slo

2035

LAND USE & CIRCULATION UPDATE

VOLUME V

APPENDICES K-N

CIRCULATION ASSESSMENT

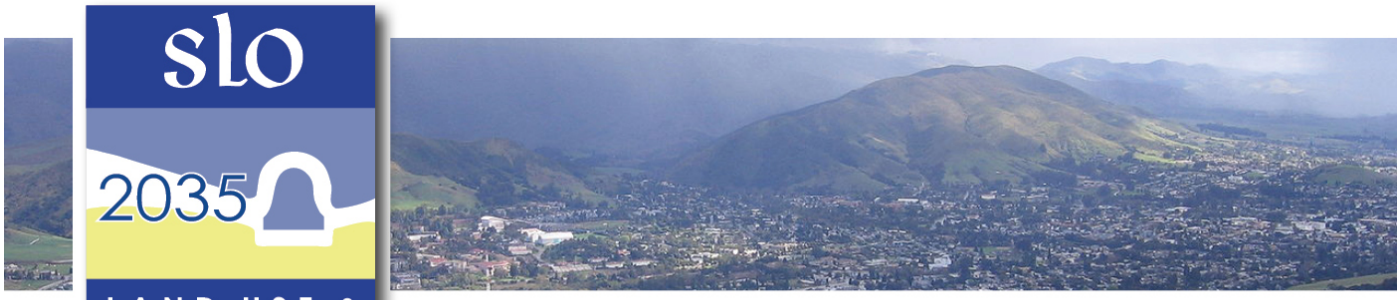
JUNE 2014

CITY OF SAN LUIS OBISPO

Please see the next page.

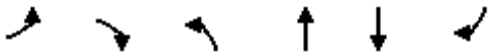
APPENDIX K: EXISTING CONDITION WORKSHEETS

Please see the next page.



Existing Conditions Model Results – AM Peak

Please see the next page



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	975	55	40	297	187	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3502	1579	1801	1900	1900	1597
Flt Permitted	0.95	1.00	0.44	1.00	1.00	1.00
Satd. Flow (perm)	3502	1579	837	1900	1900	1597
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1016	57	42	309	195	411
RTOR Reduction (vph)	0	31	0	0	0	0
Lane Group Flow (vph)	1016	26	42	309	195	411
Confl. Peds. (#/hr)		2	7			7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Perm	pm+pt	NA	NA	pm+ov
Protected Phases	4		5	2	6	4
Permitted Phases		4	2			6
Actuated Green, G (s)	22.3	22.3	21.0	21.0	13.7	36.0
Effective Green, g (s)	22.3	22.3	21.0	21.0	13.7	36.0
Actuated g/C Ratio	0.40	0.40	0.38	0.38	0.25	0.65
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1412	636	340	721	470	1212
v/s Ratio Prot	c0.29		0.00	c0.16	0.10	0.14
v/s Ratio Perm		0.02	0.04			0.12
v/c Ratio	0.72	0.04	0.12	0.43	0.41	0.34
Uniform Delay, d1	13.9	10.0	11.2	12.7	17.4	4.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.0	0.2	0.4	0.6	0.2
Delay (s)	15.7	10.0	11.4	13.1	18.0	4.5
Level of Service	B	B	B	B	B	A
Approach Delay (s)	15.4			12.9	8.8	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	88	71	991	258	50	491
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	96	77	1077	280	54	534
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			539			279
pX, platoon unblocked	0.96					
vC, conflicting volume	1593	679			1358	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1534	679			1358	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	81			89	
cM capacity (veh/h)	94	399			513	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	96	77	718	639	54	267	267
Volume Left	96	0	0	0	54	0	0
Volume Right	0	77	0	280	0	0	0
cSH	94	399	1700	1700	513	1700	1700
Volume to Capacity	1.02	0.19	0.42	0.38	0.11	0.16	0.16
Queue Length 95th (ft)	153	18	0	0	9	0	0
Control Delay (s)	181.0	16.2	0.0	0.0	12.8	0.0	0.0
Lane LOS	F	C			B		
Approach Delay (s)	107.4		0.0		1.2		
Approach LOS	F						

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	901	116	90	411	417	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	3.5	6.0	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1900	1615	1805	1900	3502	1615
Flt Permitted	1.00	1.00	0.14	1.00	0.95	1.00
Satd. Flow (perm)	1900	1615	272	1900	3502	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	990	127	99	452	458	124
RTOR Reduction (vph)	0	34	0	0	0	64
Lane Group Flow (vph)	990	93	99	452	458	60
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases	2		1	6	3	
Permitted Phases		2	6			3
Actuated Green, G (s)	57.6	57.6	67.6	65.1	15.4	15.4
Effective Green, g (s)	57.6	57.6	67.6	65.1	15.4	15.4
Actuated g/C Ratio	0.64	0.64	0.75	0.72	0.17	0.17
Clearance Time (s)	6.0	6.0	3.5	6.0	3.5	3.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1216	1033	272	1374	599	276
v/s Ratio Prot	c0.52		c0.02	0.24	c0.13	
v/s Ratio Perm		0.06	0.26			0.04
v/c Ratio	0.81	0.09	0.36	0.33	0.76	0.22
Uniform Delay, d1	12.2	6.2	21.0	4.5	35.6	32.1
Progression Factor	0.66	0.74	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	0.1	0.8	0.6	5.8	0.4
Delay (s)	12.5	4.7	21.9	5.2	41.3	32.5
Level of Service	B	A	C	A	D	C
Approach Delay (s)	11.6			8.2	39.5	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	96	37	842	225	35	449
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.99	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1591	3479		1804	3610
Flt Permitted	0.95	1.00	1.00		0.21	1.00
Satd. Flow (perm)	1805	1591	3479		390	3610
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	105	41	925	247	38	493
RTOR Reduction (vph)	0	34	28	0	0	0
Lane Group Flow (vph)	105	7	1144	0	38	493
Confl. Peds. (#/hr)	2	5		3	3	
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	8.6	8.6	28.1		28.1	28.1
Effective Green, g (s)	8.6	8.6	28.1		28.1	28.1
Actuated g/C Ratio	0.18	0.18	0.59		0.59	0.59
Clearance Time (s)	5.0	5.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	325	286	2049		229	2126
v/s Ratio Prot	c0.06		c0.33			0.14
v/s Ratio Perm		0.00			0.10	
v/c Ratio	0.32	0.03	0.56		0.17	0.23
Uniform Delay, d1	17.0	16.1	6.0		4.5	4.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	0.0	0.3		0.3	0.1
Delay (s)	17.6	16.1	6.3		4.8	4.7
Level of Service	B	B	A		A	A
Approach Delay (s)	17.2		6.3			4.7
Approach LOS	B		A			A

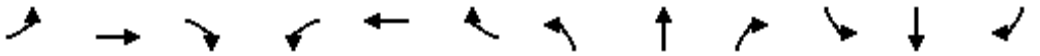
Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	47.7	Sum of lost time (s)	11.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	13	5	276	10	214	7	313	557	195	234	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	
Frt		0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.97		0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1819		1715	1725	1591	1795	3610	1601	1805	3600	
Flt Permitted		0.97		0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1819		1715	1725	1591	1795	3610	1601	1805	3600	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	14	5	297	11	230	8	337	599	210	252	4
RTOR Reduction (vph)	0	5	0	0	0	180	0	0	328	0	1	0
Lane Group Flow (vph)	0	38	0	154	154	50	8	337	271	210	255	0
Confl. Peds. (#/hr)	3					3	6		5	5		6
Confl. Bikes (#/hr)		1						1			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		4.2		16.7	16.7	16.7	0.7	18.1	34.8	14.9	32.3	
Effective Green, g (s)		4.2		16.7	16.7	16.7	0.7	18.1	34.8	14.9	32.3	
Actuated g/C Ratio		0.05		0.22	0.22	0.22	0.01	0.24	0.45	0.19	0.42	
Clearance Time (s)		6.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		99		372	374	345	16	849	724	349	1512	
v/s Ratio Prot		c0.02		c0.09	0.09		0.00	c0.09	0.08	c0.12	0.07	
v/s Ratio Perm						0.03			0.09			
v/c Ratio		0.39		0.41	0.41	0.14	0.50	0.40	0.37	0.60	0.17	
Uniform Delay, d1		35.1		25.9	25.9	24.3	37.9	24.8	13.9	28.3	13.9	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.5		0.7	0.7	0.2	22.5	0.3	0.3	2.9	0.1	
Delay (s)		37.6		26.6	26.6	24.5	60.4	25.1	14.2	31.2	14.0	
Level of Service		D		C	C	C	E	C	B	C	B	
Approach Delay (s)		37.6			25.7			18.5			21.7	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	23.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

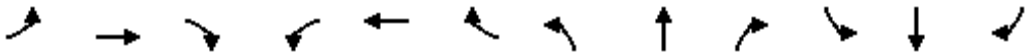
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	81	84	31	36	32	208	228	23	124	456	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1900	1592	1801	1900	1594	1805	3548		1805	3560	
Flt Permitted	0.73	1.00	1.00	0.70	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1388	1900	1592	1325	1900	1594	1805	3548		1805	3560	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	61	90	93	34	40	36	231	253	26	138	507	42
RTOR Reduction (vph)	0	0	79	0	0	31	0	7	0	0	6	0
Lane Group Flow (vph)	61	90	14	34	40	5	231	272	0	138	543	0
Confl. Peds. (#/hr)	1		3	3		1	8		12	12		8
Confl. Bikes (#/hr)					2			1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	8.2	8.2	8.2	7.2	7.2	7.2	13.5	22.7		8.2	17.4	
Effective Green, g (s)	8.2	8.2	8.2	7.2	7.2	7.2	13.5	22.7		8.2	17.4	
Actuated g/C Ratio	0.15	0.15	0.15	0.13	0.13	0.13	0.25	0.41		0.15	0.32	
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	206	282	236	173	248	208	442	1461		268	1124	
v/s Ratio Prot		c0.05			0.02		c0.13	0.08		0.08	c0.15	
v/s Ratio Perm	0.04		0.01	0.03		0.00						
v/c Ratio	0.30	0.32	0.06	0.20	0.16	0.02	0.52	0.19		0.51	0.48	
Uniform Delay, d1	20.9	21.0	20.1	21.4	21.3	20.9	18.0	10.3		21.6	15.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.7	0.1	0.6	0.3	0.0	1.1	0.1		1.7	0.3	
Delay (s)	21.7	21.6	20.2	21.9	21.6	20.9	19.1	10.4		23.3	15.5	
Level of Service	C	C	C	C	C	C	B	B		C	B	
Approach Delay (s)		21.1			21.5			14.3			17.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	17.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1	14	53	1	51	25	211	20	35	655	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1825	1589		1804	1593	1802	3554		1796	3568	
Flt Permitted		1.00	1.00		0.73	1.00	0.30	1.00		0.58	1.00	
Satd. Flow (perm)		1898	1589		1375	1593	577	3554		1102	3568	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	4	1	17	63	1	61	30	251	24	42	780	55
RTOR Reduction (vph)	0	0	16	0	0	53	0	6	0	0	4	0
Lane Group Flow (vph)	0	5	1	0	64	8	30	269	0	42	831	0
Confl. Peds. (#/hr)	2		5	5		2	5		6	6		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		3.5	3.5		7.7	7.7	28.1	28.1		28.1	28.1	
Effective Green, g (s)		3.5	3.5		7.7	7.7	28.1	28.1		28.1	28.1	
Actuated g/C Ratio		0.06	0.06		0.14	0.14	0.51	0.51		0.51	0.51	
Clearance Time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		120	100		191	221	293	1805		559	1813	
v/s Ratio Prot								0.08			c0.23	
v/s Ratio Perm		c0.00	0.00		c0.05	0.01	0.05			0.04		
v/c Ratio		0.04	0.01		0.34	0.04	0.10	0.15		0.08	0.46	
Uniform Delay, d1		24.3	24.3		21.5	20.6	7.1	7.2		7.0	8.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1	0.0		1.0	0.1	0.2	0.0		0.1	0.2	
Delay (s)		24.5	24.3		22.5	20.7	7.2	7.3		7.0	8.9	
Level of Service		C	C		C	C	A	A		A	A	
Approach Delay (s)		24.4			21.6			7.3			8.8	
Approach LOS		C			C			A			A	

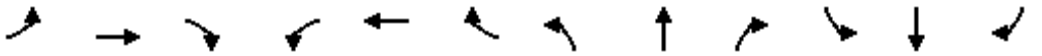
Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	14	17	449	29	65	39	264	492	126	298	30
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	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00	1.00	1.00	0.99		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1841	1615	3502	1686		1804	3610	1590	1800	3553	
Flt Permitted		0.85	1.00	0.73	1.00		0.54	1.00	1.00	0.58	1.00	
Satd. Flow (perm)		1610	1615	2699	1686		1033	3610	1590	1101	3553	
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)	23	15	18	473	31	68	41	278	518	133	314	32
RTOR Reduction (vph)	0	0	12	0	47	0	0	0	267	0	16	0
Lane Group Flow (vph)	0	38	6	473	52	0	41	278	251	133	330	0
Confl. Peds. (#/hr)	5					5	1		5	5		1
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)		12.6	12.6	12.6	12.6		19.4	19.4	19.4	19.4	19.4	
Effective Green, g (s)		12.6	12.6	12.6	12.6		19.4	19.4	19.4	19.4	19.4	
Actuated g/C Ratio		0.31	0.31	0.31	0.31		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		507	508	850	531		501	1750	771	533	1723	
v/s Ratio Prot					0.03			0.08			0.09	
v/s Ratio Perm		0.02	0.00	c0.18			0.04		c0.16	0.12		
v/c Ratio		0.07	0.01	0.56	0.10		0.08	0.16	0.33	0.25	0.19	
Uniform Delay, d1		9.6	9.4	11.4	9.7		5.5	5.7	6.3	6.0	5.8	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1	0.0	0.8	0.1		0.3	0.2	1.1	1.1	0.2	
Delay (s)		9.7	9.4	12.2	9.8		5.8	5.9	7.4	7.2	6.1	
Level of Service		A	A	B	A		A	A	A	A	A	
Approach Delay (s)		9.6			11.8			6.9			6.4	
Approach LOS		A			B			A			A	

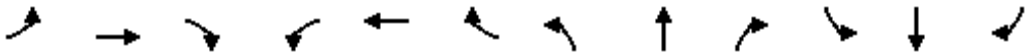
Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	376	2	196	43	811	0	0	617	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.5	3.5		3.5	5.0			5.0	5.0
Lane Util. Factor				1.00	1.00		1.00	0.95			1.00	1.00
Frpb, ped/bikes				1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00		1.00	1.00			1.00	1.00
Frt				1.00	0.85		1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)				1805	1618		1805	3610			1900	1615
Flt Permitted				0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)				1805	1618		1805	3610			1900	1615
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)	0	0	0	409	2	213	47	882	0	0	671	359
RTOR Reduction (vph)	0	0	0	0	98	0	0	0	0	0	0	203
Lane Group Flow (vph)	0	0	0	409	117	0	47	882	0	0	671	156
Confl. Peds. (#/hr)									13	13		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Prot	NA			NA	Perm
Protected Phases					8		1	6			2	
Permitted Phases				8								2
Actuated Green, G (s)				28.5	28.5		10.4	53.0			39.1	39.1
Effective Green, g (s)				28.5	28.5		10.4	53.0			39.1	39.1
Actuated g/C Ratio				0.32	0.32		0.12	0.59			0.43	0.43
Clearance Time (s)				3.5	3.5		3.5	5.0			5.0	5.0
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				571	512		208	2125			825	701
v/s Ratio Prot					0.07		0.03	c0.24			c0.35	
v/s Ratio Perm				c0.23								0.10
v/c Ratio				0.72	0.23		0.23	0.42			0.81	0.22
Uniform Delay, d1				27.2	22.7		36.1	10.1			22.3	15.9
Progression Factor				1.00	1.00		0.90	0.72			0.84	1.30
Incremental Delay, d2				7.5	1.0		2.2	0.5			8.4	0.7
Delay (s)				34.7	23.7		34.7	7.7			27.1	21.4
Level of Service				C	C		C	A			C	C
Approach Delay (s)		0.0			30.9			9.1			25.1	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



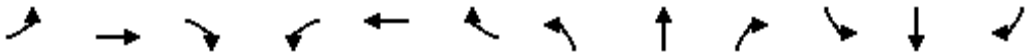
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	1	27	49	3	25	41	846	47	24	814	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.97		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	0.98	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1776	1900	1615	1805	1601		1805	3610	1547	1805	3599	
Flt Permitted	0.74	1.00	1.00	0.76	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1379	1900	1615	1439	1601		1805	3610	1547	1805	3599	
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)	13	1	29	53	3	27	45	920	51	26	885	17
RTOR Reduction (vph)	0	0	27	0	25	0	0	0	13	0	1	0
Lane Group Flow (vph)	13	1	2	53	5	0	45	920	38	26	901	0
Confl. Peds. (#/hr)	10					10	1		8	8		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4					6			
Actuated Green, G (s)	7.7	7.7	7.7	7.7	7.7		5.3	67.1	67.1	3.2	65.0	
Effective Green, g (s)	7.7	7.7	7.7	7.7	7.7		5.3	67.1	67.1	3.2	65.0	
Actuated g/C Ratio	0.09	0.09	0.09	0.09	0.09		0.06	0.75	0.75	0.04	0.72	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	117	162	138	123	136		106	2691	1153	64	2599	
v/s Ratio Prot		0.00			0.00		c0.02	c0.25		0.01	0.25	
v/s Ratio Perm	0.01		0.00	c0.04					0.02			
v/c Ratio	0.11	0.01	0.02	0.43	0.04		0.42	0.34	0.03	0.41	0.35	
Uniform Delay, d1	38.0	37.6	37.7	39.1	37.8		40.9	3.9	3.0	42.5	4.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.47	0.19	1.00	1.00	
Incremental Delay, d2	0.4	0.0	0.1	2.4	0.1		2.5	0.3	0.0	4.2	0.4	
Delay (s)	38.4	37.7	37.7	41.5	37.9		43.3	2.2	0.6	46.6	5.0	
Level of Service	D	D	D	D	D		D	A	A	D	A	
Approach Delay (s)		37.9			40.2			3.9			6.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	8	65	54	5	10	170	585	5	32	759	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1647		1805	1900	1592	3502	5180		3502	5110	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1647		1805	1900	1592	3502	5180		3502	5110	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	9	70	58	5	11	183	629	5	34	816	81
RTOR Reduction (vph)	0	64	0	0	0	10	0	1	0	0	8	0
Lane Group Flow (vph)	65	15	0	58	5	1	183	633	0	34	889	0
Confl. Peds. (#/hr)	4					4	3		3	3		3
Confl. Bikes (#/hr)					1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						
Actuated Green, G (s)	7.2	6.0		4.5	3.3	3.3	9.5	28.9		5.1	24.5	
Effective Green, g (s)	7.2	6.0		4.5	3.3	3.3	9.5	28.9		5.1	24.5	
Actuated g/C Ratio	0.11	0.09		0.07	0.05	0.05	0.15	0.44		0.08	0.37	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	384	150		124	95	80	507	2285		272	1911	
v/s Ratio Prot	c0.02	0.01		c0.03	0.00		c0.05	0.12		0.01	c0.17	
v/s Ratio Perm						0.00						
v/c Ratio	0.17	0.10		0.47	0.05	0.01	0.36	0.28		0.12	0.47	
Uniform Delay, d1	26.4	27.3		29.3	29.6	29.5	25.3	11.7		28.1	15.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		2.8	0.2	0.0	0.4	0.1		0.2	0.2	
Delay (s)	26.6	27.6		32.1	29.8	29.6	25.7	11.7		28.3	15.7	
Level of Service	C	C		C	C	C	C	B		C	B	
Approach Delay (s)		27.2			31.6			14.8			16.2	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	65.5	Sum of lost time (s)	21.0
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

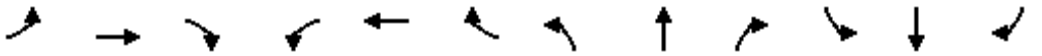
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	122	29	109	53	243	43	484	131	477	727	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.5	3.5	5.0	5.0	6.5	3.5	5.0	6.5	
Lane Util. Factor	1.00	1.00		0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98	0.98	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.90	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1839		3502	1601	1504	1805	5187	1572	3502	3588	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1839		3502	1601	1504	1805	5187	1572	3502	3588	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	121	137	33	122	60	273	48	544	147	536	817	35
RTOR Reduction (vph)	0	6	0	0	52	124	0	0	129	0	3	0
Lane Group Flow (vph)	121	164	0	122	120	37	48	544	18	536	849	0
Confl. Peds. (#/hr)	6		4	4		6			6	6		
Confl. Bikes (#/hr)		2						2			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA		Split	NA	custom	Prot	NA	custom	Prot	NA	
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases						7			6			
Actuated Green, G (s)	32.1	32.1		13.1	13.1	24.3	6.8	17.1	13.1	24.3	34.6	
Effective Green, g (s)	32.1	32.1		13.1	13.1	24.3	6.8	17.1	13.1	24.3	34.6	
Actuated g/C Ratio	0.30	0.30		0.12	0.12	0.23	0.06	0.16	0.12	0.23	0.32	
Clearance Time (s)	5.0	5.0		3.5	3.5	5.0	5.0	6.5	3.5	5.0	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	543	553		430	196	342	115	832	193	798	1164	
v/s Ratio Prot	0.07	c0.09		0.03	c0.08		0.03	0.10		c0.15	c0.24	
v/s Ratio Perm						0.02			0.01			
v/c Ratio	0.22	0.30		0.28	0.61	0.11	0.42	0.65	0.09	0.67	0.73	
Uniform Delay, d1	27.9	28.6		42.5	44.3	32.6	48.0	42.0	41.5	37.5	31.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	1.4		0.4	5.6	0.1	2.4	1.9	0.2	2.2	2.3	
Delay (s)	28.9	29.9		42.9	49.9	32.7	50.4	43.8	41.7	39.7	34.2	
Level of Service	C	C		D	D	C	D	D	D	D	C	
Approach Delay (s)		29.5			41.9			43.8			36.3	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	38.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	106.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

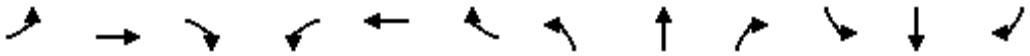
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	709	14	15	380	37	2	5	23	37	6	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	15	815	16	17	437	43	2	6	26	43	7	22
Pedestrians		2			4			3			8	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		419										
pX, platoon unblocked												
vC, conflicting volume	445			834			1136	1335	423	950	1343	228
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	445			834			1136	1335	423	950	1343	228
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
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 %	99			98			98	96	95	78	95	97
cM capacity (veh/h)	1118			806			144	148	582	193	146	773

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1	SB 2
Volume Total	15	543	288	17	218	218	43	34	49	22
Volume Left	15	0	0	17	0	0	0	2	43	0
Volume Right	0	0	16	0	0	0	43	26	0	22
cSH	1118	1700	1700	806	1700	1700	1700	344	185	773
Volume to Capacity	0.01	0.32	0.17	0.02	0.13	0.13	0.03	0.10	0.27	0.03
Queue Length 95th (ft)	1	0	0	2	0	0	0	8	26	2
Control Delay (s)	8.3	0.0	0.0	9.6	0.0	0.0	0.0	16.6	31.5	9.8
Lane LOS	A			A				C	D	A
Approach Delay (s)	0.1			0.3				16.6	24.8	
Approach LOS								C	C	

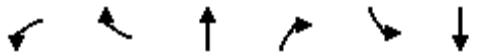
Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	36.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	18	87	53	13	13	60	761	29	11	1109	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	7.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.91		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.97	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1811	1615		1826	1561	1805	5152		1800	3599	
Flt Permitted		0.74	1.00		0.72	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1394	1615		1369	1561	1805	5152		1800	3599	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	48	21	104	63	15	15	71	906	35	13	1320	24
RTOR Reduction (vph)	0	0	93	0	0	13	0	3	0	0	1	0
Lane Group Flow (vph)	0	69	11	0	78	2	71	938	0	13	1343	0
Confl. Peds. (#/hr)	30					30	1		6	6		1
Confl. Bikes (#/hr)					3			2				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4						
Actuated Green, G (s)		7.8	7.8		7.8	7.8	6.2	46.1		0.4	41.3	
Effective Green, g (s)		7.8	7.8		7.8	7.8	6.2	46.1		0.4	41.3	
Actuated g/C Ratio		0.11	0.11		0.11	0.11	0.09	0.65		0.01	0.58	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	7.0		5.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		152	176		149	170	156	3331		10	2084	
v/s Ratio Prot							c0.04	0.18		0.01	c0.37	
v/s Ratio Perm		0.05	0.01		c0.06	0.00						
v/c Ratio		0.45	0.06		0.52	0.01	0.46	0.28		1.30	0.64	
Uniform Delay, d1		29.8	28.5		30.0	28.3	30.9	5.4		35.4	10.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.1	0.2		3.3	0.0	2.1	0.0		398.9	0.7	
Delay (s)		31.9	28.6		33.3	28.3	33.0	5.5		434.4	10.8	
Level of Service		C	C		C	C	C	A		F	B	
Approach Delay (s)		29.9			32.5			7.4			14.8	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	71.3	Sum of lost time (s)	17.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

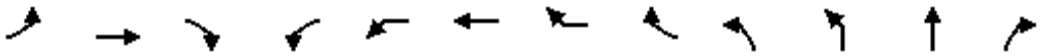
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	227	88	563	246	65	929
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0		6.0	6.0
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.85	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3502	1366	3360		1805	3610
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3502	1366	3360		1805	3610
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	264	102	655	286	76	1080
RTOR Reduction (vph)	0	91	51	0	0	0
Lane Group Flow (vph)	264	11	890	0	76	1080
Confl. Peds. (#/hr)		54		30	30	
Confl. Bikes (#/hr)			2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	custom	NA		Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		5				
Actuated Green, G (s)	10.6	6.6	24.8		6.6	37.4
Effective Green, g (s)	10.6	6.6	24.8		6.6	37.4
Actuated g/C Ratio	0.18	0.11	0.42		0.11	0.63
Clearance Time (s)	5.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	629	152	1412		201	2288
v/s Ratio Prot	c0.08		c0.26		0.04	c0.30
v/s Ratio Perm		0.01				
v/c Ratio	0.42	0.08	0.63		0.38	0.47
Uniform Delay, d1	21.5	23.5	13.5		24.3	5.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	0.2	0.9		1.2	0.2
Delay (s)	21.9	23.7	14.4		25.5	5.8
Level of Service	C	C	B		C	A
Approach Delay (s)	22.4		14.4			7.1
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	59.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

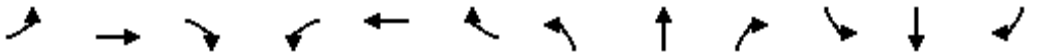


Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Volume (vph)	22	739	3	0	22	375	130	0	0	13	15	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0				4.0					4.0	
Lane Util. Factor	1.00	0.95				0.95					1.00	
Frpb, ped/bikes	1.00	1.00				0.99					0.99	
Flpb, ped/bikes	1.00	1.00				1.00					1.00	
Frt	1.00	1.00				0.96					0.89	
Flt Protected	0.95	1.00				1.00					0.99	
Satd. Flow (prot)	1803	3608				3449					1665	
Flt Permitted	0.95	1.00				0.91					0.97	
Satd. Flow (perm)	1803	3608				3143					1626	
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	24	795	3	0	24	403	140	0	0	14	16	76
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	49	0
Lane Group Flow (vph)	24	798	0	0	0	567	0	0	0	0	57	0
Confl. Peds. (#/hr)	2		1		1		2			6		3
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Prot	NA		Prot	Perm	NA		Perm	Perm	Perm	NA	
Protected Phases	5	2		1		6					8	
Permitted Phases					6			6	8	8		
Actuated Green, G (s)	0.6	21.8				17.2					16.3	
Effective Green, g (s)	0.6	21.8				17.2					16.3	
Actuated g/C Ratio	0.01	0.47				0.37					0.35	
Clearance Time (s)	4.0	4.0				4.0					4.0	
Vehicle Extension (s)	3.0	3.0				3.0					3.0	
Lane Grp Cap (vph)	23	1706				1172					574	
v/s Ratio Prot	0.01	c0.22										
v/s Ratio Perm						0.18					0.03	
v/c Ratio	1.04	0.47				0.48					0.10	
Uniform Delay, d1	22.8	8.2				11.1					10.0	
Progression Factor	1.00	1.00				1.00					1.00	
Incremental Delay, d2	201.7	0.2				0.3					0.1	
Delay (s)	224.5	8.4				11.4					10.1	
Level of Service	F	A				B					B	
Approach Delay (s)		14.7				11.4					10.1	
Approach LOS		B				B					B	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	46.1	Sum of lost time (s)	20.0
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SEL	NEL
Lane Configurations					
Volume (vph)	284	12	55	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			
Lane Util. Factor	1.00	1.00			
Frpb, ped/bikes	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			
Frt	1.00	0.88			
Flt Protected	0.95	1.00			
Satd. Flow (prot)	1801	1628			
Flt Permitted	0.69	1.00			
Satd. Flow (perm)	1305	1628			
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92
Adj. Flow (vph)	305	13	59	0	0
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	305	72	0	0	0
Confl. Peds. (#/hr)	3		6		
Heavy Vehicles (%)	0%	0%	0%	2%	2%
Turn Type	Perm	NA			
Protected Phases		4		7	3
Permitted Phases	4				
Actuated Green, G (s)	16.3	16.3			
Effective Green, g (s)	16.3	16.3			
Actuated g/C Ratio	0.35	0.35			
Clearance Time (s)	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			
Lane Grp Cap (vph)	461	575			
v/s Ratio Prot		0.04			
v/s Ratio Perm	c0.23				
v/c Ratio	0.66	0.13			
Uniform Delay, d1	12.6	10.1			
Progression Factor	1.00	1.00			
Incremental Delay, d2	3.6	0.1			
Delay (s)	16.1	10.2			
Level of Service	B	B			
Approach Delay (s)		15.0		0.0	0.0
Approach LOS		B		A	A

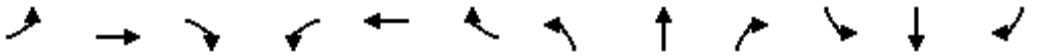
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	1	59	52	0	9	15	553	12	4	814	4
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	5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1811	1592		1801	1595	1805	3597		1801	3608	
Flt Permitted		0.69	1.00		0.72	1.00	0.32	1.00		0.42	1.00	
Satd. Flow (perm)		1309	1592		1373	1595	614	3597		800	3608	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	49	1	63	56	0	10	16	595	13	4	875	4
RTOR Reduction (vph)	0	0	53	0	0	8	0	2	0	0	0	0
Lane Group Flow (vph)	0	50	10	0	56	2	16	606	0	4	879	0
Confl. Peds. (#/hr)	1		5	5		1			4	4		
Confl. Bikes (#/hr)											1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4		4	6			2		
Actuated Green, G (s)		5.9	5.9		5.9	5.9	20.6	20.6		20.6	20.6	
Effective Green, g (s)		5.9	5.9		5.9	5.9	20.6	20.6		20.6	20.6	
Actuated g/C Ratio		0.16	0.16		0.16	0.16	0.57	0.57		0.57	0.57	
Clearance Time (s)		4.0	4.0		4.0	4.0	5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		214	260		225	261	351	2058		457	2064	
v/s Ratio Prot								0.17			c0.24	
v/s Ratio Perm		0.04	0.01		c0.04	0.00	0.03			0.01		
v/c Ratio		0.23	0.04		0.25	0.01	0.05	0.29		0.01	0.43	
Uniform Delay, d1		13.1	12.7		13.1	12.6	3.4	4.0		3.3	4.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6	0.1		0.6	0.0	0.1	0.1		0.0	0.1	
Delay (s)		13.6	12.7		13.7	12.6	3.4	4.0		3.3	4.5	
Level of Service		B	B		B	B	A	A		A	A	
Approach Delay (s)		13.1			13.5			4.0			4.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	36.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

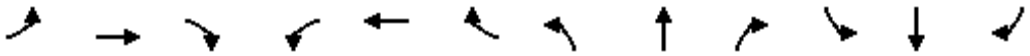
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	1017	98	86	490	21	11	2	35	9	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.91			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.96	1.00
Satd. Flow (prot)	1805	3555		1805	5155			1822	1615		1824	1615
Flt Permitted	0.95	1.00		0.95	1.00			0.79	1.00		0.80	1.00
Satd. Flow (perm)	1805	3555		1805	5155			1505	1615		1524	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	19	1118	108	95	538	23	12	2	38	10	2	3
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	34	0	0	3
Lane Group Flow (vph)	19	1222	0	95	558	0	0	14	4	0	12	0
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	2.6	42.1		10.8	50.3			7.7	7.7		7.7	7.7
Effective Green, g (s)	2.6	42.1		10.8	50.3			7.7	7.7		7.7	7.7
Actuated g/C Ratio	0.03	0.55		0.14	0.66			0.10	0.10		0.10	0.10
Clearance Time (s)	6.0	6.0		6.0	6.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	61	1953		254	3385			151	162		153	162
v/s Ratio Prot	0.01	c0.34		c0.05	0.11							
v/s Ratio Perm								c0.01	0.00		0.01	0.00
v/c Ratio	0.31	0.63		0.37	0.16			0.09	0.02		0.08	0.00
Uniform Delay, d1	36.1	11.8		29.8	5.1			31.3	31.1		31.2	31.0
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	2.9	0.6		0.9	0.0			0.3	0.1		0.2	0.0
Delay (s)	39.0	12.5		30.8	5.1			31.5	31.1		31.5	31.0
Level of Service	D	B		C	A			C	C		C	C
Approach Delay (s)		12.9			8.8			31.2			31.4	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

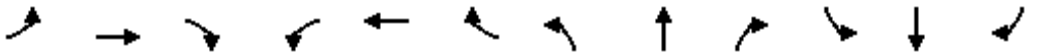
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	1015	40	127	565	0	48	0	39	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
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		1.00	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.95	
Satd. Flow (prot)	1797	5157		3502	5187			1805	1615		1805	
Flt Permitted	0.95	1.00		0.95	1.00			0.76	1.00		0.72	
Satd. Flow (perm)	1797	5157		3502	5187			1439	1615		1370	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1	1167	46	146	649	0	55	0	45	1	0	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	39	0	0	0
Lane Group Flow (vph)	1	1211	0	146	649	0	0	55	6	0	1	0
Confl. Peds. (#/hr)	6					6						
Confl. Bikes (#/hr)		5						4				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	0.8	33.1		9.0	41.3			9.0	9.0		9.0	
Effective Green, g (s)	0.8	33.1		9.0	41.3			9.0	9.0		9.0	
Actuated g/C Ratio	0.01	0.49		0.13	0.62			0.13	0.13		0.13	
Clearance Time (s)	6.0	6.0		6.0	6.0			4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	21	2543		469	3192			193	216		183	
v/s Ratio Prot	0.00	c0.23		c0.04	0.13							
v/s Ratio Perm								c0.04	0.00		0.00	
v/c Ratio	0.05	0.48		0.31	0.20			0.28	0.03		0.01	
Uniform Delay, d1	32.8	11.3		26.2	5.7			26.2	25.2		25.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.9	0.1		0.4	0.0			0.8	0.1		0.0	
Delay (s)	33.7	11.4		26.6	5.7			27.0	25.3		25.2	
Level of Service	C	B		C	A			C	C		C	
Approach Delay (s)		11.4			9.5			26.2			25.2	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	67.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

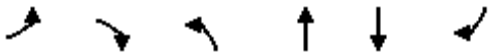
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	558	25	436	3	8	10	92	241	1	11	343	420
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		4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	0.95			0.95	0.88
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1715	1726	1615	1805	1742		1805	3607			3604	2765
Flt Permitted	0.95	0.96	1.00	0.57	1.00		0.95	1.00			0.94	1.00
Satd. Flow (perm)	1715	1726	1615	1075	1742		1805	3607			3401	2765
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	581	26	454	3	8	10	96	251	1	11	357	438
RTOR Reduction (vph)	0	0	256	0	8	0	0	0	0	0	0	247
Lane Group Flow (vph)	302	305	198	3	10	0	96	252	0	0	368	191
Confl. Peds. (#/hr)							4		5	5		4
Confl. Bikes (#/hr)											2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	custom
Protected Phases	2!	2!			6!		5!	4			8	
Permitted Phases			2	6						8		2
Actuated Green, G (s)	26.0	26.0	26.0	10.3	10.3		11.7	9.8			11.7	26.0
Effective Green, g (s)	26.0	26.0	26.0	10.3	10.3		11.7	9.8			11.7	26.0
Actuated g/C Ratio	0.44	0.44	0.44	0.17	0.17		0.20	0.16			0.20	0.44
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	749	754	705	186	301		354	594			668	1208
v/s Ratio Prot	0.18	c0.18			0.01		0.05	c0.07				
v/s Ratio Perm			0.12	0.00							c0.11	0.07
v/c Ratio	0.40	0.40	0.28	0.02	0.03		0.27	0.42			0.55	0.16
Uniform Delay, d1	11.4	11.5	10.8	20.4	20.5		20.3	22.3			21.5	10.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.4	0.4	0.2	0.0	0.0		0.4	0.5			1.0	0.1
Delay (s)	11.8	11.8	11.0	20.4	20.5		20.7	22.8			22.5	10.2
Level of Service	B	B	B	C	C		C	C			C	B
Approach Delay (s)		11.5			20.5			22.2			15.8	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	59.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

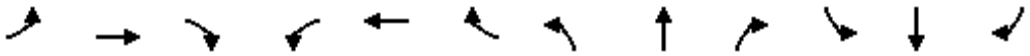
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	157	541	530	541	298	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	5.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.97	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1805	1615	1805	1900	3492	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1805	1615	1805	1900	3492	
Peak-hour factor, PHF	0.73	0.73	0.73	0.73	0.73	0.73
Adj. Flow (vph)	215	741	726	741	408	85
RTOR Reduction (vph)	0	46	0	0	21	0
Lane Group Flow (vph)	215	695	726	741	472	0
Confl. Peds. (#/hr)	8		8			8
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	custom	Prot	NA	NA	
Protected Phases	5	2	6		4	
Permitted Phases				6 2 4		
Actuated Green, G (s)	13.3	59.4	42.1	90.0	21.6	
Effective Green, g (s)	13.3	59.4	42.1	86.0	21.6	
Actuated g/C Ratio	0.15	0.66	0.47	0.96	0.24	
Clearance Time (s)	4.0	5.0	5.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	266	1065	844	1815	838	
v/s Ratio Prot	c0.12	0.43	c0.40		c0.14	
v/s Ratio Perm				0.39		
v/c Ratio	0.81	0.65	0.86	0.41	0.56	
Uniform Delay, d1	37.1	9.1	21.3	0.1	30.1	
Progression Factor	1.00	1.00	0.65	1.00	1.00	
Incremental Delay, d2	16.3	3.1	10.5	0.1	0.9	
Delay (s)	53.4	12.3	24.4	0.3	30.9	
Level of Service	D	B	C	A	C	
Approach Delay (s)	21.5			12.2	30.9	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

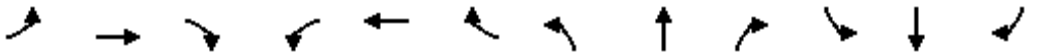


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	3	25	7	1	8	33	865	10	0	630	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95			0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00			1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.99	
Flt Protected		0.95	1.00		0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1810	1590		1814	1593	1805	3603			3549	
Flt Permitted		0.73	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		1380	1590		1896	1593	1805	3603			3549	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	97	4	32	9	1	10	43	1123	13	0	818	84
RTOR Reduction (vph)	0	0	28	0	0	10	0	0	0	0	6	0
Lane Group Flow (vph)	0	101	4	0	10	0	43	1136	0	0	896	0
Confl. Peds. (#/hr)	1		2	2		1	5		4	4		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4						
Actuated Green, G (s)		10.4	10.4		3.3	3.3	5.2	61.3			51.1	
Effective Green, g (s)		10.4	10.4		3.3	3.3	5.2	61.3			51.1	
Actuated g/C Ratio		0.12	0.12		0.04	0.04	0.06	0.68			0.57	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		159	183		69	58	104	2454			2015	
v/s Ratio Prot							0.02	c0.32			0.25	
v/s Ratio Perm		c0.07	0.00		c0.01	0.00						
v/c Ratio		0.64	0.02		0.14	0.01	0.41	0.46			0.44	
Uniform Delay, d1		38.0	35.3		42.0	41.8	40.9	6.7			11.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00			0.74	
Incremental Delay, d2		8.0	0.0		1.0	0.0	2.7	0.6			0.7	
Delay (s)		46.0	35.3		43.0	41.8	43.6	7.3			9.1	
Level of Service		D	D		D	D	D	A			A	
Approach Delay (s)		43.5			42.4			8.6			9.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	0	6	47	3	131	19	852	42	112	606	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1778	1593		1813	1570	1805	3577		1805	3527	
Flt Permitted		0.72	1.00		0.72	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1342	1593		1367	1570	1805	3577		1805	3527	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	27	0	7	57	4	160	23	1039	51	137	739	102
RTOR Reduction (vph)	0	0	6	0	0	144	0	3	0	0	6	0
Lane Group Flow (vph)	0	27	1	0	61	16	23	1087	0	137	835	0
Confl. Peds. (#/hr)	12		1	1		12	9		12	12		9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		9.2	9.2		9.2	9.2	3.1	53.8		12.0	62.7	
Effective Green, g (s)		9.2	9.2		9.2	9.2	3.1	53.8		12.0	62.7	
Actuated g/C Ratio		0.10	0.10		0.10	0.10	0.03	0.60		0.13	0.70	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		137	162		139	160	62	2138		240	2457	
v/s Ratio Prot							0.01	c0.30		c0.08	0.24	
v/s Ratio Perm		0.02	0.00		c0.04	0.01						
v/c Ratio		0.20	0.00		0.44	0.10	0.37	0.51		0.57	0.34	
Uniform Delay, d1		37.0	36.3		38.0	36.7	42.5	10.5		36.6	5.4	
Progression Factor		1.00	1.00		1.00	1.00	1.28	0.52		0.90	0.83	
Incremental Delay, d2		0.7	0.0		2.2	0.3	3.4	0.8		2.6	0.3	
Delay (s)		37.7	36.3		40.2	36.9	57.8	6.2		35.4	4.8	
Level of Service		D	D		D	D	E	A		D	A	
Approach Delay (s)		37.4			37.8			7.3			9.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱				↰		↱		↑	↱
Volume (vph)	0	417	185	0	0	0	135	0	269	10	249	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.2				4.2		4.2		4.2	4.5
Lane Util. Factor		0.95	1.00				1.00		1.00		1.00	1.00
Frpb, ped/bikes		1.00	0.99				1.00		0.98		1.00	0.99
Flpb, ped/bikes		1.00	1.00				1.00		1.00		1.00	1.00
Frt		1.00	0.85				1.00		0.85		1.00	0.85
Flt Protected		1.00	1.00				0.95		1.00		1.00	1.00
Satd. Flow (prot)		3610	1593				1805		1589		1896	1605
Flt Permitted		1.00	1.00				0.95		1.00		1.00	1.00
Satd. Flow (perm)		3610	1593				1805		1589		1896	1605
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	474	210	0	0	0	153	0	306	11	283	289
RTOR Reduction (vph)	0	0	100	0	0	0	0	0	241	0	44	132
Lane Group Flow (vph)	0	474	110	0	0	0	153	0	65	0	250	157
Confl. Peds. (#/hr)			3	3			3		3	3		3
Confl. Bikes (#/hr)					1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	pm+ov				Prot		custom	Perm	NA	custom
Protected Phases		2	3				3				4	2
Permitted Phases			2						3	4		4
Actuated Green, G (s)		15.7	26.9				11.2		11.2		13.1	28.8
Effective Green, g (s)		15.7	26.9				11.2		11.2		13.1	28.8
Actuated g/C Ratio		0.30	0.51				0.21		0.21		0.25	0.54
Clearance Time (s)		4.5	4.2				4.2		4.2		4.2	4.5
Vehicle Extension (s)		3.0	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1071	810				382		336		469	873
v/s Ratio Prot		c0.13	0.03				c0.08					0.05
v/s Ratio Perm			0.04						0.04		0.13	0.04
v/c Ratio		0.44	0.14				0.40		0.19		0.53	0.18
Uniform Delay, d1		15.1	6.9				18.0		17.1		17.3	6.1
Progression Factor		1.00	1.00				1.00		1.00		1.00	1.00
Incremental Delay, d2		0.3	0.1				0.7		0.3		1.2	0.1
Delay (s)		15.4	6.9				18.6		17.4		18.4	6.2
Level of Service		B	A				B		B		B	A
Approach Delay (s)		12.8			0.0			17.8			12.4	
Approach LOS		B			A			B			B	

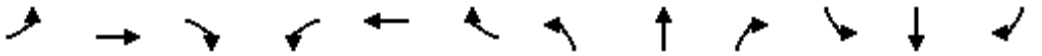
Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	12.9
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	SWL	SWR2
Lane Configurations												
Volume (vph)	0	71	0	29	0	262	63	51	363	1	77	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0			5.0		5.0	5.0		3.0	3.0
Lane Util. Factor		1.00	1.00			1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes		1.00	0.98			1.00		1.00	1.00		1.00	1.00
Flpb, ped/bikes		1.00	1.00			1.00		1.00	1.00		1.00	1.00
Frt		1.00	0.85			0.97		1.00	1.00		1.00	0.85
Flt Protected		0.95	1.00			1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)		1805	1576			1829		1800	1899		1770	1583
Flt Permitted		0.95	1.00			1.00		0.53	1.00		0.95	1.00
Satd. Flow (perm)		1805	1576			1829		999	1899		1770	1583
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)	0	77	0	32	0	285	68	55	395	1	84	14
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	0	0	0	12
Lane Group Flow (vph)	0	77	32	0	0	324	0	55	396	0	84	2
Confl. Peds. (#/hr)		2		3	9		4	4		9	2	3
Confl. Bikes (#/hr)	1								2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	2%	2%
Turn Type		Split	NA		Perm	NA		Perm	NA		NA	Prot
Protected Phases	1	8	8			2			6		7	7
Permitted Phases					2			6				
Actuated Green, G (s)		6.4	6.4			20.0		20.0	20.0		6.5	6.5
Effective Green, g (s)		6.4	6.4			20.0		20.0	20.0		6.5	6.5
Actuated g/C Ratio		0.15	0.15			0.46		0.46	0.46		0.15	0.15
Clearance Time (s)		3.0	3.0			5.0		5.0	5.0		3.0	3.0
Vehicle Extension (s)		3.0	3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		263	229			833		455	865		262	234
v/s Ratio Prot		c0.04	0.02			0.18			c0.21		c0.05	0.00
v/s Ratio Perm								0.06				
v/c Ratio		0.29	0.14			0.39		0.12	0.46		0.32	0.01
Uniform Delay, d1		16.7	16.3			7.9		6.9	8.2		16.7	16.0
Progression Factor		1.00	1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.6	0.3			0.3		0.1	0.4		0.7	0.0
Delay (s)		17.4	16.6			8.2		7.0	8.6		17.4	16.0
Level of Service		B	B			A		A	A		B	B
Approach Delay (s)	0.0		17.1			8.2			8.4		17.2	
Approach LOS	A		B			A			A		B	

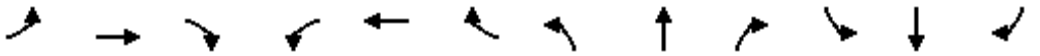
Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	43.9	Sum of lost time (s)	14.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	46	389	34	67	98	0	0	65	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				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
Frpb, ped/bikes				1.00	0.99		1.00	1.00			1.00	0.97
Flpb, ped/bikes				0.99	1.00		0.99	1.00			1.00	1.00
Frt				1.00	0.99		1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)				1779	3548		1781	1900			1900	1573
Flt Permitted				0.95	1.00		0.71	1.00			1.00	1.00
Satd. Flow (perm)				1779	3548		1335	1900			1900	1573
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	49	414	36	71	104	0	0	69	96
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	0	61
Lane Group Flow (vph)	0	0	0	49	439	0	71	104	0	0	69	35
Confl. Peds. (#/hr)	42		13	13		42	17		30	30		17
Confl. Bikes (#/hr)		2			3			4			3	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			8			4	
Permitted Phases				2			8					4
Actuated Green, G (s)				28.0	28.0		22.0	22.0			22.0	22.0
Effective Green, g (s)				28.0	28.0		22.0	22.0			22.0	22.0
Actuated g/C Ratio				0.47	0.47		0.37	0.37			0.37	0.37
Clearance Time (s)				5.0	5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)				830	1655		489	696			696	576
v/s Ratio Prot					c0.12			c0.05			0.04	
v/s Ratio Perm				0.03			0.05					0.02
v/c Ratio				0.06	0.27		0.15	0.15			0.10	0.06
Uniform Delay, d1				8.8	9.7		12.7	12.7			12.5	12.3
Progression Factor				0.75	0.82		1.19	1.19			1.00	1.00
Incremental Delay, d2				0.1	0.4		0.6	0.4			0.3	0.2
Delay (s)				6.7	8.4		15.7	15.6			12.8	12.5
Level of Service				A	A		B	B			B	B
Approach Delay (s)		0.0			8.2			15.6			12.6	
Approach LOS		A			A			B			B	

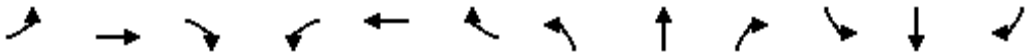
Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	536	30	0	0	0	0	39	12	45	47	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0		5.0	5.0	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frpb, ped/bikes		1.00						0.99		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.98	1.00	
Frt		0.99						0.97		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		5109						1827		1771	1900	
Flt Permitted		0.99						1.00		0.71	1.00	
Satd. Flow (perm)		5109						1827		1332	1900	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	110	687	38	0	0	0	0	50	15	58	60	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	826	0	0	0	0	0	55	0	58	60	0
Confl. Peds. (#/hr)	2		11	11		2	12		22	22		12
Confl. Bikes (#/hr)		1									2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		31.0						19.0		19.0	19.0	
Effective Green, g (s)		31.0						19.0		19.0	19.0	
Actuated g/C Ratio		0.52						0.32		0.32	0.32	
Clearance Time (s)		5.0						5.0		5.0	5.0	
Lane Grp Cap (vph)		2639						578		421	601	
v/s Ratio Prot								0.03			0.03	
v/s Ratio Perm		0.16								c0.04		
v/c Ratio		0.31						0.09		0.14	0.10	
Uniform Delay, d1		8.4						14.4		14.6	14.5	
Progression Factor		1.00						1.00		0.84	0.85	
Incremental Delay, d2		0.3						0.3		0.7	0.3	
Delay (s)		8.7						14.8		13.0	12.6	
Level of Service		A						B		B	B	
Approach Delay (s)		8.7			0.0			14.8			12.8	
Approach LOS		A			A			B			B	

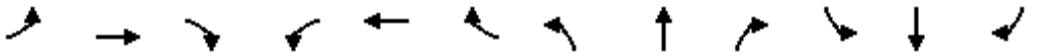
Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



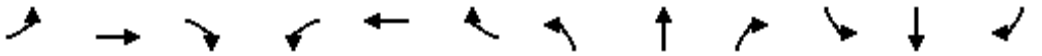
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	491	67	0	0	0	0	151	108	24	173	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.91						1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.99						1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	0.99	1.00	
Frt		0.98						1.00	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5058						1900	1580	1790	1900	
Flt Permitted		1.00						1.00	1.00	0.66	1.00	
Satd. Flow (perm)		5058						1900	1580	1235	1900	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	30	522	71	0	0	0	0	161	115	26	184	0
RTOR Reduction (vph)	0	27	0	0	0	0	0	0	67	0	0	0
Lane Group Flow (vph)	0	596	0	0	0	0	0	161	48	26	184	0
Confl. Peds. (#/hr)	9		21	21		9	17		14	14		17
Confl. Bikes (#/hr)								2			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		2						4			8	
Permitted Phases	2								4	8		
Actuated Green, G (s)		25.0						25.0	25.0	25.0	25.0	
Effective Green, g (s)		25.0						25.0	25.0	25.0	25.0	
Actuated g/C Ratio		0.42						0.42	0.42	0.42	0.42	
Clearance Time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		2107						791	658	514	791	
v/s Ratio Prot								0.08			c0.10	
v/s Ratio Perm		0.12							0.03	0.02		
v/c Ratio		0.28						0.20	0.07	0.05	0.23	
Uniform Delay, d1		11.6						11.2	10.5	10.4	11.3	
Progression Factor		0.41						0.82	1.55	0.54	0.54	
Incremental Delay, d2		0.3						0.6	0.2	0.2	0.7	
Delay (s)		5.1						9.7	16.6	5.8	6.8	
Level of Service		A						A	B	A	A	
Approach Delay (s)		5.1			0.0			12.5			6.7	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



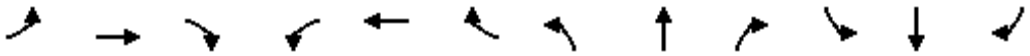
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	111	250	13	47	121	0	0	93	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					0.91			1.00			1.00	1.00
Frpb, ped/bikes					1.00			1.00			1.00	0.98
Flpb, ped/bikes					0.99			1.00			1.00	1.00
Frt					0.99			1.00			1.00	0.85
Flt Protected					0.99			0.99			1.00	1.00
Satd. Flow (prot)					5046			1869			1900	1580
Flt Permitted					0.99			0.90			1.00	1.00
Satd. Flow (perm)					5046			1708			1900	1580
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	128	287	15	54	139	0	0	107	28
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	16
Lane Group Flow (vph)	0	0	0	0	424	0	0	193	0	0	107	12
Confl. Peds. (#/hr)	21		15	15		21	14		19	19		14
Confl. Bikes (#/hr)					1			4			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2			4					8
Actuated Green, G (s)					25.0			25.0			25.0	25.0
Effective Green, g (s)					25.0			25.0			25.0	25.0
Actuated g/C Ratio					0.42			0.42			0.42	0.42
Clearance Time (s)					5.0			5.0			5.0	5.0
Lane Grp Cap (vph)					2102			711			791	658
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.08			c0.11				0.01
v/c Ratio					0.20			0.27			0.14	0.02
Uniform Delay, d1					11.1			11.5			10.8	10.3
Progression Factor					0.91			1.85			1.00	1.00
Incremental Delay, d2					0.2			0.9			0.4	0.0
Delay (s)					10.3			22.2			11.2	10.3
Level of Service					B			C			B	B
Approach Delay (s)		0.0			10.3			22.2			11.0	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



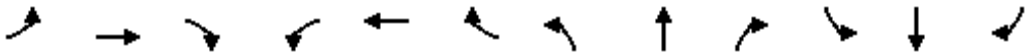
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	23	252	21	10	105	0	0	108	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0		5.0	5.0			5.0	5.0
Lane Util. Factor					0.91		1.00	1.00			1.00	1.00
Frpb, ped/bikes					1.00		1.00	1.00			1.00	0.97
Flpb, ped/bikes					1.00		0.98	1.00			1.00	1.00
Frt					0.99		1.00	1.00			1.00	0.85
Flt Protected					1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)					5082		1775	1900			1900	1564
Flt Permitted					1.00		0.68	1.00			1.00	1.00
Satd. Flow (perm)					5082		1266	1900			1900	1564
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	26	290	24	11	121	0	0	124	130
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	0	0	0	82
Lane Group Flow (vph)	0	0	0	0	327	0	11	121	0	0	124	48
Confl. Peds. (#/hr)	22		23	23		22	23		11	11		23
Confl. Bikes (#/hr)					1			1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			8			4	
Permitted Phases				2			8					4
Actuated Green, G (s)					28.0		22.0	22.0			22.0	22.0
Effective Green, g (s)					28.0		22.0	22.0			22.0	22.0
Actuated g/C Ratio					0.47		0.37	0.37			0.37	0.37
Clearance Time (s)					5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)					2371		464	696			696	573
v/s Ratio Prot								0.06			c0.07	
v/s Ratio Perm					0.06		0.01					0.03
v/c Ratio					0.14		0.02	0.17			0.18	0.08
Uniform Delay, d1					9.1		12.1	12.9			12.9	12.4
Progression Factor					2.45		0.77	0.76			1.75	4.14
Incremental Delay, d2					0.1		0.1	0.5			0.6	0.3
Delay (s)					22.5		9.5	10.3			23.1	51.6
Level of Service					C		A	B			C	D
Approach Delay (s)		0.0			22.5			10.2			37.7	
Approach LOS		A			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



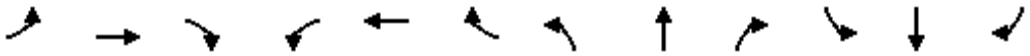
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	52	391	21	65	140	0	0	55	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.97	
Flpb, ped/bikes					0.99			0.99			1.00	
Frt					0.99			1.00			0.94	
Flt Protected					0.99			0.98			1.00	
Satd. Flow (prot)					5065			1849			1732	
Flt Permitted					0.99			0.88			1.00	
Satd. Flow (perm)					5065			1646			1732	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	57	430	23	71	154	0	0	60	55
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	34	0
Lane Group Flow (vph)	0	0	0	0	502	0	0	225	0	0	81	0
Confl. Peds. (#/hr)	58		62	62		58	49		37	37		49
Confl. Bikes (#/hr)					3			1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					27.0			23.0			23.0	
Effective Green, g (s)					27.0			23.0			23.0	
Actuated g/C Ratio					0.45			0.38			0.38	
Clearance Time (s)					5.0			5.0			5.0	
Lane Grp Cap (vph)					2279			630			663	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.10			c0.14				
v/c Ratio					0.22			0.36			0.12	
Uniform Delay, d1					10.1			13.2			12.0	
Progression Factor					1.07			0.70			1.97	
Incremental Delay, d2					0.2			1.6			0.4	
Delay (s)					11.0			10.8			24.0	
Level of Service					B			B			C	
Approach Delay (s)		0.0			11.0			10.8			24.0	
Approach LOS		A			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	419	39	0	0	0	0	116	196	19	116	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.91						1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00						1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	0.99	1.00	
Frt		0.99						1.00	0.85	1.00	1.00	
Flt Protected		0.99						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5081						1900	1568	1779	1900	
Flt Permitted		0.99						1.00	1.00	0.67	1.00	
Satd. Flow (perm)		5081						1900	1568	1262	1900	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	62	471	44	0	0	0	0	130	220	21	130	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	185	0	0	0
Lane Group Flow (vph)	0	567	0	0	0	0	0	130	35	21	130	0
Confl. Peds. (#/hr)	4		13	13		4	15		20	20		15
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2								8	4		
Actuated Green, G (s)		40.4						9.6	9.6	9.6	9.6	
Effective Green, g (s)		40.4						9.6	9.6	9.6	9.6	
Actuated g/C Ratio		0.67						0.16	0.16	0.16	0.16	
Clearance Time (s)		5.0						5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		3421						304	250	201	304	
v/s Ratio Prot								c0.07			0.07	
v/s Ratio Perm		0.11							0.02	0.02		
v/c Ratio		0.17						0.43	0.14	0.10	0.43	
Uniform Delay, d1		3.6						22.7	21.7	21.5	22.7	
Progression Factor		0.27						1.00	1.00	1.22	1.17	
Incremental Delay, d2		0.1						1.0	0.3	0.2	1.0	
Delay (s)		1.1						23.7	21.9	26.5	27.4	
Level of Service		A						C	C	C	C	
Approach Delay (s)		1.1			0.0			22.6			27.3	
Approach LOS		A			A			C			C	

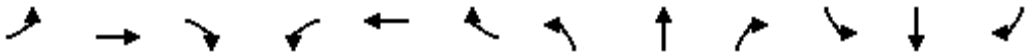
Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	18	5	18	12	5	28	239	25	2	233	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			0.98			0.99			1.00	
Flt Protected		1.00			0.98			1.00			1.00	
Satd. Flow (prot)		1832			1807			1860			1894	
Flt Permitted		0.99			0.82			0.95			1.00	
Satd. Flow (perm)		1810			1524			1781			1890	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	1	24	7	24	16	7	37	314	33	3	307	5
RTOR Reduction (vph)	0	6	0	0	6	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	26	0	0	41	0	0	381	0	0	315	0
Confl. Peds. (#/hr)	2		1	1		2	6		14	14		6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		4.8			4.8			45.2			45.2	
Effective Green, g (s)		4.8			4.8			45.2			45.2	
Actuated g/C Ratio		0.08			0.08			0.75			0.75	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		144			121			1341			1423	
v/s Ratio Prot												
v/s Ratio Perm		0.01			c0.03			c0.21			0.17	
v/c Ratio		0.18			0.34			0.28			0.22	
Uniform Delay, d1		25.8			26.1			2.3			2.2	
Progression Factor		1.00			1.00			0.16			1.86	
Incremental Delay, d2		0.6			1.6			0.5			0.4	
Delay (s)		26.4			27.7			0.9			4.4	
Level of Service		C			C			A			A	
Approach Delay (s)		26.4			27.7			0.9			4.4	
Approach LOS		C			C			A			A	

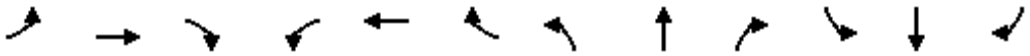
Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	24	85	13	20	300	0	0	230	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					1.00	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.95		1.00			1.00	
Flpb, ped/bikes					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.99	
Flt Protected					0.99	1.00		1.00			1.00	
Satd. Flow (prot)					1876	1539		1893			1887	
Flt Permitted					0.99	1.00		0.97			1.00	
Satd. Flow (perm)					1876	1539		1848			1887	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	0	0	0	30	106	16	25	375	0	0	288	12
RTOR Reduction (vph)	0	0	0	0	0	13	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	136	3	0	400	0	0	298	0
Confl. Peds. (#/hr)	13		4	4		13	16		6	6		16
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			6			2	
Permitted Phases				4		4	6					
Actuated Green, G (s)					9.6	9.6		40.4			40.4	
Effective Green, g (s)					9.6	9.6		40.4			40.4	
Actuated g/C Ratio					0.16	0.16		0.67			0.67	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					300	246		1244			1270	
v/s Ratio Prot											0.16	
v/s Ratio Perm					0.07	0.00		c0.22				
v/c Ratio					0.45	0.01		0.32			0.23	
Uniform Delay, d1					22.8	21.2		4.1			3.8	
Progression Factor					1.00	1.00		0.72			0.37	
Incremental Delay, d2					1.1	0.0		0.7			0.4	
Delay (s)					23.9	21.2		3.6			1.8	
Level of Service					C	C		A			A	
Approach Delay (s)		0.0			23.6			3.6			1.8	
Approach LOS		A			C			A			A	

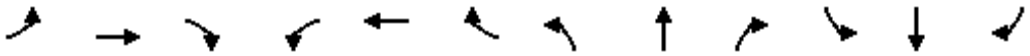
Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	29	13	8	11	7	5	303	21	5	253	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			0.97			0.99			1.00	
Flt Protected		0.99			0.98			1.00			1.00	
Satd. Flow (prot)		1807			1789			1879			1896	
Flt Permitted		0.93			0.87			1.00			0.99	
Satd. Flow (perm)		1694			1579			1873			1887	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	11	35	15	10	13	8	6	361	25	6	301	2
RTOR Reduction (vph)	0	14	0	0	7	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	47	0	0	24	0	0	390	0	0	309	0
Confl. Peds. (#/hr)	3		3	3		3	10		3	3		10
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		4.9			4.9			45.1			45.1	
Effective Green, g (s)		4.9			4.9			45.1			45.1	
Actuated g/C Ratio		0.08			0.08			0.75			0.75	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		138			128			1407			1418	
v/s Ratio Prot												
v/s Ratio Perm		c0.03			0.01			c0.21			0.16	
v/c Ratio		0.34			0.18			0.28			0.22	
Uniform Delay, d1		26.0			25.7			2.3			2.2	
Progression Factor		1.00			1.00			1.00			0.34	
Incremental Delay, d2		1.5			0.7			0.5			0.3	
Delay (s)		27.5			26.4			2.8			1.1	
Level of Service		C			C			A			A	
Approach Delay (s)		27.5			26.4			2.8			1.1	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

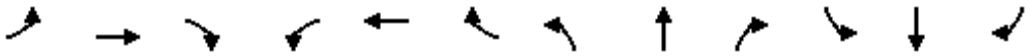
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	37	515	19	0	0	0	0	71	34	38	78	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.91						1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00						1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	0.98	1.00	
Frt		1.00						1.00	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5135						1900	1567	1776	1900	
Flt Permitted		1.00						1.00	1.00	0.70	1.00	
Satd. Flow (perm)		5135						1900	1567	1314	1900	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	43	599	22	0	0	0	0	83	40	44	91	0
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	658	0	0	0	0	0	83	16	44	91	0
Confl. Peds. (#/hr)	8		15	15		8	15		24	24		15
Confl. Bikes (#/hr)		1			1						1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2								8	4		
Actuated Green, G (s)		26.0						24.0	24.0	24.0	24.0	
Effective Green, g (s)		26.0						24.0	24.0	24.0	24.0	
Actuated g/C Ratio		0.43						0.40	0.40	0.40	0.40	
Clearance Time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		2225						760	626	525	760	
v/s Ratio Prot								0.04			c0.05	
v/s Ratio Perm		0.13							0.01	0.03		
v/c Ratio		0.30						0.11	0.03	0.08	0.12	
Uniform Delay, d1		11.0						11.3	10.9	11.2	11.3	
Progression Factor		0.47						1.00	1.00	0.36	0.36	
Incremental Delay, d2		0.3						0.3	0.1	0.3	0.3	
Delay (s)		5.5						11.6	11.0	4.3	4.3	
Level of Service		A						B	B	A	A	
Approach Delay (s)		5.5			0.0			11.4			4.3	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

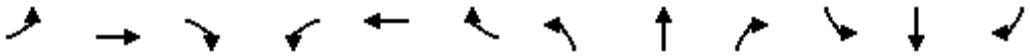
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	94	156	21	0	29	0	314	18	4	244	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	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	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00		1.00		1.00	0.97	1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00		1.00		1.00	1.00	0.99	1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1792	1900	1574	1805		1615		1900	1565	1793	1900	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.56	1.00	
Satd. Flow (perm)	1792	1900	1574	1805		1615		1900	1565	1049	1900	
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)	77	102	170	23	0	32	0	341	20	4	265	0
RTOR Reduction (vph)	0	0	145	0	0	30	0	0	14	0	0	0
Lane Group Flow (vph)	77	102	25	23	0	2	0	341	6	4	265	0
Confl. Peds. (#/hr)	4		3	3		4	7		6	6		7
Confl. Bikes (#/hr)		1									1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Prot		custom		NA	Perm	Perm	NA	
Protected Phases		4		3		3		2			6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)	10.9	10.9	10.9	3.7		3.7		20.6	20.6	17.7	17.7	
Effective Green, g (s)	10.9	10.9	10.9	3.7		3.7		20.6	20.6	17.7	17.7	
Actuated g/C Ratio	0.15	0.15	0.15	0.05		0.05		0.28	0.28	0.24	0.24	
Clearance Time (s)	5.5	5.5	5.5	5.0		5.0		5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	266	282	233	90		81		533	439	252	458	
v/s Ratio Prot		c0.05		c0.01		0.00		c0.18			c0.14	
v/s Ratio Perm	0.04		0.02						0.00	0.00		
v/c Ratio	0.29	0.36	0.11	0.26		0.02		0.64	0.01	0.02	0.58	
Uniform Delay, d1	27.8	28.1	27.0	33.5		33.1		23.1	19.1	21.2	24.6	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.8	0.2	1.5		0.1		2.5	0.0	0.0	1.8	
Delay (s)	28.4	28.9	27.3	35.0		33.2		25.7	19.1	21.2	26.3	
Level of Service	C	C	C	D		C		C	B	C	C	
Approach Delay (s)		28.0			34.0			25.3			26.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	20.5
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	76	14	0	36	13	7	104	22	15	163	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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			0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.96	1.00			1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.98			0.96		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1733	1847			1793		1793	1843		1797	1832	
Flt Permitted	0.72	1.00			1.00		0.61	1.00		0.66	1.00	
Satd. Flow (perm)	1315	1847			1793		1157	1843		1257	1832	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	37	87	16	0	41	15	8	120	25	17	187	47
RTOR Reduction (vph)	0	10	0	0	10	0	0	12	0	0	15	0
Lane Group Flow (vph)	37	93	0	0	46	0	8	133	0	17	219	0
Confl. Peds. (#/hr)	30		7	7		30	9		5	5		9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	21.0	21.0			21.0		29.0	29.0		29.0	29.0	
Effective Green, g (s)	21.0	21.0			21.0		29.0	29.0		29.0	29.0	
Actuated g/C Ratio	0.35	0.35			0.35		0.48	0.48		0.48	0.48	
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	460	646			627		559	890		607	885	
v/s Ratio Prot		c0.05			0.03			0.07			c0.12	
v/s Ratio Perm	0.03						0.01			0.01		
v/c Ratio	0.08	0.14			0.07		0.01	0.15		0.03	0.25	
Uniform Delay, d1	13.0	13.3			13.0		8.1	8.6		8.1	9.1	
Progression Factor	1.00	1.00			1.00		0.62	0.53		1.00	1.00	
Incremental Delay, d2	0.3	0.5			0.2		0.0	0.4		0.1	0.7	
Delay (s)	13.4	13.8			13.2		5.1	5.0		8.2	9.8	
Level of Service	B	B			B		A	A		A	A	
Approach Delay (s)		13.7			13.2			5.0			9.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

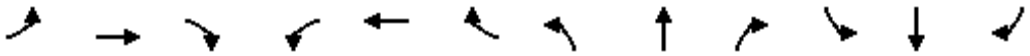
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	57	15	113	4	21	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.95	1.00	0.95	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1532	1900	1533	1758	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.67	1.00
Satd. Flow (perm)	1805	1532	1900	1533	1247	1900
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	66	17	130	5	24	191
RTOR Reduction (vph)	0	10	0	3	0	0
Lane Group Flow (vph)	66	7	130	2	24	191
Confl. Peds. (#/hr)	11	28		22	22	
Confl. Bikes (#/hr)			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Perm	NA	Perm	Perm	NA
Protected Phases	4		6			2
Permitted Phases		4		6	2	
Actuated Green, G (s)	26.0	26.0	24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0	24.0	24.0	24.0	24.0
Actuated g/C Ratio	0.43	0.43	0.40	0.40	0.40	0.40
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	782	663	760	613	498	760
v/s Ratio Prot	c0.04		0.07			c0.10
v/s Ratio Perm		0.00		0.00	0.02	
v/c Ratio	0.08	0.01	0.17	0.00	0.05	0.25
Uniform Delay, d1	10.0	9.7	11.6	10.8	11.0	12.0
Progression Factor	0.59	0.53	0.33	0.42	0.67	0.63
Incremental Delay, d2	0.2	0.0	0.5	0.0	0.2	0.8
Delay (s)	6.1	5.2	4.4	4.5	7.5	8.4
Level of Service	A	A	A	A	A	A
Approach Delay (s)	5.9		4.4			8.3
Approach LOS	A		A			A

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	42	19	16	143	30	14	36	39	9	48	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.97		1.00	1.00	0.88		0.93			0.98	
Flpb, ped/bikes	0.92	1.00		0.92	1.00	1.00		0.98			0.98	
Frt	1.00	0.95		1.00	1.00	0.85		0.94			0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1664	1751		1658	1900	1427		1632			1788	
Flt Permitted	0.65	1.00		0.71	1.00	1.00		0.96			0.96	
Satd. Flow (perm)	1140	1751		1240	1900	1427		1577			1735	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	15	49	22	19	168	35	16	42	46	11	56	11
RTOR Reduction (vph)	0	11	0	0	0	17	0	31	0	0	8	0
Lane Group Flow (vph)	15	60	0	19	168	18	0	73	0	0	70	0
Confl. Peds. (#/hr)	92		84	84		92	67		78	78		67
Confl. Bikes (#/hr)		1			1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	31.0	31.0		31.0	31.0	31.0		19.0			19.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0	31.0		19.0			19.0	
Actuated g/C Ratio	0.52	0.52		0.52	0.52	0.52		0.32			0.32	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	
Lane Grp Cap (vph)	589	904		640	981	737		499			549	
v/s Ratio Prot		0.03			c0.09							
v/s Ratio Perm	0.01			0.02		0.01		c0.05			0.04	
v/c Ratio	0.03	0.07		0.03	0.17	0.02		0.15			0.13	
Uniform Delay, d1	7.1	7.3		7.1	7.7	7.1		14.7			14.6	
Progression Factor	0.66	0.56		0.89	0.90	0.83		0.94			1.00	
Incremental Delay, d2	0.1	0.1		0.1	0.4	0.1		0.6			0.5	
Delay (s)	4.8	4.2		6.4	7.3	5.9		14.4			15.1	
Level of Service	A	A		A	A	A		B			B	
Approach Delay (s)		4.3			7.0			14.4			15.1	
Approach LOS		A			A			B			B	

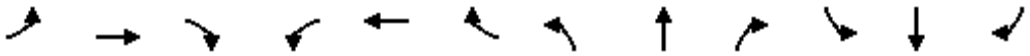
Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	20	7	46	39	12	18	54	40	53	91	72
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	29	29	10	66	56	17	26	77	57	76	130	103

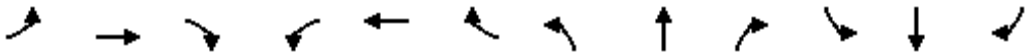
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	67	139	160	309
Volume Left (vph)	29	66	26	76
Volume Right (vph)	10	17	57	103
Hadj (s)	0.00	0.02	-0.18	-0.15
Departure Headway (s)	5.2	5.1	4.6	4.5
Degree Utilization, x	0.10	0.20	0.21	0.39
Capacity (veh/h)	617	639	729	762
Control Delay (s)	8.8	9.4	8.8	10.3
Approach Delay (s)	8.8	9.4	8.8	10.3
Approach LOS	A	A	A	B

Intersection Summary				
Delay	9.6			
Level of Service	A			
Intersection Capacity Utilization	34.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	34	20	36	75	52	12	84	54	16	59	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	5.0	4.0	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		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.98	
Flpb, ped/bikes	0.91	1.00	1.00	0.95	1.00	1.00	0.89	1.00		0.92	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1647	1900	1615	1711	1900	1615	1615	1705		1657	1807	
Flt Permitted	0.70	1.00	1.00	0.73	1.00	1.00	0.70	1.00		0.66	1.00	
Satd. Flow (perm)	1217	1900	1615	1317	1900	1615	1197	1705		1148	1807	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	7	39	23	41	85	59	14	95	61	18	67	14
RTOR Reduction (vph)	0	0	23	0	0	59	0	38	0	0	9	0
Lane Group Flow (vph)	7	39	0	41	85	0	14	118	0	18	72	0
Confl. Peds. (#/hr)	82		46	46		82	59		51	51		59
Confl. Bikes (#/hr)					1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	NA	Perm	NA	NA	Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	29.0	29.0	0.0	29.0	29.0	0.0	21.0	21.0		21.0	21.0	
Effective Green, g (s)	29.0	29.0	0.0	29.0	29.0	0.0	21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.48	0.48	0.00	0.48	0.48	0.00	0.35	0.35		0.35	0.35	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	588	918	0	636	918	0	418	596		401	632	
v/s Ratio Prot		0.02			c0.04			c0.07			0.04	
v/s Ratio Perm	0.01			0.03			0.01			0.02		
v/c Ratio	0.01	0.04	0.00	0.06	0.09	0.00	0.03	0.20		0.04	0.11	
Uniform Delay, d1	8.1	8.2	30.0	8.3	8.4	30.0	12.8	13.6		12.9	13.2	
Progression Factor	0.74	0.75	1.00	2.25	2.26	1.00	0.52	0.57		1.00	1.00	
Incremental Delay, d2	0.0	0.1	0.0	0.2	0.2	0.0	0.1	0.7		0.2	0.4	
Delay (s)	6.0	6.2	30.0	18.8	19.2	30.0	6.8	8.4		13.1	13.6	
Level of Service	A	A	C	B	B	C	A	A		B	B	
Approach Delay (s)		14.1			22.6			8.3			13.5	
Approach LOS		B			C			A			B	

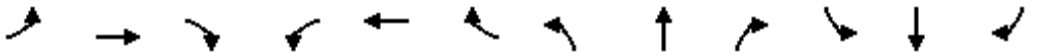
Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	60	11	117	115	93	12	324	95	115	488	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.93	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.95	1.00	1.00	0.97	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1718	1900	1550	1758	1900	1503	1798	3460		1801	3560	
Flt Permitted	0.67	1.00	1.00	0.71	1.00	1.00	0.41	1.00		0.41	1.00	
Satd. Flow (perm)	1211	1900	1550	1315	1900	1503	784	3460		778	3560	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	29	71	13	139	137	111	14	386	113	137	581	45
RTOR Reduction (vph)	0	0	11	0	0	90	0	39	0	0	7	0
Lane Group Flow (vph)	29	71	2	139	137	21	14	460	0	137	619	0
Confl. Peds. (#/hr)	55		27	27		55	18		11	11		18
Confl. Bikes (#/hr)		1			1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4	6			2		
Actuated Green, G (s)	11.5	11.5	11.5	11.5	11.5	11.5	30.4	29.6		38.5	33.7	
Effective Green, g (s)	11.5	11.5	11.5	11.5	11.5	11.5	30.4	29.6		38.5	33.7	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.51	0.49		0.64	0.56	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	232	364	297	252	364	288	410	1706		582	1999	
v/s Ratio Prot		0.04			0.07		0.00	0.13		c0.02	c0.17	
v/s Ratio Perm	0.02		0.00	c0.11		0.01	0.02			0.13		
v/c Ratio	0.12	0.20	0.01	0.55	0.38	0.07	0.03	0.27		0.24	0.31	
Uniform Delay, d1	20.1	20.4	19.6	21.9	21.1	19.9	7.4	8.9		4.3	7.0	
Progression Factor	1.17	1.16	1.00	1.00	1.00	1.00	0.76	0.63		0.42	0.38	
Incremental Delay, d2	0.2	0.3	0.0	2.6	0.7	0.1	0.0	0.4		0.2	0.4	
Delay (s)	23.8	23.8	19.6	24.5	21.8	20.0	5.7	6.0		2.0	3.0	
Level of Service	C	C	B	C	C	B	A	A		A	A	
Approach Delay (s)		23.4			22.3			5.9			2.8	
Approach LOS		C			C			A			A	

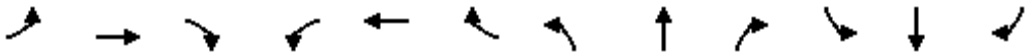
Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



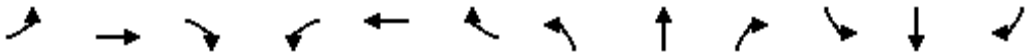
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	48	419	27	47	49	0	0	30	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					0.91			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.95
Flpb, ped/bikes					0.98			0.98			1.00	1.00
Frt					0.99			1.00			1.00	0.85
Flt Protected					1.00			0.98			1.00	1.00
Satd. Flow (prot)					4985			1820			1900	1532
Flt Permitted					1.00			0.88			1.00	1.00
Satd. Flow (perm)					4985			1638			1900	1532
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	53	460	30	52	54	0	0	33	41
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	0	20
Lane Group Flow (vph)	0	0	0	0	532	0	0	106	0	0	33	21
Confl. Peds. (#/hr)	98		110	110		98	69		61	61		69
Confl. Bikes (#/hr)		2			1			2				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					8			2			6	
Permitted Phases				8			2					6
Actuated Green, G (s)					19.0			31.0			31.0	31.0
Effective Green, g (s)					19.0			31.0			31.0	31.0
Actuated g/C Ratio					0.32			0.52			0.52	0.52
Clearance Time (s)					5.0			5.0			5.0	5.0
Lane Grp Cap (vph)					1578			846			981	791
v/s Ratio Prot											0.02	
v/s Ratio Perm					0.11			c0.06				0.01
v/c Ratio					0.34			0.13			0.03	0.03
Uniform Delay, d1					15.7			7.5			7.1	7.1
Progression Factor					1.69			1.82			0.48	0.08
Incremental Delay, d2					0.6			0.3			0.1	0.1
Delay (s)					27.1			13.9			3.5	0.6
Level of Service					C			B			A	A
Approach Delay (s)		0.0			27.1			13.9			1.9	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	468	32	0	0	0	0	8	17	28	27	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		1.00						0.98			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		0.99						0.91			1.00	
Flt Protected		0.99						1.00			0.97	
Satd. Flow (prot)		5086						1687			1835	
Flt Permitted		0.99						1.00			0.88	
Satd. Flow (perm)		5086						1687			1650	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	113	544	37	0	0	0	0	9	20	33	31	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	684	0	0	0	0	0	16	0	0	64	0
Confl. Peds. (#/hr)	11		11	11		11	25		21	21		25
Confl. Bikes (#/hr)		1			1			3			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		30.0						20.0			20.0	
Effective Green, g (s)		30.0						20.0			20.0	
Actuated g/C Ratio		0.50						0.33			0.33	
Clearance Time (s)		5.0						5.0			5.0	
Lane Grp Cap (vph)		2543						562			550	
v/s Ratio Prot								0.01				
v/s Ratio Perm		0.13									c0.04	
v/c Ratio		0.27						0.03			0.12	
Uniform Delay, d1		8.7						13.5			13.9	
Progression Factor		0.35						1.00			1.06	
Incremental Delay, d2		0.3						0.1			0.4	
Delay (s)		3.3						13.6			15.2	
Level of Service		A						B			B	
Approach Delay (s)		3.3			0.0			13.6			15.2	
Approach LOS		A			A			B			B	

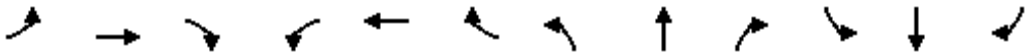
Intersection Summary			
HCM 2000 Control Delay	4.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	45	16	9	41	81	18	444	12	42	701	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.96			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1792	1818			1881	1583	1798	3593		1801	3571	
Flt Permitted	0.72	1.00			0.92	1.00	0.33	1.00		0.46	1.00	
Satd. Flow (perm)	1358	1818			1750	1583	618	3593		868	3571	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	23	52	18	10	47	93	21	510	14	48	806	51
RTOR Reduction (vph)	0	16	0	0	0	83	0	2	0	0	4	0
Lane Group Flow (vph)	23	54	0	0	57	10	21	522	0	48	853	0
Confl. Peds. (#/hr)	9		8	8		9	13		4	4		13
Confl. Bikes (#/hr)											1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	6.3	6.3			6.3	6.3	43.7	43.7		43.7	43.7	
Effective Green, g (s)	6.3	6.3			6.3	6.3	43.7	43.7		43.7	43.7	
Actuated g/C Ratio	0.10	0.10			0.10	0.10	0.73	0.73		0.73	0.73	
Clearance Time (s)	5.0	5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	142	190			183	166	450	2616		632	2600	
v/s Ratio Prot		0.03						0.15			c0.24	
v/s Ratio Perm	0.02				c0.03	0.01	0.03			0.06		
v/c Ratio	0.16	0.28			0.31	0.06	0.05	0.20		0.08	0.33	
Uniform Delay, d1	24.4	24.8			24.8	24.2	2.3	2.6		2.3	2.9	
Progression Factor	1.00	1.00			1.00	1.00	0.90	0.98		1.00	1.00	
Incremental Delay, d2	0.5	0.8			1.0	0.1	0.2	0.2		0.2	0.3	
Delay (s)	25.0	25.6			25.8	24.3	2.3	2.7		2.6	3.2	
Level of Service	C	C			C	C	A	A		A	A	
Approach Delay (s)		25.4			24.9			2.7			3.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

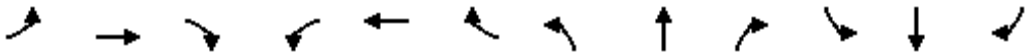
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	28	53	1	29	20	21	421	7	31	600	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.92		0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00		1.00		1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1790	1900	1488		1781		1802	3599		1795	3521	
Flt Permitted	0.72	1.00	1.00		0.99		0.23	1.00		0.48	1.00	
Satd. Flow (perm)	1358	1900	1488		1771		438	3599		902	3521	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	47	31	60	1	33	22	24	473	8	35	674	94
RTOR Reduction (vph)	0	0	54	0	20	0	0	1	0	0	19	0
Lane Group Flow (vph)	47	31	7	0	36	0	24	480	0	35	750	0
Confl. Peds. (#/hr)	9		68	68		9	25		11	11		25
Confl. Bikes (#/hr)		1			1						1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8			4		1	6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	6.5	6.5	6.5		6.5		43.5	43.5		23.0	23.0	
Effective Green, g (s)	6.5	6.5	6.5		6.5		43.5	43.5		23.0	23.0	
Actuated g/C Ratio	0.11	0.11	0.11		0.11		0.72	0.72		0.38	0.38	
Clearance Time (s)	5.0	5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	147	205	161		191		692	2609		345	1349	
v/s Ratio Prot		0.02					0.01	c0.13			c0.21	
v/s Ratio Perm	c0.03		0.00		0.02		0.02			0.04		
v/c Ratio	0.32	0.15	0.04		0.19		0.03	0.18		0.10	0.56	
Uniform Delay, d1	24.7	24.2	24.0		24.4		3.1	2.6		11.9	14.5	
Progression Factor	1.00	1.00	1.00		1.00		1.71	1.94		0.71	0.80	
Incremental Delay, d2	1.3	0.3	0.1		0.5		0.1	0.2		0.6	1.6	
Delay (s)	26.0	24.6	24.1		24.8		5.4	5.2		9.0	13.2	
Level of Service	C	C	C		C		A	A		A	B	
Approach Delay (s)		24.8			24.8			5.2			13.0	
Approach LOS		C			C			A			B	

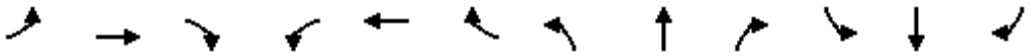
Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	7	17	18	5	537	4	520	18	12	752	51
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		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1770			1827	1593	1801	3589		1798	3569	
Flt Permitted		0.85			0.84	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1547			1600	1593	1801	3589		1798	3569	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	48	8	19	20	6	610	5	591	20	14	855	58
RTOR Reduction (vph)	0	13	0	0	0	192	0	4	0	0	9	0
Lane Group Flow (vph)	0	62	0	0	26	418	5	607	0	14	904	0
Confl. Peds. (#/hr)	2		3	3		2	6		7	7		6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		14.6			14.6	14.6	0.6	16.4		0.6	16.4	
Effective Green, g (s)		14.6			14.6	14.6	0.6	16.4		0.6	16.4	
Actuated g/C Ratio		0.33			0.33	0.33	0.01	0.38		0.01	0.38	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		518			535	533	24	1349		24	1342	
v/s Ratio Prot							0.00	0.17		c0.01	c0.25	
v/s Ratio Perm		0.04			0.02	c0.26						
v/c Ratio		0.12			0.05	0.78	0.21	0.45		0.58	0.67	
Uniform Delay, d1		10.0			9.8	13.1	21.3	10.2		21.4	11.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.0	7.4	4.3	1.1		31.3	2.7	
Delay (s)		10.2			9.8	20.5	25.6	11.3		52.7	14.1	
Level of Service		B			A	C	C	B		D	B	
Approach Delay (s)		10.2			20.1			11.4			14.7	
Approach LOS		B			C			B			B	

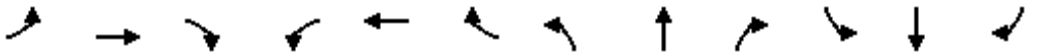
Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	43.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	9	0	0	32	9	619	31	29	889	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	10	0	0	35	10	680	34	32	977	14
Pedestrians		1										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								433			1304	
pX, platoon unblocked	0.97	0.97	0.94	0.97	0.97	0.94	0.94			0.94		
vC, conflicting volume	1330	1783	334	1116	1773	244	992			714		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	808	1276	55	586	1265	0	758			475		
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 %	100	100	99	100	100	97	99			97		
cM capacity (veh/h)	249	156	942	368	158	1026	808			1032		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	10	35	10	272	272	170	32	391	391	210
Volume Left	0	0	10	0	0	0	32	0	0	0
Volume Right	10	35	0	0	0	34	0	0	0	14
cSH	942	1026	808	1700	1700	1700	1032	1700	1700	1700
Volume to Capacity	0.01	0.03	0.01	0.16	0.16	0.10	0.03	0.23	0.23	0.12
Queue Length 95th (ft)	1	3	1	0	0	0	2	0	0	0
Control Delay (s)	8.9	8.6	9.5	0.0	0.0	0.0	8.6	0.0	0.0	0.0
Lane LOS	A	A	A				A			
Approach Delay (s)	8.9	8.6	0.1				0.3			
Approach LOS	A	A								

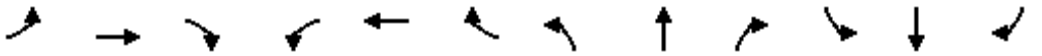
Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	27.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	8	151	46	47	407	0	0	366	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	4.0	5.0	5.0			5.0	5.0
Lane Util. Factor					0.91	1.00	1.00	0.95			1.00	1.00
Frpb, ped/bikes					1.00	1.00	1.00	1.00			1.00	0.97
Flpb, ped/bikes					1.00	1.00	0.99	1.00			1.00	1.00
Frt					1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected					1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)					5170	1615	1791	3610			1900	1573
Flt Permitted					1.00	1.00	0.51	1.00			1.00	1.00
Satd. Flow (perm)					5170	1615	959	3610			1900	1573
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	9	176	53	55	473	0	0	426	285
RTOR Reduction (vph)	0	0	0	0	0	53	0	0	0	0	0	83
Lane Group Flow (vph)	0	0	0	0	185	0	55	473	0	0	426	202
Confl. Peds. (#/hr)	38		12	12		38	21		12	12		21
Confl. Bikes (#/hr)		1									1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA	NA	Perm	NA			NA	Perm
Protected Phases					4			6			2	
Permitted Phases				4			6					2
Actuated Green, G (s)					7.5	0.0	42.5	42.5			42.5	42.5
Effective Green, g (s)					7.5	0.0	42.5	42.5			42.5	42.5
Actuated g/C Ratio					0.12	0.00	0.71	0.71			0.71	0.71
Clearance Time (s)					5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)					3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					646	0	679	2557			1345	1114
v/s Ratio Prot								0.13			c0.22	
v/s Ratio Perm					0.04		0.06					0.13
v/c Ratio					0.29	0.00	0.08	0.18			0.32	0.18
Uniform Delay, d1					23.8	30.0	2.7	2.9			3.3	2.9
Progression Factor					1.00	1.00	0.97	0.88			0.48	0.41
Incremental Delay, d2					0.2	0.0	0.2	0.2			0.6	0.3
Delay (s)					24.1	30.0	2.9	2.7			2.2	1.5
Level of Service					C	C	A	A			A	A
Approach Delay (s)		0.0			25.4			2.7			1.9	
Approach LOS		A			C			A			A	

Intersection Summary					
HCM 2000 Control Delay	6.0	HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio	0.31				
Actuated Cycle Length (s)	60.0	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	63.5%	ICU Level of Service		B	
Analysis Period (min)	15				

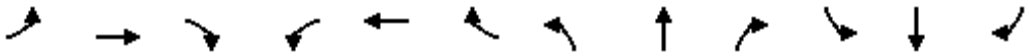
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	310	32	0	0	0	0	133	26	114	244	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0		5.0	5.0	
Lane Util. Factor	0.91	0.91						1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00						1.00		0.99	1.00	
Frt	1.00	0.99						0.98		1.00	1.00	
Flt Protected	0.95	0.99						1.00		0.95	1.00	
Satd. Flow (prot)	1629	3366						1853		1795	1900	
Flt Permitted	0.95	0.99						1.00		0.61	1.00	
Satd. Flow (perm)	1629	3366						1853		1145	1900	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	391	397	41	0	0	0	0	171	33	146	313	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	15	0	0	0	0
Lane Group Flow (vph)	270	552	0	0	0	0	0	189	0	146	313	0
Confl. Peds. (#/hr)	8		16	16		8	21		9	9		21
Confl. Bikes (#/hr)		1										
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)	33.9	33.9						16.1		16.1	16.1	
Effective Green, g (s)	33.9	33.9						16.1		16.1	16.1	
Actuated g/C Ratio	0.56	0.56						0.27		0.27	0.27	
Clearance Time (s)	5.0	5.0						5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)	920	1901						497		307	509	
v/s Ratio Prot								0.10			c0.16	
v/s Ratio Perm	c0.17	0.16								0.13		
v/c Ratio	0.29	0.29						0.38		0.48	0.61	
Uniform Delay, d1	6.8	6.8						17.9		18.4	19.2	
Progression Factor	0.54	0.51						1.00		0.72	0.74	
Incremental Delay, d2	0.8	0.4						0.5		1.1	2.1	
Delay (s)	4.5	3.9						18.4		14.3	16.4	
Level of Service	A	A						B		B	B	
Approach Delay (s)		4.1			0.0			18.4			15.8	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

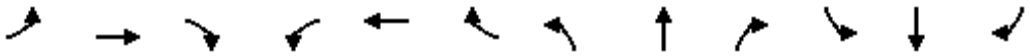
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	205	77	192	241	11	97	156	101	8	140	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1793	1900	1559	1799	1900	1552	1797	1769		1798	1891	
Flt Permitted	0.57	1.00	1.00	0.43	1.00	1.00	0.63	1.00		0.38	1.00	
Satd. Flow (perm)	1080	1900	1559	813	1900	1552	1192	1769		712	1891	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	8	263	99	246	309	14	124	200	129	10	179	5
RTOR Reduction (vph)	0	0	70	0	0	7	0	32	0	0	1	0
Lane Group Flow (vph)	8	263	29	246	309	7	124	297	0	10	183	0
Confl. Peds. (#/hr)	13		10	10		13	5		5	5		5
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4			8		
Actuated Green, G (s)	15.8	14.9	14.9	29.1	25.2	25.2	13.0	13.0		13.0	13.0	
Effective Green, g (s)	15.8	14.9	14.9	29.1	25.2	25.2	13.0	13.0		13.0	13.0	
Actuated g/C Ratio	0.32	0.30	0.30	0.58	0.50	0.50	0.26	0.26		0.26	0.26	
Clearance Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	353	565	463	692	955	780	309	459		184	490	
v/s Ratio Prot	0.00	c0.14		c0.08	0.16			c0.17			0.10	
v/s Ratio Perm	0.01		0.02	0.13		0.00	0.10			0.01		
v/c Ratio	0.02	0.47	0.06	0.36	0.32	0.01	0.40	0.65		0.05	0.37	
Uniform Delay, d1	11.8	14.4	12.6	5.4	7.4	6.2	15.3	16.5		13.9	15.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.6	0.1	0.3	0.2	0.0	0.9	3.1		0.1	0.5	
Delay (s)	11.8	15.0	12.7	5.7	7.6	6.2	16.2	19.6		14.1	15.7	
Level of Service	B	B	B	A	A	A	B	B		B	B	
Approach Delay (s)		14.3			6.8			18.7			15.6	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	50.1	Sum of lost time (s)	11.0
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

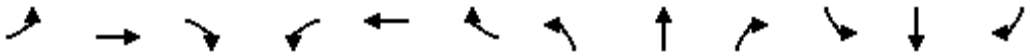
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	6	6	137	366	5	12	353	42
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	0	0	0	0	8	8	180	482	7	16	464	55
Pedestrians		3			4			6			6	
Lane Width (ft)		0.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type								None			TWLTL	
Median storage veh)											2	
Upstream signal (ft)								301			319	
pX, platoon unblocked	0.93	0.93	0.89	0.93	0.93	0.87	0.89			0.87		
vC, conflicting volume	1387	1379	501	1351	1404	495	523			492		
vC1, stage 1 conf vol	527	527		849	849							
vC2, stage 2 conf vol	860	853		502	554							
vCu, unblocked vol	1101	1093	372	1063	1119	346	397			343		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	97	99	83			99		
cM capacity (veh/h)	246	269	597	261	256	605	1039			1065		

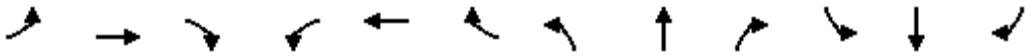
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	16	180	488	16	520
Volume Left	0	180	0	16	0
Volume Right	8	0	7	0	55
cSH	359	1039	1700	1065	1700
Volume to Capacity	0.04	0.17	0.29	0.01	0.31
Queue Length 95th (ft)	3	16	0	1	0
Control Delay (s)	15.5	9.2	0.0	8.4	0.0
Lane LOS	C	A		A	
Approach Delay (s)	15.5	2.5		0.2	
Approach LOS	C				

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	43.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	213	143	0	1	483	40	0	0	0	22	0	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	3.5		3.5	3.5	3.5				3.5	3.5	
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	0.98				1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00				1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85				1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00				0.95	1.00	
Satd. Flow (prot)	1805	1900		1794	1900	1590				1798	1566	
Flt Permitted	0.22	1.00		0.66	1.00	1.00				0.80	1.00	
Satd. Flow (perm)	412	1900		1239	1900	1590				1514	1566	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	237	159	0	1	537	44	0	0	0	24	0	138
RTOR Reduction (vph)	0	0	0	0	0	25	0	0	0	0	124	0
Lane Group Flow (vph)	237	159	0	1	537	19	0	0	0	24	14	0
Confl. Peds. (#/hr)	7		5	5		7	7		4	4		7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm			Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	38.0	38.0		20.5	20.5	20.5				5.0	5.0	
Effective Green, g (s)	38.0	38.0		20.5	20.5	20.5				5.0	5.0	
Actuated g/C Ratio	0.76	0.76		0.41	0.41	0.41				0.10	0.10	
Clearance Time (s)	4.0	3.5		3.5	3.5	3.5				3.5	3.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0				3.0	3.0	
Lane Grp Cap (vph)	689	1444		507	779	651				151	156	
v/s Ratio Prot	c0.09	0.08			c0.28						0.01	
v/s Ratio Perm	0.17			0.00		0.01				c0.02		
v/c Ratio	0.34	0.11		0.00	0.69	0.03				0.16	0.09	
Uniform Delay, d1	4.0	1.6		8.7	12.1	8.8				20.6	20.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00				1.00	1.00	
Incremental Delay, d2	0.3	0.0		0.0	2.6	0.0				0.5	0.2	
Delay (s)	4.3	1.6		8.7	14.7	8.8				21.1	20.7	
Level of Service	A	A		A	B	A				C	C	
Approach Delay (s)		3.2			14.2			0.0			20.7	
Approach LOS		A			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	126	140	18	7	315	0	0	137	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0		5.0	5.0			5.0	
Lane Util. Factor					0.95		1.00	1.00			1.00	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		0.98	1.00			1.00	
Frt					0.99		1.00	1.00			1.00	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3480		1777	1900			1888	
Flt Permitted					0.98		0.64	1.00			1.00	
Satd. Flow (perm)					3480		1193	1900			1888	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	0	0	168	187	24	9	420	0	0	183	7
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	368	0	9	420	0	0	189	0
Confl. Peds. (#/hr)	7		4	4		7	17		12	12		17
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					12.1		37.9	37.9			37.9	
Effective Green, g (s)					12.1		37.9	37.9			37.9	
Actuated g/C Ratio					0.20		0.63	0.63			0.63	
Clearance Time (s)					5.0		5.0	5.0			5.0	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					701		753	1200			1192	
v/s Ratio Prot								c0.22			0.10	
v/s Ratio Perm					0.11		0.01					
v/c Ratio					0.52		0.01	0.35			0.16	
Uniform Delay, d1					21.4		4.1	5.2			4.5	
Progression Factor					1.00		0.54	0.48			1.00	
Incremental Delay, d2					0.7		0.0	0.7			0.3	
Delay (s)					22.1		2.2	3.2			4.8	
Level of Service					C		A	A			A	
Approach Delay (s)		0.0			22.1			3.2			4.8	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

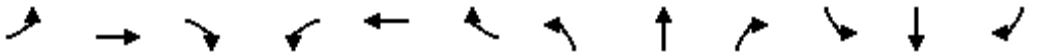
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	58	0	86	18	3	2	336	146	10	247	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		0.99	1.00	
Frt		1.00			1.00		1.00	0.95		1.00	1.00	
Flt Protected		0.99			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1888			1813		1796	1792		1792	1896	
Flt Permitted		0.95			0.76		0.57	1.00		0.39	1.00	
Satd. Flow (perm)		1813			1438		1082	1792		732	1896	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	9	72	0	106	22	4	2	415	180	12	305	4
RTOR Reduction (vph)	0	0	0	0	3	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	81	0	0	129	0	2	579	0	12	309	0
Confl. Peds. (#/hr)	5		2	2		5	4		10	10		4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		9.7			9.7		40.3	40.3		40.3	40.3	
Effective Green, g (s)		9.7			9.7		40.3	40.3		40.3	40.3	
Actuated g/C Ratio		0.16			0.16		0.67	0.67		0.67	0.67	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		293			232		726	1203		491	1273	
v/s Ratio Prot								c0.32			0.16	
v/s Ratio Perm		0.04			c0.09		0.00			0.02		
v/c Ratio		0.28			0.56		0.00	0.48		0.02	0.24	
Uniform Delay, d1		22.1			23.2		3.2	4.8		3.3	3.9	
Progression Factor		1.00			1.00		1.00	1.00		0.80	0.88	
Incremental Delay, d2		0.5			2.9		0.0	1.4		0.1	0.4	
Delay (s)		22.6			26.1		3.2	6.2		2.7	3.8	
Level of Service		C			C		A	A		A	A	
Approach Delay (s)		22.6			26.1			6.1			3.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	2	2	11	166	449	1	7	609	43
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Hourly flow rate (vph)	0	0	0	3	3	16	237	641	1	10	870	61
Pedestrians		3			5						1	
Lane Width (ft)		0.0			12.0						12.0	
Walking Speed (ft/s)		3.5			3.5						3.5	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								951			708	
pX, platoon unblocked	0.89	0.89	0.89	0.89	0.89		0.89					
vC, conflicting volume	2058	2046	904	2011	2076	648	934			648		
vC1, stage 1 conf vol	924	924		1121	1121							
vC2, stage 2 conf vol	1134	1122		890	954							
vCu, unblocked vol	2126	2113	830	2074	2147	648	865			648		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	97	96	97	66			99		
cM capacity (veh/h)	129	153	332	82	78	471	701			943		

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	21	237	643	10	931
Volume Left	3	237	0	10	0
Volume Right	16	0	1	0	61
cSH	204	701	1700	943	1700
Volume to Capacity	0.11	0.34	0.38	0.01	0.55
Queue Length 95th (ft)	9	37	0	1	0
Control Delay (s)	24.7	12.7	0.0	8.9	0.0
Lane LOS	C	B		A	
Approach Delay (s)	24.7	3.4		0.1	
Approach LOS	C				

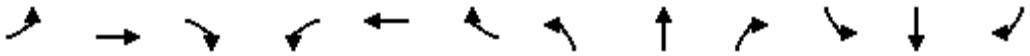
Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	57.5%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	1	138	0	0	2	1	581	0	2	565	45
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	45	1	194	0	0	3	1	818	0	3	796	63
Pedestrians		1			7			2			2	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			1			0			0	
Right turn flare (veh)						2						
Median type								None			TWLTL	
Median storage veh)											2	
Upstream signal (ft)								617			1042	
pX, platoon unblocked	0.96	0.96	0.96	0.96	0.96		0.96					
vC, conflicting volume	1627	1631	799	1827	1631	827	797			825		
vC1, stage 1 conf vol	802	802		828	828							
vC2, stage 2 conf vol	825	828		998	802							
vCu, unblocked vol	1633	1636	768	1841	1636	827	765			825		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	83	100	50	100	100	99	100			100		
cM capacity (veh/h)	266	284	387	130	284	371	820			809		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	241	3	820	3	796	63
Volume Left	45	0	1	3	0	0
Volume Right	194	3	0	0	0	63
cSH	356	186	820	809	1700	1700
Volume to Capacity	0.68	0.02	0.00	0.00	0.47	0.04
Queue Length 95th (ft)	118	1	0	0	0	0
Control Delay (s)	33.9	24.7	0.0	9.5	0.0	0.0
Lane LOS	D	C	A	A		
Approach Delay (s)	33.9	24.7	0.0	0.0		
Approach LOS	D	C				

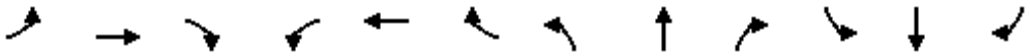
Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	55.3%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	193	27	172	392	25	24	328	118	8	267	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.94	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1900	1565	1805	1900	1511	1781	1810		1800	1833	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.29	1.00		0.17	1.00	
Satd. Flow (perm)	1805	1900	1565	1805	1900	1511	541	1810		316	1833	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	115	230	32	205	467	30	29	390	140	10	318	67
RTOR Reduction (vph)	0	0	20	0	0	17	0	15	0	0	9	0
Lane Group Flow (vph)	115	230	12	205	467	13	29	515	0	10	376	0
Confl. Peds. (#/hr)	20		5	5		20	15		6	6		15
Confl. Bikes (#/hr)		1			4						3	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	8.8	29.8	29.8	13.6	34.6	34.6	24.0	24.0		24.0	24.0	
Effective Green, g (s)	8.8	29.8	29.8	13.6	34.6	34.6	24.0	24.0		24.0	24.0	
Actuated g/C Ratio	0.11	0.39	0.39	0.18	0.45	0.45	0.31	0.31		0.31	0.31	
Clearance Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5		3.5	3.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	205	731	602	317	849	675	167	561		97	568	
v/s Ratio Prot	0.06	0.12		c0.11	c0.25			c0.28			0.21	
v/s Ratio Perm			0.01			0.01	0.05			0.03		
v/c Ratio	0.56	0.31	0.02	0.65	0.55	0.02	0.17	0.92		0.10	0.66	
Uniform Delay, d1	32.5	16.7	14.8	29.7	15.7	11.9	19.5	25.7		19.0	23.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.5	1.1	0.1	4.5	2.6	0.1	0.5	19.9		0.5	2.9	
Delay (s)	36.0	17.8	14.8	34.2	18.3	12.0	20.0	45.7		19.5	26.1	
Level of Service	D	B	B	C	B	B	B	D		B	C	
Approach Delay (s)		23.1			22.6			44.3			25.9	
Approach LOS		C			C			D			C	

Intersection Summary					
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.72				
Actuated Cycle Length (s)	77.4	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	60.6%	ICU Level of Service		B	
Analysis Period (min)	15				

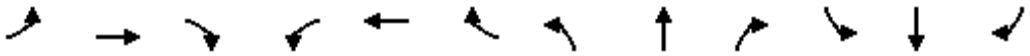
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	16	28	49	11	26	20	997	114	22	884	6
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	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		0.98	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1860	1615		1826	1581	1805	3546		1805	3605	
Flt Permitted		0.51	1.00		0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		968	1615		1418	1581	1805	3546		1805	3605	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	11	18	32	56	13	30	23	1146	131	25	1016	7
RTOR Reduction (vph)	0	0	30	0	0	27	0	6	0	0	0	0
Lane Group Flow (vph)	0	29	2	0	69	3	23	1271	0	25	1023	0
Confl. Peds. (#/hr)	7					7	6		1	1		6
Confl. Bikes (#/hr)					1			1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		5.4	5.4		7.1	7.1	1.4	41.2		1.7	41.5	
Effective Green, g (s)		5.4	5.4		7.1	7.1	1.4	41.2		1.7	41.5	
Actuated g/C Ratio		0.08	0.08		0.10	0.10	0.02	0.58		0.02	0.58	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		73	122		141	157	35	2046		42	2095	
v/s Ratio Prot							0.01	c0.36		c0.01	0.28	
v/s Ratio Perm		c0.03	0.00		c0.05	0.00						
v/c Ratio		0.40	0.02		0.49	0.02	0.66	0.62		0.60	0.49	
Uniform Delay, d1		31.4	30.6		30.4	29.0	34.8	10.0		34.5	8.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.5	0.1		2.7	0.0	36.6	1.4		20.6	0.8	
Delay (s)		35.0	30.6		33.1	29.1	71.4	11.4		55.1	9.6	
Level of Service		C	C		C	C	E	B		E	A	
Approach Delay (s)		32.7			31.9			12.4			10.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	71.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

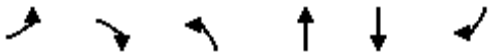
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	33	28	2	31	25	26	415	9	5	344	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.98			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1782			1769		1797	1893		1803	1872	
Flt Permitted		0.81			0.99		0.48	1.00		0.43	1.00	
Satd. Flow (perm)		1475			1754		906	1893		825	1872	
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	72	40	34	2	38	30	32	506	11	6	420	38
RTOR Reduction (vph)	0	28	0	0	24	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	118	0	0	46	0	32	516	0	6	453	0
Confl. Peds. (#/hr)	4		5	5		4	8		2	2		8
Confl. Bikes (#/hr)		3										
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)		6.9			6.9		22.4	22.4		22.4	22.4	
Effective Green, g (s)		6.9			6.9		22.4	22.4		22.4	22.4	
Actuated g/C Ratio		0.19			0.19		0.61	0.61		0.61	0.61	
Clearance Time (s)		3.5			3.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		276			328		551	1152		502	1139	
v/s Ratio Prot								c0.27			0.24	
v/s Ratio Perm		c0.08			0.03		0.04			0.01		
v/c Ratio		0.43			0.14		0.06	0.45		0.01	0.40	
Uniform Delay, d1		13.2			12.5		2.9	3.9		2.8	3.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1			0.2		0.2	1.3		0.0	1.0	
Delay (s)		14.3			12.7		3.1	5.1		2.9	4.8	
Level of Service		B			B		A	A		A	A	
Approach Delay (s)		14.3			12.7			5.0			4.7	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	36.8	Sum of lost time (s)	7.5
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		

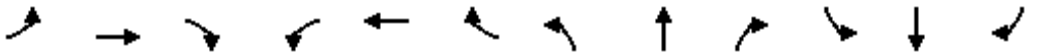
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	66	401	437	33	31	98
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	1.00
Hourly flow rate (vph)	81	495	540	41	38	98

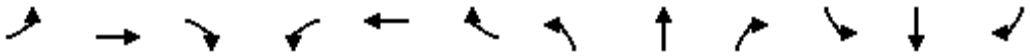
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	81	495	540	41	38	98
Volume Left (vph)	81	0	540	0	0	0
Volume Right (vph)	0	495	0	0	0	98
Hadj (s)	0.50	-0.70	0.50	0.00	0.00	-0.70
Departure Headway (s)	7.2	6.0	7.0	6.5	7.2	6.5
Degree Utilization, x	0.16	0.82	1.05	0.07	0.08	0.18
Capacity (veh/h)	492	594	519	531	473	523
Control Delay (s)	10.3	29.4	79.8	8.8	9.6	9.7
Approach Delay (s)	26.7		74.8		9.7	
Approach LOS	D		F		A	

Intersection Summary			
Delay	46.5		
Level of Service	E		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	326	6	53	1	0	5	0	315	2	4	102	0
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			0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00			1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00			1.00		0.99	1.00	
Frt		0.98			0.88			1.00		1.00	1.00	
Flt Protected		0.96			0.99			1.00		0.95	1.00	
Satd. Flow (prot)		1785			1665			3605		1794	3610	
Flt Permitted		0.96			1.00			1.00		0.48	1.00	
Satd. Flow (perm)		1785			1675			3605		912	3610	
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	441	8	72	1	0	7	0	426	3	5	138	0
RTOR Reduction (vph)	0	6	0	0	8	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	515	0	0	0	0	0	428	0	5	138	0
Confl. Peds. (#/hr)			2	2			10		8	8		10
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA		Perm	NA			NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8						6		
Actuated Green, G (s)		18.4			0.7			11.9		11.9	11.9	
Effective Green, g (s)		18.4			0.7			11.9		11.9	11.9	
Actuated g/C Ratio		0.43			0.02			0.28		0.28	0.28	
Clearance Time (s)		4.0			4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		763			27			997		252	999	
v/s Ratio Prot		c0.29						c0.12			0.04	
v/s Ratio Perm					c0.00					0.01		
v/c Ratio		0.68			0.00			0.43		0.02	0.14	
Uniform Delay, d1		9.9			20.8			12.8		11.3	11.7	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		2.4			0.1			0.3		0.0	0.1	
Delay (s)		12.3			20.9			13.1		11.3	11.8	
Level of Service		B			C			B		B	B	
Approach Delay (s)		12.3			20.9			13.1			11.7	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	43.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	6	28	118	73	560	8	9	113	111
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	0	0	0	8	37	157	97	747	11	12	151	148
Pedestrians		6			7							
Lane Width (ft)		0.0			12.0							
Walking Speed (ft/s)		3.5			3.5							
Percent Blockage		0			1							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								336				
pX, platoon unblocked	0.95	0.95		0.95	0.95	0.95				0.95		
vC, conflicting volume	999	1214	155	1053	1282	386	305			764		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	893	1120	155	951	1192	248	305			647		
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 %	100	100	100	96	77	78	92			99		
cM capacity (veh/h)	136	179	869	190	162	715	1268			895		

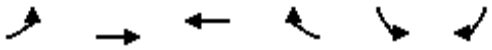
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	203	97	498	260	12	100	198
Volume Left	8	97	0	0	12	0	0
Volume Right	157	0	0	11	0	0	148
cSH	412	1268	1700	1700	895	1700	1700
Volume to Capacity	0.49	0.08	0.29	0.15	0.01	0.06	0.12
Queue Length 95th (ft)	66	6	0	0	1	0	0
Control Delay (s)	21.9	8.1	0.0	0.0	9.1	0.0	0.0
Lane LOS	C	A			A		
Approach Delay (s)	21.9	0.9			0.4		
Approach LOS	C						

Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	38.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	68	298	479	19	139	322
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	79	347	557	22	162	374
Pedestrians					4	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)			899			
pX, platoon unblocked	0.97				0.97	0.97
vC, conflicting volume	561				1066	561
vC1, stage 1 conf vol					561	
vC2, stage 2 conf vol					505	
vCu, unblocked vol	531				1052	531
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	92				64	30
cM capacity (veh/h)	1010				443	533

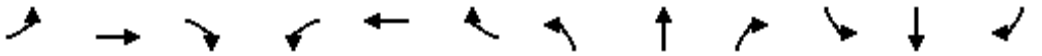
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	79	347	557	22	162	374
Volume Left	79	0	0	0	162	0
Volume Right	0	0	0	22	0	374
cSH	1010	1700	1700	1700	443	533
Volume to Capacity	0.08	0.20	0.33	0.01	0.36	0.70
Queue Length 95th (ft)	6	0	0	0	41	138
Control Delay (s)	8.9	0.0	0.0	0.0	17.7	26.1
Lane LOS	A				C	D
Approach Delay (s)	1.6		0.0		23.6	
Approach LOS					C	

Intersection Summary			
Average Delay	8.7		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	46	256	644	109	56	309
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	58	320	805	136	70	386
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)		4				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1402	474			944	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1402	474			944	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	52	41			90	
cM capacity (veh/h)	120	541			733	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	378	537	405	70	386
Volume Left	58	0	0	70	0
Volume Right	320	0	136	0	0
cSH	638	1700	1700	733	1700
Volume to Capacity	0.59	0.32	0.24	0.10	0.23
Queue Length 95th (ft)	97	0	0	8	0
Control Delay (s)	26.8	0.0	0.0	10.4	0.0
Lane LOS	D			B	
Approach Delay (s)	26.8	0.0		1.6	
Approach LOS	D				

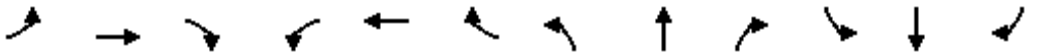
Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	159	258	30	75	24	424	411	35	7	70	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		0.97	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00		1.00	1.00		0.96	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1714	1799	1591	1790	1825		3502	3542		1741	1900	1552
Flt Permitted	0.69	0.98	1.00	0.60	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1237	1767	1591	1129	1825		3502	3542		1741	1900	1552
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	121	179	290	34	84	27	476	462	39	8	79	35
RTOR Reduction (vph)	0	0	149	0	11	0	0	4	0	0	0	27
Lane Group Flow (vph)	109	191	141	34	100	0	476	497	0	8	79	8
Confl. Peds. (#/hr)	1		10	10		1	41		46	46		41
Confl. Bikes (#/hr)		2			22			1			3	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	custom
Protected Phases		8	1		4		1	6		5	2	
Permitted Phases	8		8	4								8
Actuated Green, G (s)	13.4	13.4	28.5	13.4	13.4		15.1	29.4		0.8	15.1	13.4
Effective Green, g (s)	13.4	13.4	28.5	13.4	13.4		15.1	29.4		0.8	15.1	13.4
Actuated g/C Ratio	0.23	0.23	0.49	0.23	0.23		0.26	0.50		0.01	0.26	0.23
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	282	404	909	258	417		902	1777		23	489	354
v/s Ratio Prot			0.04		0.05		c0.14	c0.14		0.00	0.04	
v/s Ratio Perm	0.09	c0.11	0.05	0.03								0.01
v/c Ratio	0.39	0.47	0.16	0.13	0.24		0.53	0.28		0.35	0.16	0.02
Uniform Delay, d1	19.1	19.5	8.4	18.0	18.4		18.7	8.5		28.6	16.8	17.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	0.9	0.1	0.2	0.3		0.6	0.1		8.9	0.2	0.0
Delay (s)	20.0	20.4	8.4	18.2	18.7		19.2	8.5		37.6	17.0	17.5
Level of Service	C	C	A	B	B		B	A		D	B	B
Approach Delay (s)		14.5			18.6			13.8			18.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	58.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

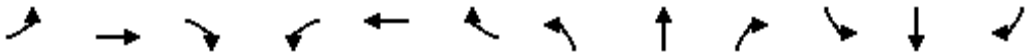
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	331	244	43	204	296	182	916	47	169	806	53
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		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.97		1.00	1.00	0.96	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1592	1805	3200		3502	3610	1554	3502	3610	1569
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	1900	1592	1805	3200		3502	3610	1554	3502	3610	1569
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	140	364	268	47	224	325	200	1007	52	186	886	58
RTOR Reduction (vph)	0	0	196	0	186	0	0	0	35	0	0	40
Lane Group Flow (vph)	140	364	72	47	363	0	200	1007	17	186	886	18
Confl. Peds. (#/hr)	29		2	2		29	14		22	22		14
Confl. Bikes (#/hr)								4			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	6.0	17.0	17.0	3.4	14.4		6.9	21.1	21.1	6.0	20.2	20.2
Effective Green, g (s)	6.0	17.0	17.0	3.4	14.4		6.9	21.1	21.1	6.0	20.2	20.2
Actuated g/C Ratio	0.09	0.27	0.27	0.05	0.23		0.11	0.33	0.33	0.09	0.32	0.32
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	170	508	426	96	725		380	1199	516	330	1148	499
v/s Ratio Prot	c0.08	c0.19		0.03	0.11		c0.06	c0.28		0.05	0.25	
v/s Ratio Perm			0.05						0.01			0.01
v/c Ratio	0.82	0.72	0.17	0.49	0.50		0.53	0.84	0.03	0.56	0.77	0.04
Uniform Delay, d1	28.2	21.1	17.8	29.2	21.4		26.8	19.6	14.3	27.5	19.6	14.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.4	4.8	0.2	3.9	0.5		1.3	7.2	0.1	2.2	5.1	0.1
Delay (s)	54.6	25.8	18.0	33.1	22.0		28.1	26.8	14.4	29.7	24.6	15.1
Level of Service	D	C	B	C	C		C	C	B	C	C	B
Approach Delay (s)		28.4			22.8			26.5			25.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	610	120	43	359	13	115	41	64	47	49	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.95	0.95		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.92		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3492		1805	3585		1712	1614		1805	1797	
Flt Permitted	0.95	1.00		0.95	1.00		0.71	0.97		0.10	1.00	
Satd. Flow (perm)	1805	3492		1805	3585		1273	1571		197	1797	
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)	33	642	126	45	378	14	121	43	67	49	52	26
RTOR Reduction (vph)	0	11	0	0	2	0	0	34	0	0	14	0
Lane Group Flow (vph)	33	757	0	45	390	0	109	88	0	49	64	0
Confl. Peds. (#/hr)	11		12	12		11	1		17	17		1
Confl. Bikes (#/hr)		3									1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			4			3	
Permitted Phases							4			3		
Actuated Green, G (s)	9.9	33.6		9.9	33.6		17.4	17.4		38.5	38.5	
Effective Green, g (s)	9.9	33.6		9.9	33.6		17.4	17.4		38.5	38.5	
Actuated g/C Ratio	0.08	0.28		0.08	0.28		0.15	0.15		0.32	0.32	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	149	982		149	1008		185	228		63	579	
v/s Ratio Prot	0.02	c0.22		c0.02	0.11						0.04	
v/s Ratio Perm							c0.09	0.06		c0.25		
v/c Ratio	0.22	0.77		0.30	0.39		0.59	0.39		0.78	0.11	
Uniform Delay, d1	51.1	39.4		51.5	34.6		47.7	46.2		36.6	28.4	
Progression Factor	1.60	0.35		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.5		1.1	0.2		4.7	1.1		44.2	0.1	
Delay (s)	82.1	16.2		52.6	34.8		52.4	47.2		80.8	28.5	
Level of Service	F	B		D	C		D	D		F	C	
Approach Delay (s)		18.9			36.7			49.7			48.7	
Approach LOS		B			D			D			D	

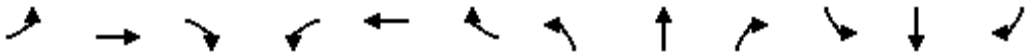
Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	119.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	639	114	67	418	49	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3508		1805	3610	1805	1615
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3508		1805	3610	1805	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	702	125	74	459	54	141
RTOR Reduction (vph)	10	0	0	0	0	96
Lane Group Flow (vph)	817	0	74	459	54	45
Confl. Peds. (#/hr)		7	7		27	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA		Prot	NA	NA	Prot
Protected Phases	2		4 1	2 4 1	3	3
Permitted Phases						
Actuated Green, G (s)	33.6		32.3	70.9	38.5	38.5
Effective Green, g (s)	33.6		32.3	70.9	38.5	38.5
Actuated g/C Ratio	0.28		0.27	0.59	0.32	0.32
Clearance Time (s)	5.0				5.0	5.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	987		488	2143	582	520
v/s Ratio Prot	c0.23		0.04	c0.13	c0.03	0.03
v/s Ratio Perm						
v/c Ratio	0.83		0.15	0.21	0.09	0.09
Uniform Delay, d1	40.2		33.1	11.3	28.3	28.2
Progression Factor	1.00		1.63	0.25	1.00	1.00
Incremental Delay, d2	5.8		0.1	0.0	0.1	0.1
Delay (s)	46.0		54.3	2.8	28.3	28.3
Level of Service	D		D	A	C	C
Approach Delay (s)	46.0			10.0	28.3	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	119.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
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			Stop			Stop	
Volume (vph)	3	18	18	3	23	9	16	202	12	6	181	3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	3	21	21	3	27	10	19	235	14	7	210	3

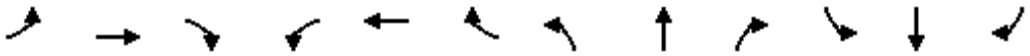
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	45	41	267	221
Volume Left (vph)	3	3	19	7
Volume Right (vph)	21	10	14	3
Hadj (s)	-0.26	-0.14	-0.02	0.00
Departure Headway (s)	4.8	4.9	4.3	4.4
Degree Utilization, x	0.06	0.06	0.32	0.27
Capacity (veh/h)	671	653	805	787
Control Delay (s)	8.1	8.2	9.4	9.0
Approach Delay (s)	8.1	8.2	9.4	9.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.1			
Level of Service	A			
Intersection Capacity Utilization	29.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	42	87	9	28	217
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	45	94	10	30	233
Pedestrians	10		1			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						1184
pX, platoon unblocked						
vC, conflicting volume	403	113			113	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	403	113			113	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	95			98	
cM capacity (veh/h)	589	931			1475	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	56	103	263
Volume Left	11	0	30
Volume Right	45	10	0
cSH	838	1700	1475
Volume to Capacity	0.07	0.06	0.02
Queue Length 95th (ft)	5	0	2
Control Delay (s)	9.6	0.0	1.0
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	1.0
Approach LOS	A		

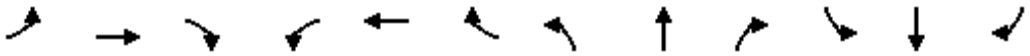
Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	6	1	198	15	9	2	86	236	9	1	217	21
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	7	1	228	17	10	2	99	271	10	1	249	24

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	236	30	99	282	275
Volume Left (vph)	7	17	99	0	1
Volume Right (vph)	228	2	0	10	24
Hadj (s)	-0.57	0.07	0.50	-0.03	-0.05
Departure Headway (s)	5.0	6.0	6.0	5.5	5.2
Degree Utilization, x	0.33	0.05	0.17	0.43	0.40
Capacity (veh/h)	660	509	573	629	659
Control Delay (s)	10.4	9.4	9.0	11.4	11.6
Approach Delay (s)	10.4	9.4	10.8		11.6
Approach LOS	B	A	B		B

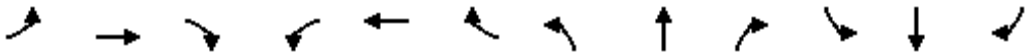
Intersection Summary				
Delay	10.9			
Level of Service	B			
Intersection Capacity Utilization	48.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	10	11	8	73	8	38	3	27	148	48	148	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	12	9	81	9	42	3	30	164	53	164	9

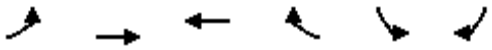
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	32	132	198	227
Volume Left (vph)	11	81	3	53
Volume Right (vph)	9	42	164	9
Hadj (s)	-0.10	-0.07	-0.50	0.02
Departure Headway (s)	4.9	4.8	4.1	4.6
Degree Utilization, x	0.04	0.18	0.22	0.29
Capacity (veh/h)	650	684	836	753
Control Delay (s)	8.2	8.9	8.3	9.4
Approach Delay (s)	8.2	8.9	8.3	9.4
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.8			
Level of Service	A			
Intersection Capacity Utilization	43.6%	ICU Level of Service	A	
Analysis Period (min)	15			



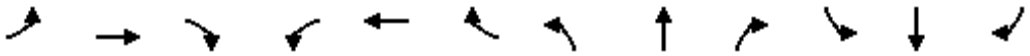
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	697	24	13	333	16	27	21	20	46	26	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		3.0			3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00			1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.96			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.97	
Satd. Flow (prot)	1790	3589		1803	1900	1561		1782			1815	
Flt Permitted	0.54	1.00		0.35	1.00	1.00		0.90			0.84	
Satd. Flow (perm)	1016	3589		657	1900	1561		1632			1574	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	18	783	27	15	374	18	30	24	22	52	29	10
RTOR Reduction (vph)	0	3	0	0	0	7	0	19	0	0	6	0
Lane Group Flow (vph)	18	807	0	15	374	11	0	57	0	0	85	0
Confl. Peds. (#/hr)	10		2	2		10	6		3	3		6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		6			2			8			4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	21.4	21.4		21.4	21.4	21.4		4.6			4.6	
Effective Green, g (s)	21.4	21.4		21.4	21.4	21.4		4.6			4.6	
Actuated g/C Ratio	0.64	0.64		0.64	0.64	0.64		0.14			0.14	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		3.0			3.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	649	2292		419	1213	997		224			216	
v/s Ratio Prot		c0.22			0.20							
v/s Ratio Perm	0.02			0.02		0.01		0.03			c0.05	
v/c Ratio	0.03	0.35		0.04	0.31	0.01		0.25			0.39	
Uniform Delay, d1	2.2	2.8		2.2	2.7	2.2		12.9			13.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.1		0.0	0.1	0.0		0.6			1.2	
Delay (s)	2.2	2.9		2.3	2.9	2.2		13.5			14.4	
Level of Service	A	A		A	A	A		B			B	
Approach Delay (s)		2.9			2.8			13.5			14.4	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	33.5	Sum of lost time (s)	7.5
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



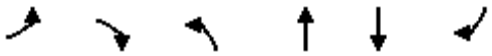
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	107	525	202	135	162	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5		5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.99		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.95		0.96	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1799	1900	1779		1748	
Flt Permitted	0.47	1.00	1.00		0.97	
Satd. Flow (perm)	889	1900	1779		1748	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	137	673	259	173	208	85
RTOR Reduction (vph)	0	0	35	0	24	0
Lane Group Flow (vph)	137	673	397	0	269	0
Confl. Peds. (#/hr)	4			4	1	10
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	NA		NA	
Protected Phases		2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	24.3	24.3	24.3		13.2	
Effective Green, g (s)	24.3	24.3	24.3		13.2	
Actuated g/C Ratio	0.51	0.51	0.51		0.27	
Clearance Time (s)	5.5	5.5	5.5		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	450	961	900		480	
v/s Ratio Prot		c0.35	0.22		c0.15	
v/s Ratio Perm	0.15					
v/c Ratio	0.30	0.70	0.44		0.56	
Uniform Delay, d1	6.9	9.1	7.5		14.9	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.4	2.3	0.3		1.5	
Delay (s)	7.3	11.4	7.9		16.4	
Level of Service	A	B	A		B	
Approach Delay (s)		10.7	7.9		16.4	
Approach LOS		B	A		B	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	48.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	173	265	41	420	4	246	15	25	11	25	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5		5.5	5.5			5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1804	1900	1615	1804	3605		1805	1723			1796	
Flt Permitted	0.48	1.00	1.00	0.64	1.00		0.95	1.00			0.91	
Satd. Flow (perm)	915	1900	1615	1209	3605		1805	1723			1660	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	192	294	46	467	4	273	17	28	12	28	17
RTOR Reduction (vph)	0	0	206	0	1	0	0	20	0	0	16	0
Lane Group Flow (vph)	6	192	88	46	470	0	273	25	0	0	41	0
Confl. Peds. (#/hr)	1			1		1	1					1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Split	NA		Perm	NA	
Protected Phases		6			2		4	4			8	
Permitted Phases	6		6	2						8		
Actuated Green, G (s)	14.9	14.9	14.9	14.9	14.9		13.5	13.5			4.0	
Effective Green, g (s)	14.9	14.9	14.9	14.9	14.9		13.5	13.5			4.0	
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30		0.27	0.27			0.08	
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5		5.5	5.5			5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	273	567	482	361	1076		488	466			133	
v/s Ratio Prot		0.10			c0.13		c0.15	0.01				
v/s Ratio Perm	0.01		0.05	0.04							c0.02	
v/c Ratio	0.02	0.34	0.18	0.13	0.44		0.56	0.05			0.31	
Uniform Delay, d1	12.4	13.7	13.0	12.8	14.1		15.6	13.5			21.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.0	0.4	0.2	0.2	0.3		1.4	0.0			1.3	
Delay (s)	12.4	14.0	13.2	12.9	14.4		17.0	13.5			23.0	
Level of Service	B	B	B	B	B		B	B			C	
Approach Delay (s)		13.5			14.3			16.5			23.0	
Approach LOS		B			B			B			C	

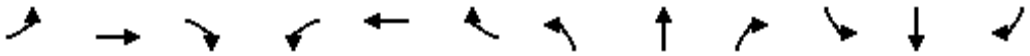
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	49.9	Sum of lost time (s)	17.5
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	45	20	31	349	202	32
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	54	24	37	415	240	38

Direction, Lane #	EB 1	EB 2	NB 1	SB 1	SB 2
Volume Total (vph)	54	24	452	240	38
Volume Left (vph)	54	0	37	0	0
Volume Right (vph)	0	24	0	0	38
Hadj (s)	0.50	-0.70	0.02	0.00	-0.70
Departure Headway (s)	6.7	5.5	4.9	5.1	4.4
Degree Utilization, x	0.10	0.04	0.61	0.34	0.05
Capacity (veh/h)	483	579	725	680	782
Control Delay (s)	9.3	7.5	15.4	9.6	6.5
Approach Delay (s)	8.7		15.4	9.2	
Approach LOS	A		C	A	

Intersection Summary			
Delay	12.6		
Level of Service	B		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	13	16	17	4	37	16	748	96	143	453	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.0	5.5		4.0	5.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.99			1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected		0.96			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1794			1824	1590	1805	3539		1805	3532	
Flt Permitted		0.74			0.82	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1386			1565	1590	1805	3539		1805	3532	
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	203	18	22	23	5	50	22	1011	130	193	612	81
RTOR Reduction (vph)	0	6	0	0	0	38	0	12	0	0	9	0
Lane Group Flow (vph)	0	237	0	0	28	12	22	1129	0	193	684	0
Confl. Peds. (#/hr)	5		2	2		5	9		2	2		9
Confl. Bikes (#/hr)								1			2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		14.9			14.9	14.9	1.3	23.6		10.4	32.7	
Effective Green, g (s)		14.9			14.9	14.9	1.3	23.6		10.4	32.7	
Actuated g/C Ratio		0.24			0.24	0.24	0.02	0.38		0.17	0.53	
Clearance Time (s)		3.0			3.0	3.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		336			379	385	38	1360		305	1881	
v/s Ratio Prot							0.01	c0.32		c0.11	0.19	
v/s Ratio Perm		c0.17			0.02	0.01						
v/c Ratio		0.71			0.07	0.03	0.58	0.83		0.63	0.36	
Uniform Delay, d1		21.2			17.9	17.7	29.8	17.1		23.7	8.3	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		6.6			0.1	0.0	19.6	4.4		4.2	0.1	
Delay (s)		27.8			18.0	17.8	49.4	21.4		28.0	8.4	
Level of Service		C			B	B	D	C		C	A	
Approach Delay (s)		27.8			17.9			22.0			12.7	
Approach LOS		C			B			C			B	

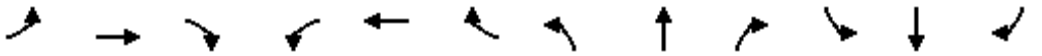
Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	61.4	Sum of lost time (s)	12.5
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	9	1	848	41	0	702
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1	922	45	0	763
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			884			509
pX, platoon unblocked	0.91	0.85			0.85	
vC, conflicting volume	1326	483			966	
vC1, stage 1 conf vol	944					
vC2, stage 2 conf vol	382					
vCu, unblocked vol	577	51			617	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	430	859			818	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	11	614	352	0	382	382
Volume Left	10	0	0	0	0	0
Volume Right	1	0	45	0	0	0
cSH	453	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.36	0.21	0.00	0.22	0.22
Queue Length 95th (ft)	2	0	0	0	0	0
Control Delay (s)	13.1	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	13.1	0.0		0.0		
Approach LOS	B					

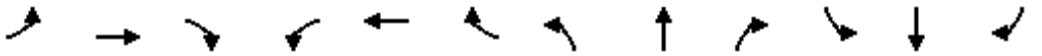
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	2	154	26	3	5	34	1116	62	3	729	391
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	4.0	4.0
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt		0.88			0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected		1.00			0.96		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1662			1795		1804	3575		1803	3610	1580
Flt Permitted		0.97			0.64		0.30	1.00		0.14	1.00	1.00
Satd. Flow (perm)		1619			1194		568	3575		263	3610	1580
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	19	2	190	32	4	6	42	1378	77	4	900	483
RTOR Reduction (vph)	0	110	0	0	5	0	0	5	0	0	0	156
Lane Group Flow (vph)	0	101	0	0	37	0	42	1450	0	4	900	327
Confl. Peds. (#/hr)							1		7	7		1
Confl. Bikes (#/hr)		2									1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		8.5			8.5		34.6	34.6		34.6	34.6	34.6
Effective Green, g (s)		8.5			8.5		34.6	34.6		34.6	34.6	34.6
Actuated g/C Ratio		0.17			0.17		0.68	0.68		0.68	0.68	0.68
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		269			198		384	2420		178	2444	1069
v/s Ratio Prot								c0.41			0.25	
v/s Ratio Perm		c0.06			0.03		0.07			0.02		0.21
v/c Ratio		0.38			0.19		0.11	0.60		0.02	0.37	0.31
Uniform Delay, d1		18.9			18.3		2.9	4.5		2.7	3.5	3.4
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.9			0.5		0.6	1.1		0.2	0.4	0.7
Delay (s)		19.8			18.8		3.5	5.6		2.9	4.0	4.1
Level of Service		B			B		A	A		A	A	A
Approach Delay (s)		19.8			18.8			5.5			4.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	51.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

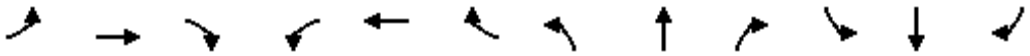
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	945	53	102	380	23	275	10	447	10	7	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.6		3.5	4.6		4.0	4.0	3.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00	0.95	0.99	1.00
Satd. Flow (prot)	1805	5137		1805	5143		1707	1718	1615	1715	1787	1589
Flt Permitted	0.95	1.00		0.95	1.00		0.75	0.73	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1805	5137		1805	5143		1349	1318	1615	1805	1805	1589
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	28	1086	61	117	437	26	316	11	514	11	8	8
RTOR Reduction (vph)	0	5	0	0	5	0	0	0	48	0	0	8
Lane Group Flow (vph)	28	1142	0	117	458	0	164	163	466	9	10	0
Confl. Peds. (#/hr)			7	7			4					4
Confl. Bikes (#/hr)											2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	3.1	43.8		14.4	55.1		16.9	16.9	31.3	1.8	1.8	1.8
Effective Green, g (s)	3.1	43.8		14.4	55.1		16.9	16.9	31.3	1.8	1.8	1.8
Actuated g/C Ratio	0.03	0.47		0.15	0.59		0.18	0.18	0.34	0.02	0.02	0.02
Clearance Time (s)	3.5	4.6		3.5	4.6		4.0	4.0	3.5	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	60	2419		279	3047		245	239	543	34	34	30
v/s Ratio Prot	0.02	c0.22		0.06	0.09				c0.13			
v/s Ratio Perm							0.12	0.12	0.16	0.00	c0.01	0.00
v/c Ratio	0.47	0.47		0.42	0.15		0.67	0.68	0.86	0.26	0.29	0.01
Uniform Delay, d1	44.1	16.7		35.5	8.5		35.4	35.5	28.8	44.9	45.0	44.7
Progression Factor	1.00	1.00		1.58	0.07		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.6	0.7		1.0	0.1		6.8	7.8	12.7	4.1	4.8	0.1
Delay (s)	49.8	17.4		56.9	0.7		42.2	43.3	41.4	49.1	49.8	44.8
Level of Service	D	B		E	A		D	D	D	D	D	D
Approach Delay (s)		18.2			12.0			41.9			48.1	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	16.1
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

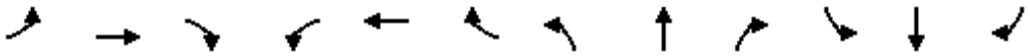
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	429	997	0	0	450	99	79	0	144	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9			4.6		6.0	6.0				
Lane Util. Factor	0.97	0.95			0.95		1.00	1.00				
Frpb, ped/bikes	1.00	1.00			1.00		1.00	0.99				
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00				
Frt	1.00	1.00			0.97		1.00	0.85				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	3502	3610			3513		1805	1591				
Flt Permitted	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	3502	3610			3513		1805	1591				
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	488	1133	0	0	511	112	90	0	164	0	0	0
RTOR Reduction (vph)	0	0	0	0	24	0	0	105	0	0	0	0
Lane Group Flow (vph)	488	1133	0	0	599	0	90	59	0	0	0	0
Confl. Peds. (#/hr)			5	5					2	2		
Confl. Bikes (#/hr)		1									1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA		Split	NA				
Protected Phases	5	2			6		8	8				
Permitted Phases												
Actuated Green, G (s)	38.8	72.0			29.5		10.1	10.1				
Effective Green, g (s)	38.8	72.0			29.5		10.1	10.1				
Actuated g/C Ratio	0.42	0.77			0.32		0.11	0.11				
Clearance Time (s)	4.0	4.9			4.6		6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	1461	2794			1114		196	172				
v/s Ratio Prot	0.14	c0.31			c0.17		c0.05	0.04				
v/s Ratio Perm												
v/c Ratio	0.33	0.41			0.54		0.46	0.34				
Uniform Delay, d1	18.4	3.5			26.1		38.9	38.4				
Progression Factor	0.62	0.38			1.00		1.00	1.00				
Incremental Delay, d2	0.1	0.4			0.5		1.7	1.2				
Delay (s)	11.4	1.7			26.6		40.6	39.6				
Level of Service	B	A			C		D	D				
Approach Delay (s)		4.6			26.6			39.9			0.0	
Approach LOS		A			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

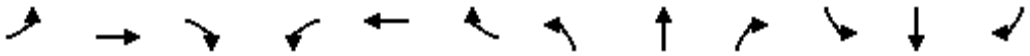
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	186	320	293	83	11	239	422	350	9	446	38
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		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1900	1591	1715	1743		3502	3610	1561	1794	3554	
Flt Permitted	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1900	1591	1715	1743		3502	3610	1561	1794	3554	
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	61	235	405	371	105	14	303	534	443	11	565	48
RTOR Reduction (vph)	0	0	45	0	2	0	0	0	262	0	7	0
Lane Group Flow (vph)	61	235	360	245	243	0	303	534	181	11	606	0
Confl. Peds. (#/hr)	5		12	12		5	26		6	6		26
Confl. Bikes (#/hr)		1			2							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	2	2	3	6	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	13.1	13.1	25.4	14.0	14.0		12.3	30.3	30.3	0.7	18.7	
Effective Green, g (s)	13.1	13.1	25.4	14.0	14.0		12.3	30.3	30.3	0.7	18.7	
Actuated g/C Ratio	0.18	0.18	0.34	0.19	0.19		0.17	0.41	0.41	0.01	0.25	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	319	335	545	324	329		581	1476	638	16	896	
v/s Ratio Prot	0.03	c0.12	c0.11	c0.14	0.14		0.09	0.15		0.01	c0.17	
v/s Ratio Perm			0.12						0.12			
v/c Ratio	0.19	0.70	0.66	0.76	0.74		0.52	0.36	0.28	0.69	0.68	
Uniform Delay, d1	26.0	28.7	20.7	28.4	28.3		28.2	15.2	14.6	36.6	25.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	6.5	3.0	9.7	8.3		0.8	0.2	0.2	80.1	2.0	
Delay (s)	26.3	35.2	23.7	38.1	36.7		29.1	15.3	14.9	116.7	27.0	
Level of Service	C	D	C	D	D		C	B	B	F	C	
Approach Delay (s)		27.8			37.4			18.4			28.6	
Approach LOS		C			D			B			C	

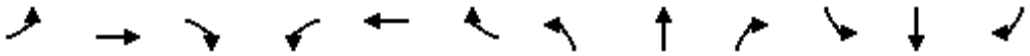
Intersection Summary			
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	74.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	5	6	251	6	177	13	567	258	332	743	6
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	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.97	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1850	1615	1715	1723	1615	1804	3610	1615	3502	3605	
Flt Permitted		0.97	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1850	1615	1715	1723	1615	1804	3610	1615	3502	3605	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	7	6	7	285	7	201	15	644	293	377	844	7
RTOR Reduction (vph)	0	0	7	0	0	164	0	0	0	0	0	0
Lane Group Flow (vph)	0	13	0	145	147	37	15	644	293	377	851	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	2 8	1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		2.3	2.3	13.6	13.6	13.6	0.7	32.2	45.8	10.2	41.7	
Effective Green, g (s)		2.3	2.3	13.6	13.6	13.6	0.7	32.2	45.8	10.2	41.7	
Actuated g/C Ratio		0.03	0.03	0.18	0.18	0.18	0.01	0.43	0.62	0.14	0.56	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		57	49	313	315	295	16	1564	995	480	2023	
v/s Ratio Prot		c0.01		0.08	c0.09		0.01	0.18	0.18	c0.11	c0.24	
v/s Ratio Perm			0.00			0.02						
v/c Ratio		0.23	0.00	0.46	0.47	0.12	0.94	0.41	0.29	0.79	0.42	
Uniform Delay, d1		35.1	34.9	27.1	27.1	25.4	36.8	14.5	6.7	31.0	9.4	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.0	0.0	1.1	1.1	0.2	191.7	0.8	0.2	8.2	0.6	
Delay (s)		37.2	34.9	28.2	28.2	25.6	228.5	15.3	6.8	39.2	10.0	
Level of Service		D	C	C	C	C	F	B	A	D	B	
Approach Delay (s)		36.4			27.1			16.1			19.0	
Approach LOS		D			C			B			B	

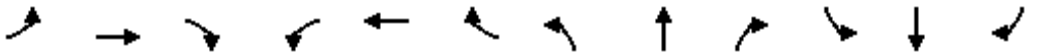
Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	74.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	0	0	76	0	31	3	864	136	32	887	1
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	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00			1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.95			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1805			1805	1615	1804	3610	1580	1805	3609	
Flt Permitted		1.00			0.76	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1900			1439	1615	1804	3610	1580	1805	3609	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1	0	0	84	0	34	3	949	149	35	975	1
RTOR Reduction (vph)	0	0	0	0	0	30	0	0	61	0	0	0
Lane Group Flow (vph)	0	1	0	0	84	4	3	949	88	35	976	0
Confl. Peds. (#/hr)							1		1	1		1
Confl. Bikes (#/hr)		1										
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			
Actuated Green, G (s)		1.1			7.3	7.3	0.7	37.0	37.0	1.5	37.8	
Effective Green, g (s)		1.1			7.3	7.3	0.7	37.0	37.0	1.5	37.8	
Actuated g/C Ratio		0.02			0.12	0.12	0.01	0.59	0.59	0.02	0.60	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		33			167	187	20	2123	929	43	2168	
v/s Ratio Prot							0.00	0.26		c0.02	c0.27	
v/s Ratio Perm		c0.00			c0.06	0.00			0.06			
v/c Ratio		0.03			0.50	0.02	0.15	0.45	0.09	0.81	0.45	
Uniform Delay, d1		30.4			26.1	24.6	30.8	7.2	5.6	30.6	6.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4			2.4	0.0	3.5	0.7	0.2	69.6	0.7	
Delay (s)		30.8			28.5	24.7	34.3	7.9	5.8	100.2	7.5	
Level of Service		C			C	C	C	A	A	F	A	
Approach Delay (s)		30.8			27.4			7.7			10.7	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	62.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

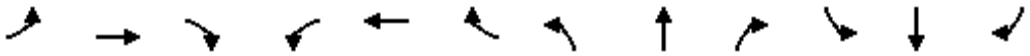
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	144	244	179	210	130	198	636	107	54	534	320
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	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1590	1805	1900	1591	1805	3524		1805	3610	1576
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1805	1900	1590	1805	1900	1591	1805	3524		1805	3610	1576
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	281	162	274	201	236	146	222	715	120	61	600	360
RTOR Reduction (vph)	0	0	208	0	0	119	0	11	0	0	0	265
Lane Group Flow (vph)	281	162	66	201	236	27	222	824	0	61	600	95
Confl. Peds. (#/hr)	3		4	4		3	2		4	4		2
Confl. Bikes (#/hr)					1			3			3	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	18.0	21.2	21.2	13.4	16.6	16.6	14.5	30.9		7.0	23.4	23.4
Effective Green, g (s)	18.0	21.2	21.2	13.4	16.6	16.6	14.5	30.9		7.0	23.4	23.4
Actuated g/C Ratio	0.20	0.24	0.24	0.15	0.19	0.19	0.16	0.35		0.08	0.26	0.26
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	367	455	380	273	356	298	295	1230		142	954	416
v/s Ratio Prot	c0.16	0.09		0.11	c0.12		c0.12	c0.23		0.03	0.17	
v/s Ratio Perm			0.04			0.02						0.06
v/c Ratio	0.77	0.36	0.17	0.74	0.66	0.09	0.75	0.67		0.43	0.63	0.23
Uniform Delay, d1	33.3	28.0	26.7	35.9	33.4	29.7	35.3	24.5		38.8	28.7	25.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	9.2	0.5	0.2	9.9	4.6	0.1	10.4	2.9		2.1	3.1	1.3
Delay (s)	42.5	28.5	26.9	45.8	37.9	29.9	45.6	27.4		40.9	31.9	26.8
Level of Service	D	C	C	D	D	C	D	C		D	C	C
Approach Delay (s)		33.4			38.6			31.2			30.6	
Approach LOS		C			D			C			C	

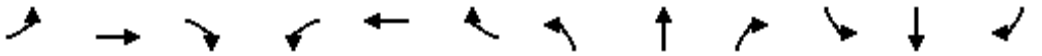
Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	0	5	4	0	16	13	986	5	24	509	39
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		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.89		1.00	1.00		1.00	0.99	
Flt Protected		0.95	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805	1615		1675		1804	3608		1805	3566	
Flt Permitted		0.95	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1805	1615		1690		1804	3608		1805	3566	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	35	0	5	4	0	18	14	1084	5	26	559	43
RTOR Reduction (vph)	0	0	5	0	22	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	35	0	0	0	0	14	1089	0	26	598	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)		2.8	2.8		0.9		0.7	38.8		1.5	39.6	
Effective Green, g (s)		2.8	2.8		0.9		0.7	38.8		1.5	39.6	
Actuated g/C Ratio		0.05	0.05		0.02		0.01	0.65		0.02	0.66	
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		84	75		25		21	2333		45	2353	
v/s Ratio Prot		c0.02					0.01	c0.30		c0.01	0.17	
v/s Ratio Perm			0.00		c0.00							
v/c Ratio		0.42	0.00		0.01		0.67	0.47		0.58	0.25	
Uniform Delay, d1		27.8	27.3		29.1		29.5	5.4		28.9	4.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.3	0.0		0.2		58.7	0.7		16.7	0.3	
Delay (s)		31.1	27.3		29.3		88.2	6.0		45.6	4.4	
Level of Service		C	C		C		F	A		D	A	
Approach Delay (s)		30.7			29.3			7.1			6.1	
Approach LOS		C			C			A			A	

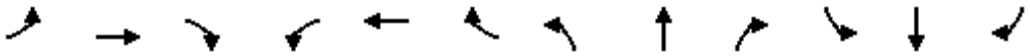
Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	12	172	19	9	140	0	0	121	96
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	0	0	0	16	226	25	12	184	0	0	159	126

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	242	25	196	159	126
Volume Left (vph)	16	0	12	0	0
Volume Right (vph)	0	25	0	0	126
Hadj (s)	0.03	-0.70	0.01	0.00	-0.70
Departure Headway (s)	5.8	5.0	5.7	5.5	4.8
Degree Utilization, x	0.39	0.03	0.31	0.24	0.17
Capacity (veh/h)	591	669	607	617	704
Control Delay (s)	11.1	7.0	11.2	9.1	7.6
Approach Delay (s)	10.7		11.2	8.5	
Approach LOS	B		B	A	

Intersection Summary				
Delay	10.0			
Level of Service	A			
Intersection Capacity Utilization	38.1%	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		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	7	125	14	3	88	0	0	51	25
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	0	0	9	152	17	4	107	0	0	62	30

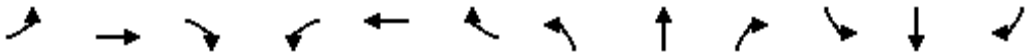
Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	85	93	111	93
Volume Left (vph)	9	0	4	0
Volume Right (vph)	0	17	0	30
Hadj (s)	0.05	-0.13	0.01	-0.20
Departure Headway (s)	5.0	4.8	4.4	4.3
Degree Utilization, x	0.12	0.13	0.14	0.11
Capacity (veh/h)	694	714	775	799
Control Delay (s)	7.5	7.3	8.1	7.8
Approach Delay (s)	7.4		8.1	7.8
Approach LOS	A		A	A

Intersection Summary				
Delay	7.7			
Level of Service	A			
Intersection Capacity Utilization	24.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	11	45	808	61	130	938
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	13	52	929	70	149	1078
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)		4				
Median type			TWLTL			None
Median storage veh)			2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1805	502			1002	
vC1, stage 1 conf vol	967					
vC2, stage 2 conf vol	838					
vCu, unblocked vol	1805	502			1002	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	90			79	
cM capacity (veh/h)	226	518			697	

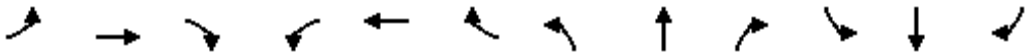
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	64	619	380	149	539	539
Volume Left	13	0	0	149	0	0
Volume Right	52	0	70	0	0	0
cSH	645	1700	1700	697	1700	1700
Volume to Capacity	0.10	0.36	0.22	0.21	0.32	0.32
Queue Length 95th (ft)	8	0	0	20	0	0
Control Delay (s)	14.5	0.0	0.0	11.6	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	14.5	0.0		1.4		
Approach LOS	B					

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	3	7	30	5	2	3	467	24	5	403	7
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		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1767			1822	1566	1805	1884		1802	1895	
Flt Permitted		0.77			0.81	1.00	0.48	1.00		0.42	1.00	
Satd. Flow (perm)		1414			1531	1566	913	1884		794	1895	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	22	3	8	35	6	2	3	543	28	6	469	8
RTOR Reduction (vph)	0	7	0	0	0	2	0	2	0	0	1	0
Lane Group Flow (vph)	0	26	0	0	41	0	3	569	0	6	476	0
Confl. Peds. (#/hr)	10					10			4	4		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		4.6			4.6	4.6	26.8	26.8		26.8	26.8	
Effective Green, g (s)		4.6			4.6	4.6	26.8	26.8		26.8	26.8	
Actuated g/C Ratio		0.12			0.12	0.12	0.68	0.68		0.68	0.68	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		165			178	182	621	1281		540	1288	
v/s Ratio Prot								c0.30			0.25	
v/s Ratio Perm		0.02			c0.03	0.00	0.00			0.01		
v/c Ratio		0.16			0.23	0.00	0.00	0.44		0.01	0.37	
Uniform Delay, d1		15.7			15.8	15.4	2.0	2.9		2.0	2.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			0.7	0.0	0.0	0.2		0.0	0.2	
Delay (s)		16.1			16.5	15.4	2.0	3.1		2.0	2.9	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		16.1			16.4			3.1			2.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	3.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	39.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	12	111	3	6	3	48	295	8	1	327	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	18	15	141	4	8	4	61	373	10	1	414	24
Pedestrians		17			3							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		3.5			3.5							
Percent Blockage		2			0							
Right turn flare (veh)			2									
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								1054				
pX, platoon unblocked	0.90	0.90		0.90	0.90	0.90				0.90		
vC, conflicting volume	948	954	443	1009	961	381	455			387		
vC1, stage 1 conf vol	445	445		503	503							
vC2, stage 2 conf vol	503	508		506	458							
vCu, unblocked vol	888	894	443	956	902	261	455			266		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	96	77	99	98	99	94			100		
cM capacity (veh/h)	432	426	609	315	407	705	1098			1178		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	173	15	61	384	439
Volume Left	18	4	61	0	1
Volume Right	141	4	0	10	24
cSH	752	420	1098	1700	1178
Volume to Capacity	0.23	0.04	0.06	0.23	0.00
Queue Length 95th (ft)	22	3	4	0	0
Control Delay (s)	12.9	13.9	8.5	0.0	0.0
Lane LOS	B	B	A		A
Approach Delay (s)	12.9	13.9	1.2		0.0
Approach LOS	B	B			

Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	47.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	234	46	0	110	0	132
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	272	53	0	128	0	153
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				188		
pX, platoon unblocked						
vC, conflicting volume			326		427	299
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			326		427	299
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	79
cM capacity (veh/h)			1245		588	745

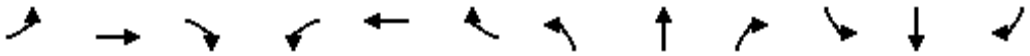
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	326	128	153
Volume Left	0	0	0
Volume Right	53	0	153
cSH	1700	1700	745
Volume to Capacity	0.19	0.08	0.21
Queue Length 95th (ft)	0	0	19
Control Delay (s)	0.0	0.0	11.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.1
Approach LOS			B

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	192	35	18	264	102	46
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	204	37	19	281	109	49
Pedestrians					2	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			243		544	225
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			243		544	225
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		78	94
cM capacity (veh/h)			1332		495	818

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	241	300	157
Volume Left	0	19	109
Volume Right	37	0	49
cSH	1700	1332	565
Volume to Capacity	0.14	0.01	0.28
Queue Length 95th (ft)	0	1	28
Control Delay (s)	0.0	0.6	13.8
Lane LOS		A	B
Approach Delay (s)	0.0	0.6	13.8
Approach LOS			B

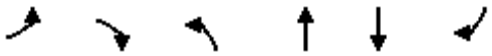
Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	0	39	0	0	0	13	847	0	3	980	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	0	43	0	0	0	14	941	0	3	1089	2
Pedestrians		1			4							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		3.5			3.5							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											1192	
pX, platoon unblocked	0.95	0.95	0.95	0.95	0.95		0.95					
vC, conflicting volume	1597	2072	547	1568	2073	475	1092			945		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1527	2026	425	1497	2027	475	997			945		
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 %	90	100	92	100	100	100	98			100		
cM capacity (veh/h)	76	54	555	74	54	540	668			731		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	51	0	14	627	314	3	726	365
Volume Left	8	0	14	0	0	3	0	0
Volume Right	43	0	0	0	0	0	0	2
cSH	284	1700	668	1700	1700	731	1700	1700
Volume to Capacity	0.18	0.00	0.02	0.37	0.18	0.00	0.43	0.21
Queue Length 95th (ft)	16	0	2	0	0	0	0	0
Control Delay (s)	20.5	0.0	10.5	0.0	0.0	9.9	0.0	0.0
Lane LOS	C	A	B			A		
Approach Delay (s)	20.5	0.0	0.2			0.0		
Approach LOS	C	A						

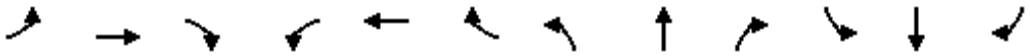
Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	37.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	3	8	5	1010	439	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	3	9	6	1135	493	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					691	
pX, platoon unblocked	0.91	0.91	0.91			
vC, conflicting volume	1641	495	497			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1655	398	400			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	98	99			
cM capacity (veh/h)	99	598	1067			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	12	6	1135	497
Volume Left	3	6	0	0
Volume Right	9	0	0	3
cSH	252	1067	1700	1700
Volume to Capacity	0.05	0.01	0.67	0.29
Queue Length 95th (ft)	4	0	0	0
Control Delay (s)	20.0	8.4	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	20.0	0.0		0.0
Approach LOS	C			

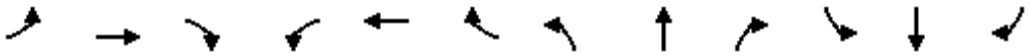
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	10	42	35	19	64	8	54	35	15	4	37	21
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	46	38	21	70	9	59	38	16	4	41	23

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	96	100	114	68
Volume Left (vph)	11	21	59	4
Volume Right (vph)	38	9	16	23
Hadj (s)	-0.22	-0.01	0.02	-0.19
Departure Headway (s)	4.2	4.4	4.4	4.3
Degree Utilization, x	0.11	0.12	0.14	0.08
Capacity (veh/h)	812	769	770	786
Control Delay (s)	7.7	8.0	8.2	7.7
Approach Delay (s)	7.7	8.0	8.2	7.7
Approach LOS	A	A	A	A

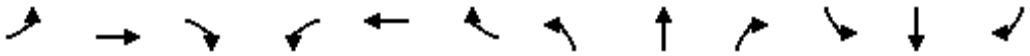
Intersection Summary				
Delay		7.9		
Level of Service		A		
Intersection Capacity Utilization		28.3%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	189	20	7	410	0	56	0	13	4	0	36
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	201	21	7	436	0	60	0	14	4	0	38
Pedestrians		3						1			4	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		858										
pX, platoon unblocked												
vC, conflicting volume	440			223			500	681	112	582	691	225
vC1, stage 1 conf vol							225	225		455	455	
vC2, stage 2 conf vol							274	455		127	236	
vCu, unblocked vol	440			223			500	681	112	582	691	225
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			90	100	99	99	100	95
cM capacity (veh/h)	1126			1356			597	517	925	527	517	779

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	6	134	88	7	291	145	73	43
Volume Left	6	0	0	7	0	0	60	4
Volume Right	0	0	21	0	0	0	14	38
cSH	1126	1700	1700	1356	1700	1700	640	743
Volume to Capacity	0.01	0.08	0.05	0.01	0.17	0.09	0.11	0.06
Queue Length 95th (ft)	0	0	0	0	0	0	10	5
Control Delay (s)	8.2	0.0	0.0	7.7	0.0	0.0	11.4	10.1
Lane LOS	A			A			B	B
Approach Delay (s)	0.2			0.1			11.4	10.1
Approach LOS							B	B

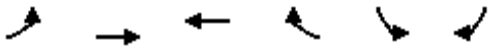
Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	28.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	141	0	1	26	0	9	1	60	1	5	87
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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)	1	153	0	1	28	0	10	1	65	1	5	95
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		553										
pX, platoon unblocked												
vC, conflicting volume	28			153			283	186	153	252	186	28
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	28			153			283	186	153	252	186	28
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			98	100	93	100	99	91
cM capacity (veh/h)	1585			1427			604	708	893	649	708	1047

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	154	29	76	101
Volume Left	1	1	10	1
Volume Right	0	0	65	95
cSH	1585	1427	838	1014
Volume to Capacity	0.00	0.00	0.09	0.10
Queue Length 95th (ft)	0	0	7	8
Control Delay (s)	0.1	0.3	9.7	8.9
Lane LOS	A	A	A	A
Approach Delay (s)	0.1	0.3	9.7	8.9
Approach LOS			A	A

Intersection Summary				
Average Delay	4.6			
Intersection Capacity Utilization	24.9%	ICU Level of Service	A	
Analysis Period (min)	15			

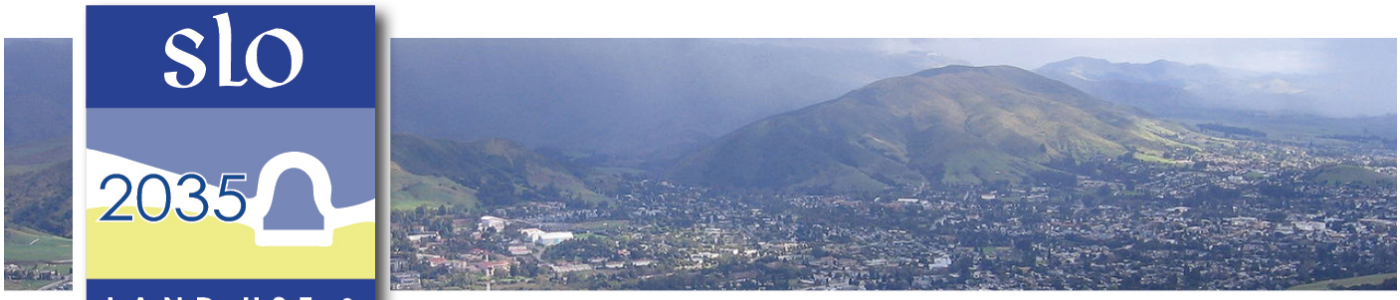


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	189	12	25	1	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	205	13	27	1	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		955				
pX, platoon unblocked						
vC, conflicting volume	28				452	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	28				452	28
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				100	100
cM capacity (veh/h)	1585				492	1048

Direction, Lane #	EB 1	WB 1
Volume Total	218	28
Volume Left	205	0
Volume Right	0	1
cSH	1585	1700
Volume to Capacity	0.13	0.02
Queue Length 95th (ft)	11	0
Control Delay (s)	7.2	0.0
Lane LOS	A	
Approach Delay (s)	7.2	0.0
Approach LOS		

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Please see the next page



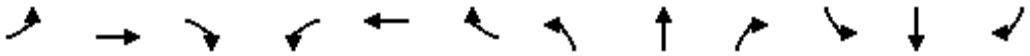
Existing Conditions Model Results – Mid Day

Please see the next page

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	673	248	109	749	404	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	3.5	6.0	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1900	1615	1805	1900	3502	1615
Flt Permitted	1.00	1.00	0.32	1.00	0.95	1.00
Satd. Flow (perm)	1900	1615	613	1900	3502	1615
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	701	258	114	780	421	119
RTOR Reduction (vph)	0	48	0	0	0	45
Lane Group Flow (vph)	701	210	114	780	421	74
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases	2		1	6	3	
Permitted Phases		2	6			3
Actuated Green, G (s)	99.2	99.2	110.7	108.2	22.3	22.3
Effective Green, g (s)	99.2	99.2	110.7	108.2	22.3	22.3
Actuated g/C Ratio	0.71	0.71	0.79	0.77	0.16	0.16
Clearance Time (s)	6.0	6.0	3.5	6.0	3.5	3.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1346	1144	531	1468	557	257
v/s Ratio Prot	0.37		0.01	c0.41	c0.12	
v/s Ratio Perm		0.13	0.16			0.05
v/c Ratio	0.52	0.18	0.21	0.53	0.76	0.29
Uniform Delay, d1	9.4	6.8	10.2	6.1	56.2	51.8
Progression Factor	0.34	0.18	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.3	0.2	1.4	5.8	0.6
Delay (s)	4.3	1.5	10.4	7.5	62.0	52.5
Level of Service	A	A	B	A	E	D
Approach Delay (s)	3.5			7.9	59.9	
Approach LOS	A			A	E	

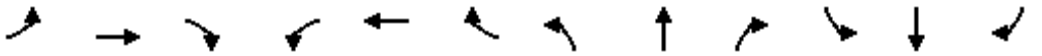
Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



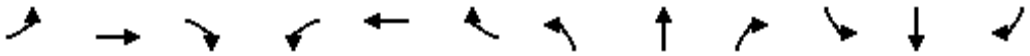
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	0	49	37	0	56	19	516	40	67	582	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1802	1587		1796	1591	1802	3565		1804	3587	
Flt Permitted		0.32	1.00		0.72	1.00	0.38	1.00		0.41	1.00	
Satd. Flow (perm)		602	1587		1366	1591	715	3565		778	3587	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	53	0	51	39	0	58	20	538	42	70	606	23
RTOR Reduction (vph)	0	0	40	0	0	51	0	6	0	0	2	0
Lane Group Flow (vph)	0	53	11	0	39	7	20	574	0	70	627	0
Confl. Peds. (#/hr)	3		6	6		3	3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		12.6	12.6		7.0	7.0	23.1	23.1		23.1	23.1	
Effective Green, g (s)		12.6	12.6		7.0	7.0	23.1	23.1		23.1	23.1	
Actuated g/C Ratio		0.21	0.21		0.12	0.12	0.39	0.39		0.39	0.39	
Clearance Time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		129	340		162	189	281	1402		306	1411	
v/s Ratio Prot								0.16			c0.17	
v/s Ratio Perm		c0.09	0.01		c0.03	0.00	0.03			0.09		
v/c Ratio		0.41	0.03		0.24	0.04	0.07	0.41		0.23	0.44	
Uniform Delay, d1		19.9	18.2		23.4	22.9	11.1	12.9		11.9	13.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.1	0.0		0.8	0.1	0.1	0.2		0.4	0.2	
Delay (s)		22.0	18.3		24.2	22.9	11.2	13.1		12.2	13.3	
Level of Service		C	B		C	C	B	B		B	B	
Approach Delay (s)		20.2			23.5			13.0			13.2	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



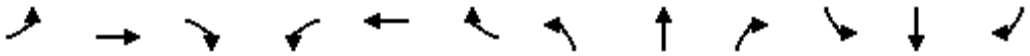
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	196	2	381	69	1085	0	0	753	425
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.5	3.5		3.5	5.0			5.0	5.0
Lane Util. Factor				1.00	1.00		1.00	0.95			1.00	1.00
Frpb, ped/bikes				1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00		1.00	1.00			1.00	1.00
Frt				1.00	0.85		1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)				1805	1616		1805	3610			1900	1615
Flt Permitted				0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)				1805	1616		1805	3610			1900	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	200	2	389	70	1107	0	0	768	434
RTOR Reduction (vph)	0	0	0	0	92	0	0	0	0	0	0	182
Lane Group Flow (vph)	0	0	0	200	299	0	70	1107	0	0	768	252
Confl. Peds. (#/hr)									3	3		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Prot	NA			NA	Perm
Protected Phases					8		1	6			2	
Permitted Phases				8								2
Actuated Green, G (s)				36.5	36.5		23.1	95.0			68.4	68.4
Effective Green, g (s)				36.5	36.5		23.1	95.0			68.4	68.4
Actuated g/C Ratio				0.26	0.26		0.17	0.68			0.49	0.49
Clearance Time (s)				3.5	3.5		3.5	5.0			5.0	5.0
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				470	421		297	2449			928	789
v/s Ratio Prot					c0.18		0.04	c0.31			c0.40	
v/s Ratio Perm				0.11								0.16
v/c Ratio				0.43	0.71		0.24	0.45			0.83	0.32
Uniform Delay, d1				43.0	46.9		50.8	10.4			30.7	21.7
Progression Factor				1.00	1.00		1.20	1.63			0.74	0.43
Incremental Delay, d2				2.8	9.7		1.6	0.5			7.7	1.0
Delay (s)				45.8	56.6		62.7	17.5			30.6	10.4
Level of Service				D	E		E	B			C	B
Approach Delay (s)		0.0			53.0			20.2			23.3	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	5	53	93	4	62	27	1303	42	57	1177	25
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		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1801	1900	1615	1805	1609		1805	3610	1569	1805	3599	
Flt Permitted	0.66	1.00	1.00	0.75	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1253	1900	1615	1434	1609		1805	3610	1569	1805	3599	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	28	5	56	99	4	66	29	1386	45	61	1252	27
RTOR Reduction (vph)	0	0	50	0	59	0	0	0	11	0	1	0
Lane Group Flow (vph)	28	5	6	99	11	0	29	1386	34	61	1278	0
Confl. Peds. (#/hr)	1					1			2	2		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4					6			
Actuated Green, G (s)	15.0	15.0	15.0	15.0	15.0		5.3	104.4	104.4	8.6	107.7	
Effective Green, g (s)	15.0	15.0	15.0	15.0	15.0		5.3	104.4	104.4	8.6	107.7	
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.11		0.04	0.75	0.75	0.06	0.77	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	134	203	173	153	172		68	2692	1170	110	2768	
v/s Ratio Prot		0.00			0.01		0.02	c0.38		c0.03	c0.36	
v/s Ratio Perm	0.02		0.00	c0.07					0.02			
v/c Ratio	0.21	0.02	0.03	0.65	0.06		0.43	0.51	0.03	0.55	0.46	
Uniform Delay, d1	57.1	56.0	56.0	60.0	56.2		65.9	7.3	4.6	63.8	5.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.20	0.64	0.34	1.16	0.72	
Incremental Delay, d2	0.8	0.0	0.1	9.1	0.2		3.7	0.6	0.0	5.6	0.5	
Delay (s)	57.9	56.0	56.1	69.0	56.3		82.7	5.3	1.6	79.6	4.7	
Level of Service	E	E	E	E	E		F	A	A	E	A	
Approach Delay (s)		56.6			63.8			6.8			8.1	
Approach LOS		E			E			A			A	

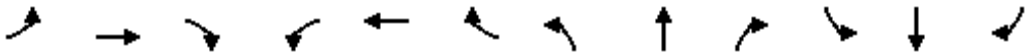
Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	339	24	359	101	35	63	640	661	19	96	614	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1633		1805	1900	1574	3502	5164		3502	4941	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1633		1805	1900	1574	3502	5164		3502	4941	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	346	24	366	103	36	64	653	674	19	98	627	234
RTOR Reduction (vph)	0	327	0	0	0	61	0	2	0	0	36	0
Lane Group Flow (vph)	346	63	0	103	36	3	653	691	0	98	825	0
Confl. Peds. (#/hr)	11					11	8		2	2		8
Confl. Bikes (#/hr)					1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						
Actuated Green, G (s)	21.2	15.0		13.2	7.0	7.0	31.7	57.3		33.5	59.1	
Effective Green, g (s)	21.2	15.0		13.2	7.0	7.0	31.7	57.3		33.5	59.1	
Actuated g/C Ratio	0.15	0.11		0.09	0.05	0.05	0.23	0.41		0.24	0.42	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	530	174		170	95	78	792	2113		837	2085	
v/s Ratio Prot	c0.10	0.04		c0.06	0.02		c0.19	0.13		0.03	c0.17	
v/s Ratio Perm						0.00						
v/c Ratio	0.65	0.36		0.61	0.38	0.04	0.82	0.33		0.12	0.40	
Uniform Delay, d1	55.9	58.1		60.9	64.4	63.3	51.5	28.2		41.7	28.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.76	0.51		0.69	0.64	
Incremental Delay, d2	2.9	1.3		6.0	2.5	0.2	6.3	0.4		0.1	0.5	
Delay (s)	58.8	59.4		66.9	66.9	63.5	45.3	14.8		29.0	18.6	
Level of Service	E	E		E	E	E	D	B		C	B	
Approach Delay (s)		59.1			65.8			29.6			19.6	
Approach LOS		E			E			C			B	

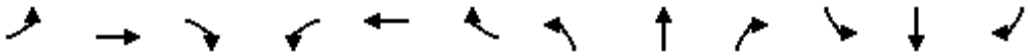
Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



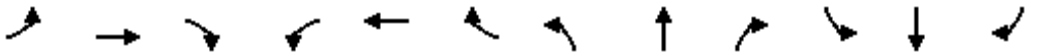
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	169	713	43	0	0	0	0	117	33	76	66	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0		5.0	5.0	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frpb, ped/bikes		1.00						0.99		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.98	1.00	
Frt		0.99						0.97		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		5072						1827		1766	1900	
Flt Permitted		0.99						1.00		0.66	1.00	
Satd. Flow (perm)		5072						1827		1227	1900	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	172	728	44	0	0	0	0	119	34	78	67	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	935	0	0	0	0	0	136	0	78	67	0
Confl. Peds. (#/hr)	26		12	12		26	23		28	28		23
Confl. Bikes (#/hr)		1									2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		31.0						19.0		19.0	19.0	
Effective Green, g (s)		31.0						19.0		19.0	19.0	
Actuated g/C Ratio		0.52						0.32		0.32	0.32	
Clearance Time (s)		5.0						5.0		5.0	5.0	
Lane Grp Cap (vph)		2620						578		388	601	
v/s Ratio Prot								c0.07			0.04	
v/s Ratio Perm		0.18								0.06		
v/c Ratio		0.36						0.24		0.20	0.11	
Uniform Delay, d1		8.6						15.1		15.0	14.5	
Progression Factor		1.00						1.00		0.84	0.85	
Incremental Delay, d2		0.4						1.0		1.2	0.4	
Delay (s)		9.0						16.1		13.7	12.8	
Level of Service		A						B		B	B	
Approach Delay (s)		9.0			0.0			16.1			13.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	643	72	0	0	0	0	198	204	44	149	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.91						1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.99						1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	0.98	1.00	
Frt		0.99						1.00	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5041						1900	1559	1774	1900	
Flt Permitted		1.00						1.00	1.00	0.63	1.00	
Satd. Flow (perm)		5041						1900	1559	1172	1900	
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)	37	677	76	0	0	0	0	208	215	46	157	0
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	49	0	0	0
Lane Group Flow (vph)	0	768	0	0	0	0	0	208	166	46	157	0
Confl. Peds. (#/hr)	46		63	63		46	79		32	32		79
Confl. Bikes (#/hr)								2			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		2						4			8	
Permitted Phases	2								4	8		
Actuated Green, G (s)		25.0						25.0	25.0	25.0	25.0	
Effective Green, g (s)		25.0						25.0	25.0	25.0	25.0	
Actuated g/C Ratio		0.42						0.42	0.42	0.42	0.42	
Clearance Time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		2100						791	649	488	791	
v/s Ratio Prot								c0.11			0.08	
v/s Ratio Perm		0.15							0.11	0.04		
v/c Ratio		0.37						0.26	0.26	0.09	0.20	
Uniform Delay, d1		12.0						11.5	11.4	10.6	11.1	
Progression Factor		0.50						0.90	0.91	0.54	0.51	
Incremental Delay, d2		0.5						0.8	0.9	0.4	0.6	
Delay (s)		6.5						11.1	11.3	6.1	6.3	
Level of Service		A						B	B	A	A	
Approach Delay (s)		6.5			0.0			11.2			6.2	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	139	480	35	127	131	0	0	63	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					0.91			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.93
Flpb, ped/bikes					0.97			0.98			1.00	1.00
Frt					0.99			1.00			1.00	0.85
Flt Protected					0.99			0.98			1.00	1.00
Satd. Flow (prot)					4902			1808			1900	1508
Flt Permitted					0.99			0.82			1.00	1.00
Satd. Flow (perm)					4902			1511			1900	1508
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)	0	0	0	151	522	38	138	142	0	0	68	18
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	0	11
Lane Group Flow (vph)	0	0	0	0	701	0	0	280	0	0	68	8
Confl. Peds. (#/hr)	136		98	98		136	77		64	64		77
Confl. Bikes (#/hr)					1			4			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2			4					8
Actuated Green, G (s)					25.0			25.0			25.0	25.0
Effective Green, g (s)					25.0			25.0			25.0	25.0
Actuated g/C Ratio					0.42			0.42			0.42	0.42
Clearance Time (s)					5.0			5.0			5.0	5.0
Lane Grp Cap (vph)					2042			629			791	628
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.14			c0.19				0.00
v/c Ratio					0.34			0.45			0.09	0.01
Uniform Delay, d1					11.9			12.5			10.6	10.3
Progression Factor					1.03			1.72			1.00	1.00
Incremental Delay, d2					0.5			2.2			0.2	0.0
Delay (s)					12.7			23.8			10.8	10.3
Level of Service					B			C			B	B
Approach Delay (s)		0.0			12.7			23.8			10.7	
Approach LOS		A			B			C			B	

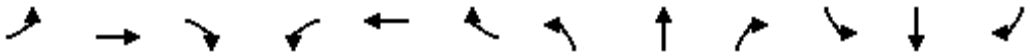
Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	69	125	39	14	380	0	0	284	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					1.00	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.97		1.00			1.00	
Flpb, ped/bikes					0.99	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.99	
Flt Protected					0.98	1.00		1.00			1.00	
Satd. Flow (prot)					1855	1559		1897			1888	
Flt Permitted					0.98	1.00		0.99			1.00	
Satd. Flow (perm)					1855	1559		1872			1888	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	81	147	46	16	447	0	0	334	14
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	2	0
Lane Group Flow (vph)	0	0	0	0	228	10	0	463	0	0	346	0
Confl. Peds. (#/hr)	7		8	8		7	5		8	8		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			6			2	
Permitted Phases				4		4	6					
Actuated Green, G (s)					12.5	12.5		37.5			37.5	
Effective Green, g (s)					12.5	12.5		37.5			37.5	
Actuated g/C Ratio					0.21	0.21		0.62			0.62	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					386	324		1170			1180	
v/s Ratio Prot											0.18	
v/s Ratio Perm					0.12	0.01		c0.25				
v/c Ratio					0.59	0.03		0.40			0.29	
Uniform Delay, d1					21.4	18.9		5.6			5.2	
Progression Factor					1.00	1.00		0.72			0.41	
Incremental Delay, d2					2.4	0.0		1.0			0.6	
Delay (s)					23.9	19.0		5.0			2.7	
Level of Service					C	B		A			A	
Approach Delay (s)		0.0			23.0			5.0			2.7	
Approach LOS		A			C			A			A	

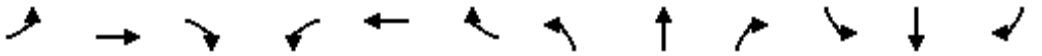
Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



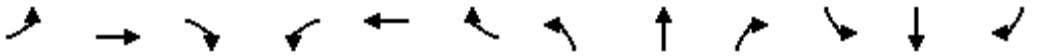
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	60	21	27	130	22	15	30	30	19	50	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.97		1.00	1.00	0.81		0.93			0.96	
Flpb, ped/bikes	0.86	1.00		0.93	1.00	1.00		0.97			0.97	
Frt	1.00	0.96		1.00	1.00	0.85		0.95			0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1556	1777		1677	1900	1315		1610			1703	
Flt Permitted	0.66	1.00		0.70	1.00	1.00		0.94			0.94	
Satd. Flow (perm)	1087	1777		1232	1900	1315		1535			1617	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	29	67	24	30	146	25	17	34	34	21	56	21
RTOR Reduction (vph)	0	12	0	0	0	12	0	23	0	0	14	0
Lane Group Flow (vph)	29	79	0	30	146	13	0	62	0	0	84	0
Confl. Peds. (#/hr)	158		75	75		158	98		93	93		98
Confl. Bikes (#/hr)		1			1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	31.0	31.0		31.0	31.0	31.0		19.0			19.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0	31.0		19.0			19.0	
Actuated g/C Ratio	0.52	0.52		0.52	0.52	0.52		0.32			0.32	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	
Lane Grp Cap (vph)	561	918		636	981	679		486			512	
v/s Ratio Prot		0.04			c0.08							
v/s Ratio Perm	0.03			0.02		0.01		0.04			c0.05	
v/c Ratio	0.05	0.09		0.05	0.15	0.02		0.13			0.16	
Uniform Delay, d1	7.2	7.3		7.2	7.6	7.1		14.6			14.8	
Progression Factor	0.41	0.28		0.67	0.64	0.62		1.02			1.00	
Incremental Delay, d2	0.2	0.2		0.1	0.3	0.1		0.5			0.7	
Delay (s)	3.1	2.3		4.9	5.2	4.4		15.5			15.5	
Level of Service	A	A		A	A	A		B			B	
Approach Delay (s)		2.5			5.1			15.5			15.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



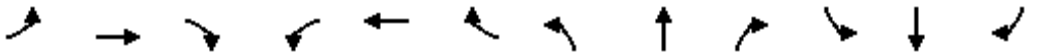
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	43	499	22	57	51	0	0	55	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					0.91			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.91
Flpb, ped/bikes					0.98			0.96			1.00	1.00
Frt					0.99			1.00			1.00	0.85
Flt Protected					1.00			0.97			1.00	1.00
Satd. Flow (prot)					4954			1777			1900	1465
Flt Permitted					1.00			0.86			1.00	1.00
Satd. Flow (perm)					4954			1562			1900	1465
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	0.97
Adj. Flow (vph)	0	0	0	44	514	23	59	53	0	0	57	41
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	17
Lane Group Flow (vph)	0	0	0	0	573	0	0	112	0	0	57	24
Confl. Peds. (#/hr)	229		177	177		229	142		105	105		142
Confl. Bikes (#/hr)		2			1			2				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					8			2			6	
Permitted Phases				8			2					6
Actuated Green, G (s)					19.0			31.0			31.0	31.0
Effective Green, g (s)					19.0			31.0			31.0	31.0
Actuated g/C Ratio					0.32			0.52			0.52	0.52
Clearance Time (s)					5.0			5.0			5.0	5.0
Lane Grp Cap (vph)					1568			807			981	756
v/s Ratio Prot											0.03	
v/s Ratio Perm					0.12			c0.07				0.02
v/c Ratio					0.37			0.14			0.06	0.03
Uniform Delay, d1					15.8			7.5			7.2	7.1
Progression Factor					1.62			1.60			0.47	0.15
Incremental Delay, d2					0.6			0.3			0.1	0.1
Delay (s)					26.2			12.4			3.5	1.1
Level of Service					C			B			A	A
Approach Delay (s)		0.0			26.2			12.4			2.5	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	726	54	0	0	0	0	22	53	39	43	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		1.00						0.97			1.00	
Flpb, ped/bikes		0.99						1.00			0.99	
Frt		0.99						0.90			1.00	
Flt Protected		1.00						1.00			0.98	
Satd. Flow (prot)		5052						1664			1830	
Flt Permitted		1.00						1.00			0.86	
Satd. Flow (perm)		5052						1664			1612	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	88	741	55	0	0	0	0	22	54	40	44	0
RTOR Reduction (vph)	0	13	0	0	0	0	0	36	0	0	0	0
Lane Group Flow (vph)	0	872	0	0	0	0	0	40	0	0	84	0
Confl. Peds. (#/hr)	76		52	52		76	113		36	36		113
Confl. Bikes (#/hr)		1			1			3			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		30.0						20.0			20.0	
Effective Green, g (s)		30.0						20.0			20.0	
Actuated g/C Ratio		0.50						0.33			0.33	
Clearance Time (s)		5.0						5.0			5.0	
Lane Grp Cap (vph)		2526						554			537	
v/s Ratio Prot								0.02				
v/s Ratio Perm		0.17									c0.05	
v/c Ratio		0.35						0.07			0.16	
Uniform Delay, d1		9.1						13.7			14.1	
Progression Factor		0.66						1.00			1.09	
Incremental Delay, d2		0.4						0.3			0.6	
Delay (s)		6.3						13.9			16.0	
Level of Service		A						B			B	
Approach Delay (s)		6.3			0.0			13.9			16.0	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

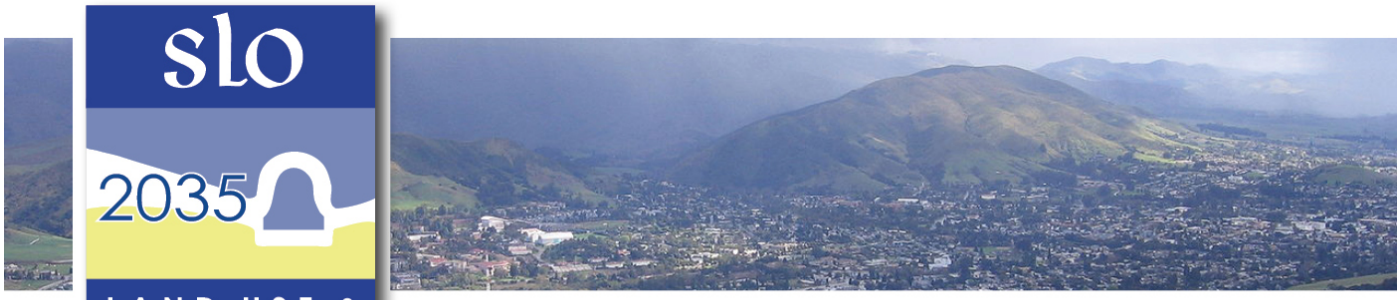


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	529	332	41	0	0	0	0	180	30	117	318	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0		5.0	5.0	
Lane Util. Factor	0.91	0.91						1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00						1.00		1.00	1.00	
Frt	1.00	0.99						0.98		1.00	1.00	
Flt Protected	0.95	0.98						1.00		0.95	1.00	
Satd. Flow (prot)	1634	3344						1859		1797	1900	
Flt Permitted	0.95	0.98						1.00		0.55	1.00	
Satd. Flow (perm)	1634	3344						1859		1037	1900	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	622	391	48	0	0	0	0	212	35	138	374	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	12	0	0	0	0
Lane Group Flow (vph)	348	706	0	0	0	0	0	235	0	138	374	0
Confl. Peds. (#/hr)	5		9	9		5	10		8	8		10
Confl. Bikes (#/hr)		1										
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)	32.1	32.1						17.9		17.9	17.9	
Effective Green, g (s)	32.1	32.1						17.9		17.9	17.9	
Actuated g/C Ratio	0.54	0.54						0.30		0.30	0.30	
Clearance Time (s)	5.0	5.0						5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)	874	1789						554		309	566	
v/s Ratio Prot								0.13			c0.20	
v/s Ratio Perm	c0.21	0.21								0.13		
v/c Ratio	0.40	0.39						0.42		0.45	0.66	
Uniform Delay, d1	8.2	8.2						16.9		17.0	18.4	
Progression Factor	0.60	0.58						1.00		0.61	0.56	
Incremental Delay, d2	1.3	0.6						0.5		1.0	2.8	
Delay (s)	6.3	5.4						17.4		11.4	13.2	
Level of Service	A	A						B		B	B	
Approach Delay (s)		5.7			0.0			17.4			12.7	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

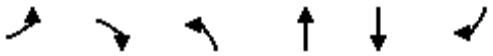
c Critical Lane Group

Please see the next page



Existing Conditions Model Results – PM Peak

Please see the next page



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	794	19	49	169	412	885
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1547	1768	1863	1863	1561
Flt Permitted	0.95	1.00	0.24	1.00	1.00	1.00
Satd. Flow (perm)	3433	1547	450	1863	1863	1561
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	845	20	52	180	438	941
RTOR Reduction (vph)	0	13	0	0	0	0
Lane Group Flow (vph)	845	7	52	180	438	941
Confl. Peds. (#/hr)		2	7			7
Turn Type	NA	Perm	pm+pt	NA	NA	pm+ov
Protected Phases	4		5	2	6	4
Permitted Phases		4	2			6
Actuated Green, G (s)	21.5	21.5	27.6	27.6	19.5	41.0
Effective Green, g (s)	21.5	21.5	27.6	27.6	19.5	41.0
Actuated g/C Ratio	0.35	0.35	0.45	0.45	0.32	0.67
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1208	544	248	841	594	1200
v/s Ratio Prot	0.25		0.01	c0.10	0.24	c0.28
v/s Ratio Perm		0.00	0.09			0.33
v/c Ratio	0.70	0.01	0.21	0.21	0.74	0.78
Uniform Delay, d1	17.0	12.9	11.0	10.2	18.5	7.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.0	0.4	0.1	4.8	3.4
Delay (s)	18.8	12.9	11.4	10.3	23.3	10.4
Level of Service	B	B	B	B	C	B
Approach Delay (s)	18.7			10.6	14.5	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	91	80	817	136	71	1152
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	94	82	842	140	73	1188
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			539			279
pX, platoon unblocked	0.79					
vC, conflicting volume	1654	492			983	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1306	492			983	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	13	84			90	
cM capacity (veh/h)	108	522			697	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	94	82	562	421	73	594	594
Volume Left	94	0	0	0	73	0	0
Volume Right	0	82	0	140	0	0	0
cSH	108	522	1700	1700	697	1700	1700
Volume to Capacity	0.87	0.16	0.33	0.25	0.10	0.35	0.35
Queue Length 95th (ft)	128	14	0	0	9	0	0
Control Delay (s)	127.6	13.2	0.0	0.0	10.8	0.0	0.0
Lane LOS	F	B			B		
Approach Delay (s)	74.1		0.0		0.6		
Approach LOS	F						

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	732	306	164	750	451	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	3.5	6.0	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1900	1615	1805	1900	3502	1615
Flt Permitted	1.00	1.00	0.28	1.00	0.95	1.00
Satd. Flow (perm)	1900	1615	540	1900	3502	1615
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	762	319	171	781	470	107
RTOR Reduction (vph)	0	57	0	0	0	36
Lane Group Flow (vph)	762	262	171	781	470	71
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Perm	pm+pt	NA	NA	Perm
Protected Phases	2		1	6	3	
Permitted Phases		2	6			3
Actuated Green, G (s)	97.3	97.3	108.8	106.3	24.2	24.2
Effective Green, g (s)	97.3	97.3	108.8	106.3	24.2	24.2
Actuated g/C Ratio	0.69	0.69	0.78	0.76	0.17	0.17
Clearance Time (s)	6.0	6.0	3.5	6.0	3.5	3.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1320	1122	469	1442	605	279
v/s Ratio Prot	c0.40		0.01	c0.41	c0.13	
v/s Ratio Perm		0.16	0.27			0.04
v/c Ratio	0.58	0.23	0.36	0.54	0.78	0.26
Uniform Delay, d1	10.9	7.8	15.0	6.9	55.3	50.1
Progression Factor	0.33	0.26	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.4	0.5	1.5	6.2	0.5
Delay (s)	4.9	2.4	15.5	8.4	61.5	50.6
Level of Service	A	A	B	A	E	D
Approach Delay (s)	4.2			9.6	59.5	
Approach LOS	A			A	E	

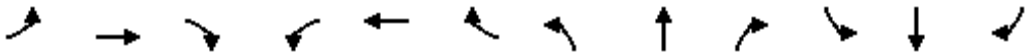
Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	361	113	711	176	41	946
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1587	3487		1804	3610
Flt Permitted	0.95	1.00	1.00		0.24	1.00
Satd. Flow (perm)	1805	1587	3487		457	3610
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	384	120	756	187	44	1006
RTOR Reduction (vph)	0	64	35	0	0	0
Lane Group Flow (vph)	384	56	908	0	44	1006
Confl. Peds. (#/hr)		9		2	2	
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	15.7	15.7	20.1		20.1	20.1
Effective Green, g (s)	15.7	15.7	20.1		20.1	20.1
Actuated g/C Ratio	0.34	0.34	0.43		0.43	0.43
Clearance Time (s)	5.0	5.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	605	532	1497		196	1550
v/s Ratio Prot	c0.21		0.26			c0.28
v/s Ratio Perm		0.03			0.10	
v/c Ratio	0.63	0.10	0.61		0.22	0.65
Uniform Delay, d1	13.1	10.7	10.3		8.4	10.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.2	0.1	0.7		0.6	0.9
Delay (s)	15.3	10.8	11.0		9.0	11.5
Level of Service	B	B	B		A	B
Approach Delay (s)	14.2		11.0			11.4
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	46.8	Sum of lost time (s)	11.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

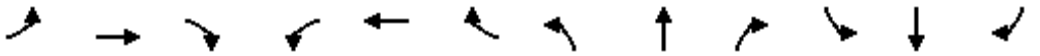
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	10	3	570	11	294	30	412	404	243	609	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97		0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1821		1715	1722	1594	1805	3610	1606	1805	3588	
Flt Permitted		0.97		0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1821		1715	1722	1594	1805	3610	1606	1805	3588	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	18	11	3	655	13	338	34	474	464	279	700	25
RTOR Reduction (vph)	0	3	0	0	0	243	0	0	225	0	2	0
Lane Group Flow (vph)	0	29	0	334	334	95	34	474	239	279	723	0
Confl. Peds. (#/hr)	1		9	9		1	5		1	1		5
Confl. Bikes (#/hr)		1						1			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	pm+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	8	1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		4.2		26.4	26.4	26.4	2.6	20.4	46.8	20.1	37.9	
Effective Green, g (s)		4.2		26.4	26.4	26.4	2.6	20.4	46.8	20.1	37.9	
Actuated g/C Ratio		0.04		0.28	0.28	0.28	0.03	0.22	0.50	0.21	0.40	
Clearance Time (s)		6.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		81		481	483	447	49	782	798	385	1445	
v/s Ratio Prot		c0.02		c0.19	0.19		0.02	c0.13	0.08	c0.15	0.20	
v/s Ratio Perm						0.06			0.06			
v/c Ratio		0.36		0.69	0.69	0.21	0.69	0.61	0.30	0.72	0.50	
Uniform Delay, d1		43.6		30.2	30.2	25.9	45.4	33.2	14.0	34.4	21.0	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.7		4.3	4.2	0.2	34.8	1.3	0.2	6.6	0.3	
Delay (s)		46.4		34.6	34.5	26.1	80.2	34.6	14.2	41.1	21.3	
Level of Service		D		C	C	C	F	C	B	D	C	
Approach Delay (s)		46.4			31.7			26.4			26.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	94.1	Sum of lost time (s)	23.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

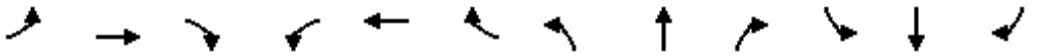
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	17	99	43	96	50	379	454	30	75	561	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1800	1900	1586	1794	1900	1591	1805	3570		1805	3569	
Flt Permitted	0.69	1.00	1.00	0.75	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1311	1900	1586	1409	1900	1591	1805	3570		1805	3569	
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)	57	18	104	45	101	53	399	478	32	79	591	40
RTOR Reduction (vph)	0	0	90	0	0	46	0	3	0	0	5	0
Lane Group Flow (vph)	57	18	14	45	101	7	399	507	0	79	626	0
Confl. Peds. (#/hr)	3		6	6		3	6		4	4		6
Confl. Bikes (#/hr)					2			1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	9.6	9.6	9.6	8.6	8.6	8.6	22.8	37.2		7.0	21.4	
Effective Green, g (s)	9.6	9.6	9.6	8.6	8.6	8.6	22.8	37.2		7.0	21.4	
Actuated g/C Ratio	0.14	0.14	0.14	0.12	0.12	0.12	0.33	0.53		0.10	0.31	
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	180	261	218	173	234	196	589	1902		181	1094	
v/s Ratio Prot		0.01			c0.05		c0.22	0.14		0.04	c0.18	
v/s Ratio Perm	0.04		0.01	0.03		0.00						
v/c Ratio	0.32	0.07	0.07	0.26	0.43	0.03	0.68	0.27		0.44	0.57	
Uniform Delay, d1	27.1	26.2	26.2	27.7	28.3	26.9	20.3	8.9		29.5	20.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.1	0.1	0.8	1.3	0.1	3.1	0.1		1.7	0.7	
Delay (s)	28.2	26.3	26.3	28.5	29.6	27.0	23.4	8.9		31.2	21.1	
Level of Service	C	C	C	C	C	C	C	A		C	C	
Approach Delay (s)		26.9			28.7			15.3			22.2	
Approach LOS		C			C			B			C	

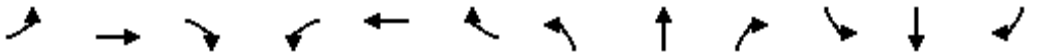
Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	69.8	Sum of lost time (s)	17.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	0	31	39	1	48	36	462	42	68	640	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1802	1588		1803	1592	1803	3558		1804	3597	
Flt Permitted		0.66	1.00		0.76	1.00	0.38	1.00		0.46	1.00	
Satd. Flow (perm)		1244	1588		1438	1592	723	3558		869	3597	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	23	0	32	41	1	50	38	481	44	71	667	14
RTOR Reduction (vph)	0	0	28	0	0	45	0	6	0	0	1	0
Lane Group Flow (vph)	0	23	4	0	42	5	38	519	0	71	680	0
Confl. Peds. (#/hr)	3		6	6		3	3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		6.1	6.1		5.2	5.2	25.9	25.9		25.9	25.9	
Effective Green, g (s)		6.1	6.1		5.2	5.2	25.9	25.9		25.9	25.9	
Actuated g/C Ratio		0.11	0.11		0.10	0.10	0.49	0.49		0.49	0.49	
Clearance Time (s)		5.0	5.0		5.0	5.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		142	182		140	155	351	1732		423	1751	
v/s Ratio Prot								0.15			c0.19	
v/s Ratio Perm		c0.02	0.00		c0.03	0.00	0.05			0.08		
v/c Ratio		0.16	0.02		0.30	0.03	0.11	0.30		0.17	0.39	
Uniform Delay, d1		21.2	20.9		22.3	21.7	7.4	8.2		7.6	8.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5	0.0		1.2	0.1	0.1	0.1		0.2	0.1	
Delay (s)		21.8	20.9		23.5	21.8	7.5	8.3		7.8	8.8	
Level of Service		C	C		C	C	A	A		A	A	
Approach Delay (s)		21.3			22.6			8.2			8.7	
Approach LOS		C			C			A			A	

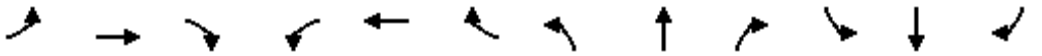
Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	53.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	14	17	449	29	65	39	264	492	126	298	30
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	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.97	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00	1.00	1.00	0.99		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1841	1615	3502	1686		1804	3610	1590	1800	3553	
Flt Permitted		0.85	1.00	0.73	1.00		0.54	1.00	1.00	0.58	1.00	
Satd. Flow (perm)		1610	1615	2699	1686		1033	3610	1590	1101	3553	
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)	23	15	18	473	31	68	41	278	518	133	314	32
RTOR Reduction (vph)	0	0	12	0	47	0	0	0	267	0	16	0
Lane Group Flow (vph)	0	38	6	473	52	0	41	278	251	133	330	0
Confl. Peds. (#/hr)	5					5	1		5	5		1
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)		12.6	12.6	12.6	12.6		19.4	19.4	19.4	19.4	19.4	
Effective Green, g (s)		12.6	12.6	12.6	12.6		19.4	19.4	19.4	19.4	19.4	
Actuated g/C Ratio		0.31	0.31	0.31	0.31		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		507	508	850	531		501	1750	771	533	1723	
v/s Ratio Prot					0.03			0.08			0.09	
v/s Ratio Perm		0.02	0.00	c0.18			0.04		c0.16	0.12		
v/c Ratio		0.07	0.01	0.56	0.10		0.08	0.16	0.33	0.25	0.19	
Uniform Delay, d1		9.6	9.4	11.4	9.7		5.5	5.7	6.3	6.0	5.8	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1	0.0	0.8	0.1		0.3	0.2	1.1	1.1	0.2	
Delay (s)		9.7	9.4	12.2	9.8		5.8	5.9	7.4	7.2	6.1	
Level of Service		A	A	B	A		A	A	A	A	A	
Approach Delay (s)		9.6			11.8			6.9			6.4	
Approach LOS		A			B			A			A	

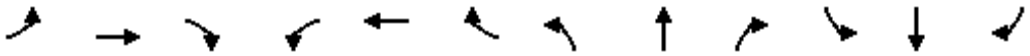
Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



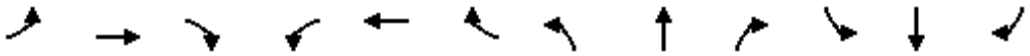
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	246	2	360	112	1076	0	0	775	577
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.5	3.5		3.5	5.0			5.0	5.0
Lane Util. Factor				1.00	1.00		1.00	0.95			1.00	1.00
Frpb, ped/bikes				1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes				1.00	1.00		1.00	1.00			1.00	1.00
Frt				1.00	0.85		1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)				1805	1617		1805	3610			1900	1615
Flt Permitted				0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)				1805	1617		1805	3610			1900	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	251	2	367	114	1098	0	0	791	589
RTOR Reduction (vph)	0	0	0	0	94	0	0	0	0	0	0	234
Lane Group Flow (vph)	0	0	0	251	275	0	114	1098	0	0	791	355
Confl. Peds. (#/hr)									3	3		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Prot	NA			NA	Perm
Protected Phases					8		1	6			2	
Permitted Phases				8								2
Actuated Green, G (s)				36.5	36.5		21.6	95.0			69.9	69.9
Effective Green, g (s)				36.5	36.5		21.6	95.0			69.9	69.9
Actuated g/C Ratio				0.26	0.26		0.15	0.68			0.50	0.50
Clearance Time (s)				3.5	3.5		3.5	5.0			5.0	5.0
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				470	421		278	2449			948	806
v/s Ratio Prot					c0.17		0.06	c0.30			c0.42	
v/s Ratio Perm				0.14								0.22
v/c Ratio				0.53	0.65		0.41	0.45			0.83	0.44
Uniform Delay, d1				44.4	46.1		53.4	10.4			30.1	22.5
Progression Factor				1.00	1.00		1.16	1.51			0.71	0.42
Incremental Delay, d2				4.3	7.7		3.7	0.5			7.8	1.6
Delay (s)				48.7	53.8		65.8	16.1			29.0	11.1
Level of Service				D	D		E	B			C	B
Approach Delay (s)		0.0			51.8			20.8			21.4	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	3	43	85	7	52	38	1379	35	46	1219	18
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		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1801	1900	1615	1805	1626		1805	3610	1569	1805	3602	
Flt Permitted	0.69	1.00	1.00	0.76	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1311	1900	1615	1436	1626		1805	3610	1569	1805	3602	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	3	46	90	7	55	40	1467	37	49	1297	19
RTOR Reduction (vph)	0	0	41	0	49	0	0	0	9	0	0	0
Lane Group Flow (vph)	16	3	5	90	13	0	40	1467	28	49	1316	0
Confl. Peds. (#/hr)	1					1			2	2		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4					6			
Actuated Green, G (s)	14.1	14.1	14.1	14.1	14.1		7.4	105.9	105.9	8.0	106.5	
Effective Green, g (s)	14.1	14.1	14.1	14.1	14.1		7.4	105.9	105.9	8.0	106.5	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.10		0.05	0.76	0.76	0.06	0.76	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	132	191	162	144	163		95	2730	1186	103	2740	
v/s Ratio Prot		0.00			0.01		0.02	c0.41		c0.03	0.37	
v/s Ratio Perm	0.01		0.00	c0.06					0.02			
v/c Ratio	0.12	0.02	0.03	0.62	0.08		0.42	0.54	0.02	0.48	0.48	
Uniform Delay, d1	57.3	56.7	56.8	60.4	57.1		64.2	7.0	4.2	64.0	6.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.17	0.62	0.33	1.21	0.73	
Incremental Delay, d2	0.4	0.0	0.1	8.2	0.2		2.7	0.7	0.0	3.3	0.6	
Delay (s)	57.7	56.7	56.8	68.6	57.3		77.7	5.0	1.4	80.6	5.2	
Level of Service	E	E	E	E	E		E	A	A	F	A	
Approach Delay (s)		57.1			64.0			6.8			7.9	
Approach LOS		E			E			A			A	

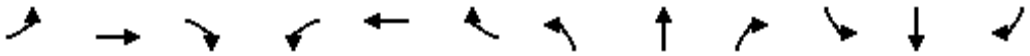
Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	376	45	265	125	40	96	538	837	9	118	679	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	0.97	0.91		0.97	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1656		1805	1900	1574	3502	5178		3502	5002	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1656		1805	1900	1574	3502	5178		3502	5002	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	384	46	270	128	41	98	549	854	9	120	693	178
RTOR Reduction (vph)	0	181	0	0	0	92	0	1	0	0	24	0
Lane Group Flow (vph)	384	135	0	128	41	6	549	862	0	120	847	0
Confl. Peds. (#/hr)	11					11	8		2	2		8
Confl. Bikes (#/hr)					1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8						
Actuated Green, G (s)	23.9	17.8		14.6	8.5	8.5	27.1	58.2		28.4	59.5	
Effective Green, g (s)	23.9	17.8		14.6	8.5	8.5	27.1	58.2		28.4	59.5	
Actuated g/C Ratio	0.17	0.13		0.10	0.06	0.06	0.19	0.42		0.20	0.42	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	597	210		188	115	95	677	2152		710	2125	
v/s Ratio Prot	c0.11	0.08		c0.07	0.02		c0.16	0.17		0.03	c0.17	
v/s Ratio Perm						0.00						
v/c Ratio	0.64	0.64		0.68	0.36	0.06	0.81	0.40		0.17	0.40	
Uniform Delay, d1	54.1	58.1		60.5	63.1	62.0	54.0	28.7		46.1	27.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.83	0.55		0.70	0.65	
Incremental Delay, d2	2.4	6.6		9.7	1.9	0.3	6.5	0.5		0.1	0.5	
Delay (s)	56.5	64.7		70.2	65.0	62.3	51.3	16.4		32.3	18.7	
Level of Service	E	E		E	E	E	D	B		C	B	
Approach Delay (s)		60.2			66.5			30.0			20.4	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

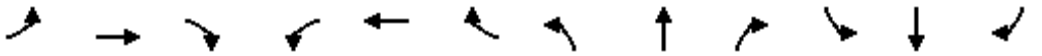
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	44	85	44	384	120	383	112	936	361	292	542	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.5	3.5	5.0	5.0	6.5	3.5	5.0	6.5	
Lane Util. Factor	1.00	1.00		0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	0.92	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1786		3502	1634	1481	1805	5187	1579	3502	3574	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1786		3502	1634	1481	1805	5187	1579	3502	3574	
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)	48	92	48	417	130	416	122	1017	392	317	589	34
RTOR Reduction (vph)	0	12	0	0	32	228	0	0	256	0	3	0
Lane Group Flow (vph)	48	128	0	417	252	34	122	1017	136	317	620	0
Confl. Peds. (#/hr)	10		8	8		10	3		7	7		3
Confl. Bikes (#/hr)		2						2			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA		Split	NA	custom	Prot	NA	custom	Prot	NA	
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases						7			6			
Actuated Green, G (s)	39.9	39.9		28.2	28.2	18.0	21.4	33.9	28.2	18.0	30.5	
Effective Green, g (s)	39.9	39.9		28.2	28.2	18.0	21.4	33.9	28.2	18.0	30.5	
Actuated g/C Ratio	0.28	0.28		0.20	0.20	0.13	0.15	0.24	0.20	0.13	0.22	
Clearance Time (s)	5.0	5.0		3.5	3.5	5.0	5.0	6.5	3.5	5.0	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	514	509		705	329	190	275	1255	318	450	778	
v/s Ratio Prot	0.03	c0.07		0.12	c0.15		c0.07	c0.20		c0.09	0.17	
v/s Ratio Perm						0.02			0.09			
v/c Ratio	0.09	0.25		0.59	0.77	0.18	0.44	0.81	0.43	0.70	0.80	
Uniform Delay, d1	36.8	38.5		50.7	52.8	54.4	53.9	50.0	48.9	58.5	51.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.86	0.61	3.22	0.88	0.78	
Incremental Delay, d2	0.4	1.2		1.3	10.2	0.4	1.1	3.9	0.9	4.7	5.4	
Delay (s)	37.1	39.7		52.0	63.0	54.8	47.3	34.2	158.3	56.4	45.8	
Level of Service	D	D		D	E	D	D	C	F	E	D	
Approach Delay (s)		39.1			56.0			67.0			49.4	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	58.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

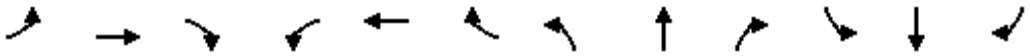
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	18	753	16	22	872	111	4	1	19	64	9	48
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	21	866	18	25	1002	128	5	1	22	74	10	55
Pedestrians					4			4			8	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					3.5			3.5			3.5	
Percent Blockage					0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		419										
pX, platoon unblocked												
vC, conflicting volume	1010			888			1532	1981	450	1561	1990	509
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1010			888			1532	1981	450	1561	1990	509
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
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 %	97			97			92	98	96	0	81	89
cM capacity (veh/h)	677			756			57	56	552	67	56	505

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1	SB 2
Volume Total	21	577	307	25	501	501	128	28	84	55
Volume Left	21	0	0	25	0	0	0	5	74	0
Volume Right	0	0	18	0	0	0	128	22	0	55
cSH	677	1700	1700	756	1700	1700	1700	197	65	505
Volume to Capacity	0.03	0.34	0.18	0.03	0.29	0.29	0.08	0.14	1.29	0.11
Queue Length 95th (ft)	2	0	0	3	0	0	0	12	172	9
Control Delay (s)	10.5	0.0	0.0	9.9	0.0	0.0	0.0	26.2	314.5	13.0
Lane LOS	B			A				D	F	B
Approach Delay (s)	0.2			0.2				26.2	194.9	
Approach LOS								D	F	

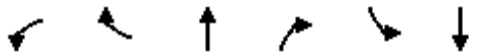
Intersection Summary				
Average Delay	12.7			
Intersection Capacity Utilization	42.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	8	110	34	15	21	124	1071	50	17	893	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	7.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.91		1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	0.96	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		0.98	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.96	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1793	1615		1836	1557	1805	5119		1805	3594	
Flt Permitted		0.73	1.00		0.77	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1366	1615		1459	1557	1805	5119		1805	3594	
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)	33	8	116	36	16	22	131	1127	53	18	940	23
RTOR Reduction (vph)	0	0	108	0	0	20	0	2	0	0	1	0
Lane Group Flow (vph)	0	41	8	0	52	2	131	1178	0	18	962	0
Confl. Peds. (#/hr)	17					17	5		36	36		5
Confl. Bikes (#/hr)					3			2				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4						
Actuated Green, G (s)		10.1	10.1		10.1	10.1	15.5	109.6		3.3	98.4	
Effective Green, g (s)		10.1	10.1		10.1	10.1	15.5	109.6		3.3	98.4	
Actuated g/C Ratio		0.07	0.07		0.07	0.07	0.11	0.78		0.02	0.70	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	7.0		5.0	6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		98	116		105	112	199	4007		42	2526	
v/s Ratio Prot							c0.07	0.23		0.01	c0.27	
v/s Ratio Perm		0.03	0.01		c0.04	0.00						
v/c Ratio		0.42	0.07		0.50	0.01	0.66	0.29		0.43	0.38	
Uniform Delay, d1		62.1	60.6		62.5	60.3	59.7	4.3		67.4	8.4	
Progression Factor		1.00	1.00		1.00	1.00	0.99	0.23		1.14	0.71	
Incremental Delay, d2		2.9	0.3		3.6	0.1	5.5	0.1		6.7	0.4	
Delay (s)		65.0	60.8		66.1	60.4	64.6	1.1		83.5	6.5	
Level of Service		E	E		E	E	E	A		F	A	
Approach Delay (s)		61.9			64.4			7.5			7.9	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

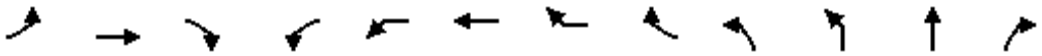
c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	220	64	1046	155	48	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0		6.0	6.0
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.67	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3502	1079	3480		1805	3610
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3502	1079	3480		1805	3610
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	253	74	1202	178	55	874
RTOR Reduction (vph)	0	69	6	0	0	0
Lane Group Flow (vph)	253	5	1374	0	55	874
Confl. Peds. (#/hr)		99		23	23	
Confl. Bikes (#/hr)			2			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	custom	NA		Prot	NA
Protected Phases	4		6		5	2
Permitted Phases		5				
Actuated Green, G (s)	15.4	9.6	98.0		9.6	113.6
Effective Green, g (s)	15.4	9.6	98.0		9.6	113.6
Actuated g/C Ratio	0.11	0.07	0.70		0.07	0.81
Clearance Time (s)	5.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	385	73	2436		123	2929
v/s Ratio Prot	c0.07		c0.39		c0.03	0.24
v/s Ratio Perm		0.00				
v/c Ratio	0.66	0.07	0.56		0.45	0.30
Uniform Delay, d1	59.8	61.0	10.4		62.7	3.3
Progression Factor	1.00	1.00	0.57		0.99	1.00
Incremental Delay, d2	4.0	0.4	0.9		2.6	0.3
Delay (s)	63.8	61.4	6.8		64.8	3.5
Level of Service	E	E	A		E	A
Approach Delay (s)	63.3		6.8			7.2
Approach LOS	E		A			A

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

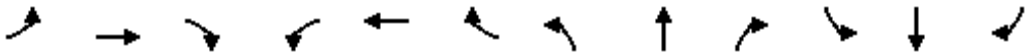


Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Volume (vph)	20	782	7	0	66	867	194	0	0	12	3	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0				4.0					4.0	
Lane Util. Factor	1.00	0.95				0.95					1.00	
Frpb, ped/bikes	1.00	1.00				1.00					0.99	
Flpb, ped/bikes	1.00	1.00				1.00					1.00	
Frt	1.00	1.00				0.97					0.88	
Flt Protected	0.95	1.00				1.00					0.99	
Satd. Flow (prot)	1803	3605				3491					1642	
Flt Permitted	0.95	1.00				0.86					0.95	
Satd. Flow (perm)	1803	3605				3020					1577	
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	21	823	7	0	69	913	204	0	0	13	3	61
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	52	0
Lane Group Flow (vph)	21	830	0	0	0	1186	0	0	0	0	25	0
Confl. Peds. (#/hr)	3		2		2		3					2
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	2%	2%	0%	0%	0%
Turn Type	Prot	NA		Prot	Perm	NA		Perm	Perm	Perm	NA	
Protected Phases	5	2		1		6					8	
Permitted Phases					6			6	8	8		
Actuated Green, G (s)	0.7	37.7				33.0					8.4	
Effective Green, g (s)	0.7	37.7				33.0					8.4	
Actuated g/C Ratio	0.01	0.70				0.61					0.16	
Clearance Time (s)	4.0	4.0				4.0					4.0	
Vehicle Extension (s)	3.0	3.0				3.0					3.0	
Lane Grp Cap (vph)	23	2512				1842					244	
v/s Ratio Prot	0.01	c0.23										
v/s Ratio Perm						c0.39					0.02	
v/c Ratio	0.91	0.33				0.64					0.10	
Uniform Delay, d1	26.7	3.2				6.8					19.6	
Progression Factor	1.00	1.00				1.00					1.00	
Incremental Delay, d2	147.5	0.1				0.8					0.2	
Delay (s)	174.2	3.3				7.6					19.8	
Level of Service	F	A				A					B	
Approach Delay (s)		7.5				7.6					19.8	
Approach LOS		A				A					B	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	54.1	Sum of lost time (s)	20.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

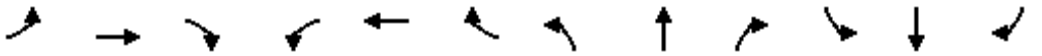
Movement	SBL	SBT	SBR	SEL	NEL
Lane Configurations					
Volume (vph)	111	7	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			
Lane Util. Factor	1.00	1.00			
Frpb, ped/bikes	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			
Frt	1.00	0.91			
Flt Protected	0.95	1.00			
Satd. Flow (prot)	1802	1720			
Flt Permitted	0.71	1.00			
Satd. Flow (perm)	1341	1720			
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92
Adj. Flow (vph)	117	7	12	0	0
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	117	19	0	0	0
Confl. Peds. (#/hr)	2				
Heavy Vehicles (%)	0%	0%	0%	2%	2%
Turn Type	Perm	NA			
Protected Phases		4		7	3
Permitted Phases	4				
Actuated Green, G (s)	8.4	8.4			
Effective Green, g (s)	8.4	8.4			
Actuated g/C Ratio	0.16	0.16			
Clearance Time (s)	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			
Lane Grp Cap (vph)	208	267			
v/s Ratio Prot		0.01			
v/s Ratio Perm	c0.09				
v/c Ratio	0.56	0.07			
Uniform Delay, d1	21.1	19.5			
Progression Factor	1.00	1.00			
Incremental Delay, d2	3.5	0.1			
Delay (s)	24.6	19.6			
Level of Service	C	B			
Approach Delay (s)		23.9		0.0	0.0
Approach LOS		C		A	A

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	0	29	34	2	3	31	992	47	7	646	12
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	5.5	5.5		5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1768	1562		1776	1563	1768	3511		1768	3529	
Flt Permitted		0.80	1.00		0.78	1.00	0.39	1.00		0.26	1.00	
Satd. Flow (perm)		1489	1562		1448	1563	728	3511		481	3529	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	0	30	35	2	3	32	1033	49	7	673	12
RTOR Reduction (vph)	0	0	28	0	0	3	0	2	0	0	1	0
Lane Group Flow (vph)	0	18	2	0	37	0	32	1080	0	7	684	0
Confl. Peds. (#/hr)	1		2	2		1	1		2	2		1
Confl. Bikes (#/hr)											1	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4		4	6			2		
Actuated Green, G (s)		5.0	5.0		5.0	5.0	55.5	55.5		55.5	55.5	
Effective Green, g (s)		5.0	5.0		5.0	5.0	55.5	55.5		55.5	55.5	
Actuated g/C Ratio		0.07	0.07		0.07	0.07	0.79	0.79		0.79	0.79	
Clearance Time (s)		4.0	4.0		4.0	4.0	5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		106	111		103	111	577	2783		381	2797	
v/s Ratio Prot								c0.31			0.19	
v/s Ratio Perm		0.01	0.00		c0.03	0.00	0.04			0.01		
v/c Ratio		0.17	0.02		0.36	0.00	0.06	0.39		0.02	0.24	
Uniform Delay, d1		30.5	30.2		31.0	30.2	1.6	2.2		1.5	1.9	
Progression Factor		1.00	1.00		1.00	1.00	0.31	0.28		1.00	1.00	
Incremental Delay, d2		0.8	0.1		2.1	0.0	0.2	0.4		0.1	0.2	
Delay (s)		31.3	30.3		33.1	30.2	0.7	1.0		1.6	2.1	
Level of Service		C	C		C	C	A	A		A	A	
Approach Delay (s)		30.7			32.9			1.0			2.1	
Approach LOS		C			C			A			A	

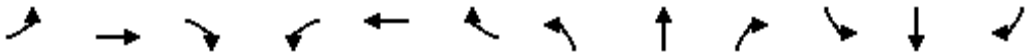
Intersection Summary			
HCM 2000 Control Delay	2.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	896	130	132	866	21	147	4	119	34	5	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.91			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	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		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (prot)	1805	3530		1805	5169			1812	1593		1818	1615
Flt Permitted	0.95	1.00		0.95	1.00			0.70	1.00		0.73	1.00
Satd. Flow (perm)	1805	3530		1805	5169			1332	1593		1378	1615
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)	18	943	137	139	912	22	155	4	125	36	5	18
RTOR Reduction (vph)	0	7	0	0	2	0	0	0	100	0	0	14
Lane Group Flow (vph)	18	1073	0	139	932	0	0	159	25	0	41	4
Confl. Peds. (#/hr)			2	2					2	2		
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	2.5	39.2		13.6	50.3			17.6	17.6		17.6	17.6
Effective Green, g (s)	2.5	39.2		13.6	50.3			17.6	17.6		17.6	17.6
Actuated g/C Ratio	0.03	0.45		0.16	0.58			0.20	0.20		0.20	0.20
Clearance Time (s)	6.0	6.0		6.0	6.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	52	1601		284	3009			271	324		280	328
v/s Ratio Prot	0.01	c0.30		c0.08	0.18							
v/s Ratio Perm								c0.12	0.02		0.03	0.00
v/c Ratio	0.35	0.67		0.49	0.31			0.59	0.08		0.15	0.01
Uniform Delay, d1	41.1	18.5		33.2	9.2			31.1	27.8		28.2	27.5
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	4.0	1.1		1.3	0.1			3.2	0.1		0.2	0.0
Delay (s)	45.1	19.6		34.6	9.3			34.3	27.9		28.5	27.5
Level of Service	D	B		C	A			C	C		C	C
Approach Delay (s)		20.1			12.5			31.5			28.2	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	86.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

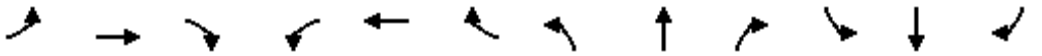
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	887	83	258	912	0	161	1	178	3	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99		1.00	
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			0.95	1.00		0.96	
Satd. Flow (prot)	1805	5113		3502	5187			1810	1593		1768	
Flt Permitted	0.95	1.00		0.95	1.00			0.73	1.00		0.87	
Satd. Flow (perm)	1805	5113		3502	5187			1378	1593		1602	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	7	944	88	274	970	0	171	1	189	3	0	1
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	148	0	3	0
Lane Group Flow (vph)	7	1025	0	274	970	0	0	172	41	0	1	0
Confl. Peds. (#/hr)	6		5	5		6			2	2		
Confl. Bikes (#/hr)		5						4				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	1.0	29.6		12.3	40.9			16.2	16.2		16.2	
Effective Green, g (s)	1.0	29.6		12.3	40.9			16.2	16.2		16.2	
Actuated g/C Ratio	0.01	0.40		0.17	0.55			0.22	0.22		0.22	
Clearance Time (s)	6.0	6.0		6.0	6.0			4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	24	2042		581	2863			301	348		350	
v/s Ratio Prot	0.00	c0.20		c0.08	0.19							
v/s Ratio Perm								c0.12	0.03		0.00	
v/c Ratio	0.29	0.50		0.47	0.34			0.57	0.12		0.00	
Uniform Delay, d1	36.2	16.7		28.0	9.1			25.9	23.2		22.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	6.7	0.2		0.6	0.1			2.6	0.2		0.0	
Delay (s)	42.9	16.9		28.6	9.2			28.5	23.4		22.6	
Level of Service	D	B		C	A			C	C		C	
Approach Delay (s)		17.1			13.5			25.8			22.6	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	74.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

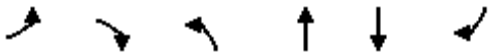
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	574	23	311	5	64	13	291	475	1	10	334	743
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		4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	0.95			0.95	0.88
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00			1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00			1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1715	1725	1592	1802	1852		1805	3609			3605	2725
Flt Permitted	0.95	0.96	1.00	0.55	1.00		0.95	1.00			0.93	1.00
Satd. Flow (perm)	1715	1725	1592	1035	1852		1805	3609			3370	2725
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	660	26	357	6	74	15	334	546	1	11	384	854
RTOR Reduction (vph)	0	0	203	0	9	0	0	0	0	0	0	486
Lane Group Flow (vph)	343	343	154	6	80	0	334	547	0	0	395	368
Confl. Peds. (#/hr)			2	2			10		3	3		10
Confl. Bikes (#/hr)											2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Perm	NA	custom
Protected Phases	2!	2!			6!		5!	4			8	
Permitted Phases			2	6						8		2
Actuated Green, G (s)	29.9	29.9	29.9	9.5	9.5		16.4	14.4			13.1	29.9
Effective Green, g (s)	29.9	29.9	29.9	9.5	9.5		16.4	14.4			13.1	29.9
Actuated g/C Ratio	0.43	0.43	0.43	0.14	0.14		0.24	0.21			0.19	0.43
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	738	743	685	141	253		426	748			636	1174
v/s Ratio Prot	c0.20	0.20			0.04		c0.19	c0.15				
v/s Ratio Perm			0.10	0.01							c0.12	0.14
v/c Ratio	0.46	0.46	0.22	0.04	0.31		0.78	0.73			0.62	0.31
Uniform Delay, d1	14.1	14.0	12.4	26.0	27.0		24.8	25.7			25.9	13.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.5	0.2	0.1	0.7		9.1	3.7			1.9	0.2
Delay (s)	14.5	14.5	12.6	26.1	27.7		34.0	29.4			27.8	13.1
Level of Service	B	B	B	C	C		C	C			C	B
Approach Delay (s)		13.9			27.6			31.1			17.8	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	69.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

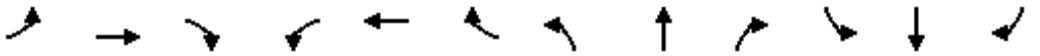
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	71	474	432	375	398	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	5.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.97	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1805	1615	1805	1900	3457	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1805	1615	1805	1900	3457	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	72	479	436	379	402	99
RTOR Reduction (vph)	0	40	0	0	26	0
Lane Group Flow (vph)	72	439	436	379	475	0
Confl. Peds. (#/hr)	31		18			18
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	custom	Prot	NA	NA	
Protected Phases	5	2	6		4	
Permitted Phases				6 2 4		
Actuated Green, G (s)	7.7	61.1	49.4	90.0	19.9	
Effective Green, g (s)	7.7	61.1	49.4	86.0	19.9	
Actuated g/C Ratio	0.09	0.68	0.55	0.96	0.22	
Clearance Time (s)	4.0	5.0	5.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	154	1096	990	1815	764	
v/s Ratio Prot	0.04	c0.27	c0.24		c0.14	
v/s Ratio Perm				0.20		
v/c Ratio	0.47	0.40	0.44	0.21	0.62	
Uniform Delay, d1	39.2	6.4	12.1	0.1	31.7	
Progression Factor	1.00	1.00	0.59	1.00	1.00	
Incremental Delay, d2	2.2	1.1	1.4	0.1	1.6	
Delay (s)	41.4	7.5	8.5	0.2	33.2	
Level of Service	D	A	A	A	C	
Approach Delay (s)	11.9			4.6	33.2	
Approach LOS	B			A	C	

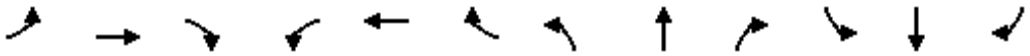
Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



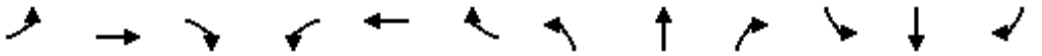
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	76	2	42	7	1	1	26	569	3	1	768	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected		0.95	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1804	1590		1816	1588	1805	3607		1805	3560	
Flt Permitted		0.73	1.00		1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1373	1590		1895	1588	1805	3607		1805	3560	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	79	2	44	7	1	1	27	593	3	1	800	66
RTOR Reduction (vph)	0	0	39	0	0	1	0	0	0	0	4	0
Lane Group Flow (vph)	0	81	5	0	8	0	27	596	0	1	862	0
Confl. Peds. (#/hr)	3		2	2		3	5		9	9		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4						
Actuated Green, G (s)		9.3	9.3		1.7	1.7	3.2	57.8		1.2	55.8	
Effective Green, g (s)		9.3	9.3		1.7	1.7	3.2	57.8		1.2	55.8	
Actuated g/C Ratio		0.10	0.10		0.02	0.02	0.04	0.64		0.01	0.62	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		141	164		35	29	64	2316		24	2207	
v/s Ratio Prot							c0.01	0.17		0.00	c0.24	
v/s Ratio Perm		c0.06	0.00		c0.00	0.00						
v/c Ratio		0.57	0.03		0.23	0.00	0.42	0.26		0.04	0.39	
Uniform Delay, d1		38.5	36.3		43.5	43.3	42.5	6.9		43.8	8.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.30	0.47	
Incremental Delay, d2		5.6	0.1		3.3	0.0	4.4	0.3		0.7	0.5	
Delay (s)		44.0	36.4		46.8	43.3	46.9	7.2		57.5	4.5	
Level of Service		D	D		D	D	D	A		E	A	
Approach Delay (s)		41.3			46.4			8.9			4.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	4	15	52	0	82	9	617	22	76	752	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.98	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1781	1589		1799	1564	1805	3586		1805	3565	
Flt Permitted		0.69	1.00		0.69	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1295	1589		1316	1564	1805	3586		1805	3565	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	92	4	16	56	0	88	10	663	24	82	809	60
RTOR Reduction (vph)	0	0	14	0	0	78	0	2	0	0	3	0
Lane Group Flow (vph)	0	96	2	0	56	10	10	685	0	82	866	0
Confl. Peds. (#/hr)	15		3	3		15	5		10	10		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		10.6	10.6		10.6	10.6	1.4	56.2		8.2	63.0	
Effective Green, g (s)		10.6	10.6		10.6	10.6	1.4	56.2		8.2	63.0	
Actuated g/C Ratio		0.12	0.12		0.12	0.12	0.02	0.62		0.09	0.70	
Clearance Time (s)		5.0	5.0		5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		152	187		154	184	28	2239		164	2495	
v/s Ratio Prot							0.01	0.19		c0.05	c0.24	
v/s Ratio Perm		c0.07	0.00		0.04	0.01						
v/c Ratio		0.63	0.01		0.36	0.06	0.36	0.31		0.50	0.35	
Uniform Delay, d1		37.8	35.1		36.6	35.3	43.9	7.8		38.9	5.3	
Progression Factor		1.00	1.00		1.00	1.00	1.16	0.71		0.86	0.89	
Incremental Delay, d2		8.3	0.0		1.5	0.1	7.5	0.3		2.2	0.4	
Delay (s)		46.1	35.1		38.1	35.4	58.6	5.9		35.7	5.1	
Level of Service		D	D		D	D	E	A		D	A	
Approach Delay (s)		44.5			36.4			6.7			7.7	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



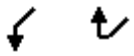
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	439	204	0	0	0	193	0	344	22	357	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.2				4.2		4.2		4.2	4.5
Lane Util. Factor		0.95	1.00				1.00		1.00		1.00	1.00
Frpb, ped/bikes		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
Frt		1.00	0.85				1.00		0.85		1.00	0.85
Flt Protected		1.00	1.00				0.95		1.00		1.00	1.00
Satd. Flow (prot)		3539	1583				1770		1558		1857	1568
Flt Permitted		1.00	1.00				0.95		1.00		1.00	1.00
Satd. Flow (perm)		3539	1583				1770		1558		1857	1568
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)	0	462	215	0	0	0	203	0	362	23	376	460
RTOR Reduction (vph)	0	0	94	0	0	0	0	0	279	0	41	176
Lane Group Flow (vph)	0	462	121	0	0	0	203	0	83	0	358	284
Confl. Peds. (#/hr)							8		3	3		8
Confl. Bikes (#/hr)					1							
Turn Type		NA	pm+ov				Prot		custom	Perm	NA	custom
Protected Phases		2	3				3				4	2
Permitted Phases			2						3	4		4
Actuated Green, G (s)		18.4	33.4				15.0		15.0		19.0	37.4
Effective Green, g (s)		18.4	33.4				15.0		15.0		19.0	37.4
Actuated g/C Ratio		0.28	0.51				0.23		0.23		0.29	0.57
Clearance Time (s)		4.5	4.2				4.2		4.2		4.2	4.5
Vehicle Extension (s)		3.0	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		997	809				406		357		540	898
v/s Ratio Prot		c0.13	0.03				c0.11					0.09
v/s Ratio Perm			0.04						0.05		0.19	0.09
v/c Ratio		0.46	0.15				0.50		0.23		0.66	0.32
Uniform Delay, d1		19.4	8.4				21.9		20.5		20.3	7.3
Progression Factor		1.00	1.00				1.00		1.00		1.00	1.00
Incremental Delay, d2		0.3	0.1				1.0		0.3		3.1	0.2
Delay (s)		19.7	8.5				22.9		20.8		23.4	7.5
Level of Service		B	A				C		C		C	A
Approach Delay (s)		16.2			0.0			21.5			14.9	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	12.9
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR	SWL2
Lane Configurations												
Volume (vph)	0	2	84	1	64	3	454	78	45	447	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0		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	0.63		1.00	0.93		1.00	1.00		1.00	1.00		
Flpb, ped/bikes	1.00		1.00	1.00		0.99	1.00		0.99	1.00		
Frt	0.86		1.00	0.85		1.00	0.98		1.00	1.00		
Flt Protected	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1033		1805	1511		1779	1853		1779	1899		
Flt Permitted	1.00		0.95	1.00		0.38	1.00		0.29	1.00		
Satd. Flow (perm)	1033		1805	1511		703	1853		549	1899		
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	0.97
Adj. Flow (vph)	0	2	87	1	66	3	468	80	46	461	1	3
RTOR Reduction (vph)	0	0	0	0	0	0	30	0	0	0	0	0
Lane Group Flow (vph)	2	0	87	67	0	3	518	0	46	462	0	0
Confl. Peds. (#/hr)		12	12		26	23			28		23	
Confl. Bikes (#/hr)	1									2		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	2%
Turn Type	NA		Split	NA		Perm	NA		Perm	NA		Perm
Protected Phases	1		8	8			2			6		
Permitted Phases						2			6			7
Actuated Green, G (s)	0.8		7.6	7.6		26.5	26.5		26.5	26.5		
Effective Green, g (s)	0.8		7.6	7.6		26.5	26.5		26.5	26.5		
Actuated g/C Ratio	0.01		0.13	0.13		0.44	0.44		0.44	0.44		
Clearance Time (s)	3.0		3.0	3.0		5.0	5.0		5.0	5.0		
Vehicle Extension (s)	3.0		3.0	3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	13		229	192		311	821		243	841		
v/s Ratio Prot	c0.00		c0.05	0.04			c0.28			0.24		
v/s Ratio Perm						0.00			0.08			
v/c Ratio	0.15		0.38	0.35		0.01	0.63		0.19	0.55		
Uniform Delay, d1	29.2		23.9	23.8		9.3	12.9		10.1	12.3		
Progression Factor	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	5.5		1.1	1.1		0.0	1.6		0.4	0.7		
Delay (s)	34.6		25.0	24.9		9.3	14.5		10.5	13.0		
Level of Service	C		C	C		A	B		B	B		
Approach Delay (s)	34.6			25.0			14.4			12.8		
Approach LOS	C			C			B			B		

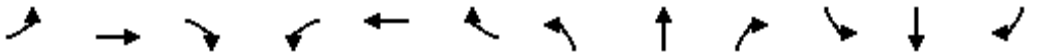
Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	59.8	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



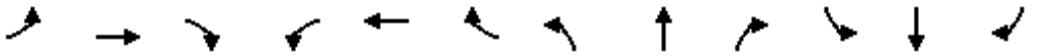
Movement	SWL	SWR2
Lane Configurations		
Volume (vph)	129	17
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	3.0	3.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	0.95	1.00
Satd. Flow (prot)	1770	1583
Flt Permitted	0.95	1.00
Satd. Flow (perm)	1770	1583
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	133	18
RTOR Reduction (vph)	0	15
Lane Group Flow (vph)	136	3
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	Prot
Protected Phases	7	7
Permitted Phases		
Actuated Green, G (s)	10.9	10.9
Effective Green, g (s)	10.9	10.9
Actuated g/C Ratio	0.18	0.18
Clearance Time (s)	3.0	3.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	322	288
v/s Ratio Prot		0.00
v/s Ratio Perm	0.08	
v/c Ratio	0.42	0.01
Uniform Delay, d1	21.7	20.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.9	0.0
Delay (s)	22.6	20.1
Level of Service	C	C
Approach Delay (s)	22.3	
Approach LOS	C	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	58	553	44	111	83	0	0	89	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				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
Frpb, ped/bikes				1.00	1.00		1.00	1.00			1.00	0.98
Flpb, ped/bikes				0.95	1.00		0.99	1.00			1.00	1.00
Frt				1.00	0.99		1.00	1.00			1.00	0.85
Flt Protected				0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)				1709	3554		1786	1900			1900	1577
Flt Permitted				0.95	1.00		0.70	1.00			1.00	1.00
Satd. Flow (perm)				1709	3554		1312	1900			1900	1577
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	0	59	564	45	113	85	0	0	91	157
RTOR Reduction (vph)	0	0	0	0	10	0	0	0	0	0	0	99
Lane Group Flow (vph)	0	0	0	59	599	0	113	85	0	0	91	58
Confl. Peds. (#/hr)	39		48	48		39	14		17	17		14
Confl. Bikes (#/hr)		2			3			4			3	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			8			4	
Permitted Phases				2			8					4
Actuated Green, G (s)				28.0	28.0		22.0	22.0			22.0	22.0
Effective Green, g (s)				28.0	28.0		22.0	22.0			22.0	22.0
Actuated g/C Ratio				0.47	0.47		0.37	0.37			0.37	0.37
Clearance Time (s)				5.0	5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)				797	1658		481	696			696	578
v/s Ratio Prot					c0.17			0.04			0.05	
v/s Ratio Perm				0.03			c0.09					0.04
v/c Ratio				0.07	0.36		0.23	0.12			0.13	0.10
Uniform Delay, d1				8.8	10.3		13.2	12.6			12.6	12.5
Progression Factor				0.64	0.79		0.98	0.99			1.00	1.00
Incremental Delay, d2				0.2	0.6		1.1	0.4			0.4	0.3
Delay (s)				5.9	8.7		14.0	12.8			13.0	12.8
Level of Service				A	A		B	B			B	B
Approach Delay (s)		0.0			8.5			13.5			12.9	
Approach LOS		A			A			B			B	

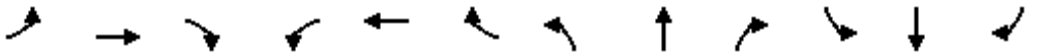
Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	129	696	37	0	0	0	0	105	21	69	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0		5.0	5.0	
Lane Util. Factor		0.91						1.00		1.00	1.00	
Frpb, ped/bikes		1.00						0.99		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.98	1.00	
Frt		0.99						0.98		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		5087						1846		1765	1900	
Flt Permitted		0.99						1.00		0.67	1.00	
Satd. Flow (perm)		5087						1846		1254	1900	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	132	710	38	0	0	0	0	107	21	70	61	0
RTOR Reduction (vph)	0	8	0	0	0	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	872	0	0	0	0	0	116	0	70	61	0
Confl. Peds. (#/hr)	26		12	12		26	23		28	28		23
Confl. Bikes (#/hr)		1									2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		31.0						19.0		19.0	19.0	
Effective Green, g (s)		31.0						19.0		19.0	19.0	
Actuated g/C Ratio		0.52						0.32		0.32	0.32	
Clearance Time (s)		5.0						5.0		5.0	5.0	
Lane Grp Cap (vph)		2628						584		397	601	
v/s Ratio Prot								c0.06			0.03	
v/s Ratio Perm		0.17								0.06		
v/c Ratio		0.33						0.20		0.18	0.10	
Uniform Delay, d1		8.5						15.0		14.8	14.5	
Progression Factor		1.00						1.00		0.84	0.85	
Incremental Delay, d2		0.3						0.8		1.0	0.3	
Delay (s)		8.8						15.7		13.4	12.6	
Level of Service		A						B		B	B	
Approach Delay (s)		8.8			0.0			15.7			13.0	
Approach LOS		A			A			B			B	

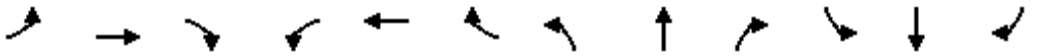
Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



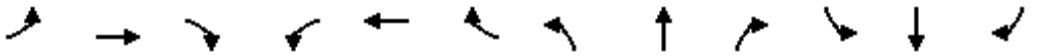
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	632	105	0	0	0	0	203	178	50	208	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.91						1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.99						1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	0.98	1.00	
Frt		0.98						1.00	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		4987						1900	1559	1774	1900	
Flt Permitted		1.00						1.00	1.00	0.62	1.00	
Satd. Flow (perm)		4987						1900	1559	1166	1900	
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)	48	665	111	0	0	0	0	214	187	53	219	0
RTOR Reduction (vph)	0	35	0	0	0	0	0	0	51	0	0	0
Lane Group Flow (vph)	0	789	0	0	0	0	0	214	136	53	219	0
Confl. Peds. (#/hr)	46		63	63		46	79		32	32		79
Confl. Bikes (#/hr)								2			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		2						4			8	
Permitted Phases	2								4	8		
Actuated Green, G (s)		25.0						25.0	25.0	25.0	25.0	
Effective Green, g (s)		25.0						25.0	25.0	25.0	25.0	
Actuated g/C Ratio		0.42						0.42	0.42	0.42	0.42	
Clearance Time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		2077						791	649	485	791	
v/s Ratio Prot								0.11			c0.12	
v/s Ratio Perm		0.16							0.09	0.05		
v/c Ratio		0.38						0.27	0.21	0.11	0.28	
Uniform Delay, d1		12.1						11.5	11.2	10.7	11.5	
Progression Factor		0.48						0.91	0.95	0.57	0.55	
Incremental Delay, d2		0.5						0.8	0.7	0.4	0.9	
Delay (s)		6.4						11.3	11.3	6.5	7.1	
Level of Service		A						B	B	A	A	
Approach Delay (s)		6.4			0.0			11.3			7.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



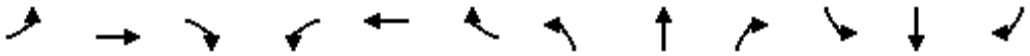
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	149	452	32	97	115	0	0	77	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					0.91			1.00			1.00	1.00
Frpb, ped/bikes					0.99			1.00			1.00	0.93
Flpb, ped/bikes					0.97			0.98			1.00	1.00
Frt					0.99			1.00			1.00	0.85
Flt Protected					0.99			0.98			1.00	1.00
Satd. Flow (prot)					4886			1816			1900	1508
Flt Permitted					0.99			0.83			1.00	1.00
Satd. Flow (perm)					4886			1543			1900	1508
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)	0	0	0	162	491	35	105	125	0	0	84	12
RTOR Reduction (vph)	0	0	0	0	10	0	0	0	0	0	0	7
Lane Group Flow (vph)	0	0	0	0	678	0	0	230	0	0	84	5
Confl. Peds. (#/hr)	136		98	98		136	77		64	64		77
Confl. Bikes (#/hr)					1			4			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2			4					8
Actuated Green, G (s)					25.0			25.0			25.0	25.0
Effective Green, g (s)					25.0			25.0			25.0	25.0
Actuated g/C Ratio					0.42			0.42			0.42	0.42
Clearance Time (s)					5.0			5.0			5.0	5.0
Lane Grp Cap (vph)					2035			642			791	628
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.14			c0.15				0.00
v/c Ratio					0.33			0.36			0.11	0.01
Uniform Delay, d1					11.9			12.0			10.7	10.2
Progression Factor					1.02			1.77			1.00	1.00
Incremental Delay, d2					0.4			1.5			0.3	0.0
Delay (s)					12.5			22.7			11.0	10.3
Level of Service					B			C			B	B
Approach Delay (s)		0.0			12.5			22.7			10.9	
Approach LOS		A			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	91	399	54	37	181	0	0	142	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0		5.0	5.0			5.0	5.0
Lane Util. Factor					0.91		1.00	1.00			1.00	1.00
Frpb, ped/bikes					0.98		1.00	1.00			1.00	0.91
Flpb, ped/bikes					0.96		0.93	1.00			1.00	1.00
Frt					0.99		1.00	1.00			1.00	0.85
Flt Protected					0.99		0.95	1.00			1.00	1.00
Satd. Flow (prot)					4752		1687	1900			1900	1467
Flt Permitted					0.99		0.66	1.00			1.00	1.00
Satd. Flow (perm)					4752		1168	1900			1900	1467
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	100	438	59	41	199	0	0	156	184
RTOR Reduction (vph)	0	0	0	0	22	0	0	0	0	0	0	79
Lane Group Flow (vph)	0	0	0	0	575	0	41	199	0	0	156	105
Confl. Peds. (#/hr)	164		173	173		164	95		115	115		95
Confl. Bikes (#/hr)					1			1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			8			4	
Permitted Phases				2			8					4
Actuated Green, G (s)					28.0		22.0	22.0			22.0	22.0
Effective Green, g (s)					28.0		22.0	22.0			22.0	22.0
Actuated g/C Ratio					0.47		0.37	0.37			0.37	0.37
Clearance Time (s)					5.0		5.0	5.0			5.0	5.0
Lane Grp Cap (vph)					2217		428	696			696	537
v/s Ratio Prot								c0.10			0.08	
v/s Ratio Perm					0.12		0.04					0.07
v/c Ratio					0.26		0.10	0.29			0.22	0.20
Uniform Delay, d1					9.7		12.5	13.4			13.1	13.0
Progression Factor					2.50		0.81	0.80			1.53	2.44
Incremental Delay, d2					0.3		0.4	1.0			0.7	0.8
Delay (s)					24.5		10.5	11.8			20.8	32.4
Level of Service					C		B	B			C	C
Approach Delay (s)		0.0			24.5			11.6			27.1	
Approach LOS		A			C			B			C	

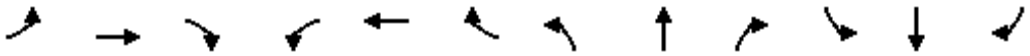
Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	68	502	34	94	152	0	0	77	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					0.99			1.00			0.97	
Flpb, ped/bikes					0.99			0.98			1.00	
Frt					0.99			1.00			0.93	
Flt Protected					0.99			0.98			1.00	
Satd. Flow (prot)					5033			1833			1719	
Flt Permitted					0.99			0.82			1.00	
Satd. Flow (perm)					5033			1539			1719	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	72	534	36	100	162	0	0	82	77
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	47	0
Lane Group Flow (vph)	0	0	0	0	631	0	0	262	0	0	112	0
Confl. Peds. (#/hr)	86		77	77		86	64		61	61		64
Confl. Bikes (#/hr)					3			1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					4			2			6	
Permitted Phases				4			2					
Actuated Green, G (s)					27.0			23.0			23.0	
Effective Green, g (s)					27.0			23.0			23.0	
Actuated g/C Ratio					0.45			0.38			0.38	
Clearance Time (s)					5.0			5.0			5.0	
Lane Grp Cap (vph)					2264			589			658	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.13			c0.17				
v/c Ratio					0.28			0.44			0.17	
Uniform Delay, d1					10.4			13.8			12.2	
Progression Factor					0.90			0.53			2.02	
Incremental Delay, d2					0.3			2.3			0.6	
Delay (s)					9.6			9.7			25.2	
Level of Service					A			A			C	
Approach Delay (s)		0.0			9.6			9.7			25.2	
Approach LOS		A			A			A			C	

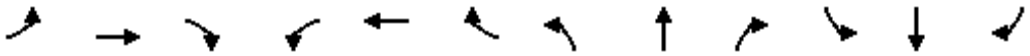
Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



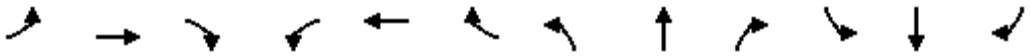
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	540	55	0	0	0	0	195	235	40	150	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.91						1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00						1.00	0.95	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	0.97	1.00	
Frt		0.99						1.00	0.85	1.00	1.00	
Flt Protected		0.99						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5048						1900	1539	1760	1900	
Flt Permitted		0.99						1.00	1.00	0.53	1.00	
Satd. Flow (perm)		5048						1900	1539	983	1900	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	93	628	64	0	0	0	0	227	273	47	174	0
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	139	0	0	0
Lane Group Flow (vph)	0	772	0	0	0	0	0	227	134	47	174	0
Confl. Peds. (#/hr)	23		21	21		23	52		42	42		52
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2								8	4		
Actuated Green, G (s)		37.1						12.9	12.9	12.9	12.9	
Effective Green, g (s)		37.1						12.9	12.9	12.9	12.9	
Actuated g/C Ratio		0.62						0.22	0.22	0.22	0.22	
Clearance Time (s)		5.0						5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		3121						408	330	211	408	
v/s Ratio Prot								c0.12			0.09	
v/s Ratio Perm		0.15							0.09	0.05		
v/c Ratio		0.25						0.56	0.41	0.22	0.43	
Uniform Delay, d1		5.2						21.0	20.3	19.4	20.4	
Progression Factor		0.47						0.71	0.43	1.07	1.06	
Incremental Delay, d2		0.2						1.6	0.8	0.5	0.7	
Delay (s)		2.6						16.6	9.5	21.4	22.2	
Level of Service		A						B	A	C	C	
Approach Delay (s)		2.6			0.0			12.8			22.0	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



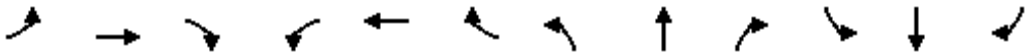
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	26	17	45	95	31	29	325	21	10	242	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.98			0.99			0.99	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		1784			1814			1869			1877	
Flt Permitted		0.98			0.90			0.96			0.98	
Satd. Flow (perm)		1751			1647			1807			1851	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	3	30	19	51	108	35	33	369	24	11	275	17
RTOR Reduction (vph)	0	15	0	0	15	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	37	0	0	179	0	0	423	0	0	300	0
Confl. Peds. (#/hr)	11		2	2		11	6		27	27		6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		11.6			11.6			38.4			38.4	
Effective Green, g (s)		11.6			11.6			38.4			38.4	
Actuated g/C Ratio		0.19			0.19			0.64			0.64	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		338			318			1156			1184	
v/s Ratio Prot												
v/s Ratio Perm		0.02			c0.11			c0.23			0.16	
v/c Ratio		0.11			0.56			0.37			0.25	
Uniform Delay, d1		19.9			21.9			5.1			4.6	
Progression Factor		1.00			1.00			0.24			1.48	
Incremental Delay, d2		0.1			2.3			0.9			0.5	
Delay (s)		20.1			24.2			2.1			7.4	
Level of Service		C			C			A			A	
Approach Delay (s)		20.1			24.2			2.1			7.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	59	165	36	20	313	0	0	290	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					1.00	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.97		1.00			1.00	
Flpb, ped/bikes					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.99	
Flt Protected					0.99	1.00		1.00			1.00	
Satd. Flow (prot)					1867	1559		1894			1882	
Flt Permitted					0.99	1.00		0.97			1.00	
Satd. Flow (perm)					1867	1559		1842			1882	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	69	194	42	24	368	0	0	341	22
RTOR Reduction (vph)	0	0	0	0	0	33	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	263	9	0	392	0	0	360	0
Confl. Peds. (#/hr)	7		8	8		7	5		8	8		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					4			6			2	
Permitted Phases				4		4	6					
Actuated Green, G (s)					13.3	13.3		36.7			36.7	
Effective Green, g (s)					13.3	13.3		36.7			36.7	
Actuated g/C Ratio					0.22	0.22		0.61			0.61	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					413	345		1126			1151	
v/s Ratio Prot											0.19	
v/s Ratio Perm					0.14	0.01		c0.21				
v/c Ratio					0.64	0.03		0.35			0.31	
Uniform Delay, d1					21.2	18.3		5.7			5.6	
Progression Factor					1.00	1.00		0.66			0.32	
Incremental Delay, d2					3.2	0.0		0.8			0.7	
Delay (s)					24.4	18.3		4.6			2.5	
Level of Service					C	B		A			A	
Approach Delay (s)		0.0			23.5			4.6			2.5	
Approach LOS		A			C			A			A	

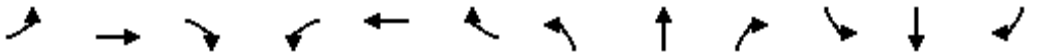
Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	34	10	17	22	5	5	360	9	8	398	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.97			0.99			1.00			1.00	
Flt Protected		0.99			0.98			1.00			1.00	
Satd. Flow (prot)		1824			1820			1892			1894	
Flt Permitted		0.94			0.85			1.00			0.99	
Satd. Flow (perm)		1722			1575			1885			1884	
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	0.97
Adj. Flow (vph)	8	35	10	18	23	5	5	371	9	8	410	5
RTOR Reduction (vph)	0	9	0	0	5	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	44	0	0	41	0	0	384	0	0	423	0
Confl. Peds. (#/hr)	2		8	8		2	9		4	4		9
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		4.8			4.8			45.2			45.2	
Effective Green, g (s)		4.8			4.8			45.2			45.2	
Actuated g/C Ratio		0.08			0.08			0.75			0.75	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		137			126			1420			1419	
v/s Ratio Prot												
v/s Ratio Perm		0.03			c0.03			0.20			c0.22	
v/c Ratio		0.32			0.33			0.27			0.30	
Uniform Delay, d1		26.1			26.1			2.3			2.4	
Progression Factor		1.00			1.00			1.00			0.76	
Incremental Delay, d2		1.4			1.5			0.5			0.5	
Delay (s)		27.4			27.6			2.8			2.3	
Level of Service		C			C			A			A	
Approach Delay (s)		27.4			27.6			2.8			2.3	
Approach LOS		C			C			A			A	

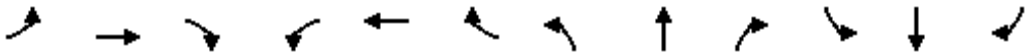
Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	617	33	0	0	0	0	124	78	115	112	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Util. Factor		0.91						1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00						1.00	0.88	1.00	1.00	
Flpb, ped/bikes		0.99						1.00	1.00	0.91	1.00	
Frt		0.99						1.00	0.85	1.00	1.00	
Flt Protected		0.99						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5059						1900	1415	1636	1900	
Flt Permitted		0.99						1.00	1.00	0.67	1.00	
Satd. Flow (perm)		5059						1900	1415	1147	1900	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	132	709	38	0	0	0	0	143	90	132	129	0
RTOR Reduction (vph)	0	8	0	0	0	0	0	0	46	0	0	0
Lane Group Flow (vph)	0	871	0	0	0	0	0	143	44	132	129	0
Confl. Peds. (#/hr)	32		76	76		32	136		152	152		136
Confl. Bikes (#/hr)		1			1						1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA	Perm	Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2								8	4		
Actuated Green, G (s)		26.0						24.0	24.0	24.0	24.0	
Effective Green, g (s)		26.0						24.0	24.0	24.0	24.0	
Actuated g/C Ratio		0.43						0.40	0.40	0.40	0.40	
Clearance Time (s)		5.0						5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)		2192						760	566	458	760	
v/s Ratio Prot								0.08			0.07	
v/s Ratio Perm		0.17							0.03	c0.12		
v/c Ratio		0.40						0.19	0.08	0.29	0.17	
Uniform Delay, d1		11.6						11.7	11.1	12.2	11.6	
Progression Factor		0.60						1.00	1.00	0.70	0.73	
Incremental Delay, d2		0.5						0.5	0.3	1.6	0.5	
Delay (s)		7.5						12.2	11.4	10.1	8.9	
Level of Service		A						B	B	B	A	
Approach Delay (s)		7.5			0.0			11.9			9.5	
Approach LOS		A			A			B			A	

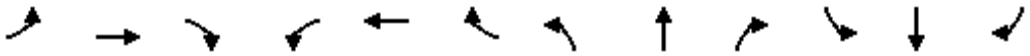
Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	133	111	178	78	0	38	0	359	24	8	296	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	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	1.00	
Frpb, ped/bikes	1.00	1.00	0.93	1.00		1.00		1.00	0.96	1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00		1.00		1.00	1.00	0.99	1.00	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	1900	1500	1805		1615		1900	1550	1784	1900	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.51	1.00	
Satd. Flow (perm)	1787	1900	1500	1805		1615		1900	1550	965	1900	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	158	132	212	93	0	45	0	427	29	10	352	0
RTOR Reduction (vph)	0	0	180	0	0	40	0	0	21	0	0	0
Lane Group Flow (vph)	158	132	32	93	0	5	0	427	8	10	352	0
Confl. Peds. (#/hr)	4		21	21		4	15		8	8		15
Confl. Bikes (#/hr)		1									1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Prot		custom		NA	Perm	Perm	NA	
Protected Phases		4		3		3		2			6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)	15.8	15.8	15.8	11.5		11.5		30.0	30.0	26.5	26.5	
Effective Green, g (s)	15.8	15.8	15.8	11.5		11.5		30.0	30.0	26.5	26.5	
Actuated g/C Ratio	0.15	0.15	0.15	0.11		0.11		0.29	0.29	0.25	0.25	
Clearance Time (s)	5.5	5.5	5.5	5.0		5.0		5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	270	287	227	199		178		546	445	245	482	
v/s Ratio Prot		0.07		c0.05		0.00		c0.22			c0.19	
v/s Ratio Perm	c0.09		0.02						0.01	0.01		
v/c Ratio	0.59	0.46	0.14	0.47		0.03		0.78	0.02	0.04	0.73	
Uniform Delay, d1	41.2	40.4	38.4	43.5		41.4		34.1	26.6	29.3	35.6	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.2	1.2	0.3	1.7		0.1		7.2	0.0	0.1	5.6	
Delay (s)	44.4	41.5	38.7	45.3		41.5		41.3	26.6	29.4	41.3	
Level of Service	D	D	D	D		D		D	C	C	D	
Approach Delay (s)		41.2			44.0			40.4			40.9	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	104.3	Sum of lost time (s)	20.5
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



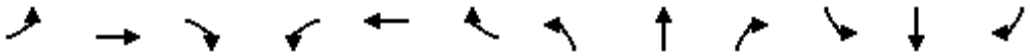
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	67	18	24	61	64	17	185	27	17	156	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.97	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.92		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1771	1824		1769	1715		1751	1857		1798	1823	
Flt Permitted	0.67	1.00		0.69	1.00		0.62	1.00		0.61	1.00	
Satd. Flow (perm)	1242	1824		1294	1715		1144	1857		1153	1823	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	58	76	20	27	69	73	19	210	31	19	177	43
RTOR Reduction (vph)	0	13	0	0	47	0	0	9	0	0	14	0
Lane Group Flow (vph)	58	83	0	27	95	0	19	232	0	19	206	0
Confl. Peds. (#/hr)	16		16	16		16	39		5	5		39
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	21.0	21.0		21.0	21.0		29.0	29.0		29.0	29.0	
Effective Green, g (s)	21.0	21.0		21.0	21.0		29.0	29.0		29.0	29.0	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.48	0.48		0.48	0.48	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	434	638		452	600		552	897		557	881	
v/s Ratio Prot		0.05			c0.06			c0.13			0.11	
v/s Ratio Perm	0.05			0.02			0.02			0.02		
v/c Ratio	0.13	0.13		0.06	0.16		0.03	0.26		0.03	0.23	
Uniform Delay, d1	13.3	13.3		12.9	13.4		8.1	9.2		8.1	9.0	
Progression Factor	1.00	1.00		1.00	1.00		0.68	0.63		1.00	1.00	
Incremental Delay, d2	0.6	0.4		0.3	0.6		0.1	0.7		0.1	0.6	
Delay (s)	13.9	13.7		13.2	14.0		5.6	6.5		8.3	9.6	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		13.8			13.9			6.4			9.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

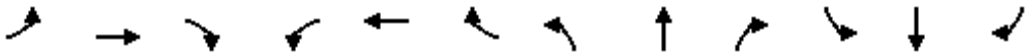
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	55	189	59	19	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.90	1.00	0.91	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	0.95	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1457	1900	1472	1711	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.63	1.00
Satd. Flow (perm)	1805	1457	1900	1472	1126	1900
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	135	62	212	66	21	208
RTOR Reduction (vph)	0	35	0	40	0	0
Lane Group Flow (vph)	135	27	212	26	21	208
Confl. Peds. (#/hr)	8	69		49	49	
Confl. Bikes (#/hr)			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA	Perm	NA	Perm	Perm	NA
Protected Phases	4		6			2
Permitted Phases		4		6	2	
Actuated Green, G (s)	26.0	26.0	24.0	24.0	24.0	24.0
Effective Green, g (s)	26.0	26.0	24.0	24.0	24.0	24.0
Actuated g/C Ratio	0.43	0.43	0.40	0.40	0.40	0.40
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	782	631	760	588	450	760
v/s Ratio Prot	c0.07		c0.11			0.11
v/s Ratio Perm		0.02		0.02	0.02	
v/c Ratio	0.17	0.04	0.28	0.04	0.05	0.27
Uniform Delay, d1	10.4	9.8	12.2	11.0	11.0	12.1
Progression Factor	0.73	0.83	0.55	0.73	0.75	0.72
Incremental Delay, d2	0.5	0.1	0.9	0.1	0.2	0.9
Delay (s)	8.1	8.3	7.6	8.2	8.5	9.6
Level of Service	A	A	A	A	A	A
Approach Delay (s)	8.1		7.8			9.5
Approach LOS	A		A			A

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	60	21	20	133	22	15	45	35	15	39	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.97		1.00	1.00	0.81		0.94			0.98	
Flpb, ped/bikes	0.86	1.00		0.93	1.00	1.00		0.98			0.97	
Frt	1.00	0.96		1.00	1.00	0.85		0.95			0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1557	1777		1677	1900	1315		1640			1744	
Flt Permitted	0.66	1.00		0.70	1.00	1.00		0.96			0.93	
Satd. Flow (perm)	1085	1777		1232	1900	1315		1585			1645	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	29	67	24	22	149	25	17	51	39	17	44	9
RTOR Reduction (vph)	0	12	0	0	0	12	0	27	0	0	6	0
Lane Group Flow (vph)	29	79	0	22	149	13	0	80	0	0	64	0
Confl. Peds. (#/hr)	158		75	75		158	98		93	93		98
Confl. Bikes (#/hr)		1			1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	31.0	31.0		31.0	31.0	31.0		19.0			19.0	
Effective Green, g (s)	31.0	31.0		31.0	31.0	31.0		19.0			19.0	
Actuated g/C Ratio	0.52	0.52		0.52	0.52	0.52		0.32			0.32	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	
Lane Grp Cap (vph)	560	918		636	981	679		501			520	
v/s Ratio Prot		0.04			c0.08							
v/s Ratio Perm	0.03			0.02		0.01		c0.05			0.04	
v/c Ratio	0.05	0.09		0.03	0.15	0.02		0.16			0.12	
Uniform Delay, d1	7.2	7.3		7.1	7.6	7.1		14.8			14.6	
Progression Factor	0.41	0.28		0.66	0.64	0.60		0.83			1.00	
Incremental Delay, d2	0.2	0.2		0.1	0.3	0.1		0.7			0.5	
Delay (s)	3.1	2.3		4.8	5.2	4.3		12.9			15.1	
Level of Service	A	A		A	A	A		B			B	
Approach Delay (s)		2.5			5.0			12.9			15.1	
Approach LOS		A			A			B			B	

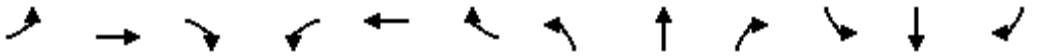
Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	33	4	40	78	21	5	60	89	72	90	39
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	17	39	5	48	93	25	6	71	106	86	107	46

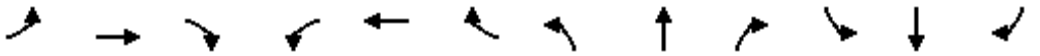
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	61	165	183	239
Volume Left (vph)	17	48	6	86
Volume Right (vph)	5	25	106	46
Hadj (s)	0.04	0.00	-0.31	-0.01
Departure Headway (s)	5.2	5.0	4.5	4.7
Degree Utilization, x	0.09	0.23	0.23	0.31
Capacity (veh/h)	620	661	753	723
Control Delay (s)	8.7	9.5	8.8	9.8
Approach Delay (s)	8.7	9.5	8.8	9.8
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.3			
Level of Service	A			
Intersection Capacity Utilization	45.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	69	28	39	157	44	26	120	66	15	80	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	5.0	4.0	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		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.96	
Flpb, ped/bikes	0.95	1.00	1.00	0.93	1.00	1.00	0.85	1.00		0.91	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1711	1900	1615	1671	1900	1615	1541	1713		1648	1779	
Flt Permitted	0.65	1.00	1.00	0.71	1.00	1.00	0.69	1.00		0.63	1.00	
Satd. Flow (perm)	1167	1900	1615	1244	1900	1615	1114	1713		1091	1779	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	13	76	31	43	173	48	29	132	73	16	88	21
RTOR Reduction (vph)	0	0	31	0	0	48	0	33	0	0	14	0
Lane Group Flow (vph)	13	76	0	43	173	0	29	172	0	16	95	0
Confl. Peds. (#/hr)	55		69	69		55	85		58	58		85
Confl. Bikes (#/hr)					1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	NA	Perm	NA	NA	Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	29.0	29.0	0.0	29.0	29.0	0.0	21.0	21.0		21.0	21.0	
Effective Green, g (s)	29.0	29.0	0.0	29.0	29.0	0.0	21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.48	0.48	0.00	0.48	0.48	0.00	0.35	0.35		0.35	0.35	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	564	918	0	601	918	0	389	599		381	622	
v/s Ratio Prot		0.04			c0.09			c0.10			0.05	
v/s Ratio Perm	0.01			0.03			0.03			0.01		
v/c Ratio	0.02	0.08	0.00	0.07	0.19	0.00	0.07	0.29		0.04	0.15	
Uniform Delay, d1	8.1	8.3	30.0	8.3	8.8	30.0	13.0	14.1		12.9	13.4	
Progression Factor	0.61	0.63	1.00	0.51	0.53	1.00	0.63	0.61		1.00	1.00	
Incremental Delay, d2	0.1	0.2	0.0	0.2	0.4	0.0	0.4	1.1		0.2	0.5	
Delay (s)	5.0	5.4	30.0	4.5	5.1	30.0	8.6	9.8		13.1	13.9	
Level of Service	A	A	C	A	A	C	A	A		B	B	
Approach Delay (s)		11.7			9.5			9.6			13.8	
Approach LOS		B			A			A			B	

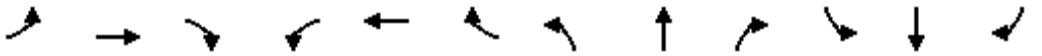
Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	75	33	159	155	162	17	500	144	127	562	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.94	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.96	1.00	1.00	0.97	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1730	1900	1545	1754	1900	1514	1800	3449		1800	3560	
Flt Permitted	0.65	1.00	1.00	0.71	1.00	1.00	0.41	1.00		0.31	1.00	
Satd. Flow (perm)	1191	1900	1545	1303	1900	1514	775	3449		580	3560	
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	79	35	167	163	171	18	526	152	134	592	48
RTOR Reduction (vph)	0	0	26	0	0	129	0	42	0	0	8	0
Lane Group Flow (vph)	52	79	9	167	163	42	18	636	0	134	632	0
Confl. Peds. (#/hr)	49		30	30		49	13		24	24		13
Confl. Bikes (#/hr)		1			1							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4		4	6			2		
Actuated Green, G (s)	14.7	14.7	14.7	14.7	14.7	14.7	27.7	26.9		34.9	30.5	
Effective Green, g (s)	14.7	14.7	14.7	14.7	14.7	14.7	27.7	26.9		34.9	30.5	
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24	0.24	0.46	0.45		0.58	0.51	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	291	465	378	319	465	370	371	1546		426	1809	
v/s Ratio Prot		0.04			0.09		0.00	c0.18		c0.02	0.18	
v/s Ratio Perm	0.04		0.01	c0.13		0.03	0.02			0.16		
v/c Ratio	0.18	0.17	0.02	0.52	0.35	0.11	0.05	0.41		0.31	0.35	
Uniform Delay, d1	17.9	17.8	17.2	19.6	18.7	17.6	8.8	11.2		6.1	8.8	
Progression Factor	0.76	0.75	1.00	1.00	1.00	1.00	0.52	0.93		3.18	2.66	
Incremental Delay, d2	0.3	0.2	0.0	1.6	0.5	0.1	0.1	0.8		0.4	0.5	
Delay (s)	13.8	13.6	17.2	21.2	19.2	17.7	4.6	11.2		19.9	23.9	
Level of Service	B	B	B	C	B	B	A	B		B	C	
Approach Delay (s)		14.4			19.3			11.0			23.2	
Approach LOS		B			B			B			C	

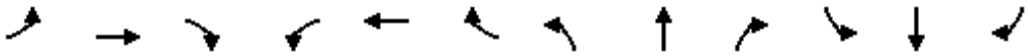
Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



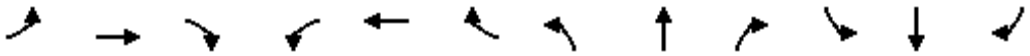
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	51	506	34	47	53	0	0	37	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	5.0
Lane Util. Factor					0.91			1.00			1.00	1.00
Frpb, ped/bikes					0.98			1.00			1.00	0.91
Flpb, ped/bikes					0.98			0.96			1.00	1.00
Frt					0.99			1.00			1.00	0.85
Flt Protected					1.00			0.98			1.00	1.00
Satd. Flow (prot)					4888			1789			1900	1465
Flt Permitted					1.00			0.88			1.00	1.00
Satd. Flow (perm)					4888			1620			1900	1465
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	0.97
Adj. Flow (vph)	0	0	0	53	522	35	48	55	0	0	38	39
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	0	17
Lane Group Flow (vph)	0	0	0	0	599	0	0	103	0	0	38	22
Confl. Peds. (#/hr)	229		177	177		229	142		105	105		142
Confl. Bikes (#/hr)		2			1			2				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					8			2			6	
Permitted Phases				8			2					6
Actuated Green, G (s)					19.0			31.0			31.0	31.0
Effective Green, g (s)					19.0			31.0			31.0	31.0
Actuated g/C Ratio					0.32			0.52			0.52	0.52
Clearance Time (s)					5.0			5.0			5.0	5.0
Lane Grp Cap (vph)					1547			837			981	756
v/s Ratio Prot											0.02	
v/s Ratio Perm					0.12			c0.06				0.01
v/c Ratio					0.39			0.12			0.04	0.03
Uniform Delay, d1					16.0			7.5			7.2	7.1
Progression Factor					1.55			1.71			0.47	0.14
Incremental Delay, d2					0.7			0.3			0.1	0.1
Delay (s)					25.4			13.1			3.4	1.0
Level of Service					C			B			A	A
Approach Delay (s)		0.0			25.4			13.1			2.2	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	598	35	0	0	0	0	18	47	52	45	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0						5.0			5.0	
Lane Util. Factor		0.91						1.00			1.00	
Frpb, ped/bikes		1.00						0.97			1.00	
Flpb, ped/bikes		0.99						1.00			0.98	
Frt		0.99						0.90			1.00	
Flt Protected		0.99						1.00			0.97	
Satd. Flow (prot)		5052						1659			1821	
Flt Permitted		0.99						1.00			0.84	
Satd. Flow (perm)		5052						1659			1567	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	90	610	36	0	0	0	0	18	48	53	46	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	32	0	0	0	0
Lane Group Flow (vph)	0	727	0	0	0	0	0	34	0	0	99	0
Confl. Peds. (#/hr)	76		52	52		76	113		36	36		113
Confl. Bikes (#/hr)		1			1			3			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		30.0						20.0			20.0	
Effective Green, g (s)		30.0						20.0			20.0	
Actuated g/C Ratio		0.50						0.33			0.33	
Clearance Time (s)		5.0						5.0			5.0	
Lane Grp Cap (vph)		2526						553			522	
v/s Ratio Prot								0.02				
v/s Ratio Perm		0.14									c0.06	
v/c Ratio		0.29						0.06			0.19	
Uniform Delay, d1		8.8						13.6			14.2	
Progression Factor		0.61						1.00			1.09	
Incremental Delay, d2		0.3						0.2			0.8	
Delay (s)		5.7						13.8			16.3	
Level of Service		A						B			B	
Approach Delay (s)		5.7			0.0			13.8			16.3	
Approach LOS		A			A			B			B	

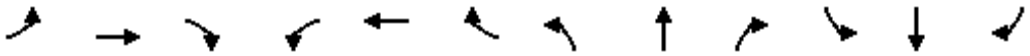
Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	29	18	18	58	104	19	747	25	20	699	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	4.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94			1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1780	1780			1876	1615	1800	3589		1800	3587	
Flt Permitted	0.70	1.00			0.90	1.00	0.36	1.00		0.34	1.00	
Satd. Flow (perm)	1320	1780			1716	1615	675	3589		642	3587	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	35	31	19	19	62	112	20	803	27	22	752	28
RTOR Reduction (vph)	0	17	0	0	0	112	0	2	0	0	2	0
Lane Group Flow (vph)	35	33	0	0	81	0	20	828	0	22	778	0
Confl. Peds. (#/hr)	18		7	7		18	8		8	8		8
Confl. Bikes (#/hr)											1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	NA	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	5.7	5.7			5.7	0.0	44.3	44.3		44.3	44.3	
Effective Green, g (s)	5.7	5.7			5.7	0.0	44.3	44.3		44.3	44.3	
Actuated g/C Ratio	0.10	0.10			0.10	0.00	0.74	0.74		0.74	0.74	
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	125	169			163	0	498	2649		474	2648	
v/s Ratio Prot		0.02						c0.23			0.22	
v/s Ratio Perm	0.03				c0.05		0.03			0.03		
v/c Ratio	0.28	0.19			0.50	0.00	0.04	0.31		0.05	0.29	
Uniform Delay, d1	25.2	25.0			25.8	30.0	2.1	2.7		2.1	2.6	
Progression Factor	1.00	1.00			1.00	1.00	0.36	0.31		1.00	1.00	
Incremental Delay, d2	1.2	0.6			2.4	0.0	0.1	0.3		0.2	0.3	
Delay (s)	26.5	25.6			28.2	30.0	0.9	1.1		2.3	2.9	
Level of Service	C	C			C	C	A	A		A	A	
Approach Delay (s)		26.0			29.2			1.1			2.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

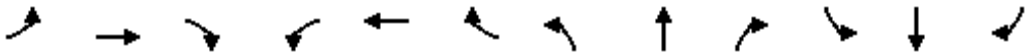
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	37	59	8	31	25	21	676	7	10	684	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.94		0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00		0.99		1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1794	1900	1510		1763		1803	3603		1795	3563	
Flt Permitted	0.71	1.00	1.00		0.96		0.22	1.00		0.37	1.00	
Satd. Flow (perm)	1344	1900	1510		1699		420	3603		704	3563	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	102	40	63	9	33	27	23	727	8	11	735	54
RTOR Reduction (vph)	0	0	54	0	23	0	0	1	0	0	9	0
Lane Group Flow (vph)	102	40	9	0	46	0	23	734	0	11	780	0
Confl. Peds. (#/hr)	7		54	54		7	15		16	16		15
Confl. Bikes (#/hr)		1			1						1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8			4		1	6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	8.9	8.9	8.9		8.9		41.1	41.1		23.0	23.0	
Effective Green, g (s)	8.9	8.9	8.9		8.9		41.1	41.1		23.0	23.0	
Actuated g/C Ratio	0.15	0.15	0.15		0.15		0.69	0.69		0.38	0.38	
Clearance Time (s)	5.0	5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	199	281	223		252		612	2468		269	1365	
v/s Ratio Prot		0.02					0.01	c0.20			c0.22	
v/s Ratio Perm	c0.08		0.01		0.03		0.02			0.02		
v/c Ratio	0.51	0.14	0.04		0.18		0.04	0.30		0.04	0.57	
Uniform Delay, d1	23.6	22.2	21.9		22.4		3.9	3.7		11.6	14.6	
Progression Factor	1.00	1.00	1.00		1.00		0.84	0.64		0.68	0.82	
Incremental Delay, d2	2.2	0.2	0.1		0.4		0.1	0.3		0.3	1.7	
Delay (s)	25.8	22.5	22.0		22.7		3.4	2.7		8.1	13.6	
Level of Service	C	C	C		C		A	A		A	B	
Approach Delay (s)		24.0			22.7			2.7			13.5	
Approach LOS		C			C			A			B	

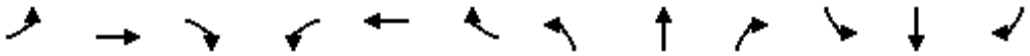
Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	23	23	10	3	447	13	817	56	38	704	133
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		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1788			1827	1594	1799	3562		1805	3505	
Flt Permitted		0.84			0.84	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1548			1587	1594	1799	3562		1805	3505	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	26	26	11	3	497	14	908	62	42	782	148
RTOR Reduction (vph)	0	18	0	0	0	165	0	9	0	0	27	0
Lane Group Flow (vph)	0	104	0	0	14	332	14	961	0	42	903	0
Confl. Peds. (#/hr)	1		1	1		1	10		30	30		10
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		12.5			12.5	12.5	0.6	17.3		1.3	18.0	
Effective Green, g (s)		12.5			12.5	12.5	0.6	17.3		1.3	18.0	
Actuated g/C Ratio		0.29			0.29	0.29	0.01	0.40		0.03	0.42	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		448			460	462	25	1429		54	1463	
v/s Ratio Prot							0.01	c0.27		c0.02	0.26	
v/s Ratio Perm		0.07			0.01	c0.21						
v/c Ratio		0.23			0.03	0.72	0.56	0.67		0.78	0.62	
Uniform Delay, d1		11.6			11.0	13.7	21.1	10.6		20.8	9.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3			0.0	5.3	25.6	2.5		49.7	2.0	
Delay (s)		11.9			11.0	19.0	46.8	13.1		70.5	11.8	
Level of Service		B			B	B	D	B		E	B	
Approach Delay (s)		11.9			18.8			13.6			14.3	
Approach LOS		B			B			B			B	

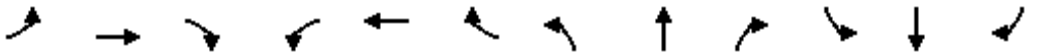
Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	43.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	71	0	0	21	21	1209	40	16	902	117
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	75	0	0	22	22	1273	42	17	949	123
Pedestrians		3										
Lane Width (ft)		12.0										
Walking Speed (ft/s)		3.5										
Percent Blockage		0										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								433			1304	
pX, platoon unblocked	0.91	0.91	0.95	0.91	0.91	0.89	0.95			0.89		
vC, conflicting volume	1538	2407	381	1763	2447	445	1076			1315		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	876	1827	157	1122	1871	0	889			912		
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 %	100	100	91	100	100	98	97			97		
cM capacity (veh/h)	207	65	814	127	61	963	717			659		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	75	22	22	509	509	297	17	380	380	313
Volume Left	0	0	22	0	0	0	17	0	0	0
Volume Right	75	22	0	0	0	42	0	0	0	123
cSH	814	963	717	1700	1700	1700	659	1700	1700	1700
Volume to Capacity	0.09	0.02	0.03	0.30	0.30	0.17	0.03	0.22	0.22	0.18
Queue Length 95th (ft)	8	2	2	0	0	0	2	0	0	0
Control Delay (s)	9.9	8.8	10.2	0.0	0.0	0.0	10.6	0.0	0.0	0.0
Lane LOS	A	A	B				B			
Approach Delay (s)	9.9	8.8	0.2				0.2			
Approach LOS	A	A								

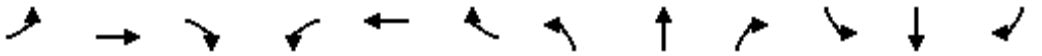
Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	34.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	24	148	67	79	632	0	0	418	337
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	4.0	5.0	5.0			5.0	5.0
Lane Util. Factor					0.91	1.00	1.00	0.95			1.00	1.00
Frpb, ped/bikes					1.00	1.00	1.00	1.00			1.00	0.97
Flpb, ped/bikes					0.99	1.00	0.99	1.00			1.00	1.00
Frt					1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected					0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)					5106	1615	1790	3610			1900	1571
Flt Permitted					0.99	1.00	0.50	1.00			1.00	1.00
Satd. Flow (perm)					5106	1615	948	3610			1900	1571
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	25	154	70	82	658	0	0	435	351
RTOR Reduction (vph)	0	0	0	0	0	70	0	0	0	0	0	102
Lane Group Flow (vph)	0	0	0	0	179	0	82	658	0	0	435	249
Confl. Peds. (#/hr)	45		42	42		45	23		21	21		23
Confl. Bikes (#/hr)		1									1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA	NA	Perm	NA			NA	Perm
Protected Phases					4			6			2	
Permitted Phases				4			6					2
Actuated Green, G (s)					7.5	0.0	42.5	42.5			42.5	42.5
Effective Green, g (s)					7.5	0.0	42.5	42.5			42.5	42.5
Actuated g/C Ratio					0.12	0.00	0.71	0.71			0.71	0.71
Clearance Time (s)					5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)					3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)					638	0	671	2557			1345	1112
v/s Ratio Prot								0.18			c0.23	
v/s Ratio Perm					0.04		0.09					0.16
v/c Ratio					0.28	0.00	0.12	0.26			0.32	0.22
Uniform Delay, d1					23.8	30.0	2.8	3.1			3.3	3.0
Progression Factor					1.00	1.00	0.88	0.80			0.74	2.99
Incremental Delay, d2					0.2	0.0	0.4	0.2			0.6	0.4
Delay (s)					24.0	30.0	2.8	2.7			3.0	9.5
Level of Service					C	C	A	A			A	A
Approach Delay (s)		0.0			25.7			2.7			5.9	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	474	283	31	0	0	0	0	182	29	98	310	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0		5.0	5.0	
Lane Util. Factor	0.91	0.91						1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00						1.00		1.00	1.00	
Frt	1.00	0.99						0.98		1.00	1.00	
Flt Protected	0.95	0.98						1.00		0.95	1.00	
Satd. Flow (prot)	1634	3346						1860		1797	1900	
Flt Permitted	0.95	0.98						1.00		0.54	1.00	
Satd. Flow (perm)	1634	3346						1860		1029	1900	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	558	333	36	0	0	0	0	214	34	115	365	0
RTOR Reduction (vph)	0	6	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	307	614	0	0	0	0	0	237	0	115	365	0
Confl. Peds. (#/hr)	5		9	9		5	10		8	8		10
Confl. Bikes (#/hr)		1										
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)	32.4	32.4						17.6		17.6	17.6	
Effective Green, g (s)	32.4	32.4						17.6		17.6	17.6	
Actuated g/C Ratio	0.54	0.54						0.29		0.29	0.29	
Clearance Time (s)	5.0	5.0						5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)	882	1806						545		301	557	
v/s Ratio Prot								0.13			c0.19	
v/s Ratio Perm	c0.19	0.18								0.11		
v/c Ratio	0.35	0.34						0.43		0.38	0.66	
Uniform Delay, d1	7.8	7.8						17.2		16.9	18.5	
Progression Factor	0.56	0.53						1.00		0.59	0.53	
Incremental Delay, d2	1.1	0.5						0.6		0.8	2.7	
Delay (s)	5.4	4.6						17.7		10.8	12.5	
Level of Service	A	A						B		B	B	
Approach Delay (s)		4.9			0.0			17.7			12.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	324	74	116	298	13	133	147	119	16	124	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.96	1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1792	1900	1523	1795	1900	1547	1784	1738		1779	1869	
Flt Permitted	0.55	1.00	1.00	0.35	1.00	1.00	0.66	1.00		0.44	1.00	
Satd. Flow (perm)	1046	1900	1523	669	1900	1547	1234	1738		818	1869	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	9	372	85	133	343	15	153	169	137	18	143	14
RTOR Reduction (vph)	0	0	54	0	0	8	0	39	0	0	5	0
Lane Group Flow (vph)	9	372	31	133	343	7	153	267	0	18	152	0
Confl. Peds. (#/hr)	16		27	27		16	13		18	18		13
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4			8		
Actuated Green, G (s)	17.9	17.1	17.1	26.6	22.8	22.8	12.9	12.9		12.9	12.9	
Effective Green, g (s)	17.9	17.1	17.1	26.6	22.8	22.8	12.9	12.9		12.9	12.9	
Actuated g/C Ratio	0.38	0.36	0.36	0.56	0.48	0.48	0.27	0.27		0.27	0.27	
Clearance Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	406	684	548	528	912	742	335	472		222	507	
v/s Ratio Prot	0.00	c0.20		c0.03	0.18			c0.15			0.08	
v/s Ratio Perm	0.01		0.02	0.11		0.00	0.12			0.02		
v/c Ratio	0.02	0.54	0.06	0.25	0.38	0.01	0.46	0.56		0.08	0.30	
Uniform Delay, d1	9.3	12.1	9.9	5.5	7.8	6.5	14.4	14.9		12.9	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.9	0.0	0.3	0.3	0.0	1.0	1.6		0.2	0.3	
Delay (s)	9.3	13.0	10.0	5.8	8.1	6.5	15.4	16.4		13.0	14.1	
Level of Service	A	B	A	A	A	A	B	B		B	B	
Approach Delay (s)		12.4			7.4			16.1			13.9	
Approach LOS		B			A			B			B	

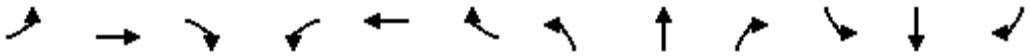
Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	47.5	Sum of lost time (s)	11.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	4	14	9	138	387	3	8	277	26
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	0	0	5	16	10	160	450	3	9	322	30
Pedestrians		9			7			5			8	
Lane Width (ft)		0.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			1			0			1	
Right turn flare (veh)												
Median type								None			TWLTL	
Median storage veh)											2	
Upstream signal (ft)								301			319	
pX, platoon unblocked	0.77	0.77	0.97	0.77	0.77	0.76	0.97			0.76		
vC, conflicting volume	1162	1146	351	1125	1160	467	361			460		
vC1, stage 1 conf vol	365	365		780	780							
vC2, stage 2 conf vol	798	781		346	380							
vCu, unblocked vol	984	963	319	937	981	142	329			134		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	98	95	98	87			99		
cM capacity (veh/h)	284	308	703	309	300	683	1208			1106		

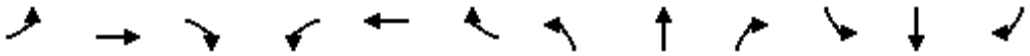
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	31	160	453	9	352
Volume Left	5	160	0	9	0
Volume Right	10	0	3	0	30
cSH	371	1208	1700	1106	1700
Volume to Capacity	0.08	0.13	0.27	0.01	0.21
Queue Length 95th (ft)	7	11	0	1	0
Control Delay (s)	15.6	8.4	0.0	8.3	0.0
Lane LOS	C	A		A	
Approach Delay (s)	15.6	2.2		0.2	
Approach LOS	C				

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	40.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	173	496	8	16	221	46	5	2	2	112	8	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
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	0.98		0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00		1.00		0.99	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	1.00	
Satd. Flow (prot)	1804	1894		1779	1900	1590		1775		1790	1577	
Flt Permitted	0.41	1.00		0.46	1.00	1.00		0.85		0.75	1.00	
Satd. Flow (perm)	780	1894		869	1900	1590		1545		1417	1577	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	184	528	9	17	235	49	5	2	2	119	9	247
RTOR Reduction (vph)	0	1	0	0	0	36	0	2	0	0	190	0
Lane Group Flow (vph)	184	536	0	17	235	13	0	7	0	119	66	0
Confl. Peds. (#/hr)	8		23	23		8	9		10	10		9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	25.2	25.2		11.4	11.4	11.4		9.6		9.6	9.6	
Effective Green, g (s)	25.2	25.2		11.4	11.4	11.4		9.6		9.6	9.6	
Actuated g/C Ratio	0.60	0.60		0.27	0.27	0.27		0.23		0.23	0.23	
Clearance Time (s)	4.0	3.5		3.5	3.5	3.5		3.5		3.5	3.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	710	1141		237	518	433		354		325	362	
v/s Ratio Prot	0.06	c0.28			0.12						0.04	
v/s Ratio Perm	0.10			0.02		0.01		0.00		c0.08		
v/c Ratio	0.26	0.47		0.07	0.45	0.03		0.02		0.37	0.18	
Uniform Delay, d1	4.0	4.6		11.3	12.6	11.1		12.5		13.5	12.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		0.1	0.6	0.0		0.0		0.7	0.2	
Delay (s)	4.2	4.9		11.4	13.2	11.2		12.5		14.2	13.2	
Level of Service	A	A		B	B	B		B		B	B	
Approach Delay (s)		4.7			12.8			12.5			13.5	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	41.8	Sum of lost time (s)	11.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



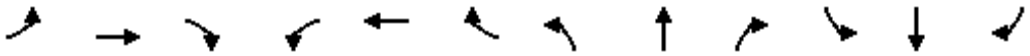
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	182	172	22	15	372	0	0	249	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0		5.0	5.0			5.0	
Lane Util. Factor					0.95		1.00	1.00			1.00	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					0.99		0.99	1.00			1.00	
Frt					0.99		1.00	1.00			0.99	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3459		1778	1900			1881	
Flt Permitted					0.98		0.57	1.00			1.00	
Satd. Flow (perm)					3459		1076	1900			1881	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	209	198	25	17	428	0	0	286	18
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	423	0	17	428	0	0	301	0
Confl. Peds. (#/hr)	4		10	10		4	19		18	18		19
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					13.3		36.7	36.7			36.7	
Effective Green, g (s)					13.3		36.7	36.7			36.7	
Actuated g/C Ratio					0.22		0.61	0.61			0.61	
Clearance Time (s)					5.0		5.0	5.0			5.0	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					766		658	1162			1150	
v/s Ratio Prot								c0.23			0.16	
v/s Ratio Perm					0.12		0.02					
v/c Ratio					0.55		0.03	0.37			0.26	
Uniform Delay, d1					20.7		4.6	5.8			5.4	
Progression Factor					1.00		0.53	0.47			1.19	
Incremental Delay, d2					0.9		0.1	0.8			0.6	
Delay (s)					21.6		2.5	3.6			6.9	
Level of Service					C		A	A			A	
Approach Delay (s)		0.0			21.6			3.5			6.9	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	64	6	105	35	3	4	374	157	33	388	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		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	
Frpb, ped/bikes		1.00			1.00		1.00	0.98		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		0.99	1.00	
Frt		0.99			1.00		1.00	0.96		1.00	1.00	
Flt Protected		0.99			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1865			1823		1792	1787		1783	1898	
Flt Permitted		0.96			0.79		0.49	1.00		0.38	1.00	
Satd. Flow (perm)		1797			1492		919	1787		714	1898	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	10	72	7	118	39	3	4	420	176	37	436	2
RTOR Reduction (vph)	0	6	0	0	2	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	83	0	0	158	0	4	580	0	37	438	0
Confl. Peds. (#/hr)	3		2	2		3	7		17	17		7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		10.7			10.7		39.3	39.3		39.3	39.3	
Effective Green, g (s)		10.7			10.7		39.3	39.3		39.3	39.3	
Actuated g/C Ratio		0.18			0.18		0.65	0.65		0.65	0.65	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		320			266		601	1170		467	1243	
v/s Ratio Prot								c0.32			0.23	
v/s Ratio Perm		0.05			c0.11		0.00			0.05		
v/c Ratio		0.26			0.60		0.01	0.50		0.08	0.35	
Uniform Delay, d1		21.2			22.7		3.6	5.3		3.8	4.6	
Progression Factor		1.00			1.00		1.00	1.00		0.61	0.64	
Incremental Delay, d2		0.4			3.6		0.0	1.5		0.3	0.8	
Delay (s)		21.7			26.2		3.6	6.8		2.6	3.7	
Level of Service		C			C		A	A		A	A	
Approach Delay (s)		21.7			26.2			6.8			3.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	1	1	11	183	373	2	12	453	91
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	1	1	12	201	410	2	13	498	100
Pedestrians		10			4			1			1	
Lane Width (ft)		0.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								951			708	
pX, platoon unblocked	0.84	0.84	0.84	0.84	0.84		0.84					
vC, conflicting volume	1410	1402	559	1342	1451	416	608			416		
vC1, stage 1 conf vol	584	584		817	817							
vC2, stage 2 conf vol	826	818		525	634							
vCu, unblocked vol	1393	1384	378	1312	1442	416	436			416		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	99	98	79			99		
cM capacity (veh/h)	243	260	564	240	214	638	951			1149		

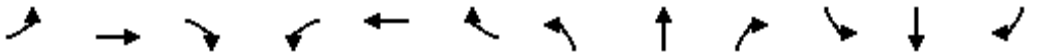
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	14	201	412	13	598
Volume Left	1	201	0	13	0
Volume Right	12	0	2	0	100
cSH	498	951	1700	1149	1700
Volume to Capacity	0.03	0.21	0.24	0.01	0.35
Queue Length 95th (ft)	2	20	0	1	0
Control Delay (s)	12.4	9.8	0.0	8.2	0.0
Lane LOS	B	A		A	
Approach Delay (s)	12.4	3.2		0.2	
Approach LOS	B				

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	53.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	38	1	166	0	0	1	0	520	0	2	376	64
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	39	1	171	0	0	1	0	536	0	2	388	66
Pedestrians		13			4						2	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		3.5			3.5						3.5	
Percent Blockage		1			0						0	
Right turn flare (veh)						2						
Median type								None			TWLTL	
Median storage veh)											2	
Upstream signal (ft)								617			1042	
pX, platoon unblocked	0.98	0.98	0.98	0.98	0.98		0.98					
vC, conflicting volume	943	945	401	1103	945	542	401			540		
vC1, stage 1 conf vol	405	405		540	540							
vC2, stage 2 conf vol	539	540		563	405							
vCu, unblocked vol	934	936	383	1097	936	542	383			540		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	100	74	100	100	100	100			100		
cM capacity (veh/h)	445	443	650	324	444	541	1153			1035		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	211	1	536	2	388	66
Volume Left	39	0	0	2	0	0
Volume Right	171	1	0	0	0	66
cSH	598	271	1700	1035	1700	1700
Volume to Capacity	0.35	0.00	0.32	0.00	0.23	0.04
Queue Length 95th (ft)	40	0	0	0	0	0
Control Delay (s)	14.3	18.4	0.0	8.5	0.0	0.0
Lane LOS	B	C		A		
Approach Delay (s)	14.3	18.4	0.0	0.0		
Approach LOS	B	C				

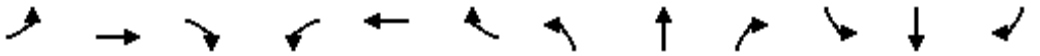
Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	53.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	91	381	22	152	278	23	38	354	194	27	256	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.92	1.00	1.00	0.95	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1900	1481	1805	1900	1537	1787	1772		1805	1775	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.27	1.00		0.17	1.00	
Satd. Flow (perm)	1805	1900	1481	1805	1900	1537	512	1772		317	1775	
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)	96	401	23	160	293	24	40	373	204	28	269	138
RTOR Reduction (vph)	0	0	14	0	0	13	0	23	0	0	22	0
Lane Group Flow (vph)	96	401	9	160	293	11	40	554	0	28	385	0
Confl. Peds. (#/hr)	13		29	29		13	12		12	12		12
Confl. Bikes (#/hr)		1			4						3	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	8.0	29.7	29.7	11.7	33.4	33.4	24.0	24.0		24.0	24.0	
Effective Green, g (s)	8.0	29.7	29.7	11.7	33.4	33.4	24.0	24.0		24.0	24.0	
Actuated g/C Ratio	0.11	0.39	0.39	0.16	0.44	0.44	0.32	0.32		0.32	0.32	
Clearance Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5		3.5	3.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	191	748	583	280	841	680	162	564		100	564	
v/s Ratio Prot	0.05	c0.21		c0.09	0.15			c0.31			0.22	
v/s Ratio Perm			0.01			0.01	0.08			0.09		
v/c Ratio	0.50	0.54	0.02	0.57	0.35	0.02	0.25	0.98		0.28	0.68	
Uniform Delay, d1	31.8	17.6	13.9	29.5	13.8	11.8	19.0	25.5		19.2	22.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	2.7	0.0	2.8	1.1	0.0	0.8	33.1		1.5	3.4	
Delay (s)	33.9	20.3	14.0	32.3	15.0	11.8	19.8	58.6		20.8	25.8	
Level of Service	C	C	B	C	B	B	B	E		C	C	
Approach Delay (s)		22.5			20.6			56.1			25.5	
Approach LOS		C			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	75.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

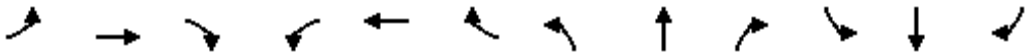
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	14	36	151	15	30	41	1067	105	44	1382	27
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	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.95	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.99	1.00		0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1860	1591		1813	1536	1805	3551		1805	3595	
Flt Permitted		0.57	1.00		0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1078	1591		1384	1536	1805	3551		1805	3595	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	15	38	161	16	32	44	1135	112	47	1470	29
RTOR Reduction (vph)	0	0	36	0	0	26	0	6	0	0	1	0
Lane Group Flow (vph)	0	21	2	0	177	6	44	1241	0	47	1498	0
Confl. Peds. (#/hr)	27		2	2		27	21		6	6		21
Confl. Bikes (#/hr)					1			1				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)		4.5	4.5		14.0	14.0	2.2	37.8		2.7	38.3	
Effective Green, g (s)		4.5	4.5		14.0	14.0	2.2	37.8		2.7	38.3	
Actuated g/C Ratio		0.06	0.06		0.19	0.19	0.03	0.50		0.04	0.51	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		64	95		258	286	52	1789		64	1835	
v/s Ratio Prot							0.02	0.35		c0.03	c0.42	
v/s Ratio Perm		c0.02	0.00		c0.13	0.00						
v/c Ratio		0.33	0.02		0.69	0.02	0.85	0.69		0.73	0.82	
Uniform Delay, d1		33.8	33.2		28.5	24.9	36.2	14.2		35.8	15.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.0	0.1		7.4	0.0	70.3	2.2		35.0	4.2	
Delay (s)		36.8	33.3		35.8	24.9	106.5	16.4		70.8	19.6	
Level of Service		D	C		D	C	F	B		E	B	
Approach Delay (s)		34.5			34.1			19.5			21.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	25	20	6	29	13	33	440	4	10	396	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.96		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1777			1804		1800	1897		1797	1867	
Flt Permitted		0.81			0.95		0.50	1.00		0.49	1.00	
Satd. Flow (perm)		1476			1723		942	1897		934	1867	
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	0.97
Adj. Flow (vph)	52	26	21	6	30	13	34	454	4	10	408	45
RTOR Reduction (vph)	0	18	0	0	11	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	81	0	0	38	0	34	458	0	10	448	0
Confl. Peds. (#/hr)	11		5	5		11	5		8	8		5
Confl. Bikes (#/hr)		3										
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)		5.0			5.0		24.4	24.4		24.4	24.4	
Effective Green, g (s)		5.0			5.0		24.4	24.4		24.4	24.4	
Actuated g/C Ratio		0.14			0.14		0.66	0.66		0.66	0.66	
Clearance Time (s)		3.5			3.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		200			233		622	1254		617	1234	
v/s Ratio Prot								c0.24			0.24	
v/s Ratio Perm		c0.05			0.02		0.04			0.01		
v/c Ratio		0.40			0.16		0.05	0.36		0.02	0.36	
Uniform Delay, d1		14.6			14.1		2.2	2.8		2.1	2.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			0.3		0.2	0.8		0.0	0.8	
Delay (s)		15.9			14.4		2.4	3.6		2.2	3.6	
Level of Service		B			B		A	A		A	A	
Approach Delay (s)		15.9			14.4			3.5			3.6	
Approach LOS		B			B			A			A	

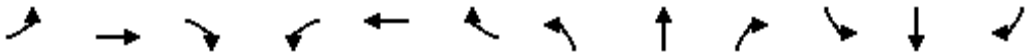
Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	36.9	Sum of lost time (s)	7.5
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	53	358	494	28	43	63
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	61	411	568	32	49	72

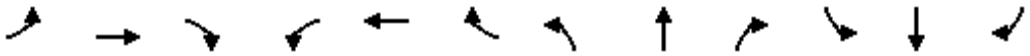
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	61	411	568	32	49	72
Volume Left (vph)	61	0	568	0	0	0
Volume Right (vph)	0	411	0	0	0	72
Hadj (s)	0.50	-0.70	0.50	0.00	0.00	-0.70
Departure Headway (s)	7.1	5.9	6.7	6.2	6.9	6.2
Degree Utilization, x	0.12	0.68	1.05	0.06	0.09	0.12
Capacity (veh/h)	494	593	547	561	499	555
Control Delay (s)	9.9	19.2	77.8	8.3	9.4	8.8
Approach Delay (s)	18.0		74.1		9.1	
Approach LOS	C		F		A	

Intersection Summary			
Delay	45.3		
Level of Service	E		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	9	74	1	0	8	0	247	2	12	380	0
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			0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00			1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00			1.00		0.99	1.00	
Frt		0.96			0.88			1.00		1.00	1.00	
Flt Protected		0.97			1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1755			1660			3605		1778	3610	
Flt Permitted		0.97			1.00			1.00		0.58	1.00	
Satd. Flow (perm)		1755			1669			3605		1089	3610	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	178	10	82	1	0	9	0	274	2	13	422	0
RTOR Reduction (vph)	0	20	0	0	10	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	250	0	0	0	0	0	275	0	13	422	0
Confl. Peds. (#/hr)			6	6			16		20	20		16
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA		Perm	NA			NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8						6		
Actuated Green, G (s)		10.5			0.7			11.7		11.7	11.7	
Effective Green, g (s)		10.5			0.7			11.7		11.7	11.7	
Actuated g/C Ratio		0.30			0.02			0.34		0.34	0.34	
Clearance Time (s)		4.0			4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		528			33			1208		365	1210	
v/s Ratio Prot		c0.14						0.08			c0.12	
v/s Ratio Perm					c0.00					0.01		
v/c Ratio		0.47			0.01			0.23		0.04	0.35	
Uniform Delay, d1		9.9			16.8			8.3		7.8	8.7	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.7			0.1			0.1		0.0	0.2	
Delay (s)		10.6			16.8			8.4		7.8	8.9	
Level of Service		B			B			A		A	A	
Approach Delay (s)		10.6			16.8			8.4			8.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	34.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	9	18	35	93	317	17	29	384	310
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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	0	0	10	20	38	101	345	18	32	417	337
Pedestrians		18			23						1	
Lane Width (ft)		0.0			12.0						12.0	
Walking Speed (ft/s)		3.5			3.5						3.5	
Percent Blockage		0			2						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								336				
pX, platoon unblocked												
vC, conflicting volume	1090	1255	395	851	1414	206	772			386		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1090	1255	395	851	1414	206	772			386		
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 %	100	100	100	96	83	95	88			97		
cM capacity (veh/h)	125	145	610	220	116	789	852			1158		

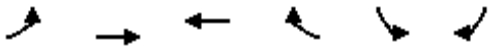
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	67	101	230	133	32	278	476
Volume Left	10	101	0	0	32	0	0
Volume Right	38	0	0	18	0	0	337
cSH	259	852	1700	1700	1158	1700	1700
Volume to Capacity	0.26	0.12	0.14	0.08	0.03	0.16	0.28
Queue Length 95th (ft)	25	10	0	0	2	0	0
Control Delay (s)	23.8	9.8	0.0	0.0	8.2	0.0	0.0
Lane LOS	C	A			A		
Approach Delay (s)	23.8	2.1			0.3		
Approach LOS	C						

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	40.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	261	371	478	51	72	240
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	297	422	543	58	82	273
Pedestrians					6	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)			899			
pX, platoon unblocked						
vC, conflicting volume	549				1564	549
vC1, stage 1 conf vol					549	
vC2, stage 2 conf vol					1015	
vCu, unblocked vol	549				1564	549
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	71				65	49
cM capacity (veh/h)	1025				233	536

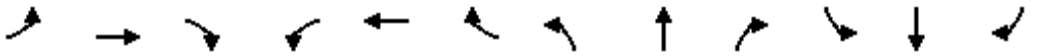
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	297	422	543	58	82	273
Volume Left	297	0	0	0	82	0
Volume Right	0	0	0	58	0	273
cSH	1025	1700	1700	1700	233	536
Volume to Capacity	0.29	0.25	0.32	0.03	0.35	0.51
Queue Length 95th (ft)	30	0	0	0	38	71
Control Delay (s)	9.9	0.0	0.0	0.0	28.6	18.5
Lane LOS	A				D	C
Approach Delay (s)	4.1		0.0		20.8	
Approach LOS					C	

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	54	95	558	155	261	610
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	59	104	613	170	287	670
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)		4				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1945	395			787	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1945	395			787	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	83			66	
cM capacity (veh/h)	38	608			839	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	164	409	375	287	670
Volume Left	59	0	0	287	0
Volume Right	104	0	170	0	0
cSH	99	1700	1700	839	1700
Volume to Capacity	1.65	0.24	0.22	0.34	0.39
Queue Length 95th (ft)	321	0	0	38	0
Control Delay (s)	405.9	0.0	0.0	11.5	0.0
Lane LOS	F			B	
Approach Delay (s)	405.9	0.0		3.4	
Approach LOS	F				

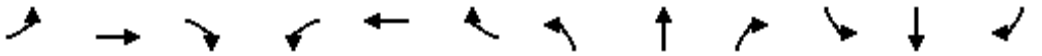
Intersection Summary			
Average Delay	36.6		
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	146	503	66	152	16	401	187	35	22	327	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		0.97	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00		1.00	0.98		1.00	1.00	0.92
Flpb, ped/bikes	1.00	1.00	1.00	0.91	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1715	1799	1514	1638	1874		3502	3457		1805	1900	1486
Flt Permitted	0.62	0.97	1.00	0.63	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1125	1756	1514	1085	1874		3502	3457		1805	1900	1486
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	0.97
Adj. Flow (vph)	109	151	519	68	157	16	413	193	36	23	337	128
RTOR Reduction (vph)	0	0	88	0	4	0	0	11	0	0	0	55
Lane Group Flow (vph)	98	162	431	68	169	0	413	218	0	23	337	73
Confl. Peds. (#/hr)			93	93			92		58	58		92
Confl. Bikes (#/hr)		2			22			1			3	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	custom
Protected Phases		8	1		4		1	6		5	2	
Permitted Phases	8		8	4								8
Actuated Green, G (s)	13.4	13.4	28.8	13.4	13.4		15.4	34.4		2.4	21.4	13.4
Effective Green, g (s)	13.4	13.4	28.8	13.4	13.4		15.4	34.4		2.4	21.4	13.4
Actuated g/C Ratio	0.21	0.21	0.44	0.21	0.21		0.24	0.53		0.04	0.33	0.21
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	231	360	784	222	385		827	1823		66	623	305
v/s Ratio Prot			c0.13		0.09		0.12	0.06		0.01	c0.18	
v/s Ratio Perm	0.09	0.09	0.15	0.06								0.05
v/c Ratio	0.42	0.45	0.55	0.31	0.44		0.50	0.12		0.35	0.54	0.24
Uniform Delay, d1	22.5	22.7	13.4	22.0	22.6		21.6	7.8		30.6	17.9	21.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.3	0.9	0.8	0.8	0.8		0.5	0.0		3.2	1.0	0.4
Delay (s)	23.8	23.6	14.2	22.7	23.4		22.0	7.8		33.8	18.9	22.1
Level of Service	C	C	B	C	C		C	A		C	B	C
Approach Delay (s)		17.4			23.2			17.0			20.4	
Approach LOS		B			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	65.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

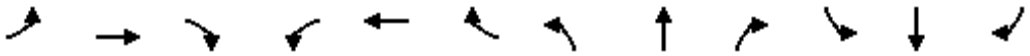
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	302	235	131	370	225	289	771	67	326	1109	142
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		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	1.00	0.97	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1581	1805	3345		3433	3610	1567	3433	3539	1528
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	1900	1581	1805	3345		3433	3610	1567	3433	3539	1528
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)	144	318	247	138	389	237	304	812	71	343	1167	149
RTOR Reduction (vph)	0	0	183	0	147	0	0	0	47	0	0	102
Lane Group Flow (vph)	144	318	64	138	479	0	304	812	24	343	1167	47
Confl. Peds. (#/hr)	30		8	8		30	20		15	15		20
Confl. Bikes (#/hr)								4			1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	6.0	14.2	14.2	6.0	14.2		7.0	21.0	21.0	6.0	20.0	20.0
Effective Green, g (s)	6.0	14.2	14.2	6.0	14.2		7.0	21.0	21.0	6.0	20.0	20.0
Actuated g/C Ratio	0.09	0.22	0.22	0.09	0.22		0.11	0.33	0.33	0.09	0.32	0.32
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	171	426	355	171	751		380	1199	520	325	1119	483
v/s Ratio Prot	c0.08	c0.17		0.08	0.14		0.09	0.22		c0.10	c0.33	
v/s Ratio Perm			0.04						0.02			0.03
v/c Ratio	0.84	0.75	0.18	0.81	0.64		0.80	0.68	0.05	1.06	1.04	0.10
Uniform Delay, d1	28.1	22.8	19.8	28.0	22.2		27.4	18.2	14.3	28.6	21.6	15.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	29.5	7.0	0.2	23.5	1.8		11.4	3.1	0.2	65.2	38.8	0.4
Delay (s)	57.6	29.8	20.0	51.6	24.0		38.8	21.3	14.5	93.8	60.4	15.6
Level of Service	E	C	C	D	C		D	C	B	F	E	B
Approach Delay (s)		32.1			29.0			25.4			63.3	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	531	70	55	695	45	146	51	45	48	36	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.95	0.95		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.95		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (prot)	1805	3523		1805	3566		1715	1658		1805	1733	
Flt Permitted	0.95	1.00		0.95	1.00		0.70	0.92		0.10	1.00	
Satd. Flow (perm)	1805	3523		1805	3566		1256	1541		187	1733	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	55	571	75	59	747	48	157	55	48	52	39	55
RTOR Reduction (vph)	0	7	0	0	4	0	0	16	0	0	38	0
Lane Group Flow (vph)	55	639	0	59	791	0	129	115	0	52	56	0
Confl. Peds. (#/hr)	12		14	14		12			22	22		
Confl. Bikes (#/hr)		3									1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			4			3	
Permitted Phases							4			3		
Actuated Green, G (s)	13.0	33.2		13.0	33.2		22.1	22.1		40.7	40.7	
Effective Green, g (s)	13.0	33.2		13.0	33.2		22.1	22.1		40.7	40.7	
Actuated g/C Ratio	0.10	0.26		0.10	0.26		0.17	0.17		0.32	0.32	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	181	906		181	917		215	264		58	546	
v/s Ratio Prot	0.03	0.18		c0.03	c0.22						0.03	
v/s Ratio Perm							c0.10	0.07		c0.28		
v/c Ratio	0.30	0.70		0.33	0.86		0.60	0.44		0.90	0.10	
Uniform Delay, d1	53.8	43.5		53.9	45.7		49.4	47.9		42.1	31.2	
Progression Factor	1.60	0.33		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	2.0		1.1	8.4		4.5	1.2		80.9	0.1	
Delay (s)	86.6	16.1		55.0	54.2		53.8	49.0		123.1	31.3	
Level of Service	F	B		D	D		D	D		F	C	
Approach Delay (s)		21.7			54.2			51.4			64.0	
Approach LOS		C			D			D			E	

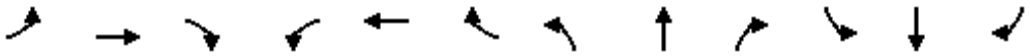
Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	129.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	511	78	159	750	65	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3521		1805	3610	1805	1615
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3521		1805	3610	1805	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	562	86	175	824	71	176
RTOR Reduction (vph)	9	0	0	0	0	120
Lane Group Flow (vph)	639	0	175	824	71	56
Confl. Peds. (#/hr)		6	6		25	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA		Prot	NA	NA	Prot
Protected Phases	2		4 1	2 4 1	3	3
Permitted Phases						
Actuated Green, G (s)	33.2		40.1	78.3	40.7	40.7
Effective Green, g (s)	33.2		40.1	78.3	40.7	40.7
Actuated g/C Ratio	0.26		0.31	0.61	0.32	0.32
Clearance Time (s)	5.0				5.0	5.0
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	906		561	2191	569	509
v/s Ratio Prot	c0.18		0.10	c0.23	c0.04	0.03
v/s Ratio Perm						
v/c Ratio	0.71		0.31	0.38	0.12	0.11
Uniform Delay, d1	43.5		33.9	12.9	31.5	31.3
Progression Factor	1.00		1.64	0.40	1.00	1.00
Incremental Delay, d2	2.5		0.2	0.1	0.1	0.1
Delay (s)	46.0		56.0	5.2	31.6	31.4
Level of Service	D		E	A	C	C
Approach Delay (s)	46.0			14.1	31.4	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	129.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
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			Stop			Stop	
Volume (vph)	2	27	14	21	48	14	33	227	17	13	141	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	2	29	15	23	52	15	35	244	18	14	152	5

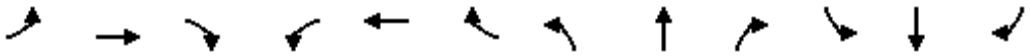
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	46	89	298	171
Volume Left (vph)	2	23	35	14
Volume Right (vph)	15	15	18	5
Hadj (s)	-0.19	-0.05	-0.01	0.00
Departure Headway (s)	4.9	5.0	4.4	4.6
Degree Utilization, x	0.06	0.12	0.37	0.22
Capacity (veh/h)	650	651	784	746
Control Delay (s)	8.3	8.7	10.0	8.9
Approach Delay (s)	8.3	8.7	10.0	8.9
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.3			
Level of Service	A			
Intersection Capacity Utilization	40.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	16	57	95	8	40	200
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	18	66	109	9	46	230
Pedestrians	17		6			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	2		1			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						1184
pX, platoon unblocked						
vC, conflicting volume	459	132			135	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	459	132			135	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	93			97	
cM capacity (veh/h)	530	902			1425	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	84	118	276
Volume Left	18	0	46
Volume Right	66	9	0
cSH	782	1700	1425
Volume to Capacity	0.11	0.07	0.03
Queue Length 95th (ft)	9	0	2
Control Delay (s)	10.2	0.0	1.5
Lane LOS	B		A
Approach Delay (s)	10.2	0.0	1.5
Approach LOS	B		

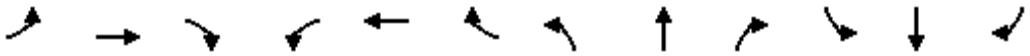
Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		30.8%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	5	134	14	12	1	200	327	26	2	163	34
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	5	143	15	13	1	213	348	28	2	173	36

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	152	29	213	376	212
Volume Left (vph)	4	15	213	0	2
Volume Right (vph)	143	1	0	28	36
Hadj (s)	-0.56	0.08	0.50	-0.05	-0.10
Departure Headway (s)	5.2	6.0	5.7	5.2	5.1
Degree Utilization, x	0.22	0.05	0.34	0.54	0.30
Capacity (veh/h)	637	523	615	682	681
Control Delay (s)	9.6	9.4	10.4	12.9	10.2
Approach Delay (s)	9.6	9.4	12.0		10.2
Approach LOS	A	A	B		B

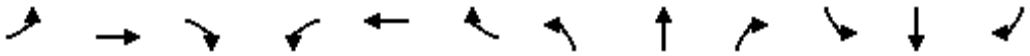
Intersection Summary				
Delay	11.1			
Level of Service	B			
Intersection Capacity Utilization	49.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	3	10	3	163	15	59	5	32	84	56	137	7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	3	11	3	173	16	63	5	34	89	60	146	7

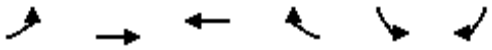
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	17	252	129	213
Volume Left (vph)	3	173	5	60
Volume Right (vph)	3	63	89	7
Hadj (s)	-0.04	0.02	-0.37	0.07
Departure Headway (s)	5.0	4.8	4.5	4.8
Degree Utilization, x	0.02	0.33	0.16	0.28
Capacity (veh/h)	639	709	747	705
Control Delay (s)	8.2	10.1	8.3	9.7
Approach Delay (s)	8.2	10.1	8.3	9.7
Approach LOS	A	B	A	A

Intersection Summary				
Delay	9.6			
Level of Service	A			
Intersection Capacity Utilization	44.2%	ICU Level of Service	A	
Analysis Period (min)	15			



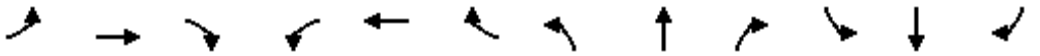
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	418	19	21	546	31	39	27	11	38	13	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		3.0			3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00			1.00	
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	0.85		0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.97	
Satd. Flow (prot)	1798	3583		1801	1900	1568		1811			1792	
Flt Permitted	0.41	1.00		0.48	1.00	1.00		0.85			0.89	
Satd. Flow (perm)	768	3583		901	1900	1568		1586			1636	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	464	21	23	607	34	43	30	12	42	14	12
RTOR Reduction (vph)	0	4	0	0	0	11	0	8	0	0	10	0
Lane Group Flow (vph)	4	481	0	23	607	23	0	77	0	0	58	0
Confl. Peds. (#/hr)	6		3	3		6	6		5	5		6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		6			2			8			4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	24.7	24.7		24.7	24.7	24.7		4.6			4.6	
Effective Green, g (s)	24.7	24.7		24.7	24.7	24.7		4.6			4.6	
Actuated g/C Ratio	0.67	0.67		0.67	0.67	0.67		0.12			0.12	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		3.0			3.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	515	2404		604	1275	1052		198			204	
v/s Ratio Prot		0.13			c0.32							
v/s Ratio Perm	0.01			0.03		0.01		c0.05			0.04	
v/c Ratio	0.01	0.20		0.04	0.48	0.02		0.39			0.29	
Uniform Delay, d1	2.0	2.3		2.0	2.9	2.0		14.8			14.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.0		0.0	0.3	0.0		1.3			0.8	
Delay (s)	2.0	2.3		2.1	3.2	2.0		16.1			15.4	
Level of Service	A	A		A	A	A		B			B	
Approach Delay (s)		2.3			3.1			16.1			15.4	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	4.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	36.8	Sum of lost time (s)	7.5
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



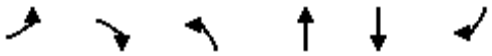
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	35	330	458	91	74	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5		5.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.98		0.95	
Flt Protected	0.95	1.00	1.00		0.97	
Satd. Flow (prot)	1804	1900	1851		1734	
Flt Permitted	0.38	1.00	1.00		0.97	
Satd. Flow (perm)	724	1900	1851		1734	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	39	367	509	101	82	46
RTOR Reduction (vph)	0	0	8	0	38	0
Lane Group Flow (vph)	39	367	602	0	90	0
Confl. Peds. (#/hr)	1			1		8
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	NA		NA	
Protected Phases		2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	26.2	26.2	26.2		6.4	
Effective Green, g (s)	26.2	26.2	26.2		6.4	
Actuated g/C Ratio	0.61	0.61	0.61		0.15	
Clearance Time (s)	5.5	5.5	5.5		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	440	1154	1125		257	
v/s Ratio Prot		0.19	c0.33		c0.05	
v/s Ratio Perm	0.05					
v/c Ratio	0.09	0.32	0.53		0.35	
Uniform Delay, d1	3.5	4.1	4.9		16.5	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2	0.5		0.8	
Delay (s)	3.6	4.3	5.4		17.3	
Level of Service	A	A	A		B	
Approach Delay (s)		4.2	5.4		17.3	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	43.1	Sum of lost time (s)	10.5
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	376	273	12	262	12	269	21	34	7	18	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5		5.5	5.5			5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	0.98			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.91			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1805	1900	1594	1804	3586		1805	1694			1774	
Flt Permitted	0.56	1.00	1.00	0.39	1.00		0.95	1.00			0.92	
Satd. Flow (perm)	1065	1900	1594	737	3586		1805	1694			1646	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	18	432	314	14	301	14	309	24	39	8	21	14
RTOR Reduction (vph)	0	0	197	0	3	0	0	28	0	0	13	0
Lane Group Flow (vph)	18	432	117	14	312	0	309	35	0	0	30	0
Confl. Peds. (#/hr)			2	2			6		6	6		6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Split	NA		Perm	NA	
Protected Phases		6			2		4	4			8	
Permitted Phases	6		6	2						8		
Actuated Green, G (s)	22.5	22.5	22.5	22.5	22.5		16.5	16.5			3.7	
Effective Green, g (s)	22.5	22.5	22.5	22.5	22.5		16.5	16.5			3.7	
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37		0.27	0.27			0.06	
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5		5.5	5.5			5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	398	710	595	275	1340		494	464			101	
v/s Ratio Prot		c0.23			0.09		c0.17	0.02				
v/s Ratio Perm	0.02		0.07	0.02							c0.02	
v/c Ratio	0.05	0.61	0.20	0.05	0.23		0.63	0.07			0.30	
Uniform Delay, d1	12.0	15.3	12.7	12.0	12.9		19.1	16.2			27.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.0	1.5	0.2	0.1	0.1		2.5	0.1			1.6	
Delay (s)	12.1	16.8	12.9	12.1	13.0		21.6	16.3			28.6	
Level of Service	B	B	B	B	B		C	B			C	
Approach Delay (s)		15.1			13.0			20.7			28.6	
Approach LOS		B			B			C			C	

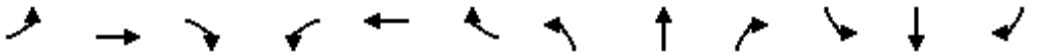
Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.2	Sum of lost time (s)	17.5
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	55	52	33	228	273	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	57	36	248	297	47

Direction, Lane #	EB 1	EB 2	NB 1	SB 1	SB 2
Volume Total (vph)	60	57	284	297	47
Volume Left (vph)	60	0	36	0	0
Volume Right (vph)	0	57	0	0	47
Hadj (s)	0.50	-0.70	0.03	0.00	-0.70
Departure Headway (s)	6.5	5.3	5.1	5.1	4.4
Degree Utilization, x	0.11	0.08	0.40	0.42	0.06
Capacity (veh/h)	506	613	691	683	786
Control Delay (s)	9.1	7.6	11.4	10.6	6.5
Approach Delay (s)	8.4		11.4	10.0	
Approach LOS	A		B	B	

Intersection Summary			
Delay	10.3		
Level of Service	B		
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	4	13	65	1	87	14	417	37	108	644	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	4.0	5.5		4.0	5.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.96			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1775			1809	1588	1805	3559		1805	3542	
Flt Permitted		0.74			0.81	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1357			1529	1588	1805	3559		1805	3542	
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)	59	4	14	68	1	92	15	439	39	114	678	84
RTOR Reduction (vph)	0	12	0	0	0	79	0	7	0	0	8	0
Lane Group Flow (vph)	0	65	0	0	69	13	15	471	0	114	754	0
Confl. Peds. (#/hr)	9		2	2		9	2		2	2		2
Confl. Bikes (#/hr)								1			2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		6.2			6.2	6.2	1.0	18.8		4.9	22.7	
Effective Green, g (s)		6.2			6.2	6.2	1.0	18.8		4.9	22.7	
Actuated g/C Ratio		0.15			0.15	0.15	0.02	0.44		0.12	0.54	
Clearance Time (s)		3.0			3.0	3.0	4.0	5.5		4.0	5.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		198			223	232	42	1578		208	1896	
v/s Ratio Prot							0.01	0.13		c0.06	c0.21	
v/s Ratio Perm		c0.05			0.05	0.01						
v/c Ratio		0.33			0.31	0.06	0.36	0.30		0.55	0.40	
Uniform Delay, d1		16.2			16.2	15.6	20.4	7.6		17.7	5.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			0.8	0.1	5.1	0.1		2.9	0.1	
Delay (s)		17.2			17.0	15.7	25.5	7.7		20.6	6.0	
Level of Service		B			B	B	C	A		C	A	
Approach Delay (s)		17.2			16.2			8.2			7.9	
Approach LOS		B			B			A			A	

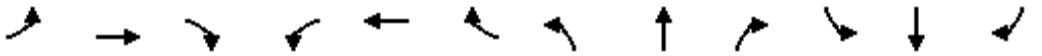
Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	42.4	Sum of lost time (s)	12.5
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	1	514	1	1	715
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	1	559	1	1	777
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (ft)			884			509
pX, platoon unblocked	0.90					
vC, conflicting volume	950	280			560	
vC1, stage 1 conf vol	559					
vC2, stage 2 conf vol	391					
vCu, unblocked vol	722	280			560	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	500	717			1007	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	7	372	187	1	389	389
Volume Left	5	0	0	1	0	0
Volume Right	1	0	1	0	0	0
cSH	527	1700	1700	1007	1700	1700
Volume to Capacity	0.01	0.22	0.11	0.00	0.23	0.23
Queue Length 95th (ft)	1	0	0	0	0	0
Control Delay (s)	11.9	0.0	0.0	8.6	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	11.9	0.0		0.0		
Approach LOS	B					

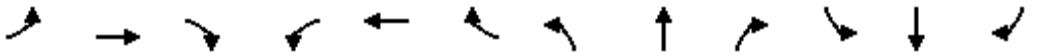
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	9	70	29	9	6	68	1243	148	17	835	659
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	4.0	4.0
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt		0.91			0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1689			1800		1802	3536		1801	3610	1575
Flt Permitted		0.90			0.82		0.32	1.00		0.15	1.00	1.00
Satd. Flow (perm)		1541			1516		605	3536		288	3610	1575
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	27	9	73	30	9	6	71	1295	154	18	870	686
RTOR Reduction (vph)	0	64	0	0	5	0	0	10	0	0	0	186
Lane Group Flow (vph)	0	45	0	0	40	0	71	1439	0	18	870	500
Confl. Peds. (#/hr)	8		1	1		8	3		14	14		3
Confl. Bikes (#/hr)		2									1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		6.1			6.1		37.8	37.8		37.8	37.8	37.8
Effective Green, g (s)		6.1			6.1		37.8	37.8		37.8	37.8	37.8
Actuated g/C Ratio		0.12			0.12		0.73	0.73		0.73	0.73	0.73
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		181			178		440	2575		209	2629	1147
v/s Ratio Prot								c0.41			0.24	
v/s Ratio Perm		c0.03			0.03		0.12			0.06		0.32
v/c Ratio		0.25			0.22		0.16	0.56		0.09	0.33	0.44
Uniform Delay, d1		20.8			20.8		2.2	3.2		2.0	2.5	2.8
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.7			0.6		0.8	0.9		0.8	0.3	1.2
Delay (s)		21.5			21.4		3.0	4.1		2.9	2.9	4.0
Level of Service		C			C		A	A		A	A	A
Approach Delay (s)		21.5			21.4			4.1			3.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	51.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

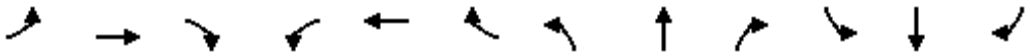
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	1058	165	167	706	12	625	17	245	16	13	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	4.6		3.5	4.6		4.0	4.0	3.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	0.99	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00	0.95	0.99	1.00
Satd. Flow (prot)	1805	5060		1805	5172		1705	1714	1615	1715	1793	1587
Flt Permitted	0.95	1.00		0.95	1.00		0.75	0.73	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1805	5060		1805	5172		1341	1303	1615	1805	1805	1587
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	37	1080	168	170	720	12	638	17	250	16	13	12
RTOR Reduction (vph)	0	20	0	0	2	0	0	0	38	0	0	12
Lane Group Flow (vph)	37	1228	0	170	730	0	325	330	212	14	15	0
Confl. Peds. (#/hr)	3		7	7		3	5					5
Confl. Bikes (#/hr)											2	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA	pm+ov	Perm	NA	Perm
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	2.7	35.5		13.4	46.2		26.2	26.2	39.6	1.8	1.8	1.8
Effective Green, g (s)	2.7	35.5		13.4	46.2		26.2	26.2	39.6	1.8	1.8	1.8
Actuated g/C Ratio	0.03	0.38		0.14	0.50		0.28	0.28	0.43	0.02	0.02	0.02
Clearance Time (s)	3.5	4.6		3.5	4.6		4.0	4.0	3.5	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	52	1931		260	2569		377	367	687	34	34	30
v/s Ratio Prot	0.02	c0.24		c0.09	0.14				0.04			
v/s Ratio Perm							0.24	c0.25	0.09	0.01	c0.01	0.00
v/c Ratio	0.71	0.64		0.65	0.28		0.86	0.90	0.31	0.41	0.44	0.01
Uniform Delay, d1	44.8	23.5		37.6	13.7		31.7	32.1	17.7	45.1	45.1	44.7
Progression Factor	1.00	1.00		1.41	0.39		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	36.8	1.6		4.2	0.2		18.0	23.7	0.3	7.9	8.9	0.1
Delay (s)	81.6	25.1		57.3	5.5		49.6	55.8	17.9	53.0	54.0	44.8
Level of Service	F	C		E	A		D	E	B	D	D	D
Approach Delay (s)		26.7			15.3			43.1			51.0	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	16.1
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

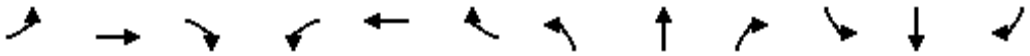
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	524	795	0	0	874	164	168	1	143	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9			4.6		6.0	6.0				
Lane Util. Factor	0.97	0.95			0.95		1.00	1.00				
Frpb, ped/bikes	1.00	1.00			1.00		1.00	0.99				
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00				
Frt	1.00	1.00			0.98		1.00	0.85				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	3502	3610			3518		1805	1593				
Flt Permitted	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	3502	3610			3518		1805	1593				
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	563	855	0	0	940	176	181	1	154	0	0	0
RTOR Reduction (vph)	0	0	0	0	17	0	0	130	0	0	0	0
Lane Group Flow (vph)	563	855	0	0	1099	0	181	25	0	0	0	0
Confl. Peds. (#/hr)	1		4	4		1			2	2		
Confl. Bikes (#/hr)		1									1	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA		Split	NA				
Protected Phases	5	2			6		8	8				
Permitted Phases												
Actuated Green, G (s)	25.1	67.8			39.0		14.3	14.3				
Effective Green, g (s)	25.1	67.8			39.0		14.3	14.3				
Actuated g/C Ratio	0.27	0.73			0.42		0.15	0.15				
Clearance Time (s)	4.0	4.9			4.6		6.0	6.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	945	2631			1475		277	244				
v/s Ratio Prot	c0.16	0.24			c0.31		c0.10	0.02				
v/s Ratio Perm												
v/c Ratio	0.60	0.32			0.75		0.65	0.10				
Uniform Delay, d1	29.5	4.5			22.8		37.0	33.8				
Progression Factor	0.50	0.44			1.00		1.00	1.00				
Incremental Delay, d2	0.9	0.3			2.1		5.4	0.2				
Delay (s)	15.6	2.3			24.9		42.5	34.0				
Level of Service	B	A			C		D	C				
Approach Delay (s)		7.5			24.9			38.6			0.0	
Approach LOS		A			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



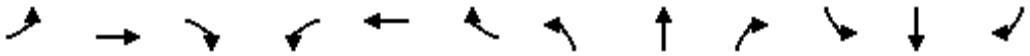
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	154	288	384	162	12	377	549	416	17	509	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1900	1590	1715	1760		3502	3610	1564	1805	3542	
Flt Permitted	0.95	1.00	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1805	1900	1590	1715	1760		3502	3610	1564	1805	3542	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	80	169	316	422	178	13	414	603	457	19	559	62
RTOR Reduction (vph)	0	0	45	0	2	0	0	0	273	0	10	0
Lane Group Flow (vph)	80	169	271	304	307	0	414	603	184	19	611	0
Confl. Peds. (#/hr)			16	16			20		5	5		20
Confl. Bikes (#/hr)		1			2							
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	2	2	3	6	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	11.6	11.6	25.1	15.4	15.4		13.5	30.0	30.0	1.5	18.0	
Effective Green, g (s)	11.6	11.6	25.1	15.4	15.4		13.5	30.0	30.0	1.5	18.0	
Actuated g/C Ratio	0.16	0.16	0.34	0.21	0.21		0.18	0.40	0.40	0.02	0.24	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	281	295	535	354	363		634	1453	629	36	855	
v/s Ratio Prot	0.04	c0.09	0.09	c0.18	0.17		c0.12	0.17		0.01	c0.17	
v/s Ratio Perm			0.08						0.12			
v/c Ratio	0.28	0.57	0.51	0.86	0.85		0.65	0.42	0.29	0.53	0.71	
Uniform Delay, d1	27.8	29.2	19.7	28.5	28.4		28.3	16.0	15.1	36.1	25.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	2.7	0.8	18.3	16.5		2.4	0.2	0.3	13.3	2.9	
Delay (s)	28.3	31.8	20.5	46.8	44.9		30.7	16.2	15.3	49.4	28.8	
Level of Service	C	C	C	D	D		C	B	B	D	C	
Approach Delay (s)		25.0			45.8			20.0			29.4	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	74.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

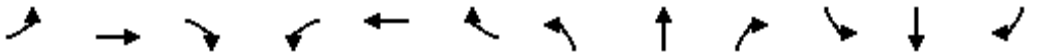
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	13	30	356	4	290	36	932	262	265	722	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1857	1615	1715	1721	1615	1805	3610	1615	3502	3596	
Flt Permitted		0.98	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1857	1615	1715	1721	1615	1805	3610	1615	3502	3596	
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)	12	14	33	387	4	315	39	1013	285	288	785	18
RTOR Reduction (vph)	0	0	31	0	0	244	0	0	0	0	1	0
Lane Group Flow (vph)	0	26	2	193	198	71	39	1013	285	288	802	0
Confl. Peds. (#/hr)							1		3	3		1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	pt+ov	Prot	NA	
Protected Phases	4	4		8	8		5	2	2 8	1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		3.9	3.9	17.6	17.6	17.6	2.1	30.7	48.3	9.9	38.5	
Effective Green, g (s)		3.9	3.9	17.6	17.6	17.6	2.1	30.7	48.3	9.9	38.5	
Actuated g/C Ratio		0.05	0.05	0.23	0.23	0.23	0.03	0.39	0.62	0.13	0.49	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		92	80	386	387	363	48	1419	998	443	1772	
v/s Ratio Prot		c0.01		0.11	c0.12		0.02	c0.28	0.18	c0.08	0.22	
v/s Ratio Perm			0.00			0.04						
v/c Ratio		0.28	0.02	0.50	0.51	0.20	0.81	0.71	0.29	0.65	0.45	
Uniform Delay, d1		35.8	35.3	26.4	26.5	24.5	37.8	20.0	6.9	32.5	12.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.7	0.1	1.0	1.1	0.3	64.2	3.1	0.2	3.4	0.8	
Delay (s)		37.4	35.4	27.4	27.6	24.8	102.0	23.1	7.1	35.9	13.8	
Level of Service		D	D	C	C	C	F	C	A	D	B	
Approach Delay (s)		36.3			26.3			22.0			19.6	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	78.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	1	2	195	1	125	4	939	81	81	1036	1
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	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.97	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1839	1615		1810	1615	1805	3610	1615	1805	3610	
Flt Permitted		1.00	1.00		0.73	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1900	1615		1379	1615	1805	3610	1615	1805	3610	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	1	2	217	1	139	4	1043	90	90	1151	1
RTOR Reduction (vph)	0	0	2	0	0	109	0	0	47	0	0	0
Lane Group Flow (vph)	0	3	0	0	218	30	4	1043	43	90	1152	0
Confl. Bikes (#/hr)		1										
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			
Actuated Green, G (s)		1.1	1.1		14.2	14.2	0.7	31.6	31.6	4.0	34.9	
Effective Green, g (s)		1.1	1.1		14.2	14.2	0.7	31.6	31.6	4.0	34.9	
Actuated g/C Ratio		0.02	0.02		0.21	0.21	0.01	0.47	0.47	0.06	0.52	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		31	26		292	342	18	1705	762	107	1883	
v/s Ratio Prot							0.00	0.29		c0.05	c0.32	
v/s Ratio Perm		c0.00	0.00		c0.16	0.02			0.03			
v/c Ratio		0.10	0.00		0.75	0.09	0.22	0.61	0.06	0.84	0.61	
Uniform Delay, d1		32.4	32.4		24.7	21.1	32.8	13.1	9.6	31.1	11.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.4	0.0		10.0	0.1	6.2	1.6	0.1	41.8	1.5	
Delay (s)		33.8	32.4		34.6	21.3	39.0	14.7	9.7	72.9	12.7	
Level of Service		C	C		C	C	D	B	A	E	B	
Approach Delay (s)		33.2			29.4			14.4			17.1	
Approach LOS		C			C			B			B	

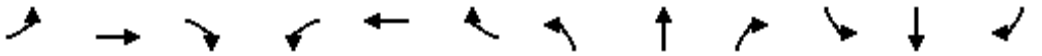
Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	369	312	189	195	232	99	299	596	152	113	640	389
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	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1586	1805	1900	1589	1805	3486		1805	3610	1576
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1805	1900	1586	1805	1900	1589	1805	3486		1805	3610	1576
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	419	355	215	222	264	112	340	677	173	128	727	442
RTOR Reduction (vph)	0	0	155	0	0	90	0	20	0	0	0	339
Lane Group Flow (vph)	419	355	60	222	264	22	340	830	0	128	727	103
Confl. Peds. (#/hr)	4		6	6		4	2		6	6		2
Confl. Bikes (#/hr)					1			3			3	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	22.1	26.5	26.5	13.9	18.3	18.3	16.0	26.6		11.5	22.1	22.1
Effective Green, g (s)	22.1	26.5	26.5	13.9	18.3	18.3	16.0	26.6		11.5	22.1	22.1
Actuated g/C Ratio	0.23	0.28	0.28	0.15	0.19	0.19	0.17	0.28		0.12	0.23	0.23
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	422	532	444	265	367	307	305	981		219	844	368
v/s Ratio Prot	c0.23	c0.19		0.12	0.14		c0.19	c0.24		0.07	0.20	
v/s Ratio Perm			0.04			0.01						0.07
v/c Ratio	0.99	0.67	0.14	0.84	0.72	0.07	1.11	0.85		0.58	0.86	0.28
Uniform Delay, d1	36.1	30.1	25.4	39.2	35.7	31.1	39.2	32.0		39.2	34.7	29.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	41.7	3.2	0.1	20.0	6.6	0.1	86.0	8.9		3.9	11.2	1.9
Delay (s)	77.9	33.3	25.6	59.2	42.3	31.2	125.3	40.9		43.2	46.0	31.6
Level of Service	E	C	C	E	D	C	F	D		D	D	C
Approach Delay (s)		50.5			46.5			65.0			40.8	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	51.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	94.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

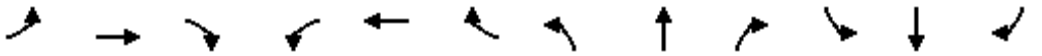
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	0	19	13	0	29	5	500	0	6	1012	41
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		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.91		1.00	1.00		1.00	0.99	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805	1615		1697		1805	3610		1805	3589	
Flt Permitted		0.95	1.00		0.87		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1805	1615		1507		1805	3610		1805	3589	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	56	0	22	15	0	33	6	575	0	7	1163	47
RTOR Reduction (vph)	0	0	20	0	46	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	56	2	0	2	0	6	575	0	7	1208	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)		4.5	4.5		3.1		0.7	35.4		0.7	35.4	
Effective Green, g (s)		4.5	4.5		3.1		0.7	35.4		0.7	35.4	
Actuated g/C Ratio		0.08	0.08		0.05		0.01	0.59		0.01	0.59	
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		136	121		78		21	2140		21	2128	
v/s Ratio Prot		c0.03					0.00	0.16		c0.00	c0.34	
v/s Ratio Perm			0.00		c0.00							
v/c Ratio		0.41	0.01		0.03		0.29	0.27		0.33	0.57	
Uniform Delay, d1		26.3	25.5		26.9		29.3	5.9		29.3	7.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0	0.0		0.2		7.4	0.3		9.1	1.1	
Delay (s)		28.4	25.6		27.0		36.6	6.2		38.4	8.6	
Level of Service		C	C		C		D	A		D	A	
Approach Delay (s)		27.6			27.0			6.5			8.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	59.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

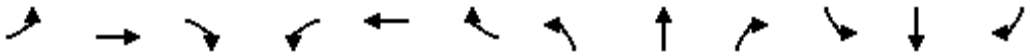
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	14	189	17	11	157	0	0	188	148
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	16	222	20	13	185	0	0	221	174

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	239	20	198	221	174
Volume Left (vph)	16	0	13	0	0
Volume Right (vph)	0	20	0	0	174
Hadj (s)	0.03	-0.70	0.01	0.00	-0.70
Departure Headway (s)	6.0	5.3	5.8	5.6	4.9
Degree Utilization, x	0.40	0.03	0.32	0.34	0.24
Capacity (veh/h)	566	635	593	620	706
Control Delay (s)	11.8	7.2	11.5	10.3	8.2
Approach Delay (s)	11.4		11.5	9.3	
Approach LOS	B		B	A	

Intersection Summary				
Delay	10.5			
Level of Service	B			
Intersection Capacity Utilization	43.0%	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		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	9	184	23	7	105	0	0	72	28
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	0	0	11	224	28	9	128	0	0	88	34

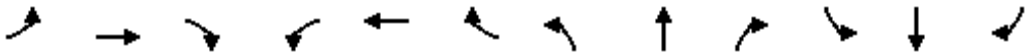
Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	123	140	137	122
Volume Left (vph)	11	0	9	0
Volume Right (vph)	0	28	0	34
Hadj (s)	0.08	-0.11	0.05	-0.13
Departure Headway (s)	5.2	5.0	4.7	4.6
Degree Utilization, x	0.18	0.20	0.18	0.16
Capacity (veh/h)	658	686	721	739
Control Delay (s)	8.1	8.0	8.8	8.4
Approach Delay (s)	8.1		8.8	8.4
Approach LOS	A		A	A

Intersection Summary				
Delay	8.3			
Level of Service	A			
Intersection Capacity Utilization	26.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	25	132	1032	27	75	1079
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	28	147	1147	30	83	1199
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)		4				
Median type			TWLTL			None
Median storage veh)			2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1931	591			1180	
vC1, stage 1 conf vol	1165					
vC2, stage 2 conf vol	766					
vCu, unblocked vol	1931	591			1180	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	68			86	
cM capacity (veh/h)	212	454			597	

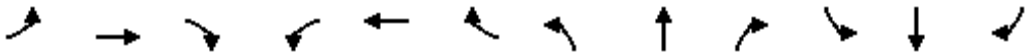
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	174	764	412	83	599	599
Volume Left	28	0	0	83	0	0
Volume Right	147	0	30	0	0	0
cSH	540	1700	1700	597	1700	1700
Volume to Capacity	0.32	0.45	0.24	0.14	0.35	0.35
Queue Length 95th (ft)	35	0	0	12	0	0
Control Delay (s)	17.9	0.0	0.0	12.0	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	17.9	0.0		0.8		
Approach LOS	C					

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	5	6	53	2	7	5	601	31	3	478	6
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		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	0.96	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99			1.00	1.00	0.99	1.00		1.00	1.00	
Frt		0.97			1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.97			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1764			1804	1556	1795	1883		1799	1896	
Flt Permitted		0.83			0.71	1.00	0.44	1.00		0.34	1.00	
Satd. Flow (perm)		1499			1350	1556	830	1883		642	1896	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	5	6	56	2	7	5	639	33	3	509	6
RTOR Reduction (vph)	0	5	0	0	0	6	0	2	0	0	1	0
Lane Group Flow (vph)	0	22	0	0	58	1	5	670	0	3	514	0
Confl. Peds. (#/hr)	14		4	4		14	11		8	8		11
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		7.4			7.4	7.4	30.0	30.0		30.0	30.0	
Effective Green, g (s)		7.4			7.4	7.4	30.0	30.0		30.0	30.0	
Actuated g/C Ratio		0.16			0.16	0.16	0.66	0.66		0.66	0.66	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		244			220	253	548	1244		424	1252	
v/s Ratio Prot								c0.36			0.27	
v/s Ratio Perm		0.01			c0.04	0.00	0.01			0.00		
v/c Ratio		0.09			0.26	0.00	0.01	0.54		0.01	0.41	
Uniform Delay, d1		16.1			16.6	15.9	2.6	4.1		2.6	3.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			0.6	0.0	0.0	0.5		0.0	0.2	
Delay (s)		16.3			17.3	15.9	2.6	4.5		2.6	3.8	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		16.3			17.1			4.5			3.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	45.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	12	108	7	7	3	79	330	3	3	448	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	14	13	119	8	8	3	87	363	3	3	492	14
Pedestrians		2			3			8			2	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			1			0	
Right turn flare (veh)			2									
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								1054				
pX, platoon unblocked	0.91	0.91		0.91	0.91	0.91				0.91		
vC, conflicting volume	1053	1051	509	1121	1056	369	509			369		
vC1, stage 1 conf vol	508	508		541	541							
vC2, stage 2 conf vol	545	543		580	515							
vCu, unblocked vol	1012	1009	509	1086	1015	264	509			263		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	97	79	97	98	100	92			100		
cM capacity (veh/h)	391	394	562	269	367	710	1065			1197		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	146	19	87	366	510
Volume Left	14	8	87	0	3
Volume Right	119	3	0	3	14
cSH	693	344	1065	1700	1197
Volume to Capacity	0.21	0.05	0.08	0.22	0.00
Queue Length 95th (ft)	20	4	7	0	0
Control Delay (s)	13.4	16.1	8.7	0.0	0.1
Lane LOS	B	C	A		A
Approach Delay (s)	13.4	16.1	1.7		0.1
Approach LOS	B	C			

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	59.5%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	131	43	1	233	0	84
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	147	48	1	262	0	94
Pedestrians				2	13	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				3.5	3.5	
Percent Blockage				0	1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				188		
pX, platoon unblocked						
vC, conflicting volume			209		448	186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			209		448	186
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			1346		561	844

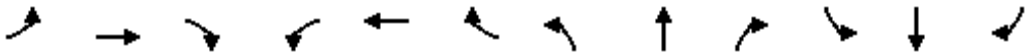
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	196	263	94
Volume Left	0	1	0
Volume Right	48	0	94
cSH	1700	1346	844
Volume to Capacity	0.12	0.00	0.11
Queue Length 95th (ft)	0	0	9
Control Delay (s)	0.0	0.0	9.8
Lane LOS		A	A
Approach Delay (s)	0.0	0.0	9.8
Approach LOS			A

Intersection Summary			
Average Delay		1.7	
Intersection Capacity Utilization		23.7%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	260	85	51	255	59	18
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	295	97	58	290	67	20
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			395		752	347
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			395		752	347
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		81	97
cM capacity (veh/h)			1160		358	694

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	392	348	88
Volume Left	0	58	67
Volume Right	97	0	20
cSH	1700	1160	404
Volume to Capacity	0.23	0.05	0.22
Queue Length 95th (ft)	0	4	20
Control Delay (s)	0.0	1.8	16.4
Lane LOS		A	C
Approach Delay (s)	0.0	1.8	16.4
Approach LOS			C

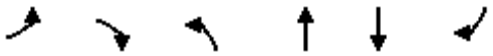
Intersection Summary			
Average Delay		2.5	
Intersection Capacity Utilization		49.5%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	0	22	0	0	1	43	1211	1	4	1109	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	0	25	0	0	1	49	1376	1	5	1260	12
Pedestrians		4			5							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		3.5			3.5							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											1192	
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92		0.92					
vC, conflicting volume	2066	2760	640	2144	2765	694	1277			1382		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1985	2739	435	2069	2745	694	1127			1382		
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 %	93	100	95	100	100	100	91			99		
cM capacity (veh/h)	31	16	521	25	16	384	564			489		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	27	1	49	917	460	5	840	433
Volume Left	2	0	49	0	0	5	0	0
Volume Right	25	1	0	0	1	0	0	12
cSH	223	384	564	1700	1700	489	1700	1700
Volume to Capacity	0.12	0.00	0.09	0.54	0.27	0.01	0.49	0.25
Queue Length 95th (ft)	10	0	7	0	0	1	0	0
Control Delay (s)	23.4	14.4	12.0	0.0	0.0	12.4	0.0	0.0
Lane LOS	C	B	B			B		
Approach Delay (s)	23.4	14.4	0.4			0.0		
Approach LOS	C	B						

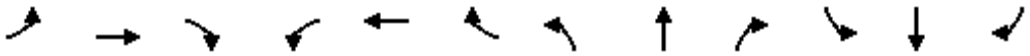
Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	45.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	6	10	1	481	995	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	7	11	1	553	1144	5
Pedestrians	2					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					691	
pX, platoon unblocked	0.43	0.43	0.43			
vC, conflicting volume	1703	1148	1150			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1973	680	685			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	76	94	100			
cM capacity (veh/h)	29	193	389			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	18	1	553	1148
Volume Left	7	1	0	0
Volume Right	11	0	0	5
cSH	62	389	1700	1700
Volume to Capacity	0.30	0.00	0.33	0.68
Queue Length 95th (ft)	26	0	0	0
Control Delay (s)	85.5	14.3	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	85.5	0.0		0.0
Approach LOS	F			

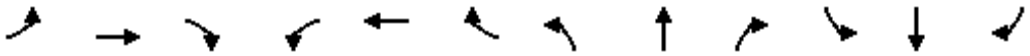
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	10	68	39	22	68	11	74	52	18	10	44	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	73	42	24	73	12	80	56	19	11	47	6

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	126	109	155	65
Volume Left (vph)	11	24	80	11
Volume Right (vph)	42	12	19	6
Hadj (s)	-0.15	0.01	0.06	0.01
Departure Headway (s)	4.4	4.6	4.6	4.6
Degree Utilization, x	0.15	0.14	0.20	0.08
Capacity (veh/h)	772	735	743	720
Control Delay (s)	8.2	8.3	8.7	8.1
Approach Delay (s)	8.2	8.3	8.7	8.1
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.4		
Level of Service	A		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	337	53	16	340	3	28	0	10	2	2	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	30	387	61	18	391	3	32	0	11	2	2	14
Pedestrians		6									7	
Lane Width (ft)		12.0									12.0	
Walking Speed (ft/s)		3.5									3.5	
Percent Blockage		1									1	
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		858										
pX, platoon unblocked												
vC, conflicting volume	401			448			731	916	224	701	944	210
vC1, stage 1 conf vol							478	478		436	436	
vC2, stage 2 conf vol							253	438		265	508	
vCu, unblocked vol	401			448			731	916	224	701	944	210
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			93	100	99	100	99	98
cM capacity (veh/h)	1146			1108			468	433	779	489	426	786

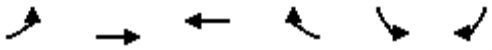
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	30	258	190	18	261	134	44	18
Volume Left	30	0	0	18	0	0	32	2
Volume Right	0	0	61	0	0	3	11	14
cSH	1146	1700	1700	1108	1700	1700	523	665
Volume to Capacity	0.03	0.15	0.11	0.02	0.15	0.08	0.08	0.03
Queue Length 95th (ft)	2	0	0	1	0	0	7	2
Control Delay (s)	8.2	0.0	0.0	8.3	0.0	0.0	12.5	10.6
Lane LOS	A			A			B	B
Approach Delay (s)	0.5			0.4			12.5	10.6
Approach LOS							B	B

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	33.0%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	93	11	1	28	0	7	1	11	3	8	73
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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	101	12	1	30	0	8	1	12	3	9	79
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		553										
pX, platoon unblocked												
vC, conflicting volume	30			113			228	144	107	157	150	30
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	30			113			228	144	107	157	150	30
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	99	92
cM capacity (veh/h)	1582			1476			665	746	947	797	740	1044

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	115	32	21	91
Volume Left	2	1	8	3
Volume Right	12	0	12	79
cSH	1582	1476	809	994
Volume to Capacity	0.00	0.00	0.03	0.09
Queue Length 95th (ft)	0	0	2	8
Control Delay (s)	0.1	0.3	9.6	9.0
Lane LOS	A	A	A	A
Approach Delay (s)	0.1	0.3	9.6	9.0
Approach LOS			A	A

Intersection Summary				
Average Delay			4.0	
Intersection Capacity Utilization			18.2%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	75	31	28	1	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	34	30	1	1	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		955				
pX, platoon unblocked						
vC, conflicting volume	32				228	31
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	32				228	31
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				100	100
cM capacity (veh/h)	1581				721	1043

Direction, Lane #	EB 1	WB 1
Volume Total	115	32
Volume Left	82	0
Volume Right	0	1
cSH	1581	1700
Volume to Capacity	0.05	0.02
Queue Length 95th (ft)	4	0
Control Delay (s)	5.4	0.0
Lane LOS	A	
Approach Delay (s)	5.4	0.0
Approach LOS		

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		