	0	250	0	0	402	0	0	493	0	0	1171	0
Confl. Peds. (#/hr)	70		118	118		70	144		124	124		144
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.0			38.0			51.0			51.0	
Effective Green, g (s)		40.0			40.0			52.0			52.0	
Actuated g/C Ratio		0.40			0.40			0.52			0.52	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		623			600			1639			1438	
v/s Ratio Prot												
v/s Ratio Perm		0.16			c0.27			0.16			c0.42	
v/c Ratio		0.40			0.67			0.30			0.81	
Uniform Delay, d1		21.4			24.6			13.7			20.0	
Progression Factor		1.00			0.93			1.00			1.00	
Incremental Delay, d2		1.9			4.9			0.5			5.2	
Delay (s)		23.4			27.9			14.1			25.2	
Level of Service		C			C			B			C	
Approach Delay (s)		23.4			27.9			14.1			25.2	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	13	39	32	500	1045	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	42	35	543	1136	36
Pedestrians	168			12	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	14			1	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				191		
pX, platoon unblocked	0.93					
vC, conflicting volume	1669	766	1340			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1644	766	1340			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	79	86	92			
cM capacity (veh/h)	66	294	439			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	14	42	216	362	757	414
Volume Left	14	0	35	0	0	0
Volume Right	0	42	0	0	0	36
cSH	66	294	439	1700	1700	1700
Volume to Capacity	0.21	0.14	0.08	0.21	0.45	0.24
Queue Length 95th (ft)	18	12	6	0	0	0
Control Delay (s)	73.5	19.3	3.3	0.0	0.0	0.0
Lane LOS	F	C	A			
Approach Delay (s)	32.8		1.2		0.0	
Approach LOS	D					

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	16	30	1011	14	36	748
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	33	1099	15	39	813
Pedestrians	103		12			17
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	9		1			1
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)			371			
pX, platoon unblocked	0.85	0.85			0.85	
vC, conflicting volume	1706	677			1217	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1654	439			1076	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	72	92			92	
cM capacity (veh/h)	63	432			499	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	50	733	382	310	542
Volume Left	17	0	0	39	0
Volume Right	33	0	15	0	0
cSH	142	1700	1700	499	1700
Volume to Capacity	0.35	0.43	0.22	0.08	0.32
Queue Length 95th (ft)	36	0	0	6	0
Control Delay (s)	43.4	0.0	0.0	2.7	0.0
Lane LOS	E			A	
Approach Delay (s)	43.4	0.0		1.0	
Approach LOS	E				

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	39	12	8	35	4	9	0	5	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	42	13	9	38	4	10	0	5	2	0	1
Pedestrians		10			2			5			28	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			0			0			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	70			60			123	142	56	142	146	78
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	70			60			123	142	56	142	146	78
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	100	100	100
cM capacity (veh/h)	1494			1537			819	725	1005	782	721	951

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	55	51	15	3
Volume Left	0	9	10	2
Volume Right	13	4	5	1
cSH	1494	1537	877	832
Volume to Capacity	0.00	0.01	0.02	0.00
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	0.0	1.3	9.2	9.3
Lane LOS		A	A	A
Approach Delay (s)	0.0	1.3	9.2	9.3
Approach LOS			A	A

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	24.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	22	24	18	624	475	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	26	20	678	516	32
Pedestrians	31			8		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	3			1		
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				213		
pX, platoon unblocked	0.81					
vC, conflicting volume	1280	571	579			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1348	571	579			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	95	98			
cM capacity (veh/h)	128	503	969			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	50	698	548
Volume Left	24	20	0
Volume Right	26	0	32
cSH	209	969	1700
Volume to Capacity	0.24	0.02	0.32
Queue Length 95th (ft)	23	2	0
Control Delay (s)	27.5	0.5	0.0
Lane LOS	D	A	
Approach Delay (s)	27.5	0.5	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00			1.00	
Frpb, ped/bikes		0.99			0.99		1.00	1.00			0.99	
Flpb, ped/bikes		1.00			1.00		0.98	1.00			1.00	
Frt		0.99			0.98		1.00	0.99			0.99	
Flt Protected		0.99			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1810			1788		1728	1831			1808	
Flt Permitted		0.79			0.89		0.45	1.00			0.89	
Satd. Flow (perm)		1434			1598		818	1831			1615	
Volume (vph)	66	323	36	29	243	55	56	521	49	51	357	51
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	351	39	32	264	60	61	566	53	55	388	55
RTOR Reduction (vph)	0	4	0	0	7	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	459	0	0	349	0	61	616	0	0	493	0
Confl. Peds. (#/hr)	30		30	30		30	63		41	41		63
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		28.0			28.0		61.0	61.0			61.0	
Effective Green, g (s)		30.0			30.0		62.0	62.0			62.0	
Actuated g/C Ratio		0.30			0.30		0.62	0.62			0.62	
Clearance Time (s)		6.0			6.0		5.0	5.0			5.0	
Lane Grp Cap (vph)		430			479		507	1135			1001	
v/s Ratio Prot								c0.34				
v/s Ratio Perm		c0.32			0.22		0.07				0.31	
v/c Ratio		1.07			0.73		0.12	0.54			0.49	
Uniform Delay, d1		35.0			31.4		7.8	10.9			10.4	
Progression Factor		1.07			1.00		1.00	1.00			1.00	
Incremental Delay, d2		49.9			9.4		0.5	1.9			1.7	
Delay (s)		87.5			40.7		8.3	12.7			12.1	
Level of Service		F			D		A	B			B	
Approach Delay (s)		87.5			40.7			12.3			12.1	
Approach LOS		F			D			B			B	

Intersection Summary			
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00			1.00	
Frpb, ped/bikes		0.99			0.99		1.00	1.00			0.99	
Flpb, ped/bikes		1.00			1.00		0.97	1.00			1.00	
Frt		0.99			0.98		1.00	0.99			0.99	
Flt Protected		0.99			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1812			1791		1725	1830			1807	
Flt Permitted		0.85			0.93		0.43	1.00			0.81	
Satd. Flow (perm)		1544			1668		781	1830			1471	
Volume (vph)	66	323	36	29	243	55	56	521	49	51	357	51
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	351	39	32	264	60	61	566	53	55	388	55
RTOR Reduction (vph)	0	3	0	0	7	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	459	0	0	349	0	61	615	0	0	494	0
Confl. Peds. (#/hr)	30		30	30		30	63		41	41		63
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		34.0			34.0		55.0	55.0			55.0	
Effective Green, g (s)		36.0			36.0		56.0	56.0			56.0	
Actuated g/C Ratio		0.36			0.36		0.56	0.56			0.56	
Clearance Time (s)		6.0			6.0		5.0	5.0			5.0	
Lane Grp Cap (vph)		556			600		437	1025			824	
v/s Ratio Prot								c0.34				
v/s Ratio Perm		c0.30			0.21		0.08				0.34	
v/c Ratio		0.83			0.58		0.14	0.60			0.60	
Uniform Delay, d1		29.1			25.9		10.5	14.6			14.6	
Progression Factor		1.12			1.00		1.00	1.00			1.00	
Incremental Delay, d2		8.8			4.1		0.7	2.6			3.2	
Delay (s)		41.4			30.0		11.2	17.2			17.8	
Level of Service		D			C		B	B			B	
Approach Delay (s)		41.4			30.0			16.6			17.8	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	34	413	328	25	13	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	449	357	27	14	15
Pedestrians		20	32		33	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	3		3	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		196	451			
pX, platoon unblocked	0.87				0.87	0.87
vC, conflicting volume	417				958	423
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	329				726	337
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				95	97
cM capacity (veh/h)	1040				310	587

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	486	384	29
Volume Left	37	0	14
Volume Right	0	27	15
cSH	1040	1700	410
Volume to Capacity	0.04	0.23	0.07
Queue Length 95th (ft)	3	0	6
Control Delay (s)	1.0	0.0	14.4
Lane LOS	A		B
Approach Delay (s)	1.0	0.0	14.4
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		1.00			0.96			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1814			1736			3454			3441	
Flt Permitted		0.70			0.71			0.94			0.71	
Satd. Flow (perm)		1290			1241			3246			2451	
Volume (vph)	129	286	15	92	145	93	13	829	78	77	653	55
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	311	16	100	158	101	14	901	85	84	710	60
RTOR Reduction (vph)	0	1	0	0	14	0	0	7	0	0	5	0
Lane Group Flow (vph)	0	466	0	0	345	0	0	993	0	0	849	0
Confl. Peds. (#/hr)	36		55	55		36	147		118	118		147
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		32.0			32.0			57.0			57.0	
Effective Green, g (s)		34.0			34.0			58.0			58.0	
Actuated g/C Ratio		0.34			0.34			0.58			0.58	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		439			422			1883			1422	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.28			0.31			c0.35	
v/c Ratio		1.06			0.82			0.53			0.60	
Uniform Delay, d1		33.0			30.2			12.7			13.5	
Progression Factor		1.00			0.80			1.00			1.00	
Incremental Delay, d2		60.0			13.6			1.1			1.9	
Delay (s)		93.0			37.8			13.8			15.3	
Level of Service		F			D			B			B	
Approach Delay (s)		93.0			37.8			13.8			15.3	
Approach LOS		F			D			B			B	

Intersection Summary			
HCM Average Control Delay	31.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			0.96			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1815			1739			3450			3437	
Flt Permitted		0.73			0.73			0.94			0.68	
Satd. Flow (perm)		1350			1294			3242			2359	
Volume (vph)	129	286	15	92	145	93	13	829	78	77	653	55
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	311	16	100	158	101	14	901	85	84	710	60
RTOR Reduction (vph)	0	1	0	0	14	0	0	7	0	0	6	0
Lane Group Flow (vph)	0	466	0	0	345	0	0	993	0	0	848	0
Confl. Peds. (#/hr)	36		55	55		36	147		118	118		147
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.0			38.0			51.0			51.0	
Effective Green, g (s)		40.0			40.0			52.0			52.0	
Actuated g/C Ratio		0.40			0.40			0.52			0.52	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		540			518			1686			1227	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.27			0.31			c0.36	
v/c Ratio		0.86			0.67			0.59			0.69	
Uniform Delay, d1		27.5			24.5			16.6			18.0	
Progression Factor		1.00			0.88			1.00			1.00	
Incremental Delay, d2		16.5			5.9			1.5			3.2	
Delay (s)		44.0			27.5			18.1			21.2	
Level of Service		D			C			B			C	
Approach Delay (s)		44.0			27.5			18.1			21.2	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	31	59	64	986	726	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	64	70	1072	789	41
Pedestrians	170			10	9	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	14			1	1	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				191		
pX, platoon unblocked	0.84					
vC, conflicting volume	1664	595	1000			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1597	595	1000			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	45	83	88			
cM capacity (veh/h)	61	381	590			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	34	64	427	714	526	304
Volume Left	34	0	70	0	0	0
Volume Right	0	64	0	0	0	41
cSH	61	381	590	1700	1700	1700
Volume to Capacity	0.55	0.17	0.12	0.42	0.31	0.18
Queue Length 95th (ft)	56	15	10	0	0	0
Control Delay (s)	120.9	16.4	3.4	0.0	0.0	0.0
Lane LOS	F	C	A			
Approach Delay (s)	52.4		1.3		0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		