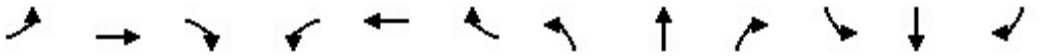
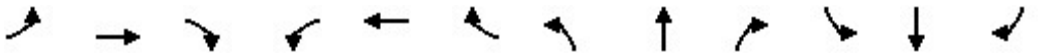


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	394	474	160	878	0	0	0	0	114	4	270
Future Volume (vph)	0	394	474	160	878	0	0	0	0	114	4	270
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.0	5.0	4.6	5.0						5.0	5.0
Lane Util. Factor		0.95	1.00	1.00	0.95						1.00	1.00
Frpb, ped/bikes		1.00	0.97	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		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		3260	1416	1646	3292						1637	1458
Flt Permitted		1.00	1.00	0.47	1.00						0.95	1.00
Satd. Flow (perm)		3260	1416	814	3292						1637	1458
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	398	479	162	887	0	0	0	0	115	4	273
RTOR Reduction (vph)	0	0	280	0	0	0	0	0	0	0	0	110
Lane Group Flow (vph)	0	398	199	162	887	0	0	0	0	0	119	163
Confl. Peds. (#/hr)			6									
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases			2	6						4		4
Actuated Green, G (s)		24.0	24.0	30.5	25.0						27.8	27.8
Effective Green, g (s)		24.0	24.0	30.5	25.0						27.8	27.8
Actuated g/C Ratio		0.33	0.33	0.42	0.35						0.39	0.39
Clearance Time (s)		5.0	5.0	4.6	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)		1088	472	408	1144						632	563
v/s Ratio Prot		0.12		c0.03	c0.27							
v/s Ratio Perm			0.14	0.14							0.07	c0.11
v/c Ratio		0.37	0.42	0.40	0.78						0.19	0.29
Uniform Delay, d1		18.2	18.6	13.3	20.9						14.6	15.2
Progression Factor		1.00	1.00	1.03	1.02						1.00	1.00
Incremental Delay, d2		0.2	0.6	0.6	3.1						0.1	0.3
Delay (s)		18.4	19.2	14.2	24.5						14.7	15.5
Level of Service		B	B	B	C						B	B
Approach Delay (s)		18.8			22.9			0.0			15.3	
Approach LOS		B			C			A			B	

Intersection Summary					
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.52				
Actuated Cycle Length (s)	71.9	Sum of lost time (s)	14.6		
Intersection Capacity Utilization	97.0%	ICU Level of Service	F		
Analysis Period (min)	15				

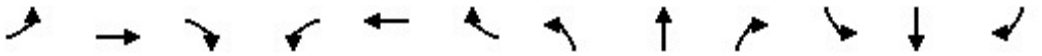
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	365	0	0	414	75	624	2	217	0	0	0
Future Volume (vph)	143	365	0	0	414	75	624	2	217	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.6	5.0			5.0	5.0	5.0	5.0				
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95				
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	1.00			1.00	0.85	1.00	0.92				
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98				
Satd. Flow (prot)	1646	3292			3292	1436	1564	1469				
Flt Permitted	0.49	1.00			1.00	1.00	0.95	0.98				
Satd. Flow (perm)	854	3292			3292	1436	1564	1469				
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)	146	372	0	0	422	77	637	2	221	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	50	0	55	0	0	0	0
Lane Group Flow (vph)	146	372	0	0	422	27	446	359	0	0	0	0
Confl. Peds. (#/hr)						3			3			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	5	2			6			8				
Permitted Phases	2					6	8					
Actuated Green, G (s)	28.5	24.0			25.0	25.0	27.8	27.8				
Effective Green, g (s)	28.5	24.0			25.0	25.0	27.8	27.8				
Actuated g/C Ratio	0.40	0.33			0.35	0.35	0.39	0.39				
Clearance Time (s)	4.6	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)	388	1098			1144	499	604	567				
v/s Ratio Prot	c0.02	0.11			c0.13							
v/s Ratio Perm	0.13					0.02	c0.29	0.24				
v/c Ratio	0.38	0.34			0.37	0.05	0.74	0.63				
Uniform Delay, d1	14.4	18.0			17.5	15.6	18.9	17.9				
Progression Factor	0.58	0.54			1.00	1.00	1.00	1.00				
Incremental Delay, d2	0.6	0.2			0.2	0.0	4.7	2.3				
Delay (s)	8.9	9.9			17.7	15.6	23.6	20.2				
Level of Service	A	A			B	B	C	C				
Approach Delay (s)		9.6			17.4			22.0			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	71.9	Sum of lost time (s)	14.6
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

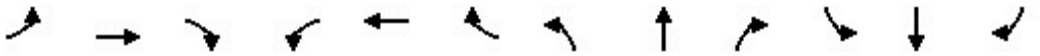


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	230	50	77	188	23	57	205	107	38	318	112
Future Volume (vph)	80	230	50	77	188	23	57	205	107	38	318	112
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost 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	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	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	0.97		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1614	3127		1630	3200		1614	1699	1424	1630	1716	1435
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1614	3127		1630	3200		1614	1699	1424	1630	1716	1435
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)	85	245	53	82	200	24	61	218	114	40	338	119
RTOR Reduction (vph)	0	24	0	0	12	0	0	0	78	0	0	84
Lane Group Flow (vph)	85	274	0	82	212	0	61	218	36	40	338	35
Confl. Peds. (#/hr)	2		6	6		2	5		3	3		5
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	5.5	15.2		4.5	14.2		3.7	19.6	19.6	2.0	17.9	17.9
Effective Green, g (s)	5.5	15.2		4.5	14.2		3.7	19.6	19.6	2.0	17.9	17.9
Actuated g/C Ratio	0.09	0.25		0.07	0.23		0.06	0.32	0.32	0.03	0.29	0.29
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)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	144	775		119	741		97	543	455	53	501	419
v/s Ratio Prot	c0.05	c0.09		0.05	0.07		c0.04	0.13		0.02	c0.20	
v/s Ratio Perm									0.03			0.02
v/c Ratio	0.59	0.35		0.69	0.29		0.63	0.40	0.08	0.75	0.67	0.08
Uniform Delay, d1	26.8	19.0		27.7	19.4		28.1	16.3	14.6	29.4	19.1	15.7
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	4.3	0.1		12.4	0.1		8.8	0.2	0.0	41.1	2.8	0.0
Delay (s)	31.1	19.1		40.2	19.5		37.0	16.5	14.6	70.5	22.0	15.8
Level of Service	C	B		D	B		D	B	B	E	C	B
Approach Delay (s)		21.8			25.0			19.1			24.4	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	20.0
Intersection Capacity Utilization	55.4%	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												
Traffic Volume (vph)	55	142	58	8	117	13	66	74	9	14	77	27
Future Volume (vph)	55	142	58	8	117	13	66	74	9	14	77	27
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
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			1.00			1.00			1.00	
Frt		0.97			0.99			0.99			0.97	
Flt Protected		0.99			1.00			0.98			0.99	
Satd. Flow (prot)		1621			1656			1695			1629	
Flt Permitted		0.91			0.97			0.80			0.94	
Satd. Flow (perm)		1486			1619			1383			1539	
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)	59	153	62	9	126	14	71	80	10	15	83	29
RTOR Reduction (vph)	0	17	0	0	6	0	0	4	0	0	16	0
Lane Group Flow (vph)	0	257	0	0	143	0	0	157	0	0	111	0
Confl. Peds. (#/hr)			4	4			1					1
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	0%	0%	0%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		13.4			13.4			7.5			7.5	
Effective Green, g (s)		13.4			13.4			7.5			7.5	
Actuated g/C Ratio		0.43			0.43			0.24			0.24	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		644			702			335			373	
v/s Ratio Prot												
v/s Ratio Perm		c0.17			0.09			c0.11			0.07	
v/c Ratio		0.40			0.20			0.47			0.30	
Uniform Delay, d1		6.0			5.4			10.0			9.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.1			0.4			0.2	
Delay (s)		6.1			5.5			10.4			9.7	
Level of Service		A			A			B			A	
Approach Delay (s)		6.1			5.5			10.4			9.7	
Approach LOS		A			A			B			A	

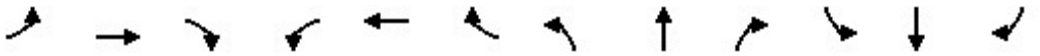
Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	30.9	Sum of lost time (s)	10.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	5	120	6	6	4	101	171	5	4	167	28
Future Volume (Veh/h)	45	5	120	6	6	4	101	171	5	4	167	28
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	47	5	125	6	6	4	105	178	5	4	174	29
Pedestrians		4			2			1				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	598	596	194	718	608	182	207			185		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	598	596	194	718	608	182	207			185		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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 %	88	99	85	98	98	100	92			100		
cM capacity (veh/h)	380	382	844	273	378	864	1354			1381		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	177	16	288	207
Volume Left	47	6	105	4
Volume Right	125	4	5	29
cSH	621	377	1354	1381
Volume to Capacity	0.28	0.04	0.08	0.00
Queue Length 95th (ft)	29	3	6	0
Control Delay (s)	13.1	15.0	3.3	0.2
Lane LOS	B	B	A	A
Approach Delay (s)	13.1	15.0	3.3	0.2
Approach LOS	B	B		

Intersection Summary				
Average Delay	5.2			
Intersection Capacity Utilization	51.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	265	46	28	278	20	31	56	28	27	95	41
Future Volume (vph)	30	265	46	28	278	20	31	56	28	27	95	41
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
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			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.99			0.97			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1688			1708			1670			1635	
Flt Permitted		0.95			0.95			0.86			0.92	
Satd. Flow (perm)		1611			1630			1458			1520	
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)	32	285	49	30	299	22	33	60	30	29	102	44
RTOR Reduction (vph)	0	8	0	0	4	0	0	16	0	0	17	0
Lane Group Flow (vph)	0	358	0	0	347	0	0	107	0	0	158	0
Confl. Peds. (#/hr)	5		3	3		5	1					1
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	0%	0%	0%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		16.9			16.9			8.5			8.5	
Effective Green, g (s)		16.9			16.9			8.5			8.5	
Actuated g/C Ratio		0.48			0.48			0.24			0.24	
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)		769			778			350			364	
v/s Ratio Prot												
v/s Ratio Perm		c0.22			0.21			0.07			c0.10	
v/c Ratio		0.47			0.45			0.31			0.43	
Uniform Delay, d1		6.2			6.1			11.0			11.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.4			0.5			0.8	
Delay (s)		6.7			6.6			11.5			12.2	
Level of Service		A			A			B			B	
Approach Delay (s)		6.7			6.6			11.5			12.2	
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	0.45		
Actuated Cycle Length (s)	35.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	46.4%	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												
Traffic Volume (vph)	70	145	61	42	124	27	90	302	68	29	303	77
Future Volume (vph)	70	145	61	42	124	27	90	302	68	29	303	77
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	16	16	16	16	16	16	12	12	12	12	12	12
Total Lost time (s)		5.3			5.3		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		0.99			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		0.97			0.98		1.00	0.97		1.00	0.97	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1870			1899		1630	1668		1614	1647	
Flt Permitted		0.86			0.87		0.50	1.00		0.51	1.00	
Satd. Flow (perm)		1627			1677		851	1668		863	1647	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	71	146	62	42	125	27	91	305	69	29	306	78
RTOR Reduction (vph)	0	13	0	0	7	0	0	14	0	0	16	0
Lane Group Flow (vph)	0	266	0	0	187	0	91	360	0	29	368	0
Confl. Peds. (#/hr)	2		3	3		2						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	3%	3%	3%
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)		12.1			12.1		15.0	15.0		15.0	15.0	
Effective Green, g (s)		12.1			12.1		15.0	15.0		15.0	15.0	
Actuated g/C Ratio		0.32			0.32		0.40	0.40		0.40	0.40	
Clearance Time (s)		5.3			5.3		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		526			542		341	668		346	660	
v/s Ratio Prot								0.22			c0.22	
v/s Ratio Perm		c0.16			0.11		0.11			0.03		
v/c Ratio		0.51			0.34		0.27	0.54		0.08	0.56	
Uniform Delay, d1		10.2			9.6		7.5	8.6		6.9	8.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			0.4		0.2	0.4		0.0	0.6	
Delay (s)		11.0			10.0		7.7	9.0		7.0	9.2	
Level of Service		B			B		A	A		A	A	
Approach Delay (s)		11.0			10.0			8.7			9.1	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	37.4	Sum of lost time (s)	10.3
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	218	24	1	184	9	4
Future Volume (Veh/h)	218	24	1	184	9	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	240	26	1	202	10	4
Pedestrians					8	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	956					
pX, platoon unblocked						
vC, conflicting volume			274		465	261
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			274		465	261
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		98	99
cM capacity (veh/h)			1292		555	777

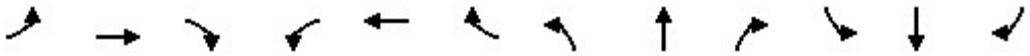
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	266	203	14
Volume Left	0	1	10
Volume Right	26	0	4
cSH	1700	1292	605
Volume to Capacity	0.16	0.00	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	11.1
Lane LOS		A	B
Approach Delay (s)	0.0	0.0	11.1
Approach LOS			B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	24.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	49	122	100	168	165	57
Future Volume (vph)	49	122	100	168	165	57
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	52	130	106	179	176	61

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	182	285	237
Volume Left (vph)	52	106	0
Volume Right (vph)	130	0	61
Hadj (s)	-0.34	0.11	-0.10
Departure Headway (s)	4.8	4.8	4.6
Degree Utilization, x	0.24	0.38	0.30
Capacity (veh/h)	688	727	741
Control Delay (s)	9.3	10.6	9.6
Approach Delay (s)	9.3	10.6	9.6
Approach LOS	A	B	A

Intersection Summary			
Delay	9.9		
Level of Service	A		
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	8	7	2	14	8	252	15	24	262	2
Future Volume (Veh/h)	1	2	8	7	2	14	8	252	15	24	262	2
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)	1	2	9	8	2	15	9	277	16	26	288	2
Pedestrians		2									5	
Lane Width (ft)		12.0									12.0	
Walking Speed (ft/s)		4.0									4.0	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	667	654	291	654	647	290	292			293		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	667	654	291	654	647	290	292			293		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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	99	99	98	99	98	99			98		
cM capacity (veh/h)	356	377	752	368	381	751	1268			1263		

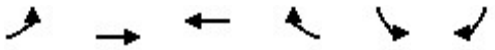
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	12	25	302	316
Volume Left	1	8	9	26
Volume Right	9	15	16	2
cSH	598	532	1268	1263
Volume to Capacity	0.02	0.05	0.01	0.02
Queue Length 95th (ft)	2	4	1	2
Control Delay (s)	11.1	12.1	0.3	0.8
Lane LOS	B	B	A	A
Approach Delay (s)	11.1	12.1	0.3	0.8
Approach LOS	B	B		

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	39.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	33	23	262	333	9
Future Volume (Veh/h)	9	33	23	262	333	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	9	34	24	273	347	9
Pedestrians	5				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	678	356	361			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	678	356	361			
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)	410	689	1193			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	43	297	356
Volume Left	9	24	0
Volume Right	34	0	9
cSH	603	1193	1700
Volume to Capacity	0.07	0.02	0.21
Queue Length 95th (ft)	6	2	0
Control Delay (s)	11.4	0.8	0.0
Lane LOS	B	A	
Approach Delay (s)	11.4	0.8	0.0
Approach LOS	B		

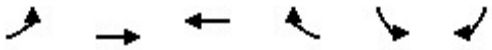
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	365	193	0	74	416
Future Volume (Veh/h)	0	365	193	0	74	416
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	384	203	0	78	438
Pedestrians					1	
Lane Width (ft)					11.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	204				588	204
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	204				588	204
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				83	48
cM capacity (veh/h)	1361				471	836

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	384	203	78	438
Volume Left	0	0	78	0
Volume Right	0	0	0	438
cSH	1700	1700	471	836
Volume to Capacity	0.23	0.12	0.17	0.52
Queue Length 95th (ft)	0	0	15	78
Control Delay (s)	0.0	0.0	14.2	13.9
Lane LOS			B	B
Approach Delay (s)	0.0	0.0	14.0	
Approach LOS			B	

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		



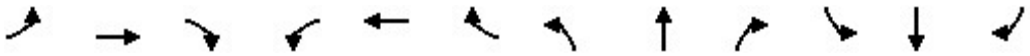
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	165	274	193	49	0	0
Future Volume (Veh/h)	165	274	193	49	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	196	326	230	58	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	230				977	259
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	230				977	259
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				100	100
cM capacity (veh/h)	1332				239	785

Direction, Lane #	EB 1	WB 1
Volume Total	522	288
Volume Left	196	0
Volume Right	0	58
cSH	1332	1700
Volume to Capacity	0.15	0.17
Queue Length 95th (ft)	13	0
Control Delay (s)	4.0	0.0
Lane LOS	A	
Approach Delay (s)	4.0	0.0
Approach LOS		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	71	48	57	105	26	33	377	78	36	375	49
Future Volume (vph)	27	71	48	57	105	26	33	377	78	36	375	49
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
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	0.99			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	
Frt	1.00	0.94			0.98		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1568	1536			1621		1614	1646		1599	1653	
Flt Permitted	0.37	1.00			0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	617	1536			1409		1614	1646		1599	1653	
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)	29	76	52	61	113	28	35	405	84	39	403	53
RTOR Reduction (vph)	0	22	0	0	5	0	0	5	0	0	3	0
Lane Group Flow (vph)	29	106	0	0	197	0	35	484	0	39	453	0
Confl. Peds. (#/hr)						1			4			
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	3%	3%	3%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		3			4		1	6		5	2	
Permitted Phases	3			4								
Actuated Green, G (s)	10.7	10.7			16.5		4.1	36.2		4.3	36.4	
Effective Green, g (s)	10.7	10.7			16.5		4.1	36.2		4.3	36.4	
Actuated g/C Ratio	0.12	0.12			0.19		0.05	0.41		0.05	0.42	
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	75	187			265		75	679		78	686	
v/s Ratio Prot		c0.07					0.02	c0.29		c0.02	0.27	
v/s Ratio Perm	0.05				c0.14							
v/c Ratio	0.39	0.57			0.74		0.47	0.71		0.50	0.66	
Uniform Delay, d1	35.5	36.3			33.6		40.7	21.4		40.7	20.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	2.3			9.5		1.7	3.0		1.8	1.9	
Delay (s)	36.7	38.7			43.1		42.4	24.4		42.5	22.5	
Level of Service	D	D			D		D	C		D	C	
Approach Delay (s)		38.3			43.1			25.6			24.1	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	87.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	58.6%	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												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	28	32	51	16	12	29	58	211	28	49	214	32
Future Volume (vph)	28	32	51	16	12	29	58	211	28	49	214	32
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)	33	37	59	19	14	34	67	245	33	57	249	37

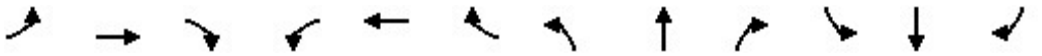
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	129	67	345	343
Volume Left (vph)	33	19	67	57
Volume Right (vph)	59	34	33	37
Hadj (s)	-0.07	-0.21	0.03	0.00
Departure Headway (s)	5.7	5.7	5.0	4.9
Degree Utilization, x	0.20	0.11	0.48	0.47
Capacity (veh/h)	562	542	697	697
Control Delay (s)	10.1	9.3	12.4	12.3
Approach Delay (s)	10.1	9.3	12.4	12.3
Approach LOS	B	A	B	B

Intersection Summary				
Delay	11.8			
Level of Service	B			
Intersection Capacity Utilization	40.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	38	72	222	34	61	222
Future Volume (Veh/h)	38	72	222	34	61	222
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	40	77	236	36	65	236
Pedestrians	1					2
Lane Width (ft)	12.0					12.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	0					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	621	257			273	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621	257			273	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	90			95	
cM capacity (veh/h)	429	782			1278	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	117	272	301
Volume Left	40	0	65
Volume Right	77	36	0
cSH	611	1700	1278
Volume to Capacity	0.19	0.16	0.05
Queue Length 95th (ft)	18	0	4
Control Delay (s)	12.3	0.0	2.1
Lane LOS	B		A
Approach Delay (s)	12.3	0.0	2.1
Approach LOS	B		

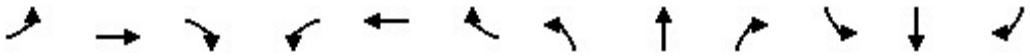
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	7	117	10	11	9	83	235	19	9	247	9
Future Volume (Veh/h)	7	7	117	10	11	9	83	235	19	9	247	9
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)	7	7	121	10	11	9	86	242	20	9	255	9
Pedestrians		2			1			1				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	708	714	262	824	709	253	266			263		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	708	714	262	824	709	253	266			263		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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 %	98	98	84	96	97	99	93			99		
cM capacity (veh/h)	317	330	774	227	331	783	1290			1289		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	7	128	30	86	262	9	264
Volume Left	7	0	10	86	0	9	0
Volume Right	0	121	9	0	20	0	9
cSH	317	721	338	1290	1700	1289	1700
Volume to Capacity	0.02	0.18	0.09	0.07	0.15	0.01	0.16
Queue Length 95th (ft)	2	16	7	5	0	1	0
Control Delay (s)	16.6	11.1	16.7	8.0	0.0	7.8	0.0
Lane LOS	C	B	C	A		A	
Approach Delay (s)	11.4		16.7	2.0		0.3	
Approach LOS	B		C				

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	41.0%	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	
Traffic Volume (vph)	5	91	23	21	112	108	30	151	15	122	189	15
Future Volume (vph)	5	91	23	21	112	108	30	151	15	122	189	15
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)	5	96	24	22	118	114	32	159	16	128	199	16

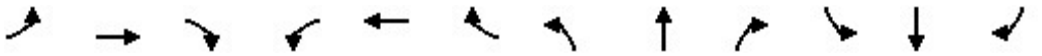
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	125	254	207	343
Volume Left (vph)	5	22	32	128
Volume Right (vph)	24	114	16	16
Hadj (s)	-0.11	-0.23	0.00	0.08
Departure Headway (s)	5.8	5.4	5.6	5.4
Degree Utilization, x	0.20	0.38	0.32	0.52
Capacity (veh/h)	540	605	586	627
Control Delay (s)	10.3	11.8	11.2	14.1
Approach Delay (s)	10.3	11.8	11.2	14.1
Approach LOS	B	B	B	B

Intersection Summary				
Delay	12.3			
Level of Service	B			
Intersection Capacity Utilization	62.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	165	74	56	181	34	101	350	52	70	610	86
Future Volume (vph)	94	165	74	56	181	34	101	350	52	70	610	86
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
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	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.94	1.00	1.00	0.93
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	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	1615		1662	1697		1614	3228	1361	1630	3260	1358
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1630	1615		1662	1697		1614	3228	1361	1630	3260	1358
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)	100	176	79	60	193	36	107	372	55	74	649	91
RTOR Reduction (vph)	0	15	0	0	7	0	0	0	38	0	0	64
Lane Group Flow (vph)	100	240	0	60	222	0	107	372	17	74	649	27
Confl. Peds. (#/hr)	34		30	30		34	22		17	17		22
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	9.0	34.2		6.8	32.0		9.2	31.8	31.8	7.2	29.8	29.8
Effective Green, g (s)	9.0	34.2		6.8	32.0		9.2	31.8	31.8	7.2	29.8	29.8
Actuated g/C Ratio	0.09	0.34		0.07	0.32		0.09	0.32	0.32	0.07	0.30	0.30
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)	2.0	2.0		2.0	2.0		2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	146	552		113	543		148	1026	432	117	971	404
v/s Ratio Prot	c0.06	c0.15		0.04	0.13		c0.07	0.12		0.05	c0.20	
v/s Ratio Perm									0.01			0.02
v/c Ratio	0.68	0.43		0.53	0.41		0.72	0.36	0.04	0.63	0.67	0.07
Uniform Delay, d1	44.1	25.4		45.1	26.6		44.2	26.3	23.6	45.1	30.8	25.1
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	10.1	2.5		2.4	2.3		13.7	1.0	0.2	7.9	3.6	0.3
Delay (s)	54.2	27.9		47.4	28.9		57.9	27.3	23.7	53.0	34.4	25.5
Level of Service	D	C		D	C		E	C	C	D	C	C
Approach Delay (s)		35.3			32.7			33.0			35.1	
Approach LOS		D			C			C			D	

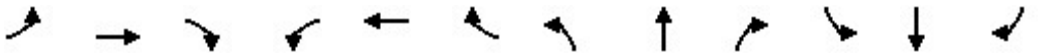
Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	554	78	311	606	298	129	379	298	342	483	98
Future Volume (vph)	85	554	78	311	606	298	129	379	298	342	483	98
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	11	12	12	11	11	12	11	11	12	11	11
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	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	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1614	3062		3162	3151	1389	1646	3182	1405	3193	3182	1396
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1614	3062		3162	3151	1389	1646	3182	1405	3193	3182	1396
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)	87	565	80	317	618	304	132	387	304	349	493	100
RTOR Reduction (vph)	0	8	0	0	0	150	0	0	54	0	0	52
Lane Group Flow (vph)	87	637	0	317	618	154	132	387	250	349	493	48
Confl. Peds. (#/hr)						8			5			12
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4	5	1	6	7	5	2	3
Permitted Phases						4			6			2
Actuated Green, G (s)	18.3	31.5		17.4	30.6	48.2	16.7	43.5	60.9	17.6	44.4	62.7
Effective Green, g (s)	18.3	31.5		17.4	30.6	48.2	16.7	43.5	60.9	17.6	44.4	62.7
Actuated g/C Ratio	0.14	0.24		0.13	0.24	0.37	0.13	0.33	0.47	0.14	0.34	0.48
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	227	741		423	741	514	211	1064	712	432	1086	726
v/s Ratio Prot	0.05	c0.21		0.10	c0.20	0.04	c0.08	0.12	0.05	c0.11	c0.15	0.01
v/s Ratio Perm						0.07			0.13			0.03
v/c Ratio	0.38	0.86		0.75	0.83	0.30	0.63	0.36	0.35	0.81	0.45	0.07
Uniform Delay, d1	50.7	47.1		54.2	47.3	29.0	53.7	32.8	22.0	54.6	33.4	18.0
Progression Factor	1.00	1.00		0.95	1.19	2.27	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	9.4		5.3	6.5	0.1	4.1	1.0	0.1	10.0	1.4	0.0
Delay (s)	51.1	56.5		57.0	62.9	65.9	57.8	33.7	22.1	64.6	34.7	18.0
Level of Service	D	E		E	E	E	E	C	C	E	C	B
Approach Delay (s)		55.9			62.1			33.3			44.0	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	50.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



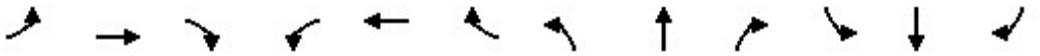
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1009	185	327	1085	0	0	0	0	931	5	130
Future Volume (vph)	0	1009	185	327	1085	0	0	0	0	931	5	130
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	11	11	12	12	12	12	12	12	11
Total Lost time (s)		6.0		6.0	7.5					7.9	7.9	7.9
Lane Util. Factor		0.91		0.97	0.95					0.95	0.91	0.95
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		0.98		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4575		3027	3121					1548	1484	1339
Flt Permitted		1.00		0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4575		3027	3121					1548	1484	1339
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	1019	187	330	1096	0	0	0	0	940	5	131
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	1	66
Lane Group Flow (vph)	0	1186	0	330	1096	0	0	0	0	479	478	52
Confl. Peds. (#/hr)						4						
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	2%	2%	2%
Turn Type		NA		Prot	NA					Perm	NA	Perm
Protected Phases		2		1	6						4	
Permitted Phases										4		4
Actuated Green, G (s)		55.5		17.5	77.5					37.1	37.1	37.1
Effective Green, g (s)		55.5		17.5	77.5					37.1	37.1	37.1
Actuated g/C Ratio		0.43		0.13	0.60					0.29	0.29	0.29
Clearance Time (s)		6.0		6.0	7.5					7.9	7.9	7.9
Vehicle Extension (s)		2.0		2.5	2.5					4.0	4.0	4.0
Lane Grp Cap (vph)		1953		407	1860					441	423	382
v/s Ratio Prot		c0.26		c0.11	0.35							
v/s Ratio Perm										0.31	0.32	0.04
v/c Ratio		0.61		0.81	0.59					1.09	1.13	0.13
Uniform Delay, d1		28.8		54.6	16.3					46.5	46.5	34.5
Progression Factor		0.92		1.03	0.88					1.00	1.00	1.00
Incremental Delay, d2		1.0		10.1	1.2					68.1	84.5	0.2
Delay (s)		27.7		66.6	15.5					114.5	130.9	34.7
Level of Service		C		E	B					F	F	C
Approach Delay (s)		27.7			27.3			0.0			113.1	
Approach LOS		C			C			A			F	

Intersection Summary			
HCM 2000 Control Delay	52.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	81.9%	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												
Traffic Volume (vph)	0	1807	133	0	1308	1048	104	0	289	0	0	0
Future Volume (vph)	0	1807	133	0	1308	1048	104	0	289	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	15	16	12	12	12
Total Lost time (s)		5.9	5.9		5.9	4.0		5.9	4.0			
Lane Util. Factor		0.95	1.00		0.95	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		1.00	1.00		0.95	1.00			
Satd. Flow (prot)		3260	1458		3260	1458		1775	1637			
Flt Permitted		1.00	1.00		1.00	1.00		0.95	1.00			
Satd. Flow (perm)		3260	1458		3260	1458		1775	1637			
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	1844	136	0	1335	1069	106	0	295	0	0	0
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1844	109	0	1335	1069	0	106	295	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	0%	0%	0%
Turn Type		NA	Perm		NA	Free	Split	NA	Free			
Protected Phases		2			6		8	8				
Permitted Phases			2			Free			Free			
Actuated Green, G (s)		104.6	104.6		104.6	130.0		13.6	130.0			
Effective Green, g (s)		104.6	104.6		104.6	130.0		13.6	130.0			
Actuated g/C Ratio		0.80	0.80		0.80	1.00		0.10	1.00			
Clearance Time (s)		5.9	5.9		5.9			5.9				
Vehicle Extension (s)		4.0	4.0		4.0			3.5				
Lane Grp Cap (vph)		2623	1173		2623	1458		185	1637			
v/s Ratio Prot		0.57			0.41			0.06				
v/s Ratio Perm			0.08			c0.73			0.18			
v/c Ratio		0.70	0.09		0.51	0.73		0.57	0.18			
Uniform Delay, d1		5.7	2.7		4.2	0.0		55.4	0.0			
Progression Factor		0.55	0.14		1.00	1.00		1.00	1.00			
Incremental Delay, d2		0.8	0.1		0.7	3.3		4.6	0.2			
Delay (s)		4.0	0.4		4.9	3.3		60.0	0.2			
Level of Service		A	A		A	A		E	A			
Approach Delay (s)		3.7			4.2			16.0			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	70.3%	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												
Traffic Volume (veh/h)	28	0	11	0	0	0	0	186	287	222	486	0
Future Volume (Veh/h)	28	0	11	0	0	0	0	186	287	222	486	0
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)	31	0	12	0	0	0	0	204	315	244	534	0
Pedestrians		4			7			1				
Lane Width (ft)		12.0			0.0			12.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1388	1237	539	1392	1394	368	538			211		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1388	1237	539	1392	1394	368	538			211		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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 %	70	100	98	100	100	100	100			82		
cM capacity (veh/h)	102	143	538	101	117	681	1027			1354		

Direction, Lane #	EB 1	EB 2	NB 1	SB 1	SB 2
Volume Total	31	12	519	244	534
Volume Left	31	0	0	244	0
Volume Right	0	12	315	0	0
cSH	102	538	1700	1354	1700
Volume to Capacity	0.30	0.02	0.31	0.18	0.31
Queue Length 95th (ft)	29	2	0	16	0
Control Delay (s)	54.7	11.8	0.0	8.2	0.0
Lane LOS	F	B		A	
Approach Delay (s)	42.8		0.0	2.6	
Approach LOS	E				

Intersection Summary				
Average Delay	2.9			
Intersection Capacity Utilization	57.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	277	309	214	0	0	431
Future Volume (Veh/h)	277	309	214	0	0	431
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	289	322	223	0	0	449
Pedestrians	7					3
Lane Width (ft)	13.0					11.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	1					0
Right turn flare (veh)		16				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	679	233			230	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	679	233			230	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	30	60			100	
cM capacity (veh/h)	413	797			1318	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	611	223	449
Volume Left	289	0	0
Volume Right	322	0	0
cSH	873	1700	1700
Volume to Capacity	0.70	0.13	0.26
Queue Length 95th (ft)	148	0	0
Control Delay (s)	21.6	0.0	0.0
Lane LOS	C		
Approach Delay (s)	21.6	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	10.3		
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	7	16	0	16	8	316	21	14	309	0
Future Volume (Veh/h)	0	0	7	16	0	16	8	316	21	14	309	0
Sign Control		Stop			Stop			Free			Free	
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)	0	0	7	17	0	17	9	336	22	15	329	0
Pedestrians		2			1							
Lane Width (ft)		12.0			12.0							
Walking Speed (ft/s)		4.0			4.0							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	732	738	331	732	727	348	331			359		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	732	738	331	732	727	348	331			359		
tC, single (s)	8.1	7.5	7.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	4.4	4.9	4.2	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	95	100	98	99			99		
cM capacity (veh/h)	228	245	532	325	342	692	1210			1188		

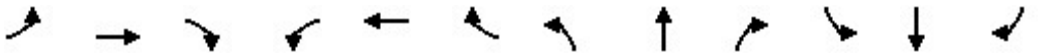
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	7	34	9	358	15	329
Volume Left	0	17	9	0	15	0
Volume Right	7	17	0	22	0	0
cSH	532	443	1210	1700	1188	1700
Volume to Capacity	0.01	0.08	0.01	0.21	0.01	0.19
Queue Length 95th (ft)	1	6	1	0	1	0
Control Delay (s)	11.9	13.8	8.0	0.0	8.1	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	11.9	13.8	0.2		0.4	
Approach LOS	B	B				

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	34.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	29	316	21	16	316
Future Volume (Veh/h)	15	29	316	21	16	316
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)	16	31	340	23	17	340
Pedestrians						1
Lane Width (ft)						12.0
Walking Speed (ft/s)						4.0
Percent Blockage						0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			751			
pX, platoon unblocked						
vC, conflicting volume	726	352			363	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	726	352			363	
tC, single (s)	6.4	6.2			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	96	96			99	
cM capacity (veh/h)	386	691			1174	

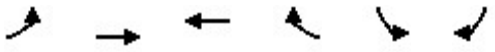
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	47	363	357
Volume Left	16	0	17
Volume Right	31	23	0
cSH	544	1700	1174
Volume to Capacity	0.09	0.21	0.01
Queue Length 95th (ft)	7	0	1
Control Delay (s)	12.2	0.0	0.5
Lane LOS	B		A
Approach Delay (s)	12.2	0.0	0.5
Approach LOS	B		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	190	145	123	196	152	99	114	15	76	173	82
Future Volume (vph)	71	190	145	123	196	152	99	114	15	76	173	82
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		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	0.94		1.00	0.93		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1582	1559		1614	1572		1520	1606	1336		2967	
Flt Permitted	0.54	1.00		0.55	1.00		0.55	1.00	1.00		0.85	
Satd. Flow (perm)	903	1559		937	1572		872	1606	1336		2557	
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)	74	198	151	128	204	158	103	119	16	79	180	85
RTOR Reduction (vph)	0	35	0	0	36	0	0	0	11	0	53	0
Lane Group Flow (vph)	74	314	0	128	326	0	103	119	5	0	291	0
Confl. Peds. (#/hr)	2					2	8		2	2		8
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	9%	9%	9%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	13.0	13.0		13.0	13.0		12.1	12.1	12.1		12.1	
Effective Green, g (s)	13.0	13.0		13.0	13.0		12.1	12.1	12.1		12.1	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.33	0.33	0.33		0.33	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0		6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)	316	546		328	550		284	523	435		833	
v/s Ratio Prot		0.20			c0.21			0.07				
v/s Ratio Perm	0.08			0.14			c0.12		0.00		0.11	
v/c Ratio	0.23	0.57		0.39	0.59		0.36	0.23	0.01		0.35	
Uniform Delay, d1	8.5	9.8		9.1	9.9		9.6	9.1	8.5		9.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.9		0.3	1.1		0.3	0.1	0.0		0.1	
Delay (s)	8.7	10.7		9.3	11.0		9.8	9.2	8.5		9.6	
Level of Service	A	B		A	B		A	A	A		A	
Approach Delay (s)		10.4			10.6			9.4			9.6	
Approach LOS		B			B			A			A	

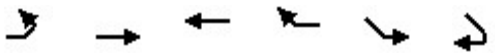
Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	37.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Volume (veh/h)	0	281	331	0	215	140
Future Volume (Veh/h)	0	281	331	0	215	140
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	302	356	0	231	151
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		273				
pX, platoon unblocked						
vC, conflicting volume	356				658	356
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	356				658	356
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				46	78
cM capacity (veh/h)	1197				429	688

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	302	356	231	151
Volume Left	0	0	231	0
Volume Right	0	0	0	151
cSH	1700	1700	429	688
Volume to Capacity	0.18	0.21	0.54	0.22
Queue Length 95th (ft)	0	0	78	21
Control Delay (s)	0.0	0.0	22.8	11.7
Lane LOS			C	B
Approach Delay (s)	0.0	0.0	18.4	
Approach LOS			C	

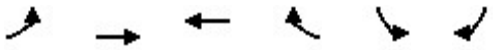
Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	496	331	280	0	0
Future Volume (Veh/h)	0	496	331	280	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)	0	539	360	304	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)		1187				
pX, platoon unblocked						
vC, conflicting volume	664				1051	512
vC1, stage 1 conf vol					512	
vC2, stage 2 conf vol					539	
vCu, unblocked vol	664				1051	512
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 %	100				100	100
cM capacity (veh/h)	925				471	566

Direction, Lane #	EB 1	WB 1
Volume Total	539	664
Volume Left	0	0
Volume Right	0	304
cSH	1700	1700
Volume to Capacity	0.32	0.39
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS		
Approach Delay (s)	0.0	0.0
Approach LOS		

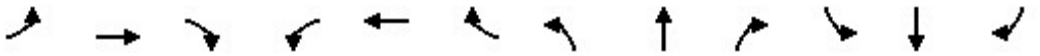
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	494	609	1	2	2
Future Volume (Veh/h)	2	494	609	1	2	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	520	641	1	2	2
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)						
pX, platoon unblocked						
vC, conflicting volume	642				1166	642
vC1, stage 1 conf vol					642	
vC2, stage 2 conf vol					524	
vCu, unblocked vol	642				1166	642
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 %	100				100	100
cM capacity (veh/h)	933				433	478

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	522	642	4
Volume Left	2	0	2
Volume Right	0	1	2
cSH	933	1700	455
Volume to Capacity	0.00	0.38	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.1	0.0	13.0
Lane LOS	A		B
Approach Delay (s)	0.1	0.0	13.0
Approach LOS			B

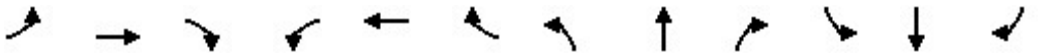
Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		44.9%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	484	3	6	584	25	4	0	3	17	0	22
Future Volume (Veh/h)	9	484	3	6	584	25	4	0	3	17	0	22
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)	10	515	3	6	621	27	4	0	3	18	0	23
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)					1209							
pX, platoon unblocked	0.92						0.92	0.92		0.92	0.92	0.92
vC, conflicting volume	648			518			1192	1196	516	1184	1184	634
vC1, stage 1 conf vol							536	536		646	646	
vC2, stage 2 conf vol							656	660		538	538	
vCu, unblocked vol	571			518			1165	1169	516	1156	1156	556
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)							6.2	5.6		6.1	5.5	
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	99			99			99	100	99	95	100	95
cM capacity (veh/h)	914			1043			335	351	536	369	375	490

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	10	518	6	648	7	41
Volume Left	10	0	6	0	4	18
Volume Right	0	3	0	27	3	23
cSH	914	1700	1043	1700	399	428
Volume to Capacity	0.01	0.30	0.01	0.38	0.02	0.10
Queue Length 95th (ft)	1	0	0	0	1	8
Control Delay (s)	9.0	0.0	8.5	0.0	14.2	14.3
Lane LOS	A		A		B	B
Approach Delay (s)	0.2		0.1		14.2	14.3
Approach LOS					B	B

Intersection Summary				
Average Delay	0.7			
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												
Traffic Volume (veh/h)	27	470	7	6	585	80	3	3	8	42	2	27
Future Volume (Veh/h)	27	470	7	6	585	80	3	3	8	42	2	27
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)	29	500	7	6	622	85	3	3	9	45	2	29
Pedestrians		2			3			3			3	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)					705							
pX, platoon unblocked	0.90						0.90	0.90		0.90	0.90	0.90
vC, conflicting volume	710			510			1230	1286	510	1208	1205	627
vC1, stage 1 conf vol							564	564		637	637	
vC2, stage 2 conf vol							666	722		572	568	
vCu, unblocked vol	621			510			1200	1262	510	1176	1172	529
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	99	98	87	99	94
cM capacity (veh/h)	852			1047			326	330	565	353	363	494

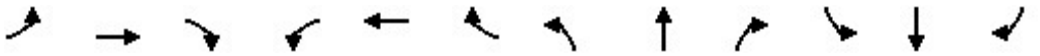
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	29	507	628	85	15	76
Volume Left	29	0	6	0	3	45
Volume Right	0	7	0	85	9	29
cSH	852	1700	1047	1700	438	397
Volume to Capacity	0.03	0.30	0.01	0.05	0.03	0.19
Queue Length 95th (ft)	3	0	0	0	3	17
Control Delay (s)	9.4	0.0	0.2	0.0	13.5	16.2
Lane LOS	A		A		B	C
Approach Delay (s)	0.5		0.1		13.5	16.2
Approach LOS					B	C

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	55.9%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	520	0	0	503	168	181
Future Volume (Veh/h)	520	0	0	503	168	181
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	547	0	0	529	177	191
Pedestrians				1	2	
Lane Width (ft)				11.0	13.5	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				469		
pX, platoon unblocked						
vC, conflicting volume			549		814	550
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			549		814	550
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		42	59
cM capacity (veh/h)			1008		306	465

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	547	264	264	368
Volume Left	0	0	0	177
Volume Right	0	0	0	191
cSH	1700	1700	1700	460
Volume to Capacity	0.32	0.16	0.16	0.80
Queue Length 95th (ft)	0	0	0	184
Control Delay (s)	0.0	0.0	0.0	37.5
Lane LOS				E
Approach Delay (s)	0.0	0.0		37.5
Approach LOS				E

Intersection Summary			
Average Delay	9.6		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	49	12	24	43	144	0	0	0	226	37	39
Future Volume (vph)	55	49	12	24	43	144	0	0	0	226	37	39
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0			4.0	4.0					4.0	
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		0.99			1.00	0.85					0.98	
Flt Protected		0.98			0.98	1.00					0.96	
Satd. Flow (prot)		1659			1713	1476					1631	
Flt Permitted		0.83			0.87	1.00					0.96	
Satd. Flow (perm)		1404			1517	1476					1631	
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)	58	52	13	25	45	152	0	0	0	238	39	41
RTOR Reduction (vph)	0	0	0	0	0	48	0	0	0	0	0	0
Lane Group Flow (vph)	0	123	0	0	70	104	0	0	0	0	318	0
Confl. Peds. (#/hr)	5		9	9		5	22		7	7		22
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA	pm+ov				Split	NA	
Protected Phases		4			8	6				6	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)		9.2			9.2	30.4					21.2	
Effective Green, g (s)		9.2			9.2	30.4					21.2	
Actuated g/C Ratio		0.21			0.21	0.68					0.48	
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)		290			313	1140					777	
v/s Ratio Prot						0.04					c0.19	
v/s Ratio Perm		c0.09			0.05	0.03						
v/c Ratio		0.42			0.22	0.09					0.41	
Uniform Delay, d1		15.3			14.7	2.4					7.6	
Progression Factor		1.00			1.00	1.00					1.00	
Incremental Delay, d2		1.0			0.4	0.0					0.4	
Delay (s)		16.3			15.0	2.4					7.9	
Level of Service		B			B	A					A	
Approach Delay (s)		16.3			6.4			0.0			7.9	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	44.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	32	25	218	47	30	34	6	154	593	38	2	61
Future Volume (vph)	32	25	218	47	30	34	6	154	593	38	2	61
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.0	5.0		5.0	5.0		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		1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98		1.00	1.00	0.88		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	0.85		1.00
Flt Protected		0.97	1.00		0.97	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		1686	1441		1698	1462		1630	3260	1282		1630
Flt Permitted		0.97	1.00		0.97	1.00		0.22	1.00	1.00		0.41
Satd. Flow (perm)		1686	1441		1698	1462		383	3260	1282		708
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)	34	27	232	50	32	36	6	164	631	40	2	65
RTOR Reduction (vph)	0	0	203	0	0	30	0	0	0	24	0	0
Lane Group Flow (vph)	0	61	29	0	82	6	0	170	631	16	0	67
Confl. Peds. (#/hr)			9			5				35		
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	2%	2%	2%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt
Protected Phases	3	3		4	4		5	5	2		1	1
Permitted Phases			3			4	2	2		2	6	6
Actuated Green, G (s)		10.9	10.9		14.0	14.0		47.9	36.4	36.4		34.7
Effective Green, g (s)		10.9	10.9		14.0	14.0		47.9	36.4	36.4		34.7
Actuated g/C Ratio		0.12	0.12		0.16	0.16		0.54	0.41	0.41		0.39
Clearance Time (s)		5.0	5.0		5.0	5.0		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)		208	177		269	231		401	1343	528		340
v/s Ratio Prot		c0.04			c0.05			c0.07	c0.19			0.01
v/s Ratio Perm			0.02			0.00		0.16		0.01		0.06
v/c Ratio		0.29	0.16		0.30	0.02		0.42	0.47	0.03		0.20
Uniform Delay, d1		35.2	34.6		32.8	31.4		12.0	18.9	15.5		17.0
Progression Factor		1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.8	0.4		0.6	0.0		0.7	0.3	0.0		0.3
Delay (s)		36.0	35.0		33.5	31.4		12.7	19.2	15.5		17.3
Level of Service		D	D		C	C		B	B	B		B
Approach Delay (s)		35.2			32.9				17.7			
Approach LOS		D			C				B			

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	88.3	Sum of lost time (s)	21.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

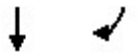
Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	612	27
Future Volume (vph)	612	27
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	5.5	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3237	
Flt Permitted	1.00	
Satd. Flow (perm)	3237	
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	651	29
RTOR Reduction (vph)	3	0
Lane Group Flow (vph)	677	0
Confl. Peds. (#/hr)		3
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	28.7	
Effective Green, g (s)	28.7	
Actuated g/C Ratio	0.33	
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1052	
v/s Ratio Prot	c0.21	
v/s Ratio Perm		
v/c Ratio	0.64	
Uniform Delay, d1	25.4	
Progression Factor	1.00	
Incremental Delay, d2	1.4	
Delay (s)	26.8	
Level of Service	C	
Approach Delay (s)	25.9	
Approach LOS	C	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	215	241	245	139	240	119	2	183	454	87	3	99
Future Volume (vph)	215	241	245	139	240	119	2	183	454	87	3	99
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	11	12	12	12	12	12	12	12	12
Total Lost time (s)	5.5	5.9	5.5	5.5	5.9			5.5	6.3	5.5		5.5
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95			1.00	0.95	1.00		1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99			1.00	1.00	0.96		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	1.00	0.85	1.00	0.95			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	3027	1642	1429	2941	2962			1630	3260	1406		1614
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	3027	1642	1429	2941	2962			1630	3260	1406		1614
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	217	243	247	140	242	120	2	185	459	88	3	100
RTOR Reduction (vph)	0	0	94	0	35	0	0	0	0	48	0	0
Lane Group Flow (vph)	217	243	153	140	327	0	0	187	459	40	0	103
Confl. Peds. (#/hr)			6			6				33		
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	2%	2%	2%	2%	3%	3%
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	Prot	NA	pm+ov	Prot	Prot
Protected Phases	7	4	5!	3	8		5!	5	2	3	1	1
Permitted Phases			4							2		
Actuated Green, G (s)	15.4	28.4	47.6	11.4	24.4			19.2	41.5	52.9		13.3
Effective Green, g (s)	15.4	28.4	47.6	11.4	24.4			19.2	41.5	52.9		13.3
Actuated g/C Ratio	0.13	0.24	0.40	0.10	0.21			0.16	0.35	0.45		0.11
Clearance Time (s)	5.5	5.9	5.5	5.5	5.9			5.5	6.3	5.5		5.5
Vehicle Extension (s)	2.5	3.0	2.5	2.5	3.0			2.5	4.0	2.5		2.5
Lane Grp Cap (vph)	395	395	577	284	613			265	1148	631		182
v/s Ratio Prot	0.07	c0.15	0.04	0.05	c0.11			c0.11	0.14	0.01		0.06
v/s Ratio Perm			0.06							0.02		
v/c Ratio	0.55	0.62	0.27	0.49	0.53			0.71	0.40	0.06		0.57
Uniform Delay, d1	48.0	39.8	23.4	50.5	41.6			46.6	28.8	18.4		49.5
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	1.2	2.8	0.2	1.0	0.9			7.7	0.3	0.0		3.2
Delay (s)	49.2	42.7	23.6	51.4	42.5			54.3	29.1	18.4		52.8
Level of Service	D	D	C	D	D			D	C	B		D
Approach Delay (s)		38.0			45.0				34.2			
Approach LOS		D			D				C			

Intersection Summary			
HCM 2000 Control Delay	38.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	117.8	Sum of lost time (s)	23.2
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	701	80
Future Volume (vph)	701	80
Ideal Flow (vphpl)	1750	1750
Lane Width	12	11
Total Lost time (s)	6.3	5.5
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.99
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3228	1383
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3228	1383
Peak-hour factor, PHF	0.99	0.99
Adj. Flow (vph)	708	81
RTOR Reduction (vph)	0	31
Lane Group Flow (vph)	708	50
Confl. Peds. (#/hr)		1
Confl. Bikes (#/hr)		
Heavy Vehicles (%)	3%	3%
Turn Type	NA	pm+ov
Protected Phases	6	7
Permitted Phases		6
Actuated Green, G (s)	35.6	51.0
Effective Green, g (s)	35.6	51.0
Actuated g/C Ratio	0.30	0.43
Clearance Time (s)	6.3	5.5
Vehicle Extension (s)	4.0	2.5
Lane Grp Cap (vph)	975	598
v/s Ratio Prot	c0.22	0.01
v/s Ratio Perm		0.03
v/c Ratio	0.73	0.08
Uniform Delay, d1	36.7	19.7
Progression Factor	1.00	1.00
Incremental Delay, d2	2.9	0.0
Delay (s)	39.7	19.7
Level of Service	D	B
Approach Delay (s)	39.4	
Approach LOS	D	

Intersection Summary

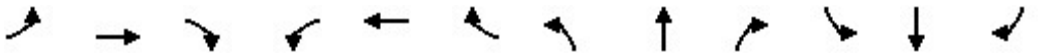
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	402	39	34	202	26	44
Future Volume (Veh/h)	402	39	34	202	26	44
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	452	44	38	227	29	49
Pedestrians				1	2	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1052					
pX, platoon unblocked						
vC, conflicting volume			498		666	251
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			498		666	251
tC, single (s)			4.4		7.3	7.4
tC, 2 stage (s)						
tF (s)			2.3		3.8	3.6
p0 queue free %			96		91	93
cM capacity (veh/h)			987		330	679

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	301	195	114	151	78
Volume Left	0	0	38	0	29
Volume Right	0	44	0	0	49
cSH	1700	1700	987	1700	487
Volume to Capacity	0.18	0.11	0.04	0.09	0.16
Queue Length 95th (ft)	0	0	3	0	14
Control Delay (s)	0.0	0.0	3.2	0.0	13.8
Lane LOS			A		B
Approach Delay (s)	0.0		1.4		13.8
Approach LOS					B

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	0	0	29	722	330	4	250	1338
Future Volume (vph)	0	0	29	722	330	4	250	1338
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	11	13	12	11	12
Total Lost time (s)			5.5	6.3	6.3		5.5	6.3
Lane Util. Factor			1.00	0.95	1.00		1.00	0.91
Frpb, ped/bikes			1.00	1.00	0.95		1.00	1.00
Flpb, ped/bikes			1.00	1.00	1.00		1.00	1.00
Frt			1.00	1.00	0.85		1.00	1.00
Flt Protected			0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)			1614	3121	1411		1576	4684
Flt Permitted			0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)			1614	3121	1411		1576	4684
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	31	760	347	4	263	1408
RTOR Reduction (vph)	0	0	0	0	199	0	0	0
Lane Group Flow (vph)	0	0	31	760	148	0	267	1408
Confl. Peds. (#/hr)					17			
Heavy Vehicles (%)	0%	0%	3%	3%	3%	2%	2%	2%
Turn Type			Prot	NA	Perm	Prot	Prot	NA
Protected Phases			5	2		1 8	1 8	6
Permitted Phases					2			
Actuated Green, G (s)			2.4	26.6	26.6		24.0	40.1
Effective Green, g (s)			2.4	26.6	26.6		19.0	40.1
Actuated g/C Ratio			0.04	0.43	0.43		0.30	0.64
Clearance Time (s)			5.5	6.3	6.3			6.3
Vehicle Extension (s)			2.5	4.0	4.0			4.0
Lane Grp Cap (vph)			62	1330	601		479	3010
v/s Ratio Prot			0.02	c0.24			c0.17	0.30
v/s Ratio Perm					0.10			
v/c Ratio			0.50	0.57	0.25		0.56	0.47
Uniform Delay, d1			29.4	13.6	11.5		18.2	5.7
Progression Factor			1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2			4.6	0.7	0.3		1.4	0.2
Delay (s)			34.0	14.3	11.8		19.6	5.9
Level of Service			C	B	B		B	A
Approach Delay (s)	0.0			14.1				8.0
Approach LOS	A			B				A

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	16.8
Intersection Capacity Utilization	49.0%	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												
Traffic Volume (vph)	30	348	65	205	365	196	43	131	94	141	226	63
Future Volume (vph)	30	348	65	205	365	196	43	131	94	141	226	63
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
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	0.95		1.00	0.94		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)	1598	1636		1646	1628		1643	1608		1646	1665	
Flt Permitted	0.35	1.00		0.35	1.00		0.37	1.00		0.26	1.00	
Satd. Flow (perm)	595	1636		612	1628		647	1608		450	1665	
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)	31	359	67	211	376	202	44	135	97	145	233	65
RTOR Reduction (vph)	0	4	0	0	8	0	0	21	0	0	8	0
Lane Group Flow (vph)	31	422	0	211	570	0	44	211	0	145	290	0
Confl. Peds. (#/hr)	1		2	2		1	3		1	1		3
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	71.0	67.2		86.5	77.7		30.8	24.6		43.5	32.3	
Effective Green, g (s)	71.0	67.2		86.5	77.7		30.8	24.6		43.5	32.3	
Actuated g/C Ratio	0.51	0.48		0.62	0.56		0.22	0.18		0.31	0.23	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	3.0		2.0	3.0		2.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	328	785		483	903		186	282		258	384	
v/s Ratio Prot	0.00	0.26		c0.04	c0.35		0.01	0.13		c0.06	c0.17	
v/s Ratio Perm	0.05			0.22			0.04			0.12		
v/c Ratio	0.09	0.54		0.44	0.63		0.24	0.75		0.56	0.76	
Uniform Delay, d1	18.1	25.5		14.1	21.3		44.0	54.7		37.7	50.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	2.6		0.2	3.3		0.2	10.3		1.7	7.4	
Delay (s)	18.1	28.2		14.3	24.7		44.3	65.0		39.3	57.5	
Level of Service	B	C		B	C		D	E		D	E	
Approach Delay (s)		27.5			21.9			61.7			51.6	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	626	227	217	52
Future Volume (Veh/h)	0	0	626	227	217	52
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)	0	0	645	234	224	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1775	251	278			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1775	251	278			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	50			
cM capacity (veh/h)	46	793	1291			

Direction, Lane #	NB 1	SB 1
Volume Total	879	278
Volume Left	645	0
Volume Right	0	54
cSH	1291	1700
Volume to Capacity	0.50	0.16
Queue Length 95th (ft)	72	0
Control Delay (s)	9.4	0.0
Lane LOS	A	
Approach Delay (s)	9.4	0.0
Approach LOS		

Intersection Summary			
Average Delay	7.1		
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	54	610	0	799	217	0
Future Volume (Veh/h)	54	610	0	799	217	0
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)	56	629	0	824	224	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		5				
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1048	224	224			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1048	224	224			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	78	23	100			
cM capacity (veh/h)	253	818	1351			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	685	824	224
Volume Left	56	0	0
Volume Right	629	0	0
cSH	891	1700	1700
Volume to Capacity	0.77	0.48	0.13
Queue Length 95th (ft)	192	0	0
Control Delay (s)	22.5	0.0	0.0
Lane LOS	C		
Approach Delay (s)	22.5	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	8.9		
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL2	EBL	EBT	WBT	WBR	WBR2	SBL	SBR	SBR2	SEL	SER
Lane Configurations											
Traffic Volume (vph)	44	41	1600	677	786	164	146	14	33	0	0
Future Volume (vph)	44	41	1600	677	786	164	146	14	33	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0			
Lane Util. Factor		1.00	0.91	0.95	0.95	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	1.00	0.98	0.85	0.85	1.00	0.85			
Flt Protected		0.95	1.00	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (prot)		1630	4684	1598	1385	1414	1630	1458			
Flt Permitted		0.95	1.00	1.00	1.00	1.00	0.95	1.00			
Satd. Flow (perm)		1630	4684	1598	1385	1414	1630	1458			
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
Adj. Flow (vph)	45	42	1649	698	810	169	151	14	34	0	0
RTOR Reduction (vph)	0	0	0	0	0	29	0	41	0	0	0
Lane Group Flow (vph)	0	87	1649	803	705	140	151	7	0	0	0
Confl. Peds. (#/hr)		5				5					
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%
Turn Type	Prot	Prot	NA	NA	Perm	Perm	Prot	Perm			
Protected Phases	7	7	4	8			1				
Permitted Phases					8	8		1			
Actuated Green, G (s)		9.4	76.4	62.0	62.0	62.0	13.6	13.6			
Effective Green, g (s)		9.4	76.4	62.0	62.0	62.0	13.6	13.6			
Actuated g/C Ratio		0.09	0.76	0.62	0.62	0.62	0.14	0.14			
Clearance Time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0			
Vehicle Extension (s)		3.0	4.0	4.0	4.0	4.0	2.0	2.0			
Lane Grp Cap (vph)		153	3578	990	858	876	221	198			
v/s Ratio Prot		0.05	c0.35	0.50			c0.09				
v/s Ratio Perm					c0.51	0.10		0.00			
v/c Ratio		0.57	0.46	0.81	0.82	0.16	0.68	0.03			
Uniform Delay, d1		43.4	4.3	14.5	14.7	8.0	41.1	37.5			
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2		4.8	0.4	7.2	8.7	0.4	6.8	0.0			
Delay (s)		48.1	4.7	21.7	23.4	8.4	47.9	37.5			
Level of Service		D	A	C	C	A	D	D			
Approach Delay (s)			6.9	21.1			45.4			0.0	
Approach LOS			A	C			D			A	

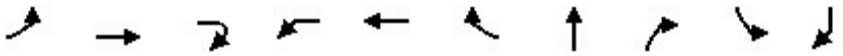
Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	879	428	38	832
Future Volume (Veh/h)	0	0	879	428	38	832
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)	0	0	906	441	39	858
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1052			
pX, platoon unblocked						
vC, conflicting volume	1842	906			906	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1842	906			906	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			95	
cM capacity (veh/h)	79	337			755	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	906	441	39	858
Volume Left	0	0	39	0
Volume Right	0	441	0	0
cSH	1700	1700	755	1700
Volume to Capacity	0.53	0.26	0.05	0.50
Queue Length 95th (ft)	0	0	4	0
Control Delay (s)	0.0	0.0	10.0	0.0
Lane LOS			B	
Approach Delay (s)	0.0		0.4	
Approach LOS				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR2	WBL	WBT	WBR	NBT	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	119	104	133	172	0	60	572	185	45	649
Future Volume (vph)	119	104	133	172	0	60	572	185	45	649
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	14	12	16	11	12	12	11	12	11	12
Total Lost time (s)		5.0	4.0	5.0	5.0		5.0		5.0	4.0
Lane Util. Factor		1.00	1.00	0.95	0.95		0.91		1.00	0.88
Frpb, ped/bikes		1.00	0.99	1.00	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		1.00	0.85	1.00	0.92		0.96		1.00	1.00
Flt Protected		0.97	1.00	0.95	0.98		1.00		0.95	1.00
Satd. Flow (prot)		1688	1649	1527	1494		4405		1591	3011
Flt Permitted		0.97	1.00	0.95	0.82		1.00		0.95	1.00
Satd. Flow (perm)		1688	1649	1527	1260		4405		1591	3011
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	124	108	139	179	0	62	596	193	47	676
RTOR Reduction (vph)	0	0	0	0	72	0	45	0	0	0
Lane Group Flow (vph)	0	232	139	125	45	0	744	0	47	676
Confl. Peds. (#/hr)			1							1
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%
Turn Type	Split	NA	Free	Prot	NA		NA		Prot	Perm
Protected Phases	4!	4		3	8!		2		1	
Permitted Phases			Free							6
Actuated Green, G (s)		19.0	100.0	14.6	38.6		40.5		5.9	51.4
Effective Green, g (s)		19.0	100.0	14.6	38.6		40.5		5.9	52.4
Actuated g/C Ratio		0.19	1.00	0.15	0.39		0.40		0.06	0.52
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	1649	222	520		1784		93	1577
v/s Ratio Prot		c0.14		c0.08	0.01		0.17		0.03	
v/s Ratio Perm			0.08		0.02					c0.22
v/c Ratio		0.72	0.08	0.56	0.09		0.42		0.51	0.43
Uniform Delay, d1		38.0	0.0	39.7	19.5		21.3		45.6	14.6
Progression Factor		1.00	1.00	1.00	1.00		1.24		1.00	1.00
Incremental Delay, d2		7.9	0.1	3.2	0.1		0.6		4.3	0.9
Delay (s)		46.0	0.1	43.0	19.6		27.0		49.9	15.5
Level of Service		D	A	D	B		C		D	B
Approach Delay (s)		28.8			31.7		27.0			
Approach LOS		C			C		C			

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBR	EBR2	NWL	NWR
Lane Configurations					
Traffic Volume (vph)	221	116	495	1011	536
Future Volume (vph)	221	116	495	1011	536
Ideal Flow (vphpl)	1750	1750	1750	1750	1750
Lane Width	10	12	10	11	11
Total Lost time (s)	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00		0.95	0.97	0.86
Frpb, ped/bikes	0.99		0.99	1.00	0.99
Flpb, ped/bikes	1.00		1.00	1.00	1.00
Frt	0.93		0.85	0.99	0.85
Flt Protected	0.97		1.00	0.95	1.00
Satd. Flow (prot)	1432		1285	3077	2417
Flt Permitted	0.97		1.00	0.95	1.00
Satd. Flow (perm)	1432		1285	3077	2417
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	226	118	505	1032	547
RTOR Reduction (vph)	0	0	0	24	215
Lane Group Flow (vph)	435	0	414	1063	277
Confl. Peds. (#/hr)			2		2
Heavy Vehicles (%)	2%	2%	2%	1%	1%
Turn Type	Prot		custom	Prot	Perm
Protected Phases	4		2	2	
Permitted Phases			4		2
Actuated Green, G (s)	25.0		81.4	56.4	56.4
Effective Green, g (s)	25.0		81.4	56.4	56.4
Actuated g/C Ratio	0.25		0.81	0.56	0.56
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)	358		1110	1735	1363
v/s Ratio Prot	c0.30		0.21	c0.35	
v/s Ratio Perm			0.11		0.11
v/c Ratio	1.22		0.37	0.61	0.20
Uniform Delay, d1	37.5		2.5	14.5	10.7
Progression Factor	1.00		1.00	1.00	1.00
Incremental Delay, d2	119.7		0.2	1.6	0.3
Delay (s)	157.2		2.7	16.1	11.1
Level of Service	F		A	B	B
Approach Delay (s)	81.9			14.6	
Approach LOS	F			B	

Intersection Summary			
HCM 2000 Control Delay	38.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	282	0	0	495	0
Future Volume (Veh/h)	0	282	0	0	495	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	294	0	0	516	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)				411	273	
pX, platoon unblocked						
vC, conflicting volume	516	516	516			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	516	516	516			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	47	100			
cM capacity (veh/h)	519	559	1060			

Direction, Lane #	EB 1	SB 1
Volume Total	294	516
Volume Left	0	0
Volume Right	294	0
cSH	559	1700
Volume to Capacity	0.53	0.30
Queue Length 95th (ft)	76	0
Control Delay (s)	18.4	0.0
Lane LOS	C	
Approach Delay (s)	18.4	0.0
Approach LOS	C	

Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	175	64	114	170	28	55	268	135	26	396	159
Future Volume (vph)	164	175	64	114	170	28	55	268	135	26	396	159
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
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	0.99		1.00	1.00			0.99			1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	0.96		1.00	0.98			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)	1581	1589		1566	1610			1621			1710	1420
Flt Permitted	0.42	1.00		0.49	1.00			0.91			0.96	1.00
Satd. Flow (perm)	703	1589		804	1610			1480			1643	1420
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)	169	180	66	118	175	29	57	276	139	27	408	164
RTOR Reduction (vph)	0	14	0	0	7	0	0	11	0	0	0	82
Lane Group Flow (vph)	169	232	0	118	197	0	0	461	0	0	435	82
Confl. Peds. (#/hr)	3		3	3		3	4		8	8		4
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2			6			4			8		8
Actuated Green, G (s)	27.9	17.2		23.5	15.0			40.5			40.5	40.5
Effective Green, g (s)	27.9	17.2		23.5	15.0			40.5			40.5	40.5
Actuated g/C Ratio	0.34	0.21		0.29	0.18			0.50			0.50	0.50
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	2.0
Lane Grp Cap (vph)	357	336		312	297			738			819	708
v/s Ratio Prot	c0.06	c0.15		0.04	0.12							
v/s Ratio Perm	0.10			0.07				c0.31			0.26	0.06
v/c Ratio	0.47	0.69		0.38	0.66			0.63			0.53	0.12
Uniform Delay, d1	19.8	29.5		22.2	30.8			14.8			13.9	10.8
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.4	4.7		0.3	4.3			1.2			0.3	0.0
Delay (s)	20.2	34.2		22.5	35.1			16.0			14.2	10.9
Level of Service	C	C		C	D			B			B	B
Approach Delay (s)		28.5			30.5			16.0			13.3	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	81.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

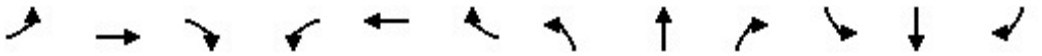
c Critical Lane Group

Movement	EBL2	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT
Lane Configurations												
Traffic Volume (vph)	4	109	376	25	150	220	475	43	127	192	96	433
Future Volume (vph)	4	109	376	25	150	220	475	43	127	192	96	433
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
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	0.91		0.91	0.91	0.95	0.95
Frpb, ped/bikes		1.00	0.99			1.00	1.00		0.97	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
Frt		1.00	0.95			1.00	0.98		0.85	1.00	1.00	0.97
Flt Protected		0.95	1.00			0.95	1.00		1.00	0.95	0.95	1.00
Satd. Flow (prot)		1646	3113			1630	3060		1287	1498	1564	3153
Flt Permitted		0.95	1.00			0.95	1.00		1.00	0.95	0.95	1.00
Satd. Flow (perm)		1646	3113			1630	3060		1287	1498	1564	3153
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)	4	114	392	26	156	229	495	45	132	200	100	451
RTOR Reduction (vph)	0	0	32	0	0	0	1	0	89	0	0	0
Lane Group Flow (vph)	0	118	542	0	0	229	552	0	30	150	150	583
Confl. Peds. (#/hr)				6	1			7	12			
Confl. Bikes (#/hr)				1	1							
Heavy Vehicles (%)	1%	1%	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	Prot	NA			Prot	NA		Perm	Prot	Prot	NA
Protected Phases	3	3	8			7	4			1	1	6
Permitted Phases									4			
Actuated Green, G (s)		14.3	27.1			20.5	33.3		33.3	16.8	16.8	49.1
Effective Green, g (s)		14.3	27.1			20.5	33.3		33.3	16.8	16.8	49.1
Actuated g/C Ratio		0.11	0.21			0.16	0.26		0.26	0.13	0.13	0.38
Clearance Time (s)		5.0	5.0			5.0	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)		3.0	2.0			2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		181	648			257	783		329	193	202	1190
v/s Ratio Prot		0.07	c0.17			c0.14	0.18			c0.10	0.10	0.18
v/s Ratio Perm									0.02			
v/c Ratio		0.65	0.84			0.89	0.70		0.09	0.78	0.74	0.49
Uniform Delay, d1		55.5	49.3			53.7	43.9		36.8	54.8	54.5	30.9
Progression Factor		1.00	1.00			0.87	0.85		2.17	1.00	1.00	1.00
Incremental Delay, d2		8.1	8.8			26.7	2.1		0.0	16.2	12.1	1.4
Delay (s)		63.6	58.2			73.2	39.6		80.0	71.0	66.6	32.3
Level of Service		E	E			E	D		F	E	E	C
Approach Delay (s)			59.1				53.5					44.7
Approach LOS			E				D					D

Intersection Summary			
HCM 2000 Control Delay	49.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBR	NBR2	SBL2	SBL	SBT	SBR	SBR2	SER2	NWR2
Lane Configurations									
Traffic Volume (vph)	124	3	159	50	648	65	2	7	11
Future Volume (vph)	124	3	159	50	648	65	2	7	11
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)			5.0	5.0	5.0			5.0	5.0
Lane Util. Factor			0.91	0.95	0.95			1.00	1.00
Frpb, ped/bikes			1.00	1.00	1.00			0.98	0.98
Flpb, ped/bikes			1.00	1.00	1.00			1.00	1.00
Frt			1.00	1.00	0.99			0.86	0.86
Flt Protected			0.95	0.95	1.00			1.00	1.00
Satd. Flow (prot)			1498	1564	3231			1345	1485
Flt Permitted			0.95	0.95	1.00			1.00	1.00
Satd. Flow (perm)			1498	1564	3231			1345	1485
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	129	3	166	52	675	68	2	7	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	5	9
Lane Group Flow (vph)	0	0	110	108	745	0	0	2	2
Confl. Peds. (#/hr)	4	6				7	7	7	6
Confl. Bikes (#/hr)									
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	10%	0%
Turn Type			Prot	Prot	NA			Perm	Perm
Protected Phases			5	5	2				
Permitted Phases								4	8
Actuated Green, G (s)			13.3	13.3	45.6			33.3	27.1
Effective Green, g (s)			13.3	13.3	45.6			33.3	27.1
Actuated g/C Ratio			0.10	0.10	0.35			0.26	0.21
Clearance Time (s)			5.0	5.0	5.0			5.0	5.0
Vehicle Extension (s)			2.0	2.0	2.0			2.0	2.0
Lane Grp Cap (vph)			153	160	1133			344	309
v/s Ratio Prot			0.07	0.07	c0.23				
v/s Ratio Perm								0.00	0.00
v/c Ratio			0.72	0.68	0.66			0.01	0.01
Uniform Delay, d1			56.5	56.3	35.6			36.0	40.8
Progression Factor			1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2			12.6	8.5	3.0			0.0	0.0
Delay (s)			69.1	64.8	38.6			36.0	40.8
Level of Service			E	E	D			D	D
Approach Delay (s)					45.0				
Approach LOS					D				

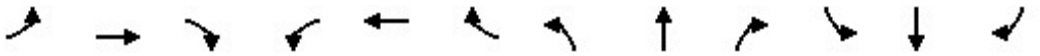
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	592	227	15	346	0	0	0	0	79	0	677
Future Volume (Veh/h)	0	592	227	15	346	0	0	0	0	79	0	677
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)	0	630	241	16	368	0	0	0	0	84	0	720
Pedestrians											1	
Lane Width (ft)											12.0	
Walking Speed (ft/s)											4.0	
Percent Blockage											0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		355										
pX, platoon unblocked				0.91			0.91	0.91	0.91	0.91	0.91	
vC, conflicting volume	369			630			1150	1152	436	716	1031	369
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	369			392			965	966	178	486	833	369
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 %	100			98			0	100	100	80	100	0
cM capacity (veh/h)	1192			1064			0	230	764	418	273	630

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	420	451	16	368	84	720
Volume Left	0	0	16	0	84	0
Volume Right	0	241	0	0	0	720
cSH	1700	1700	1064	1700	418	630
Volume to Capacity	0.25	0.27	0.02	0.22	0.20	1.14
Queue Length 95th (ft)	0	0	1	0	19	574
Control Delay (s)	0.0	0.0	8.4	0.0	15.8	105.6
Lane LOS			A		C	F
Approach Delay (s)	0.0		0.4		96.2	
Approach LOS					F	

Intersection Summary				
Average Delay	37.6			
Intersection Capacity Utilization	72.0%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	227	434	24	155	12	202	4	43	2	0	4
Future Volume (Veh/h)	10	227	434	24	155	12	202	4	43	2	0	4
Sign Control		Free			Free			Stop			Stop	
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)	11	239	457	25	163	13	213	4	45	2	0	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									4			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1264			818							
pX, platoon unblocked												
vC, conflicting volume	176			239			478	487	120	386	480	170
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	176			239			478	487	120	386	480	170
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			54	99	95	100	100	100
cM capacity (veh/h)	1405			1332			461	469	913	511	475	851

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1
Volume Total	91	159	457	25	176	262	6
Volume Left	11	0	0	25	0	213	2
Volume Right	0	0	457	0	13	45	4
cSH	1405	1700	1700	1332	1700	557	697
Volume to Capacity	0.01	0.09	0.27	0.02	0.10	0.47	0.01
Queue Length 95th (ft)	1	0	0	1	0	62	1
Control Delay (s)	1.0	0.0	0.0	7.8	0.0	17.8	10.2
Lane LOS	A			A		C	B
Approach Delay (s)	0.1			1.0		17.8	10.2
Approach LOS						C	B

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	52.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	2	84	2	1	1	36	257	1	0	416	154
Future Volume (vph)	186	2	84	2	1	1	36	257	1	0	416	154
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.85		1.00	0.93		1.00	1.00			0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1599	1436		1330	1295		1613	1698			1621	
Flt Permitted	0.76	1.00		0.70	1.00		0.34	1.00			1.00	
Satd. Flow (perm)	1273	1436		978	1295		578	1698			1621	
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)	196	2	88	2	1	1	38	271	1	0	438	162
RTOR Reduction (vph)	0	67	0	0	1	0	0	0	0	0	16	0
Lane Group Flow (vph)	196	23	0	2	1	0	38	272	0	0	584	0
Confl. Peds. (#/hr)							2		7	7		2
Heavy Vehicles (%)	4%	4%	4%	25%	25%	25%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	9.9	9.9		9.9	9.9		22.3	22.3			22.3	
Effective Green, g (s)	9.9	9.9		9.9	9.9		22.3	22.3			22.3	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.53	0.53			0.53	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	298	336		229	303		305	897			856	
v/s Ratio Prot		0.02			0.00			0.16			c0.36	
v/s Ratio Perm	c0.15			0.00			0.07					
v/c Ratio	0.66	0.07		0.01	0.00		0.12	0.30			0.68	
Uniform Delay, d1	14.6	12.6		12.4	12.4		5.0	5.6			7.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	4.0	0.0		0.0	0.0		0.1	0.1			1.8	
Delay (s)	18.6	12.6		12.4	12.4		5.1	5.7			9.1	
Level of Service	B	B		B	B		A	A			A	
Approach Delay (s)		16.7			12.4			5.6			9.1	
Approach LOS		B			B			A			A	

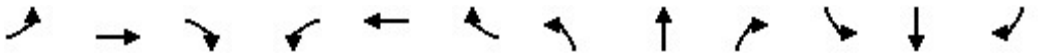
Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	200	119	126	172	292	197
Future Volume (vph)	200	119	126	172	292	197
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	238	142	150	205	348	235

Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	238	142	355	348	235
Volume Left (vph)	238	0	0	348	0
Volume Right (vph)	0	142	205	0	0
Hadj (s)	0.76	-0.44	-0.02	0.69	0.19
Departure Headway (s)	7.8	6.6	6.4	7.1	6.6
Degree Utilization, x	0.52	0.26	0.63	0.69	0.43
Capacity (veh/h)	433	520	543	487	531
Control Delay (s)	17.7	10.7	19.8	23.3	13.4
Approach Delay (s)	15.1		19.8	19.3	
Approach LOS	C		C	C	

Intersection Summary			
Delay	18.2		
Level of Service	C		
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		



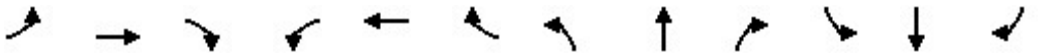
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	361	13	10	308	164	11	14	34	0	0	0
Future Volume (Veh/h)	90	361	13	10	308	164	11	14	34	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	97	388	14	11	331	176	12	15	37	0	0	0
Pedestrians								2				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					408							
pX, platoon unblocked	0.96						0.96	0.96		0.96	0.96	0.96
vC, conflicting volume	331			404			944	944	203	786	951	331
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	283			404			921	921	203	756	928	283
tC, single (s)	4.3			4.3			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			99			94	93	95	100	100	100
cM capacity (veh/h)	1172			1101			197	230	793	243	235	692

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	97	259	143	11	331	176	12	52
Volume Left	97	0	0	11	0	0	12	0
Volume Right	0	0	14	0	0	176	0	37
cSH	1172	1700	1700	1101	1700	1700	197	464
Volume to Capacity	0.08	0.15	0.08	0.01	0.19	0.10	0.06	0.11
Queue Length 95th (ft)	7	0	0	1	0	0	5	9
Control Delay (s)	8.3	0.0	0.0	8.3	0.0	0.0	24.5	13.7
Lane LOS	A			A			C	B
Approach Delay (s)	1.6			0.2			15.7	
Approach LOS							C	

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	36.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	286	75	146	305	51	120	8	41	61	2	57
Future Volume (vph)	34	286	75	146	305	51	120	8	41	61	2	57
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	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	1.00	0.97		1.00	0.98		1.00	0.88			0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1539	2960		1583	3088		1658	1531			1343	
Flt Permitted	0.52	1.00		0.46	1.00		0.68	1.00			0.81	
Satd. Flow (perm)	844	2960		760	3088		1185	1531			1122	
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)	37	314	82	160	335	56	132	9	45	67	2	63
RTOR Reduction (vph)	0	20	0	0	10	0	0	36	0	0	44	0
Lane Group Flow (vph)	37	376	0	160	381	0	132	18	0	0	88	0
Confl. Peds. (#/hr)			7			2	3					3
Heavy Vehicles (%)	8%	8%	8%	5%	5%	5%	0%	0%	0%	18%	18%	18%
Bus Blockages (#/hr)	0	0	44	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	42.3	37.3		51.9	42.1		15.4	15.4			15.4	
Effective Green, g (s)	42.3	37.3		51.9	42.1		15.4	15.4			15.4	
Actuated g/C Ratio	0.55	0.48		0.67	0.54		0.20	0.20			0.20	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lane Grp Cap (vph)	505	1424		613	1677		235	304			222	
v/s Ratio Prot	0.00	0.13		c0.03	0.12			0.01				
v/s Ratio Perm	0.04			c0.14			c0.11				0.08	
v/c Ratio	0.07	0.26		0.26	0.23		0.56	0.06			0.40	
Uniform Delay, d1	8.2	11.9		4.9	9.2		28.0	25.2			27.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	0.5		0.5	0.3		5.0	0.2			2.4	
Delay (s)	8.3	12.4		5.4	9.5		33.0	25.3			29.4	
Level of Service	A	B		A	A		C	C			C	
Approach Delay (s)		12.0			8.3			30.8			29.4	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	77.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	49.4%	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												
Traffic Volume (veh/h)	42	344	2	16	327	72	10	0	8	102	0	165
Future Volume (Veh/h)	42	344	2	16	327	72	10	0	8	102	0	165
Sign Control		Free			Free			Stop			Stop	
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)	44	362	2	17	344	76	11	0	8	107	0	174
Pedestrians		1			2						6	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						1	
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		502			393							
pX, platoon unblocked	0.97						0.97	0.97		0.97	0.97	0.97
vC, conflicting volume	350			364			830	835	184	663	836	351
vC1, stage 1 conf vol							451	451		384	384	
vC2, stage 2 conf vol							379	384		279	452	
vCu, unblocked vol	316			364			810	815	184	638	817	317
tC, single (s)	4.2			4.2			7.7	6.7	7.1	7.5	6.5	6.9
tC, 2 stage (s)							6.7	5.7		6.5	5.5	
tF (s)	2.2			2.3			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	96			99			97	100	99	79	100	74
cM capacity (veh/h)	1192			1156			340	433	798	521	461	661

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	44	241	123	17	344	76	19	107	174
Volume Left	44	0	0	17	0	0	11	107	0
Volume Right	0	0	2	0	0	76	8	0	174
cSH	1192	1700	1700	1156	1700	1700	449	521	661
Volume to Capacity	0.04	0.14	0.07	0.01	0.20	0.04	0.04	0.21	0.26
Queue Length 95th (ft)	3	0	0	1	0	0	3	19	26
Control Delay (s)	8.1	0.0	0.0	8.2	0.0	0.0	13.4	13.7	12.4
Lane LOS	A			A			B	B	B
Approach Delay (s)	0.9			0.3			13.4	12.9	
Approach LOS							B	B	

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	43.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	129	204	121	28	100	215	25	118	642	54	51	207
Future Volume (vph)	129	204	121	28	100	215	25	118	642	54	51	207
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0		5.0	5.0			5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.97	0.91			0.97
Frpb, ped/bikes	1.00	1.00	0.98	1.00	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	1.00			1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.99			1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00			0.95
Satd. Flow (prot)	1614	1699	1414	1599	1683	1411		3072	4486			3131
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00			0.95
Satd. Flow (perm)	1614	1699	1414	1599	1683	1411		3072	4486			3131
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)	142	224	133	31	110	236	27	130	705	59	56	227
RTOR Reduction (vph)	0	0	102	0	0	190	0	0	6	0	0	0
Lane Group Flow (vph)	142	224	31	31	110	46	0	157	758	0	0	283
Confl. Peds. (#/hr)			8			1				11		
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	5%	5%	5%	5%	3%	3%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8						
Actuated Green, G (s)	19.4	32.8	32.8	5.7	19.1	19.1		12.0	60.0			17.5
Effective Green, g (s)	19.4	32.8	32.8	5.7	19.1	19.1		12.0	60.0			17.5
Actuated g/C Ratio	0.14	0.23	0.23	0.04	0.14	0.14		0.09	0.43			0.12
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		5.0	5.0			5.0
Vehicle Extension (s)	4.0	4.0	4.0	3.0	2.0	2.0		2.5	3.0			3.0
Lane Grp Cap (vph)	223	398	331	65	229	192		263	1922			391
v/s Ratio Prot	c0.09	c0.13		0.02	0.07			0.05	0.17			c0.09
v/s Ratio Perm			0.02			0.03						
v/c Ratio	0.64	0.56	0.09	0.48	0.48	0.24		0.60	0.39			0.72
Uniform Delay, d1	57.0	47.3	42.0	65.7	55.9	54.0		61.7	27.5			58.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.72	1.48			1.00
Incremental Delay, d2	6.6	2.2	0.2	5.4	0.6	0.2		2.8	0.6			6.5
Delay (s)	63.5	49.5	42.1	71.1	56.4	54.2		47.4	41.4			65.4
Level of Service	E	D	D	E	E	D		D	D			E
Approach Delay (s)		51.5			56.2				42.4			
Approach LOS		D			E				D			

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	765	197
Future Volume (vph)	765	197
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	5.0	
Lane Util. Factor	0.91	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	4479	
Flt Permitted	1.00	
Satd. Flow (perm)	4479	
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	841	216
RTOR Reduction (vph)	28	0
Lane Group Flow (vph)	1029	0
Confl. Peds. (#/hr)		3
Heavy Vehicles (%)	3%	3%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	65.5	
Effective Green, g (s)	65.5	
Actuated g/C Ratio	0.47	
Clearance Time (s)	5.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2095	
v/s Ratio Prot	c0.23	
v/s Ratio Perm		
v/c Ratio	0.49	
Uniform Delay, d1	25.7	
Progression Factor	1.00	
Incremental Delay, d2	0.8	
Delay (s)	26.6	
Level of Service	C	
Approach Delay (s)	34.8	
Approach LOS	C	

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	15	18	213	291	26
Future Volume (Veh/h)	31	15	18	213	291	26
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)	33	16	19	229	313	28
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				842		
pX, platoon unblocked						
vC, conflicting volume	595	328	342			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	595	328	342			
tC, single (s)	6.7	6.5	4.3			
tC, 2 stage (s)						
tF (s)	3.8	3.6	2.4			
p0 queue free %	92	98	98			
cM capacity (veh/h)	416	653	1127			

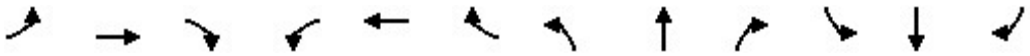
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	49	19	229	341
Volume Left	33	19	0	0
Volume Right	16	0	0	28
cSH	472	1127	1700	1700
Volume to Capacity	0.10	0.02	0.13	0.20
Queue Length 95th (ft)	9	1	0	0
Control Delay (s)	13.5	8.2	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.5	0.6		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	231	483	144	162
Future Volume (vph)	0	0	231	483	144	162
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)			5.0	4.0	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			1.00	0.85	1.00	1.00
Flt Protected			1.00	1.00	0.95	1.00
Satd. Flow (prot)			1509	1282	1433	1509
Flt Permitted			1.00	1.00	0.55	1.00
Satd. Flow (perm)			1509	1282	824	1509
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	257	537	160	180
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	257	537	160	180
Confl. Peds. (#/hr)	1					
Heavy Vehicles (%)	0%	0%	16%	16%	16%	16%
Turn Type			NA	Free	pm+pt	NA
Protected Phases			2		1	6
Permitted Phases				Free	6	
Actuated Green, G (s)			50.5	66.1	61.1	66.1
Effective Green, g (s)			50.5	66.1	61.1	66.1
Actuated g/C Ratio			0.76	1.00	0.92	1.00
Clearance Time (s)			5.0		5.0	5.0
Vehicle Extension (s)			3.0		3.0	3.0
Lane Grp Cap (vph)			1152	1282	813	1509
v/s Ratio Prot			0.17		0.02	0.12
v/s Ratio Perm				c0.42	0.17	
v/c Ratio			0.22	0.42	0.20	0.12
Uniform Delay, d1			2.2	0.0	0.4	0.0
Progression Factor			1.00	1.00	1.00	1.00
Incremental Delay, d2			0.1	1.0	0.1	0.2
Delay (s)			2.3	1.0	0.6	0.2
Level of Service			A	A	A	A
Approach Delay (s)	0.0		1.4			0.3
Approach LOS	A		A			A

Intersection Summary			
HCM 2000 Control Delay	1.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	66.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



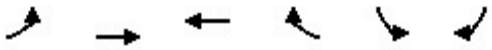
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	10	0	5	1	693	2	16	1	147	13	2
Future Volume (vph)	5	10	0	5	1	693	2	16	1	147	13	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	5	11	0	5	1	745	2	17	1	158	14	2

Direction, Lane #	EB 1	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total (vph)	16	6	373	373	20	174
Volume Left (vph)	5	5	0	0	2	158
Volume Right (vph)	0	0	373	373	1	2
Hadj (s)	0.18	0.44	-0.33	-0.33	0.89	0.40
Departure Headway (s)	4.5	4.8	3.2	3.2	5.0	4.4
Degree Utilization, x	0.02	0.01	0.33	0.33	0.03	0.21
Capacity (veh/h)	755	704	1113	1113	699	815
Control Delay (s)	7.6	7.9	7.8	7.8	8.2	8.5
Approach Delay (s)	7.6	7.8			8.2	8.5
Approach LOS	A	A			A	A

Intersection Summary				
Delay	7.9			
Level of Service	A			
Intersection Capacity Utilization	43.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	151	7	82	444	0	193	0	11	285	0	62
Future Volume (vph)	0	151	7	82	444	0	193	0	11	285	0	62
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.5		5.5	5.5		5.0		5.0	5.5		5.5
Lane Util. Factor		1.00		1.00	0.95		1.00		1.00	1.00		1.00
Frpb, ped/bikes		1.00		1.00	1.00		1.00		1.00	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	1.00		1.00		0.85	1.00		0.85
Flt Protected		1.00		0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (prot)		1580		1328	2660		1646		1473	1614		1444
Flt Permitted		1.00		0.66	1.00		0.95		1.00	0.95		1.00
Satd. Flow (perm)		1580		916	2660		1646		1473	1614		1444
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	154	7	84	453	0	197	0	11	291	0	63
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	8	0	0	46
Lane Group Flow (vph)	0	160	0	84	453	0	197	0	3	291	0	17
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	10%	10%	10%	25%	25%	25%	1%	1%	1%	3%	3%	3%
Turn Type		NA		Perm	NA		Perm		Perm	Prot		Perm
Protected Phases		2			6					4		
Permitted Phases				6			8		8			4
Actuated Green, G (s)		18.5		18.5	18.5		16.9		16.9	19.0		19.0
Effective Green, g (s)		18.5		18.5	18.5		16.9		16.9	19.0		19.0
Actuated g/C Ratio		0.26		0.26	0.26		0.24		0.24	0.27		0.27
Clearance Time (s)		5.5		5.5	5.5		5.0		5.0	5.5		5.5
Vehicle Extension (s)		3.0		3.0	3.0		3.0		3.0	3.0		3.0
Lane Grp Cap (vph)		415		240	699		395		353	435		389
v/s Ratio Prot		0.10			c0.17					c0.18		
v/s Ratio Perm				0.09			c0.12		0.00			0.01
v/c Ratio		0.38		0.35	0.65		0.50		0.01	0.67		0.04
Uniform Delay, d1		21.3		21.1	23.1		23.1		20.4	22.9		19.0
Progression Factor		1.00		1.00	1.00		1.00		1.00	1.00		1.00
Incremental Delay, d2		0.6		0.9	2.1		1.0		0.0	3.9		0.0
Delay (s)		21.9		22.0	25.1		24.1		20.4	26.8		19.0
Level of Service		C		C	C		C		C	C		B
Approach Delay (s)		21.9			24.6			23.9			25.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	70.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	434	507	14	8	19
Future Volume (Veh/h)	13	434	507	14	8	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	14	452	528	15	8	20
Pedestrians					1	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)		281	222			
pX, platoon unblocked						
vC, conflicting volume	544				790	272
vC1, stage 1 conf vol					536	
vC2, stage 2 conf vol					254	
vCu, unblocked vol	544				790	272
tC, single (s)	4.2				7.4	7.5
tC, 2 stage (s)					6.4	
tF (s)	2.2				3.8	3.6
p0 queue free %	99				98	97
cM capacity (veh/h)	1006				437	647

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	14	226	226	352	191	8	20
Volume Left	14	0	0	0	0	8	0
Volume Right	0	0	0	0	15	0	20
cSH	1006	1700	1700	1700	1700	437	647
Volume to Capacity	0.01	0.13	0.13	0.21	0.11	0.02	0.03
Queue Length 95th (ft)	1	0	0	0	0	1	2
Control Delay (s)	8.6	0.0	0.0	0.0	0.0	13.4	10.7
Lane LOS	A					B	B
Approach Delay (s)	0.3			0.0		11.5	
Approach LOS						B	

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	442	0	0	310	211	341
Future Volume (vph)	442	0	0	310	211	341
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0			5.0	5.0	5.0
Lane Util. Factor	0.95			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3197			1423	1421	1271
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3197			1423	1421	1271
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	475	0	0	333	227	367
RTOR Reduction (vph)	0	0	0	0	0	209
Lane Group Flow (vph)	475	0	0	333	227	158
Heavy Vehicles (%)	4%	4%	23%	23%	17%	17%
Turn Type	NA			NA	Prot	Perm
Protected Phases	1			6!	2!	
Permitted Phases						2
Actuated Green, G (s)	11.3			32.4	11.1	11.1
Effective Green, g (s)	11.3			32.4	11.1	11.1
Actuated g/C Ratio	0.35			1.00	0.34	0.34
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)	1115			1423	486	435
v/s Ratio Prot	c0.15			0.23	c0.16	
v/s Ratio Perm						0.12
v/c Ratio	0.43			0.23	0.47	0.36
Uniform Delay, d1	8.1			0.0	8.3	8.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.3			0.1	0.7	0.5
Delay (s)	8.3			0.1	9.0	8.5
Level of Service	A			A	A	A
Approach Delay (s)	8.3			0.1	8.7	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	32.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	129	190	0	464	41	96	99	16	160	556	48	24
Future Volume (vph)	129	190	0	464	41	96	99	16	160	556	48	24
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	12	11	12	8	12	12	12	13	12	12	12
Total Lost time (s)	6.5	6.5	6.5			7.0	7.0		5.0	5.0		
Lane Util. Factor	1.00	1.00	1.00			1.00	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	1.00	0.95			1.00	0.98		1.00	0.99		
Flpb, ped/bikes	1.00	1.00	1.00			1.00	1.00		1.00	1.00		
Frt	1.00	1.00	0.85			1.00	0.85		1.00	0.99		
Flt Protected	0.95	1.00	1.00			0.99	1.00		0.95	1.00		
Satd. Flow (prot)	1502	1636	1271			1626	1381		1576	2995		
Flt Permitted	0.95	1.00	1.00			0.99	1.00		0.95	1.00		
Satd. Flow (perm)	1502	1636	1271			1626	1381		1576	2995		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	207	0	504	45	104	108	17	174	604	52	26
RTOR Reduction (vph)	0	0	423	0	0	0	93	0	0	3	0	0
Lane Group Flow (vph)	140	207	81	0	0	149	15	0	191	653	0	0
Confl. Peds. (#/hr)			7	7			3				22	
Heavy Vehicles (%)	7%	7%	7%	7%	6%	6%	6%	9%	9%	9%	9%	4%
Turn Type	Split	NA	Perm		Split	NA	Perm	Prot	Prot	NA		Prot
Protected Phases	4	4			3	3		5	5	2		1
Permitted Phases			4				3					
Actuated Green, G (s)	22.6	22.6	22.6			19.2	19.2		22.2	60.5		
Effective Green, g (s)	22.6	22.6	22.6			19.2	19.2		22.2	60.5		
Actuated g/C Ratio	0.16	0.16	0.16			0.14	0.14		0.16	0.43		
Clearance Time (s)	6.5	6.5	6.5			7.0	7.0		5.0	5.0		
Vehicle Extension (s)	2.0	2.0	2.0			2.5	2.5		3.0	3.0		
Lane Grp Cap (vph)	242	264	205			222	189		249	1294		
v/s Ratio Prot	0.09	c0.13				c0.09			c0.12	0.22		
v/s Ratio Perm			0.06				0.01					
v/c Ratio	0.58	0.78	0.40			0.67	0.08		0.77	0.50		
Uniform Delay, d1	54.3	56.4	52.6			57.4	52.7		56.4	28.9		
Progression Factor	1.00	1.00	1.00			1.00	1.00		0.84	1.29		
Incremental Delay, d2	2.1	13.1	0.5			7.0	0.1		12.8	1.4		
Delay (s)	56.4	69.4	53.1			64.4	52.8		60.0	38.5		
Level of Service	E	E	D			E	D		E	D		
Approach Delay (s)		57.6				59.6				43.4		
Approach LOS		E				E				D		

Intersection Summary			
HCM 2000 Control Delay	54.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2
Lane Configurations				
Traffic Volume (vph)	85	644	105	54
Future Volume (vph)	85	644	105	54
Ideal Flow (vphpl)	1750	1750	1750	1750
Lane Width	11	11	12	14
Total Lost time (s)	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	
Flpb, ped/bikes	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1545	3091	1379	
Flt Permitted	0.95	1.00	1.00	
Satd. Flow (perm)	1545	3091	1379	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	700	114	59
RTOR Reduction (vph)	0	0	100	0
Lane Group Flow (vph)	118	700	73	0
Confl. Peds. (#/hr)				5
Heavy Vehicles (%)	4%	4%	4%	4%
Turn Type	Prot	NA	Perm	
Protected Phases	1	6		
Permitted Phases			6	
Actuated Green, G (s)	14.2	52.5	52.5	
Effective Green, g (s)	14.2	52.5	52.5	
Actuated g/C Ratio	0.10	0.38	0.38	
Clearance Time (s)	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	3.0	3.0	
Lane Grp Cap (vph)	156	1159	517	
v/s Ratio Prot	0.08	c0.23		
v/s Ratio Perm			0.05	
v/c Ratio	0.76	0.60	0.14	
Uniform Delay, d1	61.2	35.4	28.9	
Progression Factor	0.86	1.36	3.22	
Incremental Delay, d2	15.5	2.1	0.5	
Delay (s)	67.9	50.3	93.4	
Level of Service	E	D	F	
Approach Delay (s)		59.9		
Approach LOS		E		

Intersection Summary

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR	NEL	NER
Lane Configurations												
Traffic Volume (vph)	193	0	186	0	575	166	7	222	726	118	0	0
Future Volume (vph)	193	0	186	0	575	166	7	222	726	118	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.5		6.5		5.0	5.0		5.0	5.0	5.0		
Lane Util. Factor	0.97		1.00		0.95	1.00		1.00	0.95	1.00		
Frpb, ped/bikes	1.00		0.95		1.00	0.79		1.00	1.00	1.00		
Flpb, ped/bikes	1.00		1.00		1.00	1.00		0.98	1.00	1.00		
Frt	1.00		0.85		1.00	0.85		1.00	1.00	0.85		
Flt Protected	0.95		1.00		1.00	1.00		0.95	1.00	1.00		
Satd. Flow (prot)	3072		1351		2995	1054		1577	3228	1444		
Flt Permitted	0.95		1.00		1.00	1.00		0.37	1.00	1.00		
Satd. Flow (perm)	3072		1351		2995	1054		615	3228	1444		
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)	197	0	190	0	587	169	7	227	741	120	0	0
RTOR Reduction (vph)	0	0	149	0	0	71	0	0	0	36	0	0
Lane Group Flow (vph)	197	0	41	0	587	98	0	234	741	84	0	0
Confl. Peds. (#/hr)			29			76		76				
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	3%	3%	3%	3%	0%	0%
Turn Type	Prot		Perm		NA	Perm	pm+pt	pm+pt	NA	Perm		
Protected Phases	8				2		1	1	6			
Permitted Phases			8			2	6	6		6		
Actuated Green, G (s)	30.0		30.0		81.5	81.5		98.5	98.5	98.5		
Effective Green, g (s)	30.0		30.0		81.5	81.5		98.5	98.5	98.5		
Actuated g/C Ratio	0.21		0.21		0.58	0.58		0.70	0.70	0.70		
Clearance Time (s)	6.5		6.5		5.0	5.0		5.0	5.0	5.0		
Vehicle Extension (s)	3.0		3.0		3.0	3.0		2.0	3.0	3.0		
Lane Grp Cap (vph)	658		289		1743	613		515	2271	1015		
v/s Ratio Prot	c0.06				0.20			c0.04	0.23			
v/s Ratio Perm			0.03			0.09		c0.28		0.06		
v/c Ratio	0.30		0.14		0.34	0.16		0.45	0.33	0.08		
Uniform Delay, d1	46.2		44.6		15.2	13.5		8.0	8.0	6.5		
Progression Factor	1.00		1.00		2.39	9.96		0.97	0.28	0.00		
Incremental Delay, d2	0.3		0.2		0.5	0.5		0.2	0.4	0.1		
Delay (s)	46.4		44.8		36.9	134.8		8.0	2.6	0.1		
Level of Service	D		D		D	F		A	A	A		
Approach Delay (s)		45.6			58.8				3.5		0.0	
Approach LOS		D			E				A		A	

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	EBR2	WBL2	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	65	5	0	280	19	8	17	21	196	629	15	7
Future Volume (vph)	65	5	0	280	19	8	17	21	196	629	15	7
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	7.0	7.0	7.0		7.0	7.0			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	
Frpb, ped/bikes	1.00	1.00	0.93		1.00	0.98			1.00	1.00	0.85	
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	0.90			1.00	1.00	0.85	
Flt Protected	0.95	0.96	1.00		0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)	1316	1328	1152		1662	1545			2906	2995	1133	
Flt Permitted	0.95	0.96	1.00		0.95	1.00			0.95	1.00	1.00	
Satd. Flow (perm)	1316	1328	1152		1662	1545			2906	2995	1133	
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)	71	5	0	304	21	9	18	23	213	684	16	8
RTOR Reduction (vph)	0	0	217	0	0	17	0	0	0	0	8	0
Lane Group Flow (vph)	38	38	87	0	21	10	0	0	236	684	8	0
Confl. Peds. (#/hr)	17		57		57		17		21		51	
Heavy Vehicles (%)	20%	20%	20%	20%	0%	0%	0%	11%	11%	11%	11%	4%
Turn Type	Split	NA	Perm		Split	NA		Prot	Prot	NA	Perm	Prot
Protected Phases	3	3			4	4		5	5	2		1
Permitted Phases			3								2	
Actuated Green, G (s)	40.0	40.0	40.0		4.6	4.6			16.6	66.9	66.9	
Effective Green, g (s)	40.0	40.0	40.0		4.6	4.6			16.6	66.9	66.9	
Actuated g/C Ratio	0.29	0.29	0.29		0.03	0.03			0.12	0.48	0.48	
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0			5.0	5.0	5.0	
Vehicle Extension (s)	2.5	2.5	2.5		2.0	2.0			3.0	3.0	3.0	
Lane Grp Cap (vph)	376	379	329		54	50			344	1431	541	
v/s Ratio Prot	0.03	0.03			c0.01	0.01			c0.08	0.23		
v/s Ratio Perm			c0.08								0.01	
v/c Ratio	0.10	0.10	0.26		0.39	0.19			0.69	0.48	0.01	
Uniform Delay, d1	36.8	36.8	38.6		66.3	65.9			59.2	24.7	19.2	
Progression Factor	1.00	1.00	1.00		1.00	1.00			0.82	1.78	1.00	
Incremental Delay, d2	0.1	0.1	0.3		1.7	0.7			5.1	1.0	0.0	
Delay (s)	36.9	36.9	38.9		68.0	66.6			53.8	45.0	19.3	
Level of Service	D	D	D		E	E			D	D	B	
Approach Delay (s)		38.5				67.2				46.8		
Approach LOS		D				E				D		

Intersection Summary			
HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBL	SBT	SBR	SBR2
Lane Configurations				
Traffic Volume (vph)	12	929	150	116
Future Volume (vph)	12	929	150	116
Ideal Flow (vphpl)	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	
Flpb, ped/bikes	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1599	3197	1378	
Flt Permitted	0.95	1.00	1.00	
Satd. Flow (perm)	1599	3197	1378	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	1010	163	126
RTOR Reduction (vph)	0	0	100	0
Lane Group Flow (vph)	21	1010	189	0
Confl. Peds. (#/hr)	51			21
Heavy Vehicles (%)	4%	4%	4%	4%
Turn Type	Prot	NA	Perm	
Protected Phases	1	6		
Permitted Phases			6	
Actuated Green, G (s)	4.5	54.8	54.8	
Effective Green, g (s)	4.5	54.8	54.8	
Actuated g/C Ratio	0.03	0.39	0.39	
Clearance Time (s)	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	3.0	3.0	
Lane Grp Cap (vph)	51	1251	539	
v/s Ratio Prot	0.01	c0.32		
v/s Ratio Perm			0.14	
v/c Ratio	0.41	0.81	0.35	
Uniform Delay, d1	66.5	37.9	30.1	
Progression Factor	1.12	0.84	0.61	
Incremental Delay, d2	1.9	5.6	1.8	
Delay (s)	76.3	37.3	20.2	
Level of Service	E	D	C	
Approach Delay (s)		34.2		
Approach LOS		C		

Intersection Summary

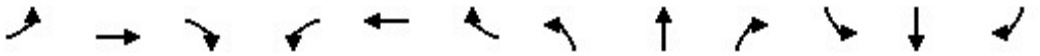
Movement	EBL	EBT	EBR	EBR2	WBL2	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	190	778	0	393	200	465	177	17	140	414	178	20
Future Volume (vph)	190	778	0	393	200	465	177	17	140	414	178	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	7.0	7.0	7.0		7.0	7.0	7.0		6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95	1.00		0.97	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.95		1.00	1.00	0.96		1.00	1.00	0.94	
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	1.00	0.85		1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1568	3137	1339		1583	3167	1360		3072	3167	1325	
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	1568	3137	1339		1583	3167	1360		3072	3167	1325	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	192	786	0	397	202	470	179	17	141	418	180	20
RTOR Reduction (vph)	0	0	282	0	0	0	130	0	0	0	134	0
Lane Group Flow (vph)	192	786	115	0	202	470	49	0	158	418	46	0
Confl. Peds. (#/hr)	25		29		29		25		32		36	
Heavy Vehicles (%)	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%	5%	7%
Turn Type	Prot	NA	Perm		Prot	NA	Perm	Prot	Prot	NA	Perm	Prot
Protected Phases	7	4			3	8		5	5	2		1
Permitted Phases			4				8				2	
Actuated Green, G (s)	21.2	40.4	40.4		19.5	38.7	38.7		12.8	35.9	35.9	
Effective Green, g (s)	21.2	40.4	40.4		19.5	38.7	38.7		12.8	35.9	35.9	
Actuated g/C Ratio	0.15	0.29	0.29		0.14	0.28	0.28		0.09	0.26	0.26	
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		4.0	3.0	3.0	
Lane Grp Cap (vph)	237	905	386		220	875	375		280	812	339	
v/s Ratio Prot	0.12	c0.25			c0.13	0.15			0.05	c0.13		
v/s Ratio Perm			0.09				0.04				0.03	
v/c Ratio	0.81	0.87	0.30		0.92	0.54	0.13		0.56	0.51	0.14	
Uniform Delay, d1	57.5	47.3	38.7		59.5	43.0	38.0		60.9	44.6	40.1	
Progression Factor	1.23	1.18	1.00		1.00	1.00	1.00		1.03	1.04	3.00	
Incremental Delay, d2	12.8	6.0	0.3		38.4	0.6	0.2		3.1	2.3	0.8	
Delay (s)	83.6	62.0	39.0		97.9	43.7	38.2		66.0	48.7	121.1	
Level of Service	F	E	D		F	D	D		E	D	F	
Approach Delay (s)		58.4				55.4				69.6		
Approach LOS		E				E				E		

Intersection Summary			
HCM 2000 Control Delay	63.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBL	SBT	SBR	SBR2
Lane Configurations				
Traffic Volume (vph)	233	734	118	144
Future Volume (vph)	233	734	118	144
Ideal Flow (vphpl)	1750	1750	1750	1750
Total Lost time (s)	6.0	6.0	6.0	
Lane Util. Factor	0.97	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.95	
Flpb, ped/bikes	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	3014	3107	1314	
Flt Permitted	0.95	1.00	1.00	
Satd. Flow (perm)	3014	3107	1314	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99
Adj. Flow (vph)	235	741	119	145
RTOR Reduction (vph)	0	0	93	0
Lane Group Flow (vph)	255	741	171	0
Confl. Peds. (#/hr)	36			32
Heavy Vehicles (%)	7%	7%	7%	7%
Turn Type	Prot	NA	Perm	
Protected Phases	1	6		
Permitted Phases			6	
Actuated Green, G (s)	18.2	41.3	41.3	
Effective Green, g (s)	18.2	41.3	41.3	
Actuated g/C Ratio	0.13	0.29	0.29	
Clearance Time (s)	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	3.0	3.0	
Lane Grp Cap (vph)	391	916	387	
v/s Ratio Prot	0.08	c0.24		
v/s Ratio Perm			0.13	
v/c Ratio	0.65	0.81	0.44	
Uniform Delay, d1	57.9	45.7	40.0	
Progression Factor	1.01	1.39	1.93	
Incremental Delay, d2	3.3	5.9	2.8	
Delay (s)	61.5	69.4	80.2	
Level of Service	E	E	F	
Approach Delay (s)		70.0		
Approach LOS		E		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	1077	444	139	591	17	176	20	211	41	40	17
Future Volume (vph)	18	1077	444	139	591	17	176	20	211	41	40	17
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.0	6.0		6.0	6.0		6.5	6.5	6.5	6.5	6.5	
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.97	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	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4333		1554	3091		1498	1577	1301	1471	1463	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1583	4333		1554	3091		1498	1577	1301	1471	1463	
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)	19	1122	462	145	616	18	183	21	220	43	42	18
RTOR Reduction (vph)	0	43	0	0	1	0	0	0	175	0	12	0
Lane Group Flow (vph)	19	1542	0	145	633	0	183	21	45	43	48	0
Confl. Peds. (#/hr)	5		1	1		5	15		10	10		15
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	11%	11%	11%	13%	13%	13%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			
Actuated Green, G (s)	4.4	59.6		18.2	73.4		20.2	28.8	28.8	8.4	17.0	
Effective Green, g (s)	4.4	59.6		18.2	73.4		20.2	28.8	28.8	8.4	17.0	
Actuated g/C Ratio	0.03	0.43		0.13	0.52		0.14	0.21	0.21	0.06	0.12	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	2.0	2.0		3.0	2.0		2.0	2.0	2.0	3.0	2.0	
Lane Grp Cap (vph)	49	1844		202	1620		216	324	267	88	177	
v/s Ratio Prot	0.01	c0.36		c0.09	0.20		c0.12	0.01		0.03	c0.03	
v/s Ratio Perm									0.03			
v/c Ratio	0.39	0.84		0.72	0.39		0.85	0.06	0.17	0.49	0.27	
Uniform Delay, d1	66.5	35.8		58.4	19.9		58.4	44.8	45.8	63.7	55.9	
Progression Factor	1.00	1.00		1.38	0.57		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	4.7		10.1	0.6		24.3	0.0	0.1	4.2	0.3	
Delay (s)	68.3	40.5		90.8	11.9		82.7	44.8	45.9	67.9	56.2	
Level of Service	E	D		F	B		F	D	D	E	E	
Approach Delay (s)		40.9			26.6			61.7			61.1	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	4	12	2	100	5	31	8	2	307	78	6	55
Future Volume (vph)	4	12	2	100	5	31	8	2	307	78	6	55
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
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			1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.96			1.00	0.99			1.00
Flpb, ped/bikes	0.97	1.00		1.00	1.00			1.00	1.00			0.99
Frt	1.00	0.98		1.00	0.87			1.00	0.97			1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1372	1463		1583	1390			1583	3053			1621
Flt Permitted	0.73	1.00		0.75	1.00			0.40	1.00			0.51
Satd. Flow (perm)	1058	1463		1246	1390			663	3053			877
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)	4	13	2	105	5	33	8	2	323	82	6	58
RTOR Reduction (vph)	0	2	0	0	27	0	0	0	31	0	0	0
Lane Group Flow (vph)	4	13	0	105	11	0	0	10	374	0	0	64
Confl. Peds. (#/hr)	77		1	1		77				9		9
Heavy Vehicles (%)	17%	17%	17%	5%	5%	5%	5%	5%	5%	5%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	Perm	NA		Perm	Perm
Protected Phases		8			4				6			
Permitted Phases	8			4			6	6			2	2
Actuated Green, G (s)	6.4	6.4		6.4	6.4			17.9	17.9			17.9
Effective Green, g (s)	6.4	6.4		6.4	6.4			17.9	17.9			17.9
Actuated g/C Ratio	0.19	0.19		0.19	0.19			0.52	0.52			0.52
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0			5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0			2.0
Lane Grp Cap (vph)	197	272		232	259			345	1593			457
v/s Ratio Prot		0.01			0.01				0.12			
v/s Ratio Perm	0.00			c0.08				0.02				0.07
v/c Ratio	0.02	0.05		0.45	0.04			0.03	0.24			0.14
Uniform Delay, d1	11.4	11.5		12.4	11.4			4.0	4.5			4.2
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	0.0	0.0		0.5	0.0			0.0	0.0			0.1
Delay (s)	11.4	11.5		12.9	11.5			4.0	4.5			4.3
Level of Service	B	B		B	B			A	A			A
Approach Delay (s)		11.5			12.5				4.5			
Approach LOS		B			B				A			

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	34.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	630	5
Future Volume (vph)	630	5
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	5.0	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	3256	
Flt Permitted	1.00	
Satd. Flow (perm)	3256	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	663	5
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	668	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	2%	2%
Turn Type	NA	
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	17.9	
Effective Green, g (s)	17.9	
Actuated g/C Ratio	0.52	
Clearance Time (s)	5.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	1699	
v/s Ratio Prot	c0.21	
v/s Ratio Perm		
v/c Ratio	0.39	
Uniform Delay, d1	4.9	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	5.0	
Level of Service	A	
Approach Delay (s)	4.9	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR2	WBL2	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	76	28	51	24	5	31	26	18	599	21	19	44
Future Volume (vph)	76	28	51	24	5	31	26	18	599	21	19	44
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.0	6.0			6.0	6.0		5.0	5.0			5.0
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	0.95			1.00
Frpb, ped/bikes	1.00	1.00			1.00	0.99		1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00			0.99	1.00		1.00	1.00			0.99
Frt	1.00	0.90			1.00	0.85		1.00	0.99			1.00
Flt Protected	0.95	1.00			0.96	1.00		0.95	1.00			0.95
Satd. Flow (prot)	1566	1491			1589	1398		1614	3200			1597
Flt Permitted	0.74	1.00			0.75	1.00		0.16	1.00			0.39
Satd. Flow (perm)	1216	1491			1244	1398		277	3200			650
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)	78	29	53	25	5	32	27	19	618	22	20	45
RTOR Reduction (vph)	0	46	0	0	0	27	0	0	1	0	0	0
Lane Group Flow (vph)	78	36	0	0	30	5	0	46	639	0	0	65
Confl. Peds. (#/hr)	1			8		1		31		24		24
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	pm+pt	NA		pm+pt	pm+pt
Protected Phases		8			4		1	1	6		5	5
Permitted Phases	8			4		4	6	6			2	2
Actuated Green, G (s)	22.0	22.0			22.0	22.0		101.8	96.2			102.2
Effective Green, g (s)	22.0	22.0			22.0	22.0		101.8	96.2			102.2
Actuated g/C Ratio	0.16	0.16			0.16	0.16		0.73	0.69			0.73
Clearance Time (s)	6.0	6.0			6.0	6.0		5.0	5.0			5.0
Vehicle Extension (s)	4.0	4.0			4.0	4.0		2.0	4.0			2.0
Lane Grp Cap (vph)	191	234			195	219		254	2198			513
v/s Ratio Prot		0.02						c0.01	0.20			0.01
v/s Ratio Perm	c0.06				0.02	0.00		0.12				0.09
v/c Ratio	0.41	0.15			0.15	0.02		0.18	0.29			0.13
Uniform Delay, d1	53.1	50.9			51.0	49.9		7.3	8.6			5.4
Progression Factor	1.00	1.00			1.00	1.00		0.61	0.60			1.84
Incremental Delay, d2	1.9	0.4			0.5	0.1		0.1	0.3			0.0
Delay (s)	55.1	51.4			51.5	50.0		4.6	5.5			10.0
Level of Service	E	D			D	D		A	A			B
Approach Delay (s)		53.2			50.7				5.4			
Approach LOS		D			D				A			

Intersection Summary			
HCM 2000 Control Delay	19.0	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)	16.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

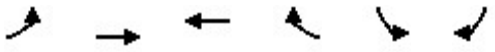
Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	1268	206	102
Future Volume (vph)	1268	206	102
Ideal Flow (vphpl)	1750	1750	1750
Total Lost time (s)	5.0	5.0	
Lane Util. Factor	0.95	1.00	
Frpb, ped/bikes	1.00	0.85	
Flpb, ped/bikes	1.00	1.00	
Frt	1.00	0.85	
Flt Protected	1.00	1.00	
Satd. Flow (prot)	3228	1223	
Flt Permitted	1.00	1.00	
Satd. Flow (perm)	3228	1223	
Peak-hour factor, PHF	0.97	0.97	0.97
Adj. Flow (vph)	1307	212	105
RTOR Reduction (vph)	0	19	0
Lane Group Flow (vph)	1307	298	0
Confl. Peds. (#/hr)			31
Heavy Vehicles (%)	3%	3%	3%
Turn Type	NA	Perm	
Protected Phases	2		
Permitted Phases		2	
Actuated Green, G (s)	96.4	96.4	
Effective Green, g (s)	96.4	96.4	
Actuated g/C Ratio	0.69	0.69	
Clearance Time (s)	5.0	5.0	
Vehicle Extension (s)	4.0	4.0	
Lane Grp Cap (vph)	2222	842	
v/s Ratio Prot	c0.40		
v/s Ratio Perm		0.24	
v/c Ratio	0.59	0.35	
Uniform Delay, d1	11.4	9.0	
Progression Factor	1.75	1.89	
Incremental Delay, d2	1.0	1.0	
Delay (s)	21.0	18.0	
Level of Service	C	B	
Approach Delay (s)	20.0		
Approach LOS	C		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	104	147	310	172	34	178	226	126	16	269	49
Future Volume (vph)	12	104	147	310	172	34	178	226	126	16	269	49
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.99	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		1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	0.98	
Flt Protected		0.99	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1707	1458	1519	1575	1409	1630	3061		1645	3216	
Flt Permitted		0.99	1.00	0.95	0.99	1.00	0.38	1.00		0.53	1.00	
Satd. Flow (perm)		1707	1458	1519	1575	1409	654	3061		917	3216	
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)	13	111	156	330	183	36	189	240	134	17	286	52
RTOR Reduction (vph)	0	0	110	0	0	27	0	50	0	0	12	0
Lane Group Flow (vph)	0	124	46	251	262	9	189	324	0	17	326	0
Confl. Peds. (#/hr)	3					3			1	1		
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4	6			2		
Actuated Green, G (s)		12.2	12.2	20.3	20.3	20.3	36.6	29.2		21.0	18.6	
Effective Green, g (s)		12.2	12.2	20.3	20.3	20.3	36.6	29.2		21.0	18.6	
Actuated g/C Ratio		0.15	0.15	0.24	0.24	0.24	0.44	0.35		0.25	0.22	
Clearance Time (s)		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	3.5		3.5	3.5	
Lane Grp Cap (vph)		247	211	366	380	340	435	1062		249	711	
v/s Ratio Prot		c0.07		0.17	c0.17		c0.07	0.11		0.00	0.10	
v/s Ratio Perm			0.03			0.01	c0.12			0.02		
v/c Ratio		0.50	0.22	0.69	0.69	0.03	0.43	0.30		0.07	0.46	
Uniform Delay, d1		33.1	31.7	29.0	29.0	24.4	15.6	20.0		23.9	28.4	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6	0.5	5.3	5.2	0.0	0.7	0.2		0.1	0.6	
Delay (s)		34.8	32.3	34.3	34.2	24.4	16.3	20.2		24.1	28.9	
Level of Service		C	C	C	C	C	B	C		C	C	
Approach Delay (s)		33.4			33.6			18.9			28.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	84.1	Sum of lost time (s)	20.0
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

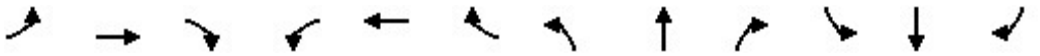
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Volume (veh/h)	0	762	347	0	0	669
Future Volume (Veh/h)	0	762	347	0	0	669
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	794	361	0	0	697
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		715	996			
pX, platoon unblocked					0.92	
vC, conflicting volume	361				758	180
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	361				571	180
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	16
cM capacity (veh/h)	1180				414	828

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	397	397	180	180	697
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	697
cSH	1700	1700	1700	1700	828
Volume to Capacity	0.23	0.23	0.11	0.11	0.84
Queue Length 95th (ft)	0	0	0	0	248
Control Delay (s)	0.0	0.0	0.0	0.0	27.7
Lane LOS					D
Approach Delay (s)	0.0		0.0		27.7
Approach LOS					D

Intersection Summary			
Average Delay	10.4		
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1336	549	28	727	2	420	0	47	4	1	1
Future Volume (vph)	1	1336	549	28	727	2	420	0	47	4	1	1
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.3	5.3	5.3	5.3	5.3		5.5	5.5			5.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00			1.00	
Frpb, ped/bikes	1.00	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			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1599	3197	1398	1599	3196		3072	1417			1655	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1599	3197	1398	1599	3196		3072	1417			1711	
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)	1	1377	566	29	749	2	433	0	48	4	1	1
RTOR Reduction (vph)	0	0	88	0	0	0	0	40	0	0	1	0
Lane Group Flow (vph)	1	1377	478	29	751	0	433	8	0	0	5	0
Confl. Peds. (#/hr)			1									
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	5%	5%	5%	0%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Perm	NA	
Protected Phases	5	2		1	6		4	4			3	
Permitted Phases			2							3		
Actuated Green, G (s)	0.9	68.1	68.1	4.3	71.5		20.0	20.0			1.6	
Effective Green, g (s)	0.9	68.1	68.1	4.3	71.5		20.0	20.0			1.6	
Actuated g/C Ratio	0.01	0.59	0.59	0.04	0.62		0.17	0.17			0.01	
Clearance Time (s)	5.3	5.3	5.3	5.3	5.3		5.5	5.5			5.5	
Vehicle Extension (s)	3.0	3.0	3.0	2.0	3.0		2.0	2.0			3.0	
Lane Grp Cap (vph)	12	1883	823	59	1976		531	245			23	
v/s Ratio Prot	0.00	c0.43		c0.02	c0.23		c0.14	0.01				
v/s Ratio Perm			0.34								c0.00	
v/c Ratio	0.08	0.73	0.58	0.49	0.38		0.82	0.03			0.22	
Uniform Delay, d1	56.9	17.1	14.8	54.6	11.0		46.0	39.8			56.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	3.0	1.5	1.1	2.3	0.1		8.9	0.0			4.7	
Delay (s)	59.9	18.6	15.9	56.9	11.1		54.9	39.8			61.1	
Level of Service	E	B	B	E	B		D	D			E	
Approach Delay (s)		17.9			12.8			53.4			61.1	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	115.6	Sum of lost time (s)	21.6
Intersection Capacity Utilization	66.8%	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												
Traffic Volume (vph)	41	201	81	238	163	176	40	264	89	195	464	61
Future Volume (vph)	41	201	81	238	163	176	40	264	89	195	464	61
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.0	6.0		5.0	5.0		5.2	5.2	5.2	5.2	5.2	
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	0.99		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	0.96		1.00	0.92		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1613	1615		1646	1579		1614	1699	1413	1629	1681	
Flt Permitted	0.55	1.00		0.31	1.00		0.23	1.00	1.00	0.37	1.00	
Satd. Flow (perm)	939	1615		531	1579		393	1699	1413	633	1681	
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)	42	205	83	243	166	180	41	269	91	199	473	62
RTOR Reduction (vph)	0	12	0	0	30	0	0	0	65	0	3	0
Lane Group Flow (vph)	42	276	0	243	316	0	41	269	26	199	532	0
Confl. Peds. (#/hr)	1		1	1		1	2		1	1		2
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2		2	6		
Actuated Green, G (s)	26.6	22.9		45.1	35.4		31.9	28.2	28.2	44.9	36.0	
Effective Green, g (s)	26.6	22.9		45.1	35.4		31.9	28.2	28.2	44.9	36.0	
Actuated g/C Ratio	0.27	0.23		0.45	0.35		0.32	0.28	0.28	0.45	0.36	
Clearance Time (s)	6.0	6.0		5.0	5.0		5.2	5.2	5.2	5.2	5.2	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	274	369		419	557		170	478	397	397	603	
v/s Ratio Prot	0.01	c0.17		c0.09	0.20		0.01	0.16		c0.06	c0.32	
v/s Ratio Perm	0.03			0.17			0.07		0.02	0.17		
v/c Ratio	0.15	0.75		0.58	0.57		0.24	0.56	0.06	0.50	0.88	
Uniform Delay, d1	27.8	36.0		19.0	26.2		24.9	30.7	26.3	18.4	30.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	7.1		1.2	0.8		0.3	0.9	0.0	0.4	13.9	
Delay (s)	27.8	43.1		20.2	27.0		25.2	31.6	26.4	18.7	44.0	
Level of Service	C	D		C	C		C	C	C	B	D	
Approach Delay (s)		41.2			24.2			29.8			37.1	
Approach LOS		D			C			C			D	

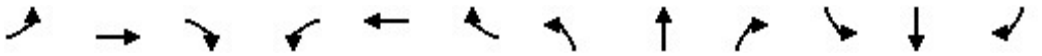
Intersection Summary			
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.2	Sum of lost time (s)	21.4
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	47	1177	42	14	94	755	67	30	16	19	31	10
Future Volume (vph)	47	1177	42	14	94	755	67	30	16	19	31	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.6	4.9			5.0	4.7			5.0			5.0
Lane Util. Factor	1.00	0.95			1.00	0.95			1.00			1.00
Frpb, ped/bikes	1.00	1.00			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	0.99			1.00	0.99			0.96			0.94
Flt Protected	0.95	1.00			0.95	1.00			0.98			0.98
Satd. Flow (prot)	1599	3178			1599	3152			1601			1591
Flt Permitted	0.95	1.00			0.95	1.00			0.86			0.88
Satd. Flow (perm)	1599	3178			1599	3152			1408			1430
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)	49	1226	44	15	98	786	70	31	17	20	32	10
RTOR Reduction (vph)	0	2	0	0	0	5	0	0	18	0	0	35
Lane Group Flow (vph)	49	1268	0	0	113	851	0	0	50	0	0	46
Confl. Peds. (#/hr)			1				1	3		4	4	
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	2%	2%	2%	0%	0%
Bus Blockages (#/hr)	0	0	48	0	0	0	0	0	0	0	0	0
Turn Type	Prot	NA		Prot	Prot	NA		Perm	NA		Perm	NA
Protected Phases	1	6		5	5	2			8			8
Permitted Phases								8			8	
Actuated Green, G (s)	4.9	47.4			8.9	52.0			8.8			8.8
Effective Green, g (s)	4.9	47.4			8.9	52.0			8.8			8.8
Actuated g/C Ratio	0.06	0.59			0.11	0.65			0.11			0.11
Clearance Time (s)	4.6	4.9			5.0	4.7			5.0			5.0
Vehicle Extension (s)	2.0	2.0			2.0	2.0			5.0			5.0
Lane Grp Cap (vph)	97	1882			177	2048			154			157
v/s Ratio Prot	0.03	c0.40			c0.07	c0.27						
v/s Ratio Perm									c0.04			0.03
v/c Ratio	0.51	0.67			0.64	0.42			0.33			0.29
Uniform Delay, d1	36.4	11.1			34.0	6.7			32.9			32.7
Progression Factor	1.00	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	1.5	1.9			5.5	0.6			2.6			2.2
Delay (s)	37.9	13.0			39.5	7.3			35.4			34.9
Level of Service	D	B			D	A			D			C
Approach Delay (s)		13.9				11.1			35.4			34.9
Approach LOS		B				B			D			C

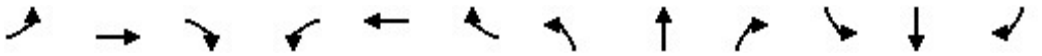
Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	37
Future Volume (vph)	37
Ideal Flow (vphpl)	1750
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.96
Adj. Flow (vph)	39
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	3
Heavy Vehicles (%)	0%
Bus Blockages (#/hr)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



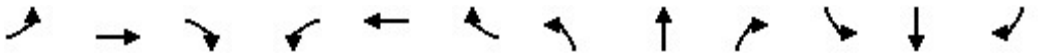
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	1112	50	106	552	227	20	93	43	337	318	86
Future Volume (vph)	79	1112	50	106	552	227	20	93	43	337	318	86
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.7	5.8		4.7	4.7	4.7	5.7	5.9		5.6	5.8	
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.95		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)	1599	4564		1583	3167	1417	1646	1651		3162	1661	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1599	4564		1583	3167	1417	1646	1651		3162	1661	
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)	83	1171	53	112	581	239	21	98	45	355	335	91
RTOR Reduction (vph)	0	4	0	0	0	115	0	16	0	0	9	0
Lane Group Flow (vph)	83	1220	0	112	581	124	21	127	0	355	417	0
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						
Actuated Green, G (s)	7.8	41.7		12.2	46.2	46.2	3.3	13.6		20.5	30.8	
Effective Green, g (s)	7.8	41.7		12.2	46.2	46.2	3.3	13.6		20.5	30.8	
Actuated g/C Ratio	0.07	0.38		0.11	0.42	0.42	0.03	0.12		0.19	0.28	
Clearance Time (s)	5.7	5.8		4.7	4.7	4.7	5.7	5.9		5.6	5.8	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0		2.0	2.0	
Lane Grp Cap (vph)	113	1730		175	1330	595	49	204		589	465	
v/s Ratio Prot	0.05	c0.27		c0.07	0.18		0.01	c0.08		0.11	c0.25	
v/s Ratio Perm						0.09						
v/c Ratio	0.73	0.71		0.64	0.44	0.21	0.43	0.62		0.60	0.90	
Uniform Delay, d1	50.1	28.9		46.8	22.7	20.3	52.4	45.8		41.0	38.1	
Progression Factor	1.00	1.00		0.79	0.70	1.23	1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.0	2.4		5.5	1.0	0.7	5.9	5.8		1.2	19.2	
Delay (s)	69.1	31.4		42.7	16.9	25.7	58.3	51.6		42.2	57.3	
Level of Service	E	C		D	B	C	E	D		D	E	
Approach Delay (s)		33.8			22.3			52.5			50.4	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	77.3%	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												
Traffic Volume (vph)	0	883	609	300	813	0	0	0	0	343	8	72
Future Volume (vph)	0	883	609	300	813	0	0	0	0	343	8	72
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.6	6.6	5.5	6.6					5.9	5.9	
Lane Util. Factor		0.95	1.00	1.00	0.95					0.95	0.95	
Frt		1.00	0.85	1.00	1.00					1.00	0.95	
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.97	
Satd. Flow (prot)		3197	1430	1599	3197					1398	1353	
Flt Permitted		1.00	1.00	0.21	1.00					0.95	0.97	
Satd. Flow (perm)		3197	1430	355	3197					1398	1353	
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	901	621	306	830	0	0	0	0	350	8	73
RTOR Reduction (vph)	0	0	323	0	0	0	0	0	0	0	19	0
Lane Group Flow (vph)	0	901	298	306	830	0	0	0	0	220	192	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	0%	0%	0%	13%	13%	13%
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		2		1	6						8	
Permitted Phases			2	6						8		
Actuated Green, G (s)		52.7	52.7	74.3	74.3					23.2	23.2	
Effective Green, g (s)		52.7	52.7	74.3	74.3					23.2	23.2	
Actuated g/C Ratio		0.48	0.48	0.68	0.68					0.21	0.21	
Clearance Time (s)		6.6	6.6	5.5	6.6					5.9	5.9	
Vehicle Extension (s)		4.0	4.0	3.0	5.0					3.5	3.5	
Lane Grp Cap (vph)		1531	685	421	2159					294	285	
v/s Ratio Prot		0.28		c0.11	0.26							
v/s Ratio Perm			0.21	c0.38						c0.16	0.14	
v/c Ratio		0.59	0.43	0.73	0.38					0.75	0.67	
Uniform Delay, d1		20.8	18.8	11.2	7.8					40.7	39.9	
Progression Factor		0.29	1.85	2.39	0.81					1.00	1.00	
Incremental Delay, d2		1.3	1.6	5.0	0.4					10.3	6.4	
Delay (s)		7.4	36.5	31.8	6.8					50.9	46.3	
Level of Service		A	D	C	A					D	D	
Approach Delay (s)		19.3			13.5			0.0			48.7	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



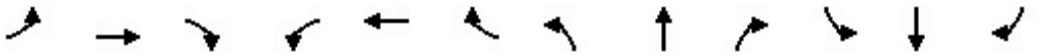
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	836	0	0	726	738	387	0	144	0	0	0
Future Volume (vph)	390	836	0	0	726	738	387	0	144	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.5	6.4			6.4	6.4	6.0	6.0				
Lane Util. Factor	1.00	0.95			0.95	1.00	0.95	0.95				
Frt	1.00	1.00			1.00	0.85	1.00	0.92				
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98				
Satd. Flow (prot)	1554	3107			3197	1430	1449	1367				
Flt Permitted	0.26	1.00			1.00	1.00	0.95	0.98				
Satd. Flow (perm)	418	3107			3197	1430	1449	1367				
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)	402	862	0	0	748	761	399	0	148	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	182	0	67	0	0	0	0
Lane Group Flow (vph)	402	862	0	0	748	579	283	197	0	0	0	0
Heavy Vehicles (%)	7%	7%	7%	4%	4%	4%	9%	9%	9%	0%	0%	0%
Turn Type	pm+pt	NA			NA	Perm	Split	NA				
Protected Phases	5	2			6		4	4				
Permitted Phases	2					6						
Actuated Green, G (s)	71.8	71.8			48.3	48.3	25.8	25.8				
Effective Green, g (s)	71.8	71.8			48.3	48.3	25.8	25.8				
Actuated g/C Ratio	0.65	0.65			0.44	0.44	0.23	0.23				
Clearance Time (s)	5.5	6.4			6.4	6.4	6.0	6.0				
Vehicle Extension (s)	3.0	4.0			5.0	5.0	3.5	3.5				
Lane Grp Cap (vph)	458	2028			1403	627	339	320				
v/s Ratio Prot	c0.14	0.28			0.23		c0.20	0.14				
v/s Ratio Perm	0.43					c0.40						
v/c Ratio	0.88	0.43			0.53	0.92	0.83	0.61				
Uniform Delay, d1	12.6	9.2			22.6	29.1	40.1	37.7				
Progression Factor	2.78	0.78			1.00	1.00	1.00	1.00				
Incremental Delay, d2	14.6	0.5			1.5	21.4	16.4	3.7				
Delay (s)	49.6	7.7			24.0	50.5	56.5	41.3				
Level of Service	D	A			C	D	E	D				
Approach Delay (s)		21.1			37.4			49.2			0.0	
Approach LOS		C			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.9
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	264	157	41	133	105	39	302	26	193	447	8
Future Volume (vph)	22	264	157	41	133	105	39	302	26	193	447	8
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	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	1.00	
Frpb, ped/bikes	1.00	0.99		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	0.94		1.00	1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1603		1598	1683	1430	1614	1678		1630	1711	
Flt Permitted	0.67	1.00		0.25	1.00	1.00	0.29	1.00		0.38	1.00	
Satd. Flow (perm)	1150	1603		414	1683	1430	496	1678		647	1711	
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)	22	269	160	42	136	107	40	308	27	197	456	8
RTOR Reduction (vph)	0	18	0	0	0	60	0	3	0	0	1	0
Lane Group Flow (vph)	22	411	0	42	136	47	40	332	0	197	463	0
Confl. Peds. (#/hr)			4	4								
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Turn Type	D.P+P	NA		D.P+P	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases	8			4		8	6			2		
Actuated Green, G (s)	31.8	27.9		31.8	29.6	39.8	38.4	28.2		38.4	34.7	
Effective Green, g (s)	31.8	27.9		31.8	29.6	39.8	38.4	28.2		38.4	34.7	
Actuated g/C Ratio	0.35	0.31		0.35	0.33	0.44	0.43	0.31		0.43	0.38	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	2.0		3.0	2.0	3.0	3.0	2.0		3.0	2.0	
Lane Grp Cap (vph)	417	495		197	552	710	257	524		386	658	
v/s Ratio Prot	0.00	c0.26		c0.01	0.08	0.01	0.01	0.20		c0.06	c0.27	
v/s Ratio Perm	0.02			0.07		0.03	0.06			0.16		
v/c Ratio	0.05	0.83		0.21	0.25	0.07	0.16	0.63		0.51	0.70	
Uniform Delay, d1	19.2	29.0		20.6	22.1	14.5	16.4	26.6		17.5	23.4	
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	10.8		0.5	0.1	0.0	0.3	1.8		1.1	2.8	
Delay (s)	19.2	39.8		21.2	22.2	14.5	16.7	28.4		18.6	26.2	
Level of Service	B	D		C	C	B	B	C		B	C	
Approach Delay (s)		38.8			19.2			27.2			24.0	
Approach LOS		D			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	76.2%	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												
Traffic Volume (vph)	27	560	32	80	244	107	35	322	157	148	190	19
Future Volume (vph)	27	560	32	80	244	107	35	322	157	148	190	19
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
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	0.99		1.00	1.00	0.85	1.00	0.95		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)	1646	3263		1599	1683	1409	1642	3116		1567	3088	
Flt Permitted	0.59	1.00		0.22	1.00	1.00	0.61	1.00		0.40	1.00	
Satd. Flow (perm)	1024	3263		375	1683	1409	1048	3116		662	3088	
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)	30	629	36	90	274	120	39	362	176	166	213	21
RTOR Reduction (vph)	0	3	0	0	0	77	0	41	0	0	5	0
Lane Group Flow (vph)	30	662	0	90	274	43	39	497	0	166	229	0
Confl. Peds. (#/hr)			3			4	2		3	3		2
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	1%	1%	1%	6%	6%	6%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	26.7	23.7		35.1	27.9	27.9	32.2	32.2		32.2	32.2	
Effective Green, g (s)	26.7	23.7		35.1	27.9	27.9	32.2	32.2		32.2	32.2	
Actuated g/C Ratio	0.34	0.30		0.45	0.36	0.36	0.41	0.41		0.41	0.41	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		3.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	373	990		281	601	503	432	1284		272	1273	
v/s Ratio Prot	0.00	c0.20		c0.03	c0.16			0.16			0.07	
v/s Ratio Perm	0.02			0.11		0.03	0.04			c0.25		
v/c Ratio	0.08	0.67		0.32	0.46	0.09	0.09	0.39		0.61	0.18	
Uniform Delay, d1	17.2	23.8		13.7	19.3	16.6	14.0	16.0		18.0	14.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.3		0.7	0.2	0.0	0.0	0.1		2.8	0.0	
Delay (s)	17.3	25.1		14.3	19.5	16.7	14.0	16.1		20.9	14.6	
Level of Service	B	C		B	B	B	B	B		C	B	
Approach Delay (s)		24.8			17.8			16.0			17.2	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	78.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	3	38	415	18	2	20	320	168	17	6	25	186
Future Volume (vph)	3	38	415	18	2	20	320	168	17	6	25	186
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.0	5.0			5.0	5.0		5.0	5.0		5.0
Lane Util. Factor		1.00	0.95			1.00	0.95		1.00	1.00		1.00
Frpb, ped/bikes		1.00	0.99			1.00	0.93		1.00	0.98		1.00
Flpb, ped/bikes		1.00	1.00			1.00	1.00		0.95	1.00		0.98
Frt		1.00	0.99			1.00	0.95		1.00	0.88		1.00
Flt Protected		0.95	1.00			0.95	1.00		0.95	1.00		0.95
Satd. Flow (prot)		1614	3181			1568	2771		1515	1441		1619
Flt Permitted		0.43	1.00			0.48	1.00		0.69	1.00		0.74
Satd. Flow (perm)		736	3181			795	2771		1106	1441		1254
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)	3	41	446	19	2	22	344	181	18	6	27	200
RTOR Reduction (vph)	0	0	1	0	0	0	31	0	0	22	0	0
Lane Group Flow (vph)	0	44	464	0	0	24	494	0	18	11	0	200
Confl. Peds. (#/hr)				38				39	31		9	9
Heavy Vehicles (%)	3%	3%	3%	3%	6%	6%	6%	6%	4%	4%	4%	1%
Turn Type	pm+pt	pm+pt	NA		pm+pt	pm+pt	NA		Perm	NA		Perm
Protected Phases	7	7	4		3	3	8			2		
Permitted Phases	4	4			8	8			2			6
Actuated Green, G (s)		99.4	94.6			96.4	93.1		27.1	27.1		27.1
Effective Green, g (s)		99.4	94.6			96.4	93.1		27.1	27.1		27.1
Actuated g/C Ratio		0.71	0.68			0.69	0.66		0.19	0.19		0.19
Clearance Time (s)		5.0	5.0			5.0	5.0		5.0	5.0		5.0
Vehicle Extension (s)		2.0	2.0			2.0	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)		552	2149			565	1842		214	278		242
v/s Ratio Prot		c0.00	0.15			0.00	c0.18			0.01		
v/s Ratio Perm		0.05				0.03			0.02			c0.16
v/c Ratio		0.08	0.22			0.04	0.27		0.08	0.04		0.83
Uniform Delay, d1		6.1	8.6			6.9	9.6		46.3	45.9		54.2
Progression Factor		1.00	1.00			3.08	3.12		1.00	1.00		1.00
Incremental Delay, d2		0.0	0.2			0.0	0.3		0.1	0.0		19.2
Delay (s)		6.2	8.8			21.3	30.2		46.3	45.9		73.4
Level of Service		A	A			C	C		D	D		E
Approach Delay (s)			8.6				29.8			46.1		
Approach LOS			A				C			D		

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	27	49
Future Volume (vph)	27	49
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	5.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.95	
Flpb, ped/bikes	1.00	
Frt	0.90	
Flt Protected	1.00	
Satd. Flow (prot)	1494	
Flt Permitted	1.00	
Satd. Flow (perm)	1494	
Peak-hour factor, PHF	0.93	0.93
Adj. Flow (vph)	29	53
RTOR Reduction (vph)	43	0
Lane Group Flow (vph)	39	0
Confl. Peds. (#/hr)		31
Heavy Vehicles (%)	1%	1%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	27.1	
Effective Green, g (s)	27.1	
Actuated g/C Ratio	0.19	
Clearance Time (s)	5.0	
Vehicle Extension (s)	2.0	
Lane Grp Cap (vph)	289	
v/s Ratio Prot	0.03	
v/s Ratio Perm		
v/c Ratio	0.14	
Uniform Delay, d1	46.8	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	46.8	
Level of Service	D	
Approach Delay (s)	65.7	
Approach LOS	E	

Intersection Summary

Movement	EBL	EBT	EBR2	WBL2	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	42	452	119	102	356	64	4	85	444	137	11	322
Future Volume (vph)	42	452	119	102	356	64	4	85	444	137	11	322
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.0	6.0		5.0	6.5			5.0	5.0	5.0		5.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	0.95	1.00		1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	1.00	0.95		1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Frt	1.00	0.97		1.00	0.98			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1646	3189		1599	3100			1614	3228	1377		1614
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	1646	3189		1599	3100			1614	3228	1377		1614
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)	44	476	125	107	375	67	4	89	467	144	12	339
RTOR Reduction (vph)	0	100	0	0	10	0	0	0	0	101	0	0
Lane Group Flow (vph)	44	501	0	107	432	0	0	93	467	43	0	351
Confl. Peds. (#/hr)						31				20		
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases										2		
Actuated Green, G (s)	7.2	33.6		10.8	35.7			12.2	41.9	41.9		32.7
Effective Green, g (s)	7.2	33.6		10.8	35.7			12.2	41.9	41.9		32.7
Actuated g/C Ratio	0.05	0.24		0.08	0.26			0.09	0.30	0.30		0.23
Clearance Time (s)	6.0	6.0		5.0	6.5			5.0	5.0	5.0		5.0
Vehicle Extension (s)	2.0	2.0		3.0	2.0			2.0	3.0	3.0		3.0
Lane Grp Cap (vph)	84	765		123	790			140	966	412		376
v/s Ratio Prot	0.03	c0.16		c0.07	c0.14			0.06	0.14			c0.22
v/s Ratio Perm										0.03		
v/c Ratio	0.52	0.65		0.87	0.55			0.66	0.48	0.10		0.93
Uniform Delay, d1	64.7	48.0		63.9	45.1			61.9	40.2	35.5		52.6
Progression Factor	1.04	1.19		1.00	1.00			1.01	1.21	9.41		1.15
Incremental Delay, d2	2.6	1.5		43.5	0.4			8.6	1.7	0.5		27.8
Delay (s)	70.0	58.7		107.5	45.6			71.3	50.2	334.2		88.5
Level of Service	E	E		F	D			E	D	F		F
Approach Delay (s)		59.4			57.6				111.1			
Approach LOS		E			E				F			

Intersection Summary			
HCM 2000 Control Delay	61.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR	SBR2
Lane Configurations			
Traffic Volume (vph)	999	162	62
Future Volume (vph)	999	162	62
Ideal Flow (vphpl)	1750	1750	1750
Total Lost time (s)	5.0	5.0	
Lane Util. Factor	0.95	1.00	
Frpb, ped/bikes	1.00	0.95	
Flpb, ped/bikes	1.00	1.00	
Frt	1.00	0.85	
Flt Protected	1.00	1.00	
Satd. Flow (prot)	3228	1370	
Flt Permitted	1.00	1.00	
Satd. Flow (perm)	3228	1370	
Peak-hour factor, PHF	0.95	0.95	0.95
Adj. Flow (vph)	1052	171	65
RTOR Reduction (vph)	0	84	0
Lane Group Flow (vph)	1052	152	0
Confl. Peds. (#/hr)			23
Heavy Vehicles (%)	3%	3%	3%
Turn Type	NA	Perm	
Protected Phases	6		
Permitted Phases		6	
Actuated Green, G (s)	62.4	62.4	
Effective Green, g (s)	62.4	62.4	
Actuated g/C Ratio	0.45	0.45	
Clearance Time (s)	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	
Lane Grp Cap (vph)	1438	610	
v/s Ratio Prot	c0.33		
v/s Ratio Perm		0.11	
v/c Ratio	0.73	0.25	
Uniform Delay, d1	31.9	24.2	
Progression Factor	0.84	1.20	
Incremental Delay, d2	3.0	0.9	
Delay (s)	29.9	30.0	
Level of Service	C	C	
Approach Delay (s)	42.4		
Approach LOS	D		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	484	409	88	88	6	304	141	13	154	302	104
Future Volume (vph)	44	484	409	88	88	6	304	141	13	154	302	104
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.5	5.9	5.5	5.5	5.9		5.5	5.9	5.5	5.5	5.9	
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	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	0.99		1.00	1.00	0.85	1.00	0.96	
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)	1630	1716	1458	1599	1664		1630	1716	1458	1646	1666	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1630	1716	1458	1599	1664		1630	1716	1458	1646	1666	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	44	489	413	89	89	6	307	142	13	156	305	105
RTOR Reduction (vph)	0	0	186	0	2	0	0	0	8	0	9	0
Lane Group Flow (vph)	44	489	227	89	93	0	307	142	5	156	401	0
Confl. Peds. (#/hr)						1						
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	1%	1%	1%
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	7.9	36.2	56.2	12.5	40.8		20.0	35.5	48.0	14.5	30.0	
Effective Green, g (s)	7.9	36.2	56.2	12.5	40.8		20.0	35.5	48.0	14.5	30.0	
Actuated g/C Ratio	0.07	0.30	0.46	0.10	0.34		0.16	0.29	0.40	0.12	0.25	
Clearance Time (s)	5.5	5.9	5.5	5.5	5.9		5.5	5.9	5.5	5.5	5.9	
Vehicle Extension (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
Lane Grp Cap (vph)	105	511	674	164	558		268	501	576	196	411	
v/s Ratio Prot	0.03	c0.29	0.06	c0.06	c0.06		c0.19	c0.08	0.00	0.09	c0.24	
v/s Ratio Perm			0.10						0.00			
v/c Ratio	0.42	0.96	0.34	0.54	0.17		1.15	0.28	0.01	0.80	0.98	
Uniform Delay, d1	54.6	41.9	20.8	51.8	28.4		50.8	33.2	22.3	52.1	45.4	
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	3.2	29.1	0.4	4.0	0.2		100.1	0.4	0.0	20.1	37.8	
Delay (s)	57.8	71.0	21.1	55.8	28.6		150.8	33.6	22.3	72.2	83.2	
Level of Service	E	E	C	E	C		F	C	C	E	F	
Approach Delay (s)		48.6			41.7			111.2			80.1	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	69.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	121.5	Sum of lost time (s)	22.8
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	9	2	0	12	56	0	31	2	1	629	38	8
Future Volume (vph)	9	2	0	12	56	0	31	2	1	629	38	8
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		3%				0%				0%		
Total Lost time (s)		6.0	6.0		6.5	6.5			5.0	5.0		
Lane Util. Factor		1.00	1.00		1.00	1.00			1.00	0.95		
Frpb, ped/bikes		1.00	0.98		1.00	0.98			1.00	1.00		
Flpb, ped/bikes		0.99	1.00		1.00	1.00			1.00	1.00		
Frt		1.00	0.85		1.00	0.85			1.00	0.99		
Flt Protected		0.96	1.00		0.95	1.00			0.95	1.00		
Satd. Flow (prot)		1511	1322		1607	1417			1614	3192		
Flt Permitted		0.80	1.00		0.75	1.00			0.95	1.00		
Satd. Flow (perm)		1251	1322		1269	1417			1614	3192		
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)	9	2	0	12	58	0	32	2	1	655	40	8
RTOR Reduction (vph)	0	0	12	0	0	29	0	0	0	2	0	0
Lane Group Flow (vph)	0	11	1	0	58	3	0	0	3	693	0	0
Confl. Peds. (#/hr)	5		3		3		5		6		6	
Heavy Vehicles (%)	9%	9%	9%	9%	3%	3%	3%	3%	3%	3%	3%	1%
Turn Type	Perm	NA	Perm		Perm	NA		Prot	Prot	NA		Prot
Protected Phases		4				8		5	5	2		1
Permitted Phases	4		4		8							
Actuated Green, G (s)		13.7	13.7		13.2	13.2			1.3	101.3		
Effective Green, g (s)		13.7	13.7		13.2	13.2			1.3	101.3		
Actuated g/C Ratio		0.10	0.10		0.09	0.09			0.01	0.72		
Clearance Time (s)		6.0	6.0		6.5	6.5			5.0	5.0		
Vehicle Extension (s)		4.0	4.0		3.0	3.0			3.0	4.0		
Lane Grp Cap (vph)		122	129		119	133			14	2309		
v/s Ratio Prot						0.00			0.00	0.22		
v/s Ratio Perm		0.01	0.00		c0.05							
v/c Ratio		0.09	0.01		0.49	0.02			0.21	0.30		
Uniform Delay, d1		57.5	57.0		60.2	57.5			68.8	6.8		
Progression Factor		1.00	1.00		1.00	1.00			1.08	0.76		
Incremental Delay, d2		0.4	0.0		3.1	0.1			7.3	0.3		
Delay (s)		57.9	57.1		63.3	57.6			81.4	5.5		
Level of Service		E	E		E	E			F	A		
Approach Delay (s)		57.5				61.3				5.8		
Approach LOS		E				E				A		

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2
Lane Configurations				
Traffic Volume (vph)	52	1139	185	6
Future Volume (vph)	52	1139	185	6
Ideal Flow (vphpl)	1750	1750	1750	1750
Grade (%)		0%		
Total Lost time (s)	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	
Flpb, ped/bikes	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1646	3292	1411	
Flt Permitted	0.95	1.00	1.00	
Satd. Flow (perm)	1646	3292	1411	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	1186	193	6
RTOR Reduction (vph)	0	0	15	0
Lane Group Flow (vph)	62	1186	184	0
Confl. Peds. (#/hr)	6			6
Heavy Vehicles (%)	1%	1%	1%	1%
Turn Type	Prot	NA	Perm	
Protected Phases	1	6		
Permitted Phases			6	
Actuated Green, G (s)	9.0	109.0	109.0	
Effective Green, g (s)	9.0	109.0	109.0	
Actuated g/C Ratio	0.06	0.78	0.78	
Clearance Time (s)	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	4.0	4.0	
Lane Grp Cap (vph)	105	2563	1098	
v/s Ratio Prot	c0.04	c0.36		
v/s Ratio Perm			0.13	
v/c Ratio	0.59	0.46	0.17	
Uniform Delay, d1	63.7	5.4	3.9	
Progression Factor	1.13	0.32	0.21	
Incremental Delay, d2	7.1	0.5	0.3	
Delay (s)	78.9	2.2	1.1	
Level of Service	E	A	A	
Approach Delay (s)		5.3		
Approach LOS		A		

Intersection Summary

Movement	EBL	EBT	EBR2	WBL2	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	62	31	73	52	14	59	31	22	565	57	58	1143
Future Volume (vph)	62	31	73	52	14	59	31	22	565	57	58	1143
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.5	6.5		6.5	6.5			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	0.99			1.00	1.00		1.00	1.00
Flpb, ped/bikes	0.99	1.00		0.98	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.89		1.00	0.88			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)	1590	1506		1594	1485			1599	3143		1630	3260
Flt Permitted	0.70	1.00		0.61	1.00			0.95	1.00		0.95	1.00
Satd. Flow (perm)	1180	1506		1030	1485			1599	3143		1630	3260
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)	68	34	80	57	15	65	34	24	621	63	64	1256
RTOR Reduction (vph)	0	67	0	0	57	0	0	0	4	0	0	0
Lane Group Flow (vph)	68	48	0	57	23	0	0	58	680	0	64	1256
Confl. Peds. (#/hr)	4			18		4		8		4	4	
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	4%	4%	4%	4%	2%	2%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA		Prot	NA
Protected Phases		4			8		5	5	2		1	6
Permitted Phases	4			8								
Actuated Green, G (s)	17.5	17.5		17.5	17.5			8.6	95.7		10.3	97.4
Effective Green, g (s)	17.5	17.5		17.5	17.5			8.6	95.7		10.3	97.4
Actuated g/C Ratio	0.12	0.12		0.12	0.12			0.06	0.68		0.07	0.70
Clearance Time (s)	6.5	6.5		6.5	6.5			5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	4.0		4.0	4.0
Lane Grp Cap (vph)	147	188		128	185			98	2148		119	2268
v/s Ratio Prot		0.03			0.02			0.04	0.22		c0.04	c0.39
v/s Ratio Perm	c0.06			0.06								
v/c Ratio	0.46	0.25		0.45	0.12			0.59	0.32		0.54	0.55
Uniform Delay, d1	56.9	55.3		56.8	54.4			64.0	8.9		62.6	10.5
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		0.93	0.78
Incremental Delay, d2	2.3	0.7		2.5	0.3			9.2	0.4		5.6	0.9
Delay (s)	59.2	56.1		59.2	54.7			73.2	9.3		63.9	9.2
Level of Service	E	E		E	D			E	A		E	A
Approach Delay (s)		57.2			56.6				14.3			11.2
Approach LOS		E			E				B			B

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

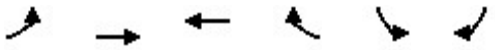
Movement	SBR	SBR2
Lane Configurations		
Traffic Volume (vph)	186	25
Future Volume (vph)	186	25
Ideal Flow (vphpl)	1750	1750
Total Lost time (s)	5.0	
Lane Util. Factor	1.00	
Frpb, ped/bikes	0.95	
Flpb, ped/bikes	1.00	
Frt	0.85	
Flt Protected	1.00	
Satd. Flow (prot)	1386	
Flt Permitted	1.00	
Satd. Flow (perm)	1386	
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	204	27
RTOR Reduction (vph)	20	0
Lane Group Flow (vph)	211	0
Confl. Peds. (#/hr)		8
Confl. Bikes (#/hr)		1
Heavy Vehicles (%)	2%	2%
Turn Type	Perm	
Protected Phases		
Permitted Phases	6	
Actuated Green, G (s)	97.4	
Effective Green, g (s)	97.4	
Actuated g/C Ratio	0.70	
Clearance Time (s)	5.0	
Vehicle Extension (s)	4.0	
Lane Grp Cap (vph)	964	
v/s Ratio Prot		
v/s Ratio Perm	0.15	
v/c Ratio	0.22	
Uniform Delay, d1	7.6	
Progression Factor	0.89	
Incremental Delay, d2	0.5	
Delay (s)	7.3	
Level of Service	A	
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	270	57	259	188	552	247
Future Volume (vph)	270	57	259	188	552	247
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.5		5.0	5.0	5.0	5.5
Lane Util. Factor	1.00		1.00	1.00	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	0.98		1.00	1.00	1.00	0.85
Flt Protected	0.96		0.95	1.00	1.00	1.00
Satd. Flow (prot)	1586		1630	1716	1733	1454
Flt Permitted	0.96		0.16	1.00	1.00	1.00
Satd. Flow (perm)	1586		267	1716	1733	1454
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	273	58	262	190	558	249
RTOR Reduction (vph)	7	0	0	0	0	89
Lane Group Flow (vph)	324	0	262	190	558	160
Confl. Peds. (#/hr)		2				1
Heavy Vehicles (%)	3%	3%	2%	2%	1%	1%
Turn Type	Prot		pm+pt	NA	NA	pm+ov
Protected Phases	4		5	2	6	4
Permitted Phases			2			6
Actuated Green, G (s)	26.9		63.8	63.8	38.1	65.0
Effective Green, g (s)	26.9		63.8	63.8	38.1	65.0
Actuated g/C Ratio	0.27		0.63	0.63	0.38	0.64
Clearance Time (s)	5.5		5.0	5.0	5.0	5.5
Vehicle Extension (s)	4.0		3.5	4.0	4.0	4.0
Lane Grp Cap (vph)	421		447	1081	652	933
v/s Ratio Prot	c0.20		c0.12	0.11	c0.32	0.05
v/s Ratio Perm			0.25			0.06
v/c Ratio	0.77		0.59	0.18	0.86	0.17
Uniform Delay, d1	34.3		14.2	7.8	29.0	7.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	8.7		2.1	0.1	11.1	0.1
Delay (s)	43.0		16.3	7.9	40.1	7.4
Level of Service	D		B	A	D	A
Approach Delay (s)	43.0			12.8	30.0	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	101.2	Sum of lost time (s)	15.5
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

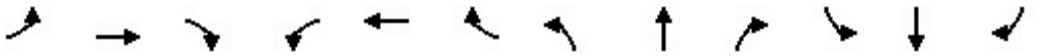
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	847	382	368	677	13
Future Volume (vph)	14	847	382	368	677	13
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.2	6.2	6.2	6.2	6.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Frt	1.00	1.00	1.00	0.85	1.00	
Flt Protected	0.95	1.00	1.00	1.00	0.95	
Satd. Flow (prot)	1646	3292	1699	1444	3143	
Flt Permitted	0.49	1.00	1.00	1.00	0.95	
Satd. Flow (perm)	848	3292	1699	1444	3143	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	14	873	394	379	698	13
RTOR Reduction (vph)	0	0	0	214	1	0
Lane Group Flow (vph)	14	873	394	165	710	0
Confl. Peds. (#/hr)					4	4
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type	Perm	NA	NA	Perm	Perm	
Protected Phases		6	2			
Permitted Phases	6			2	4	
Actuated Green, G (s)	21.4	21.4	21.4	21.4	15.5	
Effective Green, g (s)	21.4	21.4	21.4	21.4	15.5	
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.31	
Clearance Time (s)	6.2	6.2	6.2	6.2	6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	0.2	
Lane Grp Cap (vph)	368	1428	737	626	988	
v/s Ratio Prot		c0.27	0.23			
v/s Ratio Perm	0.02			0.11	c0.23	
v/c Ratio	0.04	0.61	0.53	0.26	0.72	
Uniform Delay, d1	8.0	10.7	10.3	8.9	15.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.8	0.7	0.2	2.1	
Delay (s)	8.1	11.5	11.0	9.1	17.1	
Level of Service	A	B	B	A	B	
Approach Delay (s)		11.5	10.1		17.1	
Approach LOS		B	B		B	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	49.3	Sum of lost time (s)	12.4
Intersection Capacity Utilization	57.2%	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												
Traffic Volume (vph)	59	254	66	161	251	134	47	154	103	342	467	137
Future Volume (vph)	59	254	66	161	251	134	47	154	103	342	467	137
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.5	6.1		5.5	6.1		5.5	5.9		5.5	5.9	5.9
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		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
Frt	1.00	0.97		1.00	0.95		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1627	3140		1626	3070		1611	1585		1628	1716	1427
Flt Permitted	0.52	1.00		0.43	1.00		0.42	1.00		0.39	1.00	1.00
Satd. Flow (perm)	890	3140		737	3070		720	1585		663	1716	1427
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)	60	259	67	164	256	137	48	157	105	349	477	140
RTOR Reduction (vph)	0	22	0	0	65	0	0	17	0	0	0	68
Lane Group Flow (vph)	60	304	0	164	328	0	48	245	0	349	477	72
Confl. Peds. (#/hr)	7		5	5		7	9		6	6		9
Confl. Bikes (#/hr)									1			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	24.8	18.1		31.0	21.2		30.0	25.4		46.2	36.1	36.1
Effective Green, g (s)	24.8	18.1		31.0	21.2		30.0	25.4		46.2	36.1	36.1
Actuated g/C Ratio	0.27	0.20		0.34	0.23		0.33	0.28		0.50	0.39	0.39
Clearance Time (s)	5.5	6.1		5.5	6.1		5.5	5.9		5.5	5.9	5.9
Vehicle Extension (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	4.0
Lane Grp Cap (vph)	294	620		344	710		280	439		495	676	562
v/s Ratio Prot	0.01	0.10		c0.05	c0.11		0.01	0.15		c0.12	c0.28	
v/s Ratio Perm	0.04			c0.11			0.05			0.24		0.05
v/c Ratio	0.20	0.49		0.48	0.46		0.17	0.56		0.71	0.71	0.13
Uniform Delay, d1	25.3	32.6		22.4	30.3		21.4	28.3		15.3	23.3	17.7
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	0.8		1.2	0.7		0.3	1.9		4.7	3.6	0.1
Delay (s)	25.7	33.5		23.7	30.9		21.8	30.2		20.0	26.9	17.8
Level of Service	C	C		C	C		C	C		C	C	B
Approach Delay (s)		32.3			28.8			28.9			23.1	
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	0.67		
Actuated Cycle Length (s)	91.6	Sum of lost time (s)	23.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBU	EBL2	EBT	EBR	EBR2	WBL2	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	69	65	288	0	330	137	286	98	15	145	404	30
Future Volume (vph)	69	65	288	0	330	137	286	98	15	145	404	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	11	14	12	13	11	14	12	13	11	12
Total Lost time (s)		6.0	6.0	6.0		6.0	6.0	6.0		6.0	6.7	6.7
Lane Util. Factor		1.00	1.00	1.00		1.00	1.00	1.00		1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00	0.96		1.00	1.00	0.95		1.00	1.00	0.92
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	1.00	0.85		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1646	1675	1513		1684	1658	1479		1668	3121	1329
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1646	1675	1513		1684	1658	1479		1668	3121	1329
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)	70	66	294	0	337	140	292	100	15	148	412	31
RTOR Reduction (vph)	0	0	0	257	0	0	0	0	0	0	0	99
Lane Group Flow (vph)	0	136	294	80	0	140	292	100	0	163	412	38
Confl. Peds. (#/hr)		33		23		23		33		28		
Confl. Bikes (#/hr)								1				
Heavy Vehicles (%)	1%	1%	1%	1%	1%	2%	2%	2%	3%	3%	3%	3%
Turn Type	Prot	Prot	NA	Perm		Prot	NA	Perm	Prot	Prot	NA	Perm
Protected Phases	7	7	4			3	8		5	5	2	
Permitted Phases				4				8				2
Actuated Green, G (s)		15.7	30.7	30.7		15.8	30.8	30.8		14.0	32.5	32.5
Effective Green, g (s)		15.7	30.7	30.7		15.8	30.8	30.8		14.0	32.5	32.5
Actuated g/C Ratio		0.12	0.24	0.24		0.12	0.24	0.24		0.11	0.25	0.25
Clearance Time (s)		6.0	6.0	6.0		6.0	6.0	6.0		6.0	6.7	6.7
Vehicle Extension (s)		3.5	4.0	4.0		3.5	4.0	4.0		3.5	4.0	4.0
Lane Grp Cap (vph)		198	395	357		204	392	350		179	780	332
v/s Ratio Prot		0.08	0.18			c0.08	c0.18			c0.10	0.13	
v/s Ratio Perm				0.05				0.07				0.03
v/c Ratio		0.69	0.74	0.22		0.69	0.74	0.29		0.91	0.53	0.11
Uniform Delay, d1		54.8	46.0	40.0		54.7	46.0	40.6		57.4	42.1	37.6
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00		0.60	0.76	1.74
Incremental Delay, d2		9.8	7.9	0.4		9.5	8.0	0.6		41.8	2.4	0.7
Delay (s)		64.6	53.9	40.5		64.3	53.9	41.2		76.1	34.6	66.0
Level of Service		E	D	D		E	D	D		E	C	E
Approach Delay (s)			49.9				54.3				50.1	
Approach LOS			D				D				D	

Intersection Summary			
HCM 2000 Control Delay	50.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	24.7
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBR2	SBU	SBL	SBT	SBR	SBR2
Lane Configurations						
Traffic Volume (vph)	104	31	142	1009	163	58
Future Volume (vph)	104	31	142	1009	163	58
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	13	12	12	12	12	14
Total Lost time (s)			6.0	6.7	6.7	
Lane Util. Factor			1.00	0.95	1.00	
Frpb, ped/bikes			1.00	1.00	0.95	
Flpb, ped/bikes			1.00	1.00	1.00	
Frt			1.00	1.00	0.85	
Flt Protected			0.95	1.00	1.00	
Satd. Flow (prot)			1646	3292	1403	
Flt Permitted			0.95	1.00	1.00	
Satd. Flow (perm)			1646	3292	1403	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	106	32	145	1030	166	59
RTOR Reduction (vph)	0	0	0	0	83	0
Lane Group Flow (vph)	0	0	177	1030	142	0
Confl. Peds. (#/hr)	28		28			28
Confl. Bikes (#/hr)						
Heavy Vehicles (%)	3%	1%	1%	1%	1%	1%
Turn Type		Prot	Prot	NA	Perm	
Protected Phases		1	1	6		
Permitted Phases					6	
Actuated Green, G (s)			26.3	44.8	44.8	
Effective Green, g (s)			26.3	44.8	44.8	
Actuated g/C Ratio			0.20	0.34	0.34	
Clearance Time (s)			6.0	6.7	6.7	
Vehicle Extension (s)			3.5	4.0	4.0	
Lane Grp Cap (vph)			332	1134	483	
v/s Ratio Prot			0.11	c0.31		
v/s Ratio Perm					0.10	
v/c Ratio			0.53	0.91	0.29	
Uniform Delay, d1			46.4	40.6	31.1	
Progression Factor			1.00	1.00	1.00	
Incremental Delay, d2			1.9	12.1	1.6	
Delay (s)			48.2	52.8	32.6	
Level of Service			D	D	C	
Approach Delay (s)				49.1		
Approach LOS				D		

Intersection Summary

Movement	EBL2	EBT	EBR2	WBL2	WBT	WBR2	NBU	NBL	NBT	NBR	NBR2	SBU
Lane Configurations												
Traffic Volume (vph)	18	22	49	69	11	19	15	10	613	46	59	28
Future Volume (vph)	18	22	49	69	11	19	15	10	613	46	59	28
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	14	12	12	14	12	12	13	11	12	14	12
Total Lost time (s)		5.9			5.9			5.5	6.7	6.7		
Lane Util. Factor		1.00			1.00			1.00	0.95	1.00		
Frpb, ped/bikes		1.00			1.00			1.00	1.00	0.94		
Flpb, ped/bikes		1.00			1.00			1.00	1.00	1.00		
Frt		0.93			0.97			1.00	1.00	0.85		
Flt Protected		0.99			0.97			0.95	1.00	1.00		
Satd. Flow (prot)		1694			1705			1652	3091	1349		
Flt Permitted		0.92			0.36			0.95	1.00	1.00		
Satd. Flow (perm)		1570			644			1652	3091	1349		
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)	19	23	51	71	11	20	15	10	632	47	61	29
RTOR Reduction (vph)	0	81	0	0	93	0	0	0	0	49	0	0
Lane Group Flow (vph)	0	12	0	0	9	0	0	25	632	59	0	0
Confl. Peds. (#/hr)								4		11		
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	4%	4%	4%	4%	4%	2%
Turn Type	Perm	NA		Perm	NA		Prot	Prot	NA	Perm		Prot
Protected Phases		4			3		5	5	2			1
Permitted Phases	4			3						2		
Actuated Green, G (s)		16.9			11.0			4.8	70.7	70.7		
Effective Green, g (s)		16.9			11.0			4.8	70.7	70.7		
Actuated g/C Ratio		0.13			0.08			0.04	0.54	0.54		
Clearance Time (s)		5.9			5.9			5.5	6.7	6.7		
Vehicle Extension (s)		3.0			3.0			2.5	4.0	4.0		
Lane Grp Cap (vph)		204			54			60	1681	733		
v/s Ratio Prot								0.02	c0.20			
v/s Ratio Perm		c0.01			c0.01					0.04		
v/c Ratio		0.06			0.16			0.42	0.38	0.08		
Uniform Delay, d1		49.6			55.2			61.2	17.0	14.1		
Progression Factor		1.00			1.00			0.62	0.42	0.15		
Incremental Delay, d2		0.1			1.4			3.3	0.6	0.2		
Delay (s)		49.7			56.6			41.1	7.8	2.3		
Level of Service		D			E			D	A	A		
Approach Delay (s)		49.7			56.6				8.1			
Approach LOS		D			E				A			

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2
Lane Configurations				
Traffic Volume (vph)	35	1412	229	13
Future Volume (vph)	35	1412	229	13
Ideal Flow (vphpl)	1750	1750	1750	1750
Lane Width	12	11	12	14
Total Lost time (s)	5.5	6.7	6.7	
Lane Util. Factor	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1630	3151	1411	
Flt Permitted	0.95	1.00	1.00	
Satd. Flow (perm)	1630	3151	1411	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	1456	236	13
RTOR Reduction (vph)	0	0	57	0
Lane Group Flow (vph)	65	1456	192	0
Confl. Peds. (#/hr)	11		4	
Heavy Vehicles (%)	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	
Protected Phases	1	6		
Permitted Phases			6	
Actuated Green, G (s)	7.4	73.3	73.3	
Effective Green, g (s)	7.4	73.3	73.3	
Actuated g/C Ratio	0.06	0.56	0.56	
Clearance Time (s)	5.5	6.7	6.7	
Vehicle Extension (s)	2.5	4.0	4.0	
Lane Grp Cap (vph)	92	1776	795	
v/s Ratio Prot	0.04	c0.46		
v/s Ratio Perm			0.14	
v/c Ratio	0.71	0.82	0.24	
Uniform Delay, d1	60.2	23.0	14.3	
Progression Factor	1.05	0.55	0.40	
Incremental Delay, d2	17.2	3.6	0.6	
Delay (s)	80.4	16.3	6.4	
Level of Service	F	B	A	
Approach Delay (s)		17.3		
Approach LOS		B		

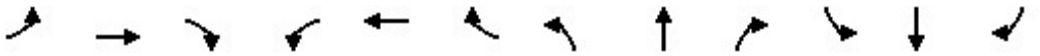
Intersection Summary

Movement	EBL2	EBT	EBR2	WBL2	WBT	WBR2	NBU	NBL	NBT	NBR	NBR2	SBU
Lane Configurations												
Traffic Volume (vph)	26	17	56	48	14	43	43	52	589	44	40	9
Future Volume (vph)	26	17	56	48	14	43	43	52	589	44	40	9
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	11	12	11	11	12	12	12	11	12	14	12
Total Lost time (s)	6.8	6.8		6.8	6.8			5.5	6.7	6.7		
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	0.95		
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00		
Frt	1.00	0.88		1.00	0.89			1.00	1.00	0.85		
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		
Satd. Flow (prot)	1576	1467		1591	1485			1614	3121	1373		
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		
Satd. Flow (perm)	1576	1467		1591	1485			1614	3121	1373		
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	18	60	51	15	46	46	55	627	47	43	10
RTOR Reduction (vph)	0	71	0	0	55	0	0	0	0	47	0	0
Lane Group Flow (vph)	28	7	0	51	6	0	0	101	627	43	0	0
Confl. Peds. (#/hr)								3		12		
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	3%	3%	1%
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm		Prot
Protected Phases	7	4		3	8		5	5	2			1
Permitted Phases										2		
Actuated Green, G (s)	3.1	11.9		4.2	13.0			9.5	62.2	62.2		
Effective Green, g (s)	3.1	11.9		4.2	13.0			9.5	62.2	62.2		
Actuated g/C Ratio	0.02	0.09		0.03	0.10			0.07	0.48	0.48		
Clearance Time (s)	6.8	6.8		6.8	6.8			5.5	6.7	6.7		
Vehicle Extension (s)	3.5	3.5		3.5	3.5			3.5	4.0	4.0		
Lane Grp Cap (vph)	37	134		51	148			117	1493	656		
v/s Ratio Prot	0.02	c0.00		c0.03	0.00			c0.06	0.20			
v/s Ratio Perm										0.03		
v/c Ratio	0.76	0.05		1.00	0.04			0.86	0.42	0.07		
Uniform Delay, d1	63.1	53.9		62.9	52.9			59.6	22.1	18.3		
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		
Incremental Delay, d2	61.2	0.2		126.0	0.1			44.8	0.9	0.2		
Delay (s)	124.2	54.1		188.9	53.0			104.4	23.0	18.4		
Level of Service	F	D		F	D			F	C	B		
Approach Delay (s)		72.6			114.9				32.5			
Approach LOS		E			F				C			

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	25.8
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBL	SBT	SBR	SBR2
Lane Configurations				
Traffic Volume (vph)	52	1473	239	40
Future Volume (vph)	52	1473	239	40
Ideal Flow (vphpl)	1750	1750	1750	1750
Lane Width	12	11	12	14
Total Lost time (s)	5.5	6.7	6.7	
Lane Util. Factor	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1646	3182	1432	
Flt Permitted	0.95	1.00	1.00	
Satd. Flow (perm)	1646	3182	1432	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	55	1567	254	43
RTOR Reduction (vph)	0	0	53	0
Lane Group Flow (vph)	65	1567	244	0
Confl. Peds. (#/hr)	12		3	
Heavy Vehicles (%)	1%	1%	1%	1%
Turn Type	Prot	NA	Perm	
Protected Phases	1	6		
Permitted Phases			6	
Actuated Green, G (s)	25.9	78.6	78.6	
Effective Green, g (s)	25.9	78.6	78.6	
Actuated g/C Ratio	0.20	0.60	0.60	
Clearance Time (s)	5.5	6.7	6.7	
Vehicle Extension (s)	3.5	4.0	4.0	
Lane Grp Cap (vph)	327	1923	865	
v/s Ratio Prot	0.04	c0.49		
v/s Ratio Perm			0.17	
v/c Ratio	0.20	0.81	0.28	
Uniform Delay, d1	43.4	20.0	12.2	
Progression Factor	0.67	0.53	0.11	
Incremental Delay, d2	0.3	3.1	0.6	
Delay (s)	29.5	13.7	2.1	
Level of Service	C	B	A	
Approach Delay (s)		12.5		
Approach LOS		B		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	332	3	51	389	152	7	14	30	185	55	241
Future Volume (vph)	82	332	3	51	389	152	7	14	30	185	55	241
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	5.9	5.9		5.9	5.9			5.9			5.9	
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			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.96			0.92			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1643	1730		1630	1632			1567			1562	
Flt Permitted	0.23	1.00		0.46	1.00			0.94			0.85	
Satd. Flow (perm)	401	1730		783	1632			1486			1354	
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)	86	349	3	54	409	160	7	15	32	195	58	254
RTOR Reduction (vph)	0	1	0	0	18	0	0	18	0	0	28	0
Lane Group Flow (vph)	86	351	0	54	551	0	0	36	0	0	479	0
Confl. Peds. (#/hr)	4					4	7					7
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	32.9	32.9		32.9	32.9			35.5			35.5	
Effective Green, g (s)	32.9	32.9		32.9	32.9			35.5			35.5	
Actuated g/C Ratio	0.41	0.41		0.41	0.41			0.44			0.44	
Clearance Time (s)	5.9	5.9		5.9	5.9			5.9			5.9	
Vehicle Extension (s)	3.5	3.5		3.5	3.5			3.0			3.5	
Lane Grp Cap (vph)	164	709		321	669			657			599	
v/s Ratio Prot		0.20			c0.34							
v/s Ratio Perm	0.21			0.07				0.02			c0.35	
v/c Ratio	0.52	0.50		0.17	0.82			0.06			0.80	
Uniform Delay, d1	17.8	17.5		15.0	21.1			12.8			19.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	3.4	0.6		0.3	8.3			0.0			7.6	
Delay (s)	21.2	18.2		15.3	29.4			12.8			26.9	
Level of Service	C	B		B	C			B			C	
Approach Delay (s)		18.8			28.2			12.8			26.9	
Approach LOS		B			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.2	Sum of lost time (s)	11.8
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		

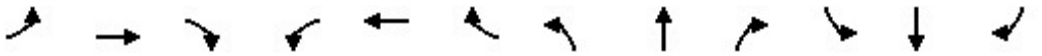
c Critical Lane Group

Movement	EBU	EBL2	EBT	EBR	EBR2	WBU	WBL2	WBT	WBR	WBR2	NBU	NBL
Lane Configurations												
Traffic Volume (vph)	5	37	423	0	116	7	600	481	0	200	57	82
Future Volume (vph)	5	37	423	0	116	7	600	481	0	200	57	82
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	11	14	12	12	12	12	13	12	12	12
Total Lost time (s)		6.0	6.0	6.0			6.0	6.0	6.0			6.5
Lane Util. Factor		1.00	0.95	1.00			0.97	0.95	1.00			1.00
Frpb, ped/bikes		1.00	1.00	0.98			1.00	1.00	0.98			1.00
Flpb, ped/bikes		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
Flt Protected		0.95	1.00	1.00			0.95	1.00	1.00			0.95
Satd. Flow (prot)		1646	3182	1532			3162	3260	1471			1630
Flt Permitted		0.95	1.00	1.00			0.95	1.00	1.00			0.95
Satd. Flow (perm)		1646	3182	1532			3162	3260	1471			1630
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)	5	40	455	0	125	8	645	517	0	215	61	88
RTOR Reduction (vph)	0	0	0	96	0	0	0	0	127	0	0	0
Lane Group Flow (vph)	0	45	455	29	0	0	653	517	88	0	0	149
Confl. Peds. (#/hr)				13					10			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	Prot	NA	Perm		Prot	Prot	NA	Perm		Prot	Prot
Protected Phases	7	7	4			3	3	8			5	5
Permitted Phases				4					8			
Actuated Green, G (s)		8.7	40.8	40.8			39.2	71.3	71.3			18.2
Effective Green, g (s)		8.7	40.8	40.8			39.2	71.3	71.3			18.2
Actuated g/C Ratio		0.05	0.23	0.23			0.22	0.41	0.41			0.10
Clearance Time (s)		6.0	6.0	6.0			6.0	6.0	6.0			6.5
Vehicle Extension (s)		3.0	3.5	3.5			3.5	3.5	3.5			3.0
Lane Grp Cap (vph)		81	741	356			707	1327	598			169
v/s Ratio Prot		0.03	c0.14				c0.21	0.16				0.09
v/s Ratio Perm				0.02					0.06			
v/c Ratio		0.56	0.61	0.08			0.92	0.39	0.15			0.88
Uniform Delay, d1		81.3	60.1	52.5			66.5	36.6	32.7			77.4
Progression Factor		1.00	1.00	1.00			1.00	1.00	1.00			1.00
Incremental Delay, d2		8.0	1.6	0.1			18.0	0.2	0.1			37.6
Delay (s)		89.3	61.7	52.6			84.4	36.8	32.9			115.0
Level of Service		F	E	D			F	D	C			F
Approach Delay (s)			61.9					58.6				
Approach LOS			E					E				

Intersection Summary			
HCM 2000 Control Delay	97.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	175.1	Sum of lost time (s)	25.3
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NBT	NBR	NBR2	SBU	SBL	SBT	SBR	SBR2
Lane Configurations								
Traffic Volume (vph)	427	32	486	20	500	1088	177	57
Future Volume (vph)	427	32	486	20	500	1088	177	57
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	11	12	13	12	11	11	12	14
Total Lost time (s)	6.8	6.8			6.5	6.8	6.8	
Lane Util. Factor	0.95	1.00			0.97	0.95	1.00	
Frpb, ped/bikes	1.00	0.96			1.00	1.00	0.97	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	
Frt	1.00	0.85			1.00	1.00	0.85	
Flt Protected	1.00	1.00			0.95	1.00	1.00	
Satd. Flow (prot)	3151	1402			3087	3182	1429	
Flt Permitted	1.00	1.00			0.95	1.00	1.00	
Satd. Flow (perm)	3151	1402			3087	3182	1429	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	459	34	523	22	538	1170	190	61
RTOR Reduction (vph)	0	317	0	0	0	0	95	0
Lane Group Flow (vph)	459	240	0	0	560	1170	156	0
Confl. Peds. (#/hr)			21					15
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%
Turn Type	NA	Perm		Prot	Prot	NA	Perm	
Protected Phases	2			1	1	6		
Permitted Phases		2					6	
Actuated Green, G (s)	39.2	39.2			30.6	51.6	51.6	
Effective Green, g (s)	39.2	39.2			30.6	51.6	51.6	
Actuated g/C Ratio	0.22	0.22			0.17	0.29	0.29	
Clearance Time (s)	6.8	6.8			6.5	6.8	6.8	
Vehicle Extension (s)	4.0	4.0			3.5	4.0	4.0	
Lane Grp Cap (vph)	705	313			539	937	421	
v/s Ratio Prot	0.15				c0.18	c0.37		
v/s Ratio Perm		0.17					0.11	
v/c Ratio	0.65	0.77			1.04	1.25	0.37	
Uniform Delay, d1	61.7	63.6			72.2	61.7	48.9	
Progression Factor	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2	2.4	11.3			49.2	120.8	0.8	
Delay (s)	64.1	74.9			121.5	182.6	49.7	
Level of Service	E	E			F	F	D	
Approach Delay (s)	75.8					148.5		
Approach LOS	E					F		

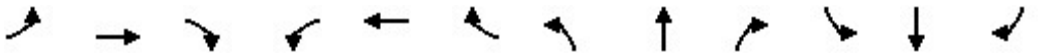
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1019	399	407	924	0	0	0	0	332	9	378
Future Volume (vph)	0	1019	399	407	924	0	0	0	0	332	9	378
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.9	5.9	5.5	5.9					5.9	5.9	5.9
Lane Util. Factor		0.95	1.00	1.00	0.95					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.97	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
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3260	1412	1614	3228					1519	1526	1392
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3260	1412	1614	3228					1519	1526	1392
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	1061	416	424	962	0	0	0	0	346	9	394
RTOR Reduction (vph)	0	0	155	0	0	0	0	0	0	0	0	143
Lane Group Flow (vph)	0	1061	261	424	963	0	0	0	0	176	179	251
Confl. Peds. (#/hr)	11		3			11	10					10
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	0%	0%	0%	4%	4%	4%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		2		1 11	6						4	
Permitted Phases			2							4		4
Actuated Green, G (s)		60.3	60.3	51.7	123.0					34.9	34.9	34.9
Effective Green, g (s)		60.3	60.3	51.7	123.0					34.9	34.9	34.9
Actuated g/C Ratio		0.36	0.36	0.30	0.72					0.21	0.21	0.21
Clearance Time (s)		5.9	5.9		5.9					5.9	5.9	5.9
Vehicle Extension (s)		4.0	4.0		4.0					4.0	4.0	4.0
Lane Grp Cap (vph)		1158	501	491	2339					312	313	286
v/s Ratio Prot		c0.33		c0.26	0.30							
v/s Ratio Perm			0.19							0.12	0.12	c0.18
v/c Ratio		0.92	0.52	0.86	0.41					0.56	0.57	0.88
Uniform Delay, d1		52.3	43.3	55.7	9.2					60.6	60.7	65.3
Progression Factor		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		11.4	1.3	14.9	0.2					2.8	3.0	25.3
Delay (s)		63.7	44.6	70.5	9.3					63.4	63.7	90.6
Level of Service		E	D	E	A					E	E	F
Approach Delay (s)		58.3			28.0			0.0			77.8	
Approach LOS		E			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	50.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	169.7	Sum of lost time (s)	22.8
Intersection Capacity Utilization	84.6%	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												
Traffic Volume (vph)	0	1040	0	0	1500	6	210	2	344	0	0	0
Future Volume (vph)	0	1040	0	0	1500	6	210	2	344	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		6.2			6.2			5.9	5.5			
Lane Util. Factor		0.91			0.95			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		1.00			1.00			1.00	0.85			
Flt Protected		1.00			1.00			0.95	1.00			
Satd. Flow (prot)		4684			3226			1573	1403			
Flt Permitted		1.00			1.00			0.95	1.00			
Satd. Flow (perm)		4684			3226			1573	1403			
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	1083	0	0	1562	6	219	2	358	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	265	0	0	0
Lane Group Flow (vph)	0	1083	0	0	1569	0	0	221	93	0	0	0
Confl. Peds. (#/hr)	1		3	3		1						7
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	6%	6%	6%	0%	0%	0%
Turn Type		NA			NA		Perm	NA	custom			
Protected Phases		2			6			3	1			
Permitted Phases							3		3			
Actuated Green, G (s)		89.9			105.4			27.5	37.5			
Effective Green, g (s)		89.9			105.4			27.5	37.5			
Actuated g/C Ratio		0.62			0.73			0.19	0.26			
Clearance Time (s)		6.2			6.2			5.9	5.5			
Vehicle Extension (s)		4.0			4.0			4.0	4.5			
Lane Grp Cap (vph)		2904			2344			298	362			
v/s Ratio Prot		0.23			c0.49				0.02			
v/s Ratio Perm								0.14	0.05			
v/c Ratio		0.37			0.67			0.74	0.26			
Uniform Delay, d1		13.6			10.5			55.4	42.7			
Progression Factor		1.00			1.00			1.00	1.00			
Incremental Delay, d2		0.4			1.5			10.1	0.6			
Delay (s)		14.0			12.1			65.5	43.3			
Level of Service		B			B			E	D			
Approach Delay (s)		14.0			12.1			51.8			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	22.6
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	135	50	3	144	44	3
Future Volume (Veh/h)	135	50	3	144	44	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	142	53	3	152	46	3
Pedestrians	2				1	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	790					
pX, platoon unblocked						
vC, conflicting volume			196		330	170
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			196		330	170
tC, single (s)			4.1		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		93	100
cM capacity (veh/h)			1358		654	863

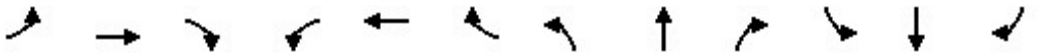
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	195	155	49
Volume Left	0	3	46
Volume Right	53	0	3
cSH	1700	1358	664
Volume to Capacity	0.11	0.00	0.07
Queue Length 95th (ft)	0	0	6
Control Delay (s)	0.0	0.2	10.9
Lane LOS		A	B
Approach Delay (s)	0.0	0.2	10.9
Approach LOS			B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	13	13	308	24	18	310
Future Volume (Veh/h)	13	13	308	24	18	310
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)	14	14	338	26	20	341
Pedestrians	3		1			3
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	736	357			367	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	736	357			367	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	98			98	
cM capacity (veh/h)	381	688			1183	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	28	364	20	341
Volume Left	14	0	20	0
Volume Right	14	26	0	0
cSH	491	1700	1183	1700
Volume to Capacity	0.06	0.21	0.02	0.20
Queue Length 95th (ft)	5	0	1	0
Control Delay (s)	12.8	0.0	8.1	0.0
Lane LOS	B		A	
Approach Delay (s)	12.8	0.0	0.4	
Approach LOS	B			

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1	5	2	0	3	4	245	0	1	467	12
Future Volume (Veh/h)	21	1	5	2	0	3	4	245	0	1	467	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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)	23	1	5	2	0	3	4	263	0	1	502	13
Pedestrians					7							
Lane Width (ft)					12.0							
Walking Speed (ft/s)					4.0							
Percent Blockage					1							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	784	788	508	794	795	270	515			270		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	784	788	508	794	795	270	515			270		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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 %	92	100	99	99	100	100	100			100		
cM capacity (veh/h)	304	317	561	301	319	769	1051			1275		

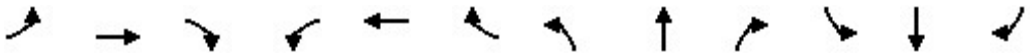
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	29	5	267	516
Volume Left	23	2	4	1
Volume Right	5	3	0	13
cSH	331	474	1051	1275
Volume to Capacity	0.09	0.01	0.00	0.00
Queue Length 95th (ft)	7	1	0	0
Control Delay (s)	16.9	12.7	0.2	0.0
Lane LOS	C	B	A	A
Approach Delay (s)	16.9	12.7	0.2	0.0
Approach LOS	C	B		

Intersection Summary				
Average Delay	0.7			
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												
Traffic Volume (vph)	117	65	2	68	118	114	0	515	73	125	757	633
Future Volume (vph)	117	65	2	68	118	114	0	515	73	125	757	633
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0
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	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
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1662	1741		1630	1716	1458		1699	1444	1630	1716	1414
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	1662	1741		1630	1716	1458		1699	1444	434	1716	1414
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)	121	67	2	70	122	118	0	531	75	129	780	653
RTOR Reduction (vph)	0	1	0	0	0	102	0	0	41	0	0	164
Lane Group Flow (vph)	121	68	0	70	122	16	0	531	34	129	780	489
Confl. Peds. (#/hr)			7									5
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm		NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases						8			2	6		6
Actuated Green, G (s)	16.6	20.5		12.6	16.5	16.5		56.4	56.4	73.5	73.5	73.5
Effective Green, g (s)	16.6	20.5		12.6	16.5	16.5		56.4	56.4	73.5	73.5	73.5
Actuated g/C Ratio	0.13	0.16		0.10	0.13	0.13		0.45	0.45	0.59	0.59	0.59
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0		5.0	5.0	3.5	5.0	5.0
Lane Grp Cap (vph)	221	286		164	227	193		769	653	362	1012	834
v/s Ratio Prot	c0.07	c0.04		0.04	c0.07			0.31		0.03	c0.45	
v/s Ratio Perm						0.01			0.02	0.18		0.35
v/c Ratio	0.55	0.24		0.43	0.54	0.08		0.69	0.05	0.36	0.77	0.59
Uniform Delay, d1	50.5	45.3		52.6	50.5	47.4		27.2	19.1	15.3	19.2	16.0
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	3.4	0.6		2.4	3.1	0.2		3.4	0.1	0.7	4.3	1.6
Delay (s)	53.9	45.9		55.0	53.6	47.6		30.6	19.2	16.0	23.5	17.7
Level of Service	D	D		E	D	D		C	B	B	C	B
Approach Delay (s)		51.0			51.7			29.1			20.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	124.6	Sum of lost time (s)	24.0
Intersection Capacity Utilization	69.5%	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												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	19	96	40	57	129	10	39	106	2	23	174	37
Future Volume (vph)	19	96	40	57	129	10	39	106	2	23	174	37
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)	23	114	48	68	154	12	46	126	2	27	207	44

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	185	234	174	278
Volume Left (vph)	23	68	46	27
Volume Right (vph)	48	12	2	44
Hadj (s)	-0.08	0.06	0.10	-0.02
Departure Headway (s)	5.5	5.6	5.7	5.4
Degree Utilization, x	0.28	0.36	0.27	0.42
Capacity (veh/h)	589	595	571	622
Control Delay (s)	10.7	11.7	10.8	12.1
Approach Delay (s)	10.7	11.7	10.8	12.1
Approach LOS	B	B	B	B

Intersection Summary				
Delay	11.4			
Level of Service	B			
Intersection Capacity Utilization	46.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	401	4	144	300	0	265
Future Volume (Veh/h)	401	4	144	300	0	265
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	422	4	152	316	0	279
Pedestrians	1		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			971			
pX, platoon unblocked	0.99	0.99			0.99	
vC, conflicting volume	591	312			153	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	578	295			134	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	10	99			100	
cM capacity (veh/h)	470	733			1429	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	426	468	279
Volume Left	422	0	0
Volume Right	4	316	0
cSH	472	1700	1700
Volume to Capacity	0.90	0.28	0.16
Queue Length 95th (ft)	252	0	0
Control Delay (s)	50.6	0.0	0.0
Lane LOS	F		
Approach Delay (s)	50.6	0.0	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	18.4		
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	122	3	1	297	405	196
Future Volume (Veh/h)	122	3	1	297	405	196
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	124	3	1	303	413	200
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	818	513	613			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	818	513	613			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	64	99	100			
cM capacity (veh/h)	344	559	971			

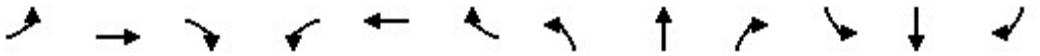
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	127	304	613
Volume Left	124	1	0
Volume Right	3	0	200
cSH	347	971	1700
Volume to Capacity	0.37	0.00	0.36
Queue Length 95th (ft)	41	0	0
Control Delay (s)	21.2	0.0	0.0
Lane LOS	C	A	
Approach Delay (s)	21.2	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	39	22	22	49	18	8
Future Volume (Veh/h)	39	22	22	49	18	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	48	27	27	60	22	10
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1236		
pX, platoon unblocked						
vC, conflicting volume			80		186	72
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			80		186	72
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			98		97	99
cM capacity (veh/h)			1481		778	977

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	75	87	32
Volume Left	0	27	22
Volume Right	27	0	10
cSH	1700	1481	831
Volume to Capacity	0.04	0.02	0.04
Queue Length 95th (ft)	0	1	3
Control Delay (s)	0.0	2.4	9.5
Lane LOS		A	A
Approach Delay (s)	0.0	2.4	9.5
Approach LOS			A

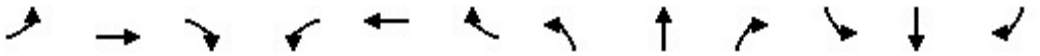
Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	31	16	74	52	3	25	1	71	3	1	0
Future Volume (Veh/h)	1	31	16	74	52	3	25	1	71	3	1	0
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)	1	33	17	79	55	3	27	1	76	3	1	0
Pedestrians		2			5			3			4	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					726							
pX, platoon unblocked												
vC, conflicting volume	62			53			264	266	50	344	274	62
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	62			53			264	266	50	344	274	62
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			95			96	100	92	99	100	100
cM capacity (veh/h)	1536			1549			652	600	1007	539	601	1003

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	51	137	104	4
Volume Left	1	79	27	3
Volume Right	17	3	76	0
cSH	1536	1549	877	553
Volume to Capacity	0.00	0.05	0.12	0.01
Queue Length 95th (ft)	0	4	10	1
Control Delay (s)	0.1	4.5	9.7	11.6
Lane LOS	A	A	A	B
Approach Delay (s)	0.1	4.5	9.7	11.6
Approach LOS			A	B

Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	28.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	336	54	15	329	0	66	0	6	4	0	7
Future Volume (Veh/h)	12	336	54	15	329	0	66	0	6	4	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	12	350	56	16	343	0	69	0	6	4	0	7
Pedestrians					5			6			5	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					0			1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		703										
pX, platoon unblocked												
vC, conflicting volume	348			412			618	788	214	590	816	176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	348			412			618	788	214	590	816	176
tC, single (s)	4.2			4.2			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			99			81	100	99	99	100	99
cM capacity (veh/h)	1195			1131			363	315	790	379	303	839

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	187	231	188	172	75	11
Volume Left	12	0	16	0	69	4
Volume Right	0	56	0	0	6	7
cSH	1195	1700	1131	1700	379	582
Volume to Capacity	0.01	0.14	0.01	0.10	0.20	0.02
Queue Length 95th (ft)	1	0	1	0	18	1
Control Delay (s)	0.6	0.0	0.8	0.0	16.8	11.3
Lane LOS	A		A		C	B
Approach Delay (s)	0.3		0.4		16.8	11.3
Approach LOS					C	B

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	38.7%	ICU Level of Service	A	
Analysis Period (min)	15			

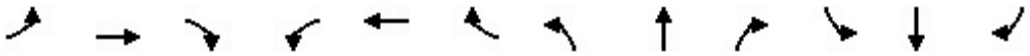
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	28	42	11	16	49	22	15	25	17	170	130	35
Future Volume (vph)	28	42	11	16	49	22	15	25	17	170	130	35
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)			5.0			5.0			5.0	5.0	5.0	
Lane Util. Factor			1.00			1.00			1.00	1.00	1.00	
Frpb, ped/bikes			1.00			0.98			1.00	1.00	0.96	
Flpb, ped/bikes			0.99			1.00			1.00	1.00	1.00	
Frt			0.98			0.95			1.00	1.00	0.85	
Flt Protected			0.97			0.98			0.95	1.00	1.00	
Satd. Flow (prot)			1623			1567			1610	1699	1389	
Flt Permitted			0.69			0.83			0.33	1.00	1.00	
Satd. Flow (perm)			1166			1336			555	1699	1389	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	28	42	11	16	49	22	15	25	17	172	131	35
RTOR Reduction (vph)	0	0	5	0	0	8	0	0	0	0	66	0
Lane Group Flow (vph)	0	0	92	0	0	103	0	0	17	172	100	0
Confl. Peds. (#/hr)	7	5		5	5		7	5	6		5	2
Heavy Vehicles (%)	0%	0%	0%	0%	2%	2%	2%	2%	3%	3%	3%	3%
Turn Type	Perm	Perm	NA		Perm	NA			pm+pt	NA	Perm	
Protected Phases			4			4			1	6		
Permitted Phases	4	4			4				6		6	
Actuated Green, G (s)			14.6			14.6			26.5	24.2	24.2	
Effective Green, g (s)			14.6			14.6			26.5	24.2	24.2	
Actuated g/C Ratio			0.14			0.14			0.26	0.24	0.24	
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)			166			190			167	401	328	
v/s Ratio Prot									c0.00	0.10		
v/s Ratio Perm			c0.08			0.08			0.02		0.07	
v/c Ratio			0.55			0.54			0.10	0.43	0.30	
Uniform Delay, d1			40.8			40.8			28.9	33.2	32.1	
Progression Factor			1.00			1.00			1.00	1.00	1.00	
Incremental Delay, d2			4.0			3.2			0.3	0.7	0.5	
Delay (s)			44.8			43.9			29.2	33.9	32.6	
Level of Service			D			D			C	C	C	
Approach Delay (s)			44.8			43.9				33.1		
Approach LOS			D			D				C		

Intersection Summary			
HCM 2000 Control Delay	35.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	102.3	Sum of lost time (s)	20.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations								
Traffic Volume (vph)	4	15	250	45	43	443	21	6
Future Volume (vph)	4	15	250	45	43	443	21	6
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750
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	0.99			1.00	1.00	
Flpb, ped/bikes		0.99	1.00			1.00	1.00	
Frt		1.00	0.98			1.00	0.85	
Flt Protected		0.95	1.00			0.95	1.00	
Satd. Flow (prot)		1602	1651			1646	1473	
Flt Permitted		0.56	1.00			0.95	1.00	
Satd. Flow (perm)		947	1651			1646	1473	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	4	15	253	45	43	447	21	6
RTOR Reduction (vph)	0	0	5	0	0	0	16	0
Lane Group Flow (vph)	0	19	293	0	0	490	11	0
Confl. Peds. (#/hr)	5	2		6				
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%	1%	1%
Turn Type	pm+pt	pm+pt	NA		Prot	Prot	Perm	
Protected Phases	5	5	2		8	8		
Permitted Phases	2	2					8	
Actuated Green, G (s)		26.5	24.2			41.2	41.2	
Effective Green, g (s)		26.5	24.2			41.2	41.2	
Actuated g/C Ratio		0.26	0.24			0.40	0.40	
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)		260	390			662	593	
v/s Ratio Prot		0.00	c0.18			c0.30		
v/s Ratio Perm		0.02					0.01	
v/c Ratio		0.07	0.75			0.74	0.02	
Uniform Delay, d1		28.5	36.3			26.0	18.4	
Progression Factor		1.00	1.00			1.00	1.00	
Incremental Delay, d2		0.1	8.0			4.4	0.0	
Delay (s)		28.6	44.2			30.4	18.4	
Level of Service		C	D			C	B	
Approach Delay (s)			43.3			29.8		
Approach LOS			D			C		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	22	128	39	13	106	6	26	39	8	4	46	25
Future Volume (vph)	22	128	39	13	106	6	26	39	8	4	46	25
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	25	144	44	15	119	7	29	44	9	4	52	28

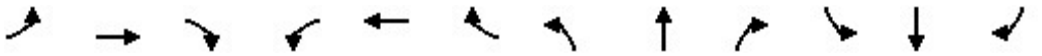
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	213	141	82	84
Volume Left (vph)	25	15	29	4
Volume Right (vph)	44	7	9	28
Hadj (s)	-0.07	0.04	0.02	-0.14
Departure Headway (s)	4.4	4.6	4.9	4.7
Degree Utilization, x	0.26	0.18	0.11	0.11
Capacity (veh/h)	783	739	684	702
Control Delay (s)	9.0	8.6	8.5	8.3
Approach Delay (s)	9.0	8.6	8.5	8.3
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.7			
Level of Service	A			
Intersection Capacity Utilization	33.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	881	29	29	400	3	10	18	54	2	8	13
Future Volume (vph)	20	881	29	29	400	3	10	18	54	2	8	13
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			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			0.91			0.92	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3207			3152			1554			1537	
Flt Permitted		0.94			0.87			0.96			0.97	
Satd. Flow (perm)		3023			2742			1495			1496	
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)	22	968	32	32	440	3	11	20	59	2	9	14
RTOR Reduction (vph)	0	2	0	0	0	0	0	50	0	0	12	0
Lane Group Flow (vph)	0	1020	0	0	475	0	0	40	0	0	13	0
Confl. Peds. (#/hr)	6		4	4		6	5					5
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		28.5			28.5			7.2			7.2	
Effective Green, g (s)		28.5			28.5			7.2			7.2	
Actuated g/C Ratio		0.62			0.62			0.16			0.16	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		1885			1710			235			235	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.17			c0.03			0.01	
v/c Ratio		0.54			0.28			0.17			0.06	
Uniform Delay, d1		4.9			3.9			16.7			16.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.0			0.1			0.0	
Delay (s)		5.1			3.9			16.8			16.4	
Level of Service		A			A			B			B	
Approach Delay (s)		5.1			3.9			16.8			16.4	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	45.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	59.0%	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												
Traffic Volume (vph)	179	151	317	43	211	12	173	217	18	8	381	132
Future Volume (vph)	179	151	317	43	211	12	173	217	18	8	381	132
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
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	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.96	
Flt Protected		0.97	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1670	1458		1708		1614	1680		1630	1649	
Flt Permitted		0.97	1.00		0.99		0.15	1.00		0.53	1.00	
Satd. Flow (perm)		1670	1458		1708		262	1680		909	1649	
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)	183	154	323	44	215	12	177	221	18	8	389	135
RTOR Reduction (vph)	0	0	199	0	1	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	337	124	0	270	0	177	238	0	8	519	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Turn Type	Split	NA	pm+ov	Split	NA		D.P+P	NA		D.P+P	NA	
Protected Phases	8	8	1	4	4		1	6		5	2	
Permitted Phases			8				2			6		
Actuated Green, G (s)		36.5	51.7		30.5		69.3	67.8		69.3	54.1	
Effective Green, g (s)		36.5	51.7		30.5		69.3	67.8		69.3	54.1	
Actuated g/C Ratio		0.24	0.34		0.20		0.46	0.45		0.46	0.36	
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		4.0	5.0		4.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		400	494		342		254	747		420	585	
v/s Ratio Prot		c0.20	0.03		c0.16		c0.07	0.14		0.00	c0.31	
v/s Ratio Perm			0.06				0.25			0.01		
v/c Ratio		0.84	0.25		0.79		0.70	0.32		0.02	0.89	
Uniform Delay, d1		55.2	36.3		57.9		31.0	27.3		23.0	46.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		15.4	0.6		12.4		10.1	0.5		0.0	16.1	
Delay (s)		70.5	36.9		70.2		41.1	27.8		23.0	62.3	
Level of Service		E	D		E		D	C		C	E	
Approach Delay (s)		54.1			70.2			33.5			61.7	
Approach LOS		D			E			C			E	

Intersection Summary			
HCM 2000 Control Delay	54.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	152.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			