Table 5.4-4
Roadway Segment LOS Criteria

Level of Service (LOS)	Volume-to-Capacity Ratio
A	0 – 0.60
B	> 0.60 – 0.70
C	> 0.70 – 0.80
D	> 0.80 – 0.90
E	> 0.90 – 1.00
F	> 1.00
Source: Iteris, *Draft Traffic Impact Analysis*, January 28, 2011.	

Intersection LOS Criteria

Intersection operations are evaluated using a LOS system. The concept of LOS is used to characterize how well the roadway network operates. These evaluations are based on empirical data collected and reported in the *2000 Highway Capacity Manual*, which is maintained by the Transportation Research Board, as directed by the *Traffic Impact Analysis Preparation Guide* for the City of Murrieta. The *2000 Highway Capacity Manual* utilizes a methodology that accesses the average control delay at intersections. This methodology results in LOS measurements, indicating the quality of traffic flow and using letter grades from A (best) to F (worst).

The City of Murrieta's LOS standards, as published in the existing (2006) General Plan Circulation Element is LOS D for peak hour intersection operations, and LOS E at freeway interchanges.

The LOS ranges for signalized and unsignalized intersections are provided below in *Table 5.4-5, Signalized Intersection LOS Criteria* and *Table 5.4-6, Unsignalized Intersection LOS Criteria*.

EXISTING CONDITIONS

Functional Classifications

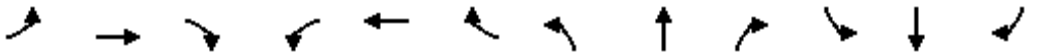
The classification of a roadway is intended to establish its function, or role, in the overall circulation system. It establishes the hierarchy of streets in terms of their purpose in relation to movement of through traffic versus provision of access to adjacent land uses.

The hierarchy of roadway classifications ranges from freeways (with full control access, grade-separated interchanges, high speed/high volume traffic, emphasis on longer distance and intercity travel) to local streets and cul-de-sacs (with unlimited access to fronting properties, low speed/low volume traffic, emphasis on multi-purpose use of the paved street section for travel, parking, pedestrian and bicycle activity).

APPENDIX E

LEVEL OF SERVICE CALCULATION WORKSHEETS

EXISTING (2014) CONDITIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	121	6	336	37	10	0	161	71	13	1	137	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1900	1615	1805	1900		1805	1856		1805	3355	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1900	1615	1805	1900		1805	1856		1805	3355	
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)	132	7	365	40	11	0	175	77	14	1	149	133
RTOR Reduction (vph)	0	0	242	0	0	0	0	8	0	0	106	0
Lane Group Flow (vph)	132	7	123	40	11	0	175	83	0	1	176	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	7.2	27.0	27.0	5.0	24.8		16.0	16.0		16.0	16.0	
Effective Green, g (s)	7.2	27.0	27.0	5.0	24.8		16.0	16.0		16.0	16.0	
Actuated g/C Ratio	0.09	0.34	0.34	0.06	0.31		0.20	0.20		0.20	0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	315	641	545	112	589		361	371		361	671	
v/s Ratio Prot	c0.04	0.00		0.02	0.01		c0.10	0.04		0.00	c0.05	
v/s Ratio Perm			c0.08									
v/c Ratio	0.42	0.01	0.23	0.36	0.02		0.48	0.22		0.00	0.26	
Uniform Delay, d1	34.4	17.6	19.0	36.0	19.2		28.3	26.8		25.6	27.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.0	1.0	2.0	0.0		4.6	1.4		0.0	0.9	
Delay (s)	35.3	17.7	20.0	37.9	19.2		32.9	28.2		25.6	28.0	
Level of Service	D	B	B	D	B		C	C		C	C	
Approach Delay (s)		24.0			33.9			31.3			28.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	2	5	5	11	5	11	5	5	5	5	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	2	5	5	12	5	12	5	5	5	5	12
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	17			8			56	44	5	49	44	15
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	17			8			56	44	5	49	44	15
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	99	99	99	99	99
cM capacity (veh/h)	1613			1626			926	846	1084	941	846	1071

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	23	23	23
Volume Left	5	5	12	5
Volume Right	5	5	5	12
cSH	1613	1626	938	977
Volume to Capacity	0.00	0.00	0.02	0.02
Queue Length 95th (ft)	0	0	2	2
Control Delay (s)	3.0	1.7	8.9	8.8
Lane LOS	A	A	A	A
Approach Delay (s)	3.0	1.7	8.9	8.8
Approach LOS			A	A

Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	20.0%	ICU Level of Service	A	
Analysis Period (min)	15			

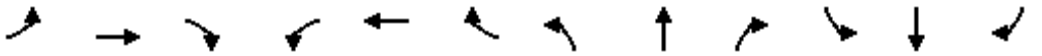
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	345	204	896	153	278	1626
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	3610	1615	1805	3610
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	3610	1615	1805	3610
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	222	974	166	302	1767
RTOR Reduction (vph)	0	184	0	99	0	0
Lane Group Flow (vph)	375	38	974	67	302	1767
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	13.6	13.6	32.4	32.4	22.0	58.4
Effective Green, g (s)	13.6	13.6	32.4	32.4	22.0	58.4
Actuated g/C Ratio	0.17	0.17	0.40	0.40	0.28	0.73
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	595	274	1462	654	496	2635
v/s Ratio Prot	c0.11		0.27		0.17	c0.49
v/s Ratio Perm		0.02		0.04		
v/c Ratio	0.63	0.14	0.67	0.10	0.61	0.67
Uniform Delay, d1	30.9	28.2	19.4	14.8	25.3	5.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	0.2	2.4	0.3	2.1	1.4
Delay (s)	33.0	28.4	21.8	15.1	27.4	7.1
Level of Service	C	C	C	B	C	A
Approach Delay (s)	31.3		20.8			10.1
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	15	23	421	9	22	375
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)	16	25	458	10	24	408
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1057		
pX, platoon unblocked						
vC, conflicting volume			41		949	21
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			41		949	21
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			71		87	61
cM capacity (veh/h)			1581		186	1059

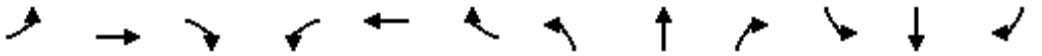
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	11	30	458	5	5	432
Volume Left	0	0	458	0	0	24
Volume Right	0	25	0	0	0	408
cSH	1700	1700	1581	1700	1700	841
Volume to Capacity	0.01	0.02	0.29	0.00	0.00	0.51
Queue Length 95th (ft)	0	0	30	0	0	75
Control Delay (s)	0.0	0.0	8.2	0.0	0.0	13.7
Lane LOS			A			B
Approach Delay (s)	0.0		8.0			13.7
Approach LOS						B

Intersection Summary			
Average Delay	10.3		
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	124	360	131	212	366	151	169	53	96	197	47	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.90		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	3502	3452		3502	3262		3502	3198	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	3502	3452		3502	3262		3502	3198	
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)	135	391	142	230	398	164	184	58	104	214	51	162
RTOR Reduction (vph)	0	0	104	0	50	0	0	76	0	0	130	0
Lane Group Flow (vph)	135	391	38	230	512	0	184	86	0	214	83	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	8.6	21.5	21.5	10.5	23.4		16.0	21.8		10.2	16.0	
Effective Green, g (s)	8.6	21.5	21.5	10.5	23.4		16.0	21.8		10.2	16.0	
Actuated g/C Ratio	0.11	0.27	0.27	0.13	0.29		0.20	0.27		0.13	0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	376	970	434	459	1009		700	888		446	639	
v/s Ratio Prot	0.04	0.11		c0.07	c0.15		c0.05	0.03		c0.06	c0.03	
v/s Ratio Perm			0.02									
v/c Ratio	0.36	0.40	0.09	0.50	0.51		0.26	0.10		0.48	0.13	
Uniform Delay, d1	33.1	24.0	21.9	32.3	23.5		27.0	21.7		32.4	26.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.2	0.4	0.9	0.4		0.9	0.2		0.8	0.1	
Delay (s)	33.7	25.2	22.3	33.2	23.9		27.9	22.0		33.3	26.4	
Level of Service	C	C	C	C	C		C	C		C	C	
Approach Delay (s)		26.3			26.6			25.1			29.8	
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	0.39		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

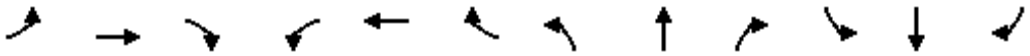


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	101	506	210	215	25	321	547	65	19	950	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1871		1805	3552		1805	3610	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1805	1900	1615	1805	1871		1805	3552		1805	3610	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	110	550	228	234	27	349	595	71	21	1033	55
RTOR Reduction (vph)	0	0	287	0	4	0	0	8	0	0	0	38
Lane Group Flow (vph)	53	110	263	228	257	0	349	658	0	21	1033	17
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	5.6	22.6	22.6	10.0	27.0		20.1	48.6		2.8	31.3	31.3
Effective Green, g (s)	5.6	22.6	22.6	10.0	27.0		20.1	48.6		2.8	31.3	31.3
Actuated g/C Ratio	0.06	0.23	0.23	0.10	0.27		0.20	0.49		0.03	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	101	429	364	180	505		362	1726		50	1129	505
v/s Ratio Prot	0.03	0.06		c0.13	0.14		c0.19	0.19		0.01	c0.29	
v/s Ratio Perm			c0.16									0.01
v/c Ratio	0.52	0.26	0.72	1.27	0.51		0.96	0.38		0.42	0.91	0.03
Uniform Delay, d1	45.9	31.8	35.8	45.0	30.9		39.6	16.2		47.8	33.1	23.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.8	1.4	11.7	156.4	0.8		37.6	0.1		5.6	11.3	0.0
Delay (s)	50.8	33.2	47.5	201.4	31.7		77.2	16.4		53.4	44.4	23.9
Level of Service	D	C	D	F	C		E	B		D	D	C
Approach Delay (s)		45.6			110.8			37.3			43.6	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	52.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	143	4	425	8	1	2	255	105	11	5	110	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1900	1615	1805	1710		1805	1873		1805	3403	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1900	1615	1805	1710		1805	1873		1805	3403	
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)	155	4	462	9	1	2	277	114	12	5	120	74
RTOR Reduction (vph)	0	0	279	0	1	0	0	4	0	0	61	0
Lane Group Flow (vph)	155	4	183	9	2	0	277	122	0	5	133	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	9.3	35.6	35.6	1.4	27.7		21.0	21.0		16.0	16.0	
Effective Green, g (s)	9.3	35.6	35.6	1.4	27.7		21.0	21.0		16.0	16.0	
Actuated g/C Ratio	0.10	0.40	0.40	0.02	0.31		0.23	0.23		0.18	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	361	751	638	28	526		421	437		320	604	
v/s Ratio Prot	c0.04	0.00		0.00	0.00		c0.15	c0.07		0.00	0.04	
v/s Ratio Perm			c0.11									
v/c Ratio	0.43	0.01	0.29	0.32	0.00		0.66	0.28		0.02	0.22	
Uniform Delay, d1	37.9	16.5	18.5	43.8	21.6		31.2	28.3		30.5	31.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.0	1.1	6.6	0.0		7.8	1.6		0.1	0.8	
Delay (s)	38.7	16.5	19.7	50.4	21.6		39.1	29.9		30.6	32.5	
Level of Service	D	B	B	D	C		D	C		C	C	
Approach Delay (s)		24.4			43.2			36.2			32.5	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	2	5	5	3	5	3	5	5	5	5	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	2	5	5	3	5	3	5	5	5	5	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			8			39	35	5	41	35	6
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			8			39	35	5	41	35	6
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	99	99	99	99	100
cM capacity (veh/h)	1625			1626			959	855	1084	954	855	1083

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	14	14	14
Volume Left	5	5	3	5
Volume Right	5	5	5	3
cSH	1625	1626	957	938
Volume to Capacity	0.00	0.00	0.01	0.02
Queue Length 95th (ft)	0	0	1	1
Control Delay (s)	3.0	2.8	8.8	8.9
Lane LOS	A	A	A	A
Approach Delay (s)	3.0	2.8	8.8	8.9
Approach LOS			A	A

Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	20.0%	ICU Level of Service	A	
Analysis Period (min)	15			

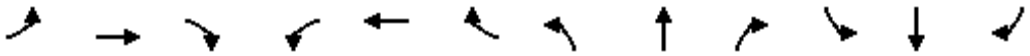
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	286	387	1443	411	279	1139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	3610	1615	1805	3610
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	3610	1615	1805	3610
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	311	421	1568	447	303	1238
RTOR Reduction (vph)	0	278	0	236	0	0
Lane Group Flow (vph)	311	143	1568	211	303	1238
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	13.3	13.3	37.8	37.8	16.9	58.7
Effective Green, g (s)	13.3	13.3	37.8	37.8	16.9	58.7
Actuated g/C Ratio	0.17	0.17	0.47	0.47	0.21	0.73
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	582	268	1705	763	381	2648
v/s Ratio Prot	c0.09		c0.43		c0.17	0.34
v/s Ratio Perm		0.09		0.13		
v/c Ratio	0.53	0.53	0.92	0.28	0.80	0.47
Uniform Delay, d1	30.5	30.5	19.7	12.8	29.9	4.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	2.1	9.6	0.9	10.9	0.6
Delay (s)	31.5	32.6	29.2	13.7	40.8	4.9
Level of Service	C	C	C	B	D	A
Approach Delay (s)	32.1		25.8			12.0
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	39	30	362	52	37	477
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)	42	33	393	57	40	518
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1057		
pX, platoon unblocked						
vC, conflicting volume			75		874	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			75		874	38
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			74		82	50
cM capacity (veh/h)			1537		218	1033

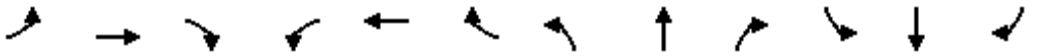
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	28	47	393	28	28	559
Volume Left	0	0	393	0	0	40
Volume Right	0	33	0	0	0	518
cSH	1700	1700	1537	1700	1700	814
Volume to Capacity	0.02	0.03	0.26	0.02	0.02	0.69
Queue Length 95th (ft)	0	0	26	0	0	140
Control Delay (s)	0.0	0.0	8.1	0.0	0.0	18.5
Lane LOS			A			C
Approach Delay (s)	0.0		7.1			18.5
Approach LOS						C

Intersection Summary			
Average Delay	12.5		
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	78	28	160	125	257	17	99	218	246	30	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.90		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	3502	3246		3502	3238		3502	3494	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	3502	3246		3502	3238		3502	3494	
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)	3	85	30	174	136	279	18	108	237	267	33	9
RTOR Reduction (vph)	0	0	22	0	178	0	0	171	0	0	8	0
Lane Group Flow (vph)	3	85	8	174	237	0	18	174	0	267	34	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	1.4	21.1	21.1	9.3	29.0		24.0	22.2		11.4	9.6	
Effective Green, g (s)	1.4	21.1	21.1	9.3	29.0		24.0	22.2		11.4	9.6	
Actuated g/C Ratio	0.02	0.26	0.26	0.12	0.36		0.30	0.28		0.14	0.12	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	61	952	425	407	1176		1050	898		499	419	
v/s Ratio Prot	0.00	0.02		c0.05	c0.07		0.01	c0.05		c0.08	0.01	
v/s Ratio Perm			0.00									
v/c Ratio	0.05	0.09	0.02	0.43	0.20		0.02	0.19		0.54	0.08	
Uniform Delay, d1	38.6	22.2	21.8	32.9	17.5		19.7	22.1		31.8	31.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.2	0.1	0.7	0.1		0.0	0.5		1.1	0.1	
Delay (s)	39.0	22.4	21.9	33.6	17.6		19.7	22.5		32.9	31.4	
Level of Service	D	C	C	C	B		B	C		C	C	
Approach Delay (s)		22.7			22.3			22.4			32.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



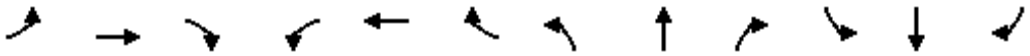
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	134	345	167	104	14	394	1304	259	19	632	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1867		1805	3520		1805	3610	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1805	1900	1615	1805	1867		1805	3520		1805	3610	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	146	375	182	113	15	428	1417	282	21	687	30
RTOR Reduction (vph)	0	0	317	0	5	0	0	15	0	0	0	21
Lane Group Flow (vph)	61	146	59	182	123	0	428	1684	0	21	687	9
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									4
Actuated Green, G (s)	6.3	15.6	15.6	11.0	20.3		26.8	54.6		2.8	30.6	30.6
Effective Green, g (s)	6.3	15.6	15.6	11.0	20.3		26.8	54.6		2.8	30.6	30.6
Actuated g/C Ratio	0.06	0.16	0.16	0.11	0.20		0.27	0.55		0.03	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	113	296	251	198	379		483	1921		50	1104	494
v/s Ratio Prot	0.03	c0.08		c0.10	0.07		c0.24	c0.48		0.01	0.19	
v/s Ratio Perm			0.04									0.01
v/c Ratio	0.54	0.49	0.23	0.92	0.33		0.89	0.88		0.42	0.62	0.02
Uniform Delay, d1	45.4	38.6	37.0	44.1	34.0		35.1	19.8		47.8	29.7	24.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.9	5.8	2.2	41.4	0.5		17.5	6.0		5.6	1.1	0.0
Delay (s)	50.3	44.4	39.1	85.5	34.5		52.6	25.8		53.4	30.8	24.2
Level of Service	D	D	D	F	C		D	C		D	C	C
Approach Delay (s)		41.6			64.4			31.2			31.2	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

OPENING YEAR (2018) WITHOUT PROJECT CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	6	352	39	11	0	168	74	14	1	144	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1900	1615	1805	1900		1805	1855		1805	3356	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1900	1615	1805	1900		1805	1855		1805	3356	
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)	138	7	383	42	12	0	183	80	15	1	157	139
RTOR Reduction (vph)	0	0	254	0	0	0	0	9	0	0	111	0
Lane Group Flow (vph)	138	7	129	42	12	0	183	86	0	1	185	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	8.6	27.0	27.0	5.0	23.4		16.0	16.0		16.0	16.0	
Effective Green, g (s)	8.6	27.0	27.0	5.0	23.4		16.0	16.0		16.0	16.0	
Actuated g/C Ratio	0.11	0.34	0.34	0.06	0.29		0.20	0.20		0.20	0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	376	641	545	112	555		361	371		361	671	
v/s Ratio Prot	c0.04	0.00		0.02	0.01		c0.10	0.05		0.00	c0.06	
v/s Ratio Perm			c0.08									
v/c Ratio	0.37	0.01	0.24	0.38	0.02		0.51	0.23		0.00	0.28	
Uniform Delay, d1	33.2	17.6	19.1	36.0	20.1		28.5	26.8		25.6	27.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.0	1.0	2.1	0.0		5.0	1.5		0.0	1.0	
Delay (s)	33.8	17.7	20.1	38.1	20.2		33.5	28.3		25.6	28.1	
Level of Service	C	B	C	D	C		C	C		C	C	
Approach Delay (s)		23.6			34.1			31.7			28.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	2	5	5	12	5	12	5	5	5	5	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	2	5	5	13	5	13	5	5	5	5	13
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	18			8			58	45	5	51	45	16
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	18			8			58	45	5	51	45	16
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	99	99	99	99	99
cM capacity (veh/h)	1611			1626			922	845	1084	940	845	1069

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	24	24	24
Volume Left	5	5	13	5
Volume Right	5	5	5	13
cSH	1611	1626	935	980
Volume to Capacity	0.00	0.00	0.03	0.02
Queue Length 95th (ft)	0	0	2	2
Control Delay (s)	3.0	1.7	9.0	8.8
Lane LOS	A	A	A	A
Approach Delay (s)	3.0	1.7	9.0	8.8
Approach LOS			A	A

Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	20.0%	ICU Level of Service	A	
Analysis Period (min)	15			

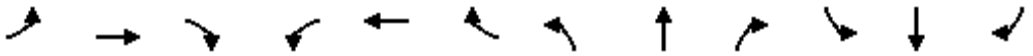
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	366	213	1069	176	294	1807
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	3610	1615	1805	3610
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	3610	1615	1805	3610
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	398	232	1162	191	320	1964
RTOR Reduction (vph)	0	192	0	106	0	0
Lane Group Flow (vph)	398	40	1162	85	320	1964
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	13.9	13.9	35.7	35.7	18.4	58.1
Effective Green, g (s)	13.9	13.9	35.7	35.7	18.4	58.1
Actuated g/C Ratio	0.17	0.17	0.45	0.45	0.23	0.73
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	608	280	1610	720	415	2621
v/s Ratio Prot	c0.11		0.32		0.18	c0.54
v/s Ratio Perm		0.02		0.05		
v/c Ratio	0.65	0.14	0.72	0.12	0.77	0.75
Uniform Delay, d1	30.8	28.0	18.1	12.9	28.8	6.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.2	2.8	0.3	8.6	2.0
Delay (s)	33.4	28.2	20.9	13.3	37.4	8.6
Level of Service	C	C	C	B	D	A
Approach Delay (s)	31.5		19.8			12.6
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	15	23	461	9	21	381
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)	16	25	501	10	23	414
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1057		
pX, platoon unblocked						
vC, conflicting volume			41		1036	21
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			41		1036	21
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			68		86	61
cM capacity (veh/h)			1581		158	1059

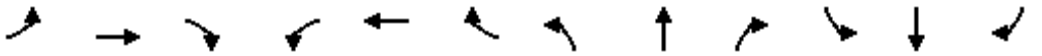
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	11	30	501	5	5	437
Volume Left	0	0	501	0	0	23
Volume Right	0	25	0	0	0	414
cSH	1700	1700	1581	1700	1700	815
Volume to Capacity	0.01	0.02	0.32	0.00	0.00	0.54
Queue Length 95th (ft)	0	0	34	0	0	81
Control Delay (s)	0.0	0.0	8.3	0.0	0.0	14.4
Lane LOS			A			B
Approach Delay (s)	0.0		8.2			14.4
Approach LOS						B

Intersection Summary			
Average Delay	10.6		
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	324	160	272	338	176	206	80	120	246	79	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.91		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	3502	3425		3502	3286		3502	3233	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	3502	3425		3502	3286		3502	3233	
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)	149	352	174	296	367	191	224	87	130	267	86	197
RTOR Reduction (vph)	0	0	131	0	74	0	0	97	0	0	158	0
Lane Group Flow (vph)	149	352	44	296	484	0	224	120	0	267	125	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	8.9	20.0	20.0	12.0	23.1		16.0	20.6		11.4	16.0	
Effective Green, g (s)	8.9	20.0	20.0	12.0	23.1		16.0	20.6		11.4	16.0	
Actuated g/C Ratio	0.11	0.25	0.25	0.15	0.29		0.20	0.26		0.14	0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	389	902	403	525	988		700	846		499	646	
v/s Ratio Prot	0.04	0.10		c0.08	c0.14		c0.06	0.04		c0.08	c0.04	
v/s Ratio Perm			0.03									
v/c Ratio	0.38	0.39	0.11	0.56	0.49		0.32	0.14		0.54	0.19	
Uniform Delay, d1	33.0	24.9	23.1	31.6	23.6		27.4	22.9		31.8	26.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.3	0.5	1.4	0.4		1.2	0.4		1.1	0.1	
Delay (s)	33.6	26.2	23.7	33.0	24.0		28.6	23.2		32.9	26.8	
Level of Service	C	C	C	C	C		C	C		C	C	
Approach Delay (s)		27.2			27.1			25.9			29.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

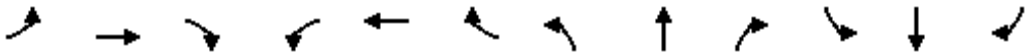


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	155	631	262	259	34	409	769	104	30	1208	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	7.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	1900	1615	1805	1867		3502	3610	1615	1805	5187	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	1900	1615	1805	1867		3502	3610	1615	1805	5187	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	168	686	285	282	37	445	836	113	33	1313	67
RTOR Reduction (vph)	0	0	95	0	5	0	0	0	67	0	0	50
Lane Group Flow (vph)	71	168	591	285	314	0	445	836	46	33	1313	17
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	5.6	15.4	36.0	15.0	24.8		20.6	39.4	39.4	4.2	23.0	23.0
Effective Green, g (s)	5.6	15.4	36.0	15.0	24.8		20.6	39.4	36.4	4.2	23.0	23.0
Actuated g/C Ratio	0.06	0.17	0.40	0.17	0.28		0.23	0.44	0.40	0.05	0.26	0.26
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	217	325	646	300	514		801	1580	653	84	1325	412
v/s Ratio Prot	0.02	0.09	c0.21	c0.16	0.17		0.13	0.23		0.02	c0.25	
v/s Ratio Perm			0.16						0.03			0.01
v/c Ratio	0.33	0.52	0.92	0.95	0.61		0.56	0.53	0.07	0.39	0.99	0.04
Uniform Delay, d1	40.4	33.9	25.6	37.1	28.4		30.7	18.5	16.4	41.7	33.4	25.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	5.8	17.6	38.2	2.1		0.8	0.3	0.0	3.0	22.5	0.0
Delay (s)	41.3	39.7	43.2	75.3	30.5		31.5	18.8	16.5	44.7	55.9	25.2
Level of Service	D	D	D	E	C		C	B	B	D	E	C
Approach Delay (s)		42.4			51.7			22.7			54.1	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	4	445	8	1	2	267	110	12	5	115	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	1900	1615	1805	1710		1805	1872		1805	3404	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	1900	1615	1805	1710		1805	1872		1805	3404	
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)	163	4	484	9	1	2	290	120	13	5	125	77
RTOR Reduction (vph)	0	0	293	0	1	0	0	5	0	0	63	0
Lane Group Flow (vph)	163	4	191	9	2	0	290	128	0	5	139	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	9.5	35.6	35.6	1.4	27.5		21.0	21.0		16.0	16.0	
Effective Green, g (s)	9.5	35.6	35.6	1.4	27.5		21.0	21.0		16.0	16.0	
Actuated g/C Ratio	0.11	0.40	0.40	0.02	0.31		0.23	0.23		0.18	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	369	751	638	28	522		421	436		320	605	
v/s Ratio Prot	c0.05	0.00		0.00	0.00		c0.16	c0.07		0.00	0.04	
v/s Ratio Perm			c0.12									
v/c Ratio	0.44	0.01	0.30	0.32	0.00		0.69	0.29		0.02	0.23	
Uniform Delay, d1	37.8	16.5	18.7	43.8	21.7		31.5	28.4		30.5	31.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.0	1.2	6.6	0.0		8.9	1.7		0.1	0.9	
Delay (s)	38.6	16.5	19.9	50.4	21.7		40.4	30.1		30.6	32.6	
Level of Service	D	B	B	D	C		D	C		C	C	
Approach Delay (s)		24.5			43.2			37.2			32.5	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	2	5	5	3	5	3	5	5	5	5	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	2	5	5	3	5	3	5	5	5	5	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	9			8			39	35	5	41	35	6
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	9			8			39	35	5	41	35	6
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	99	99	99	99	100
cM capacity (veh/h)	1625			1626			959	855	1084	954	855	1083

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	13	14	14	14
Volume Left	5	5	3	5
Volume Right	5	5	5	3
cSH	1625	1626	957	938
Volume to Capacity	0.00	0.00	0.01	0.02
Queue Length 95th (ft)	0	0	1	1
Control Delay (s)	3.0	2.8	8.8	8.9
Lane LOS	A	A	A	A
Approach Delay (s)	3.0	2.8	8.8	8.9
Approach LOS			A	A

Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	20.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	312	410	1641	428	288	1321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	3610	1615	1805	3610
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	3610	1615	1805	3610
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	339	446	1784	465	313	1436
RTOR Reduction (vph)	0	242	0	225	0	0
Lane Group Flow (vph)	339	204	1784	240	313	1436
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	14.3	14.3	46.5	46.5	17.2	67.7
Effective Green, g (s)	14.3	14.3	46.5	46.5	17.2	67.7
Actuated g/C Ratio	0.16	0.16	0.52	0.52	0.19	0.75
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	556	256	1865	834	344	2715
v/s Ratio Prot	0.10		c0.49		c0.17	0.40
v/s Ratio Perm		c0.13		0.15		
v/c Ratio	0.61	0.80	0.96	0.29	0.91	0.53
Uniform Delay, d1	35.3	36.4	20.8	12.4	35.6	4.6
Progression Factor	1.00	1.00	1.00	1.00	0.82	0.78
Incremental Delay, d2	1.9	15.6	12.8	0.9	23.2	0.6
Delay (s)	37.2	52.1	33.6	13.2	52.4	4.2
Level of Service	D	D	C	B	D	A
Approach Delay (s)	45.6		29.4			12.8
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

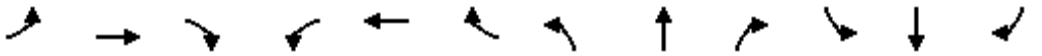
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	40	30	372	51	38	516
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	33	404	55	41	561
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1057		
pX, platoon unblocked						
vC, conflicting volume			76		896	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			76		896	38
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			74		80	46
cM capacity (veh/h)			1536		209	1032

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	29	47	404	28	28	602
Volume Left	0	0	404	0	0	41
Volume Right	0	33	0	0	0	561
cSH	1700	1700	1536	1700	1700	812
Volume to Capacity	0.02	0.03	0.26	0.02	0.02	0.74
Queue Length 95th (ft)	0	0	27	0	0	171
Control Delay (s)	0.0	0.0	8.2	0.0	0.0	21.0
Lane LOS			A			C
Approach Delay (s)	0.0		7.2			21.0
Approach LOS						C

Intersection Summary			
Average Delay	14.0		
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	86	57	190	120	278	29	187	246	278	63	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.91		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	3502	3231		3502	3302		3502	3512	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	3502	3231		3502	3302		3502	3512	
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)	7	93	62	207	130	302	32	203	267	302	68	15
RTOR Reduction (vph)	0	0	46	0	190	0	0	198	0	0	13	0
Lane Group Flow (vph)	7	93	16	207	242	0	32	272	0	302	70	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	1.4	21.2	21.2	10.0	29.8		20.0	20.7		12.1	12.8	
Effective Green, g (s)	1.4	21.2	21.2	10.0	29.8		20.0	20.7		12.1	12.8	
Actuated g/C Ratio	0.02	0.26	0.26	0.12	0.37		0.25	0.26		0.15	0.16	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	61	956	427	437	1203		875	854		529	561	
v/s Ratio Prot	0.00	0.03		c0.06	c0.08		0.01	c0.08		c0.09	0.02	
v/s Ratio Perm			0.01									
v/c Ratio	0.11	0.10	0.04	0.47	0.20		0.04	0.32		0.57	0.13	
Uniform Delay, d1	38.7	22.2	21.8	32.6	17.0		22.7	24.0		31.5	28.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.2	0.2	0.8	0.1		0.1	1.0		1.5	0.1	
Delay (s)	39.5	22.4	22.0	33.4	17.1		22.8	24.9		33.0	28.9	
Level of Service	D	C	C	C	B		C	C		C	C	
Approach Delay (s)		23.0			22.4			24.8			32.1	
Approach LOS		C			C			C			C	

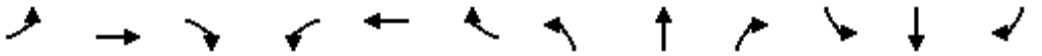
Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	183	421	212	156	20	429	1354	268	30	878	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	7.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	1900	1615	1805	1867		3502	3610	1615	1805	5187	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	1900	1615	1805	1867		3502	3610	1615	1805	5187	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	199	458	230	170	22	466	1472	291	33	954	51
RTOR Reduction (vph)	0	0	70	0	5	0	0	0	97	0	0	34
Lane Group Flow (vph)	84	199	388	230	187	0	466	1472	194	33	954	17
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	5.6	14.5	32.4	12.0	20.9		17.9	43.3	43.3	4.2	29.6	29.6
Effective Green, g (s)	5.6	14.5	32.4	12.0	20.9		17.9	43.3	40.3	4.2	29.6	29.6
Actuated g/C Ratio	0.06	0.16	0.36	0.13	0.23		0.20	0.48	0.45	0.05	0.33	0.33
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	217	306	653	240	433		696	1736	723	84	1705	531
v/s Ratio Prot	0.02	0.10	c0.12	c0.13	0.10		0.13	c0.41		0.02	0.18	
v/s Ratio Perm			0.12						0.12			0.01
v/c Ratio	0.39	0.65	0.59	0.96	0.43		0.67	0.85	0.27	0.39	0.56	0.03
Uniform Delay, d1	40.6	35.4	23.5	38.8	29.5		33.3	20.5	15.6	41.7	24.8	20.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.85	0.70	0.55	1.00	1.00	1.00
Incremental Delay, d2	1.1	4.9	1.5	46.0	0.7		0.9	2.0	0.3	3.0	0.4	0.0
Delay (s)	41.7	40.3	24.9	84.7	30.2		29.1	16.2	8.9	44.7	25.2	20.5
Level of Service	D	D	C	F	C		C	B	A	D	C	C
Approach Delay (s)		30.9			59.9			17.9			25.6	
Approach LOS		C			E			B			C	

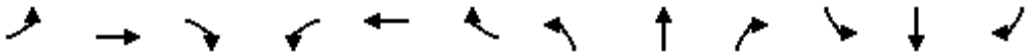
Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

OPENING YEAR (2018) WITH 2-LANES CONDITIONS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	596	177	100	401	48	165	60	68	34	115	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.92		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	1805	3552		1805	1748		1805	3409	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	1805	3552		1805	1748		1805	3409	
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)	92	648	192	109	436	52	179	65	74	37	125	74
RTOR Reduction (vph)	0	0	137	0	10	0	0	51	0	0	59	0
Lane Group Flow (vph)	92	648	55	109	478	0	179	88	0	37	140	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	6.4	23.1	23.1	8.9	25.6		16.0	16.0		16.0	16.0	
Effective Green, g (s)	6.4	23.1	23.1	8.9	25.6		16.0	16.0		16.0	16.0	
Actuated g/C Ratio	0.08	0.29	0.29	0.11	0.32		0.20	0.20		0.20	0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	280	1042	466	200	1136		361	349		361	681	
v/s Ratio Prot	0.03	c0.18		c0.06	0.13		c0.10	c0.05		0.02	0.04	
v/s Ratio Perm			0.03									
v/c Ratio	0.33	0.62	0.12	0.55	0.42		0.50	0.25		0.10	0.21	
Uniform Delay, d1	34.8	24.7	21.0	33.6	21.4		28.4	27.0		26.1	26.7	
Progression Factor	1.00	1.00	1.00	0.93	1.35		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	2.8	0.5	3.0	0.3		4.8	1.7		0.6	0.7	
Delay (s)	35.5	27.5	21.5	34.3	29.0		33.2	28.7		26.7	27.4	
Level of Service	D	C	C	C	C		C	C		C	C	
Approach Delay (s)		27.0			30.0			31.2			27.3	
Approach LOS		C			C			C			C	

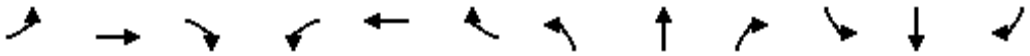
Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	500	174	115	343	16	189	27	90	9	37	16
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	543	189	125	373	17	205	29	98	10	40	17
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	390			733			1351	1330	638	1340	1416	382
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	390			733			1351	1330	638	1340	1416	382
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 %	98			86			0	78	80	87	65	97
cM capacity (veh/h)	1179			881			81	131	480	76	116	670

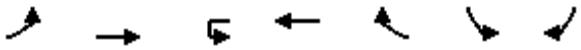
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	26	733	125	390	333	67
Volume Left	26	0	125	0	205	10
Volume Right	0	189	0	17	98	17
cSH	1179	1700	881	1700	112	135
Volume to Capacity	0.02	0.43	0.14	0.23	2.96	0.50
Queue Length 95th (ft)	2	0	12	0	787	59
Control Delay (s)	8.1	0.0	9.8	0.0	965.5	55.9
Lane LOS	A		A		F	F
Approach Delay (s)	0.3		2.4		965.5	55.9
Approach LOS					F	F

Intersection Summary				
Average Delay	195.0			
Intersection Capacity Utilization	77.3%	ICU Level of Service	D	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	500	174	115	343	16	189	27	90	9	37	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.99			0.96			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.99	
Satd. Flow (prot)	1805	1826		1805	1888			1770			1821	
Flt Permitted	0.95	1.00		0.95	1.00			0.81			0.95	
Satd. Flow (perm)	1805	1826		1805	1888			1469			1749	
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)	26	543	189	125	373	17	205	29	98	10	40	17
RTOR Reduction (vph)	0	15	0	0	2	0	0	20	0	0	13	0
Lane Group Flow (vph)	26	717	0	125	388	0	0	312	0	0	54	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.8	40.4		8.0	45.6			19.6			19.6	
Effective Green, g (s)	2.8	40.4		8.0	45.6			19.6			19.6	
Actuated g/C Ratio	0.03	0.50		0.10	0.57			0.25			0.25	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	63	922		180	1076			359			428	
v/s Ratio Prot	0.01	c0.39		c0.07	0.21							
v/s Ratio Perm								c0.21			0.03	
v/c Ratio	0.41	0.78		0.69	0.36			0.87			0.13	
Uniform Delay, d1	37.8	16.1		34.8	9.3			29.0			23.5	
Progression Factor	1.73	0.86		1.42	0.55			1.00			1.00	
Incremental Delay, d2	3.7	5.4		10.9	0.9			19.9			0.1	
Delay (s)	69.2	19.3		60.5	6.1			48.8			23.7	
Level of Service	E	B		E	A			D			C	
Approach Delay (s)		21.0			19.3			48.8			23.7	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	5	594	0	456	7	17	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.95	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	3610		3610	1615	1805	1615
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	3610		3610	1615	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	646	0	496	8	18	20
RTOR Reduction (vph)	0	0	0	0	3	0	16
Lane Group Flow (vph)	5	646	0	496	5	18	5
Turn Type	Prot	NA	Perm	NA	Perm	Prot	Perm
Protected Phases	5	2		6		4	
Permitted Phases			6		6		4
Actuated Green, G (s)	1.4	54.0		48.6	48.6	18.0	18.0
Effective Green, g (s)	1.4	54.0		48.6	48.6	18.0	18.0
Actuated g/C Ratio	0.02	0.68		0.61	0.61	0.22	0.22
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	31	2436		2193	981	406	363
v/s Ratio Prot	0.00	c0.18		0.14		c0.01	
v/s Ratio Perm					0.00		0.00
v/c Ratio	0.16	0.27		0.23	0.00	0.04	0.01
Uniform Delay, d1	38.7	5.1		7.1	6.2	24.3	24.1
Progression Factor	0.88	1.01		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	0.2		0.2	0.0	0.2	0.1
Delay (s)	36.3	5.4		7.4	6.2	24.5	24.2
Level of Service	D	A		A	A	C	C
Approach Delay (s)		5.7		7.4		24.3	
Approach LOS		A		A		C	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	28.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

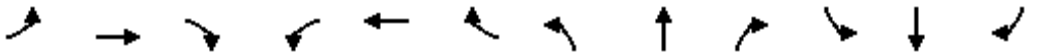
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	349	202	1059	177	298	1807
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	3610	1615	1805	3610
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	3610	1615	1805	3610
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	379	220	1151	192	324	1964
RTOR Reduction (vph)	0	183	0	114	0	0
Lane Group Flow (vph)	379	37	1151	78	324	1964
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	13.6	13.6	32.4	32.4	22.0	58.4
Effective Green, g (s)	13.6	13.6	32.4	32.4	22.0	58.4
Actuated g/C Ratio	0.17	0.17	0.40	0.40	0.28	0.73
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	595	274	1462	654	496	2635
v/s Ratio Prot	c0.11		c0.32		0.18	c0.54
v/s Ratio Perm		0.02		0.05		
v/c Ratio	0.64	0.14	0.79	0.12	0.65	0.75
Uniform Delay, d1	30.9	28.2	20.8	14.9	25.6	6.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	0.2	4.4	0.4	3.1	2.0
Delay (s)	33.1	28.4	25.1	15.2	28.7	8.4
Level of Service	C	C	C	B	C	A
Approach Delay (s)	31.4		23.7			11.2
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	547	175	0	474	0	157
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)	595	190	0	515	0	171
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1057		
pX, platoon unblocked						
vC, conflicting volume			785		947	392
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			785		947	392
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	72
cM capacity (veh/h)			843		263	612

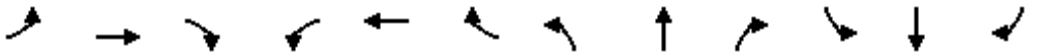
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	396	388	258	258	171
Volume Left	0	0	0	0	0
Volume Right	0	190	0	0	171
cSH	1700	1700	1700	1700	612
Volume to Capacity	0.23	0.23	0.15	0.15	0.28
Queue Length 95th (ft)	0	0	0	0	28
Control Delay (s)	0.0	0.0	0.0	0.0	13.1
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.1
Approach LOS					B

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		



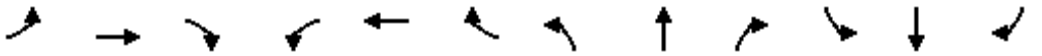
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	209	543	239	386	552	255	249	86	141	281	80	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.91		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	3502	3439		3502	3273		3502	3216	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	3502	3439		3502	3273		3502	3216	
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)	227	590	260	420	600	277	271	93	153	305	87	232
RTOR Reduction (vph)	0	0	150	0	61	0	0	115	0	0	186	0
Lane Group Flow (vph)	227	590	110	420	816	0	271	131	0	305	133	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	10.5	17.9	33.9	14.1	21.5		16.0	19.8		12.2	16.0	
Effective Green, g (s)	10.5	17.9	33.9	14.1	21.5		16.0	19.8		12.2	16.0	
Actuated g/C Ratio	0.13	0.22	0.42	0.18	0.27		0.20	0.25		0.15	0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	459	807	765	617	924		700	810		534	643	
v/s Ratio Prot	0.06	0.16	0.03	c0.12	c0.24		0.08	c0.04		c0.09	c0.04	
v/s Ratio Perm			0.04									
v/c Ratio	0.49	0.73	0.14	0.68	0.88		0.39	0.16		0.57	0.21	
Uniform Delay, d1	32.3	28.8	14.1	30.8	28.0		27.7	23.6		31.5	26.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	5.8	0.4	3.1	10.0		1.6	0.4		1.5	0.2	
Delay (s)	33.1	34.6	14.5	33.9	38.0		29.4	24.0		33.0	26.9	
Level of Service	C	C	B	C	D		C	C		C	C	
Approach Delay (s)		29.4			36.7			26.8			29.8	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



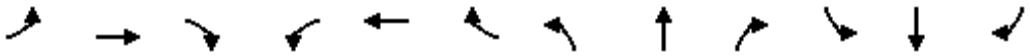
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	171	646	267	298	37	415	744	101	32	1192	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	1900	1615	1805	1869		3502	3610	1615	1805	5187	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	1900	1615	1805	1869		3502	3610	1615	1805	5187	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	186	702	290	324	40	451	809	110	35	1296	75
RTOR Reduction (vph)	0	0	67	0	5	0	0	0	62	0	0	57
Lane Group Flow (vph)	77	186	635	290	359	0	451	809	48	35	1296	19
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	6.8	13.4	34.3	17.5	24.1		20.9	38.9	38.9	4.2	22.2	22.2
Effective Green, g (s)	6.8	13.4	34.3	17.5	24.1		20.9	38.9	38.9	4.2	22.2	22.2
Actuated g/C Ratio	0.08	0.15	0.38	0.19	0.27		0.23	0.43	0.43	0.05	0.25	0.25
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	264	282	615	350	500		813	1560	698	84	1279	398
v/s Ratio Prot	0.02	0.10	c0.24	c0.16	0.19		0.13	0.22		0.02	c0.25	
v/s Ratio Perm			0.15						0.03			0.01
v/c Ratio	0.29	0.66	1.03	0.83	0.72		0.55	0.52	0.07	0.42	1.01	0.05
Uniform Delay, d1	39.3	36.1	27.9	34.8	29.9		30.4	18.7	14.9	41.7	33.9	25.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	5.5	44.7	14.8	4.9		0.8	1.2	0.2	3.3	28.5	0.0
Delay (s)	39.9	41.6	72.5	49.7	34.8		31.3	19.9	15.1	45.0	62.4	25.9
Level of Service	D	D	E	D	C		C	B	B	D	E	C
Approach Delay (s)		64.0			41.4			23.3			60.0	
Approach LOS		E			D			C			E	

Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	94	444	175	67	499	67	197	76	86	90	136	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.92		1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	1805	3546		1805	1749		1805	3341	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	1805	3546		1805	1749		1805	3341	
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)	102	483	190	73	542	73	214	83	93	98	148	146
RTOR Reduction (vph)	0	0	141	0	12	0	0	45	0	0	105	0
Lane Group Flow (vph)	102	483	49	73	603	0	214	131	0	98	189	0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	9.4	23.1	23.1	7.9	21.6		18.0	18.0		25.0	25.0	
Effective Green, g (s)	9.4	23.1	23.1	7.9	21.6		18.0	18.0		25.0	25.0	
Actuated g/C Ratio	0.10	0.26	0.26	0.09	0.24		0.20	0.20		0.28	0.28	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	365	926	414	158	851		361	349		501	928	
v/s Ratio Prot	0.03	0.13		c0.04	c0.17		c0.12	0.07		0.05	c0.06	
v/s Ratio Perm			0.03									
v/c Ratio	0.28	0.52	0.12	0.46	0.71		0.59	0.38		0.20	0.20	
Uniform Delay, d1	37.2	28.7	25.6	39.0	31.3		32.7	31.1		24.8	24.9	
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	2.1	0.6	2.1	2.7		7.0	3.1		0.9	0.5	
Delay (s)	37.6	30.8	26.2	41.2	34.0		39.7	34.2		25.7	25.4	
Level of Service	D	C	C	D	C		D	C		C	C	
Approach Delay (s)		30.6			34.8			37.2			25.5	
Approach LOS		C			C			D			C	

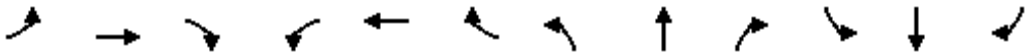
Intersection Summary			
HCM 2000 Control Delay	32.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	411	184	87	423	22	190	28	112	18	32	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	447	200	95	460	24	207	30	122	20	35	22
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	484			647			1289	1274	547	1299	1362	472
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	484			647			1289	1274	547	1299	1362	472
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 %	98			90			0	79	77	76	73	96
cM capacity (veh/h)	1090			948			99	148	541	83	131	596

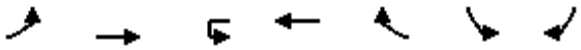
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	27	647	95	484	359	76
Volume Left	27	0	95	0	207	20
Volume Right	0	200	0	24	122	22
cSH	1090	1700	948	1700	143	142
Volume to Capacity	0.02	0.38	0.10	0.28	2.52	0.54
Queue Length 95th (ft)	2	0	8	0	783	66
Control Delay (s)	8.4	0.0	9.2	0.0	751.9	56.7
Lane LOS	A		A		F	F
Approach Delay (s)	0.3		1.5		751.9	56.7
Approach LOS					F	F

Intersection Summary				
Average Delay	163.1			
Intersection Capacity Utilization	73.2%	ICU Level of Service	D	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	411	184	87	423	22	190	28	112	18	32	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.95		1.00	0.99			0.95			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.99	
Satd. Flow (prot)	1805	1812		1805	1886			1762			1803	
Flt Permitted	0.95	1.00		0.95	1.00			0.81			0.90	
Satd. Flow (perm)	1805	1812		1805	1886			1460			1642	
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)	27	447	200	95	460	24	207	30	122	20	35	22
RTOR Reduction (vph)	0	18	0	0	2	0	0	25	0	0	16	0
Lane Group Flow (vph)	27	629	0	95	482	0	0	334	0	0	61	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.8	40.1		6.1	43.4			21.8			21.8	
Effective Green, g (s)	2.8	40.1		6.1	43.4			21.8			21.8	
Actuated g/C Ratio	0.03	0.50		0.08	0.54			0.27			0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	63	908		137	1023			397			447	
v/s Ratio Prot	0.01	c0.35		c0.05	c0.26							
v/s Ratio Perm								c0.23			0.04	
v/c Ratio	0.43	0.69		0.69	0.47			0.84			0.14	
Uniform Delay, d1	37.8	15.2		36.0	11.2			27.5			22.0	
Progression Factor	1.00	1.00		1.45	0.56			1.00			1.00	
Incremental Delay, d2	4.6	4.3		13.9	1.5			14.9			0.1	
Delay (s)	42.4	19.6		66.2	7.9			42.3			22.1	
Level of Service	D	B		E	A			D			C	
Approach Delay (s)		20.5			17.4			42.3			22.1	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	30	511	0	520	10	12	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.95	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	3610		3610	1615	1805	1615
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	3610		3610	1615	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	555	0	565	11	13	13
RTOR Reduction (vph)	0	0	0	0	5	0	10
Lane Group Flow (vph)	33	555	0	565	6	13	3
Turn Type	Prot	NA	Perm	NA	Perm	Prot	Perm
Protected Phases	5	2		6		4	
Permitted Phases			6		6		4
Actuated Green, G (s)	3.3	54.0		46.7	46.7	18.0	18.0
Effective Green, g (s)	3.3	54.0		46.7	46.7	18.0	18.0
Actuated g/C Ratio	0.04	0.68		0.58	0.58	0.22	0.22
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	74	2436		2107	942	406	363
v/s Ratio Prot	c0.02	0.15		c0.16		c0.01	
v/s Ratio Perm					0.00		0.00
v/c Ratio	0.45	0.23		0.27	0.01	0.03	0.01
Uniform Delay, d1	37.5	5.0		8.2	7.0	24.2	24.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	0.2		0.3	0.0	0.1	0.0
Delay (s)	41.7	5.2		8.5	7.0	24.3	24.1
Level of Service	D	A		A	A	C	C
Approach Delay (s)		7.3		8.5		24.2	
Approach LOS		A		A		C	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	264	347	1670	444	297	1338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	3610	1615	1805	3610
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	3610	1615	1805	3610
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	377	1815	483	323	1454
RTOR Reduction (vph)	0	260	0	235	0	0
Lane Group Flow (vph)	287	117	1815	248	323	1454
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	12.9	12.9	46.2	46.2	18.9	69.1
Effective Green, g (s)	12.9	12.9	46.2	46.2	18.9	69.1
Actuated g/C Ratio	0.14	0.14	0.51	0.51	0.21	0.77
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	501	231	1853	829	379	2771
v/s Ratio Prot	c0.08		c0.50		c0.18	0.40
v/s Ratio Perm		0.07		0.15		
v/c Ratio	0.57	0.50	0.98	0.30	0.85	0.52
Uniform Delay, d1	36.0	35.6	21.4	12.6	34.2	4.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	1.7	16.6	0.9	16.6	0.7
Delay (s)	37.6	37.3	38.0	13.5	50.9	4.8
Level of Service	D	D	D	B	D	A
Approach Delay (s)	37.4		32.9			13.2
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

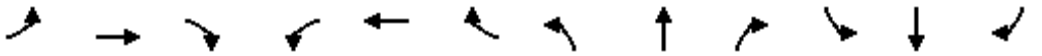
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	466	232	0	533	0	281
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	507	252	0	579	0	305
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1057		
pX, platoon unblocked						
vC, conflicting volume			759		922	379
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			759		922	379
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	51
cM capacity (veh/h)			862		273	624

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	338	421	290	290	305
Volume Left	0	0	0	0	0
Volume Right	0	252	0	0	305
cSH	1700	1700	1700	1700	624
Volume to Capacity	0.20	0.25	0.17	0.17	0.49
Queue Length 95th (ft)	0	0	0	0	67
Control Delay (s)	0.0	0.0	0.0	0.0	16.2
Lane LOS					C
Approach Delay (s)	0.0		0.0		16.2
Approach LOS					C

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	140	89	260	207	400	34	186	242	275	59	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.92		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	3502	3253		3502	3304		3502	3496	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	3502	3253		3502	3304		3502	3496	
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)	10	152	97	283	225	435	37	202	263	299	64	17
RTOR Reduction (vph)	0	0	49	0	273	0	0	195	0	0	14	0
Lane Group Flow (vph)	10	152	48	283	387	0	37	270	0	299	67	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	1.4	19.5	39.5	11.7	29.8		20.0	20.7		12.1	12.8	
Effective Green, g (s)	1.4	19.5	39.5	11.7	29.8		20.0	20.7		12.1	12.8	
Actuated g/C Ratio	0.02	0.24	0.49	0.15	0.37		0.25	0.26		0.15	0.16	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	61	879	878	512	1211		875	854		529	559	
v/s Ratio Prot	0.00	0.04	0.01	c0.08	c0.12		0.01	c0.08		c0.09	0.02	
v/s Ratio Perm			0.02									
v/c Ratio	0.16	0.17	0.05	0.55	0.32		0.04	0.32		0.57	0.12	
Uniform Delay, d1	38.7	23.9	10.5	31.7	17.9		22.7	23.9		31.5	28.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.4	0.1	1.3	0.2		0.1	1.0		1.4	0.1	
Delay (s)	40.0	24.3	10.7	33.0	18.0		22.8	24.9		32.9	28.9	
Level of Service	D	C	B	C	B		C	C		C	C	
Approach Delay (s)		19.8			22.5			24.8			32.0	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



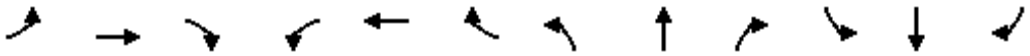
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	191	453	228	164	21	420	1335	262	32	954	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	7.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	1900	1615	1805	1867		3502	3610	1615	1805	5187	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	1900	1615	1805	1867		3502	3610	1615	1805	5187	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	208	492	248	178	23	457	1451	285	35	1037	53
RTOR Reduction (vph)	0	0	55	0	4	0	0	0	71	0	0	33
Lane Group Flow (vph)	88	208	437	248	197	0	457	1451	214	35	1037	20
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	7.0	16.5	39.1	20.0	29.5		22.6	63.3	63.3	4.2	44.9	44.9
Effective Green, g (s)	7.0	16.5	39.1	20.0	29.5		22.6	63.3	60.3	4.2	44.9	44.9
Actuated g/C Ratio	0.06	0.14	0.33	0.17	0.25		0.19	0.53	0.50	0.04	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	204	261	580	300	458		659	1904	811	63	1940	604
v/s Ratio Prot	0.03	0.11	c0.14	c0.14	0.11		0.13	c0.40		0.02	0.20	
v/s Ratio Perm			0.13						0.13			0.01
v/c Ratio	0.43	0.80	0.75	0.83	0.43		0.69	0.76	0.26	0.56	0.53	0.03
Uniform Delay, d1	54.6	50.1	36.1	48.3	38.2		45.5	22.4	17.1	57.0	29.4	23.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	15.4	5.5	16.8	0.7		3.2	2.9	0.8	10.2	0.3	0.0
Delay (s)	56.0	65.5	41.6	65.1	38.8		48.6	25.3	17.9	67.2	29.7	23.8
Level of Service	E	E	D	E	D		D	C	B	E	C	C
Approach Delay (s)		49.6			53.3			29.2			30.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

OPENING YEAR (2018) WITH 4-LANES CONDITIONS

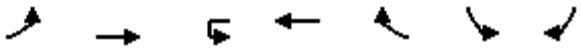
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	82	841	150	146	531	80	154	71	116	55	112	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3528		1805	3539		1805	1723		1805	3422	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3528		1805	3539		1805	1723		1805	3422	
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)	89	914	163	159	577	87	167	77	126	60	122	65
RTOR Reduction (vph)	0	16	0	0	12	0	0	66	0	0	53	0
Lane Group Flow (vph)	89	1061	0	159	652	0	167	137	0	60	134	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.5	29.3		12.7	35.5		16.0	16.0		16.0	16.0	
Effective Green, g (s)	6.5	29.3		12.7	35.5		16.0	16.0		16.0	16.0	
Actuated g/C Ratio	0.07	0.33		0.14	0.39		0.18	0.18		0.18	0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	252	1148		254	1395		320	306		320	608	
v/s Ratio Prot	0.03	c0.30		c0.09	0.18		c0.09	c0.08		0.03	0.04	
v/s Ratio Perm												
v/c Ratio	0.35	0.92		0.63	0.47		0.52	0.45		0.19	0.22	
Uniform Delay, d1	39.7	29.3		36.4	20.2		33.5	33.1		31.5	31.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	13.7		4.8	0.2		6.0	4.7		1.3	0.8	
Delay (s)	40.6	43.0		41.2	20.5		39.5	37.8		32.8	32.5	
Level of Service	D	D		D	C		D	D		C	C	
Approach Delay (s)		42.8			24.5			38.5			32.6	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	874	128	151	600	14	142	10	120	15	25	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.98		1.00	1.00			0.94			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.99	
Satd. Flow (prot)	1805	3541		1805	3598			1742			1806	
Flt Permitted	0.95	1.00		0.95	1.00			0.82			0.91	
Satd. Flow (perm)	1805	3541		1805	3598			1466			1659	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	950	139	164	652	15	154	11	130	16	27	16
RTOR Reduction (vph)	0	13	0	0	2	0	0	34	0	0	12	0
Lane Group Flow (vph)	12	1076	0	164	665	0	0	261	0	0	47	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.4	36.5		11.5	46.6			23.0			23.0	
Effective Green, g (s)	1.4	36.5		11.5	46.6			23.0			23.0	
Actuated g/C Ratio	0.02	0.44		0.14	0.56			0.28			0.28	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	30	1557		250	2020			406			459	
v/s Ratio Prot	0.01	c0.30		c0.09	0.18							
v/s Ratio Perm								c0.18			0.03	
v/c Ratio	0.40	0.69		0.66	0.33			0.64			0.10	
Uniform Delay, d1	40.4	18.7		33.9	9.8			26.4			22.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	8.5	2.5		6.1	0.4			7.6			0.5	
Delay (s)	48.9	21.2		40.0	10.2			34.0			22.8	
Level of Service	D	C		D	B			C			C	
Approach Delay (s)		21.5			16.1			34.0			22.8	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	83.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	5	1004	0	746	7	17	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.95	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	3610		3610	1615	1805	1615
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	3610		3610	1615	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	1091	0	811	8	18	21
RTOR Reduction (vph)	0	0	0	0	3	0	17
Lane Group Flow (vph)	5	1091	0	811	5	18	4
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	1.4	57.0		51.6	51.6	16.0	16.0
Effective Green, g (s)	1.4	57.0		51.6	51.6	16.0	16.0
Actuated g/C Ratio	0.02	0.70		0.64	0.64	0.20	0.20
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	31	2540		2299	1028	356	319
v/s Ratio Prot	0.00	c0.30		0.22		c0.01	
v/s Ratio Perm					0.00		0.00
v/c Ratio	0.16	0.43		0.35	0.00	0.05	0.01
Uniform Delay, d1	39.2	5.1		6.9	5.4	26.3	26.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.5		0.4	0.0	0.3	0.1
Delay (s)	41.7	5.6		7.3	5.4	26.6	26.2
Level of Service	D	A		A	A	C	C
Approach Delay (s)		5.8		7.3		26.4	
Approach LOS		A		A		C	

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	313	178	1019	174	305	1853
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	3610	1615	1805	3610
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	3610	1615	1805	3610
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	340	193	1108	189	332	2014
RTOR Reduction (vph)	0	162	0	118	0	0
Lane Group Flow (vph)	340	31	1108	71	332	2014
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	12.9	12.9	30.1	30.1	25.0	59.1
Effective Green, g (s)	12.9	12.9	30.1	30.1	25.0	59.1
Actuated g/C Ratio	0.16	0.16	0.38	0.38	0.31	0.74
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	564	260	1358	607	564	2666
v/s Ratio Prot	c0.10		c0.31		0.18	c0.56
v/s Ratio Perm		0.02		0.04		
v/c Ratio	0.60	0.12	0.82	0.12	0.59	0.76
Uniform Delay, d1	31.2	28.7	22.5	16.3	23.2	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.2	5.5	0.4	1.6	2.0
Delay (s)	33.0	28.9	28.0	16.7	24.7	8.2
Level of Service	C	C	C	B	C	A
Approach Delay (s)	31.5		26.3			10.6
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

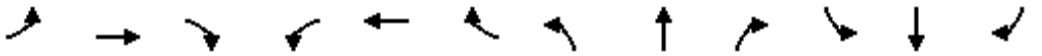
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	800	194	0	768	0	143
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	870	211	0	835	0	155
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1057		
pX, platoon unblocked						
vC, conflicting volume			1080		1392	540
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1080		1392	540
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	68
cM capacity (veh/h)			653		135	491

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	580	501	417	417	155
Volume Left	0	0	0	0	0
Volume Right	0	211	0	0	155
cSH	1700	1700	1700	1700	491
Volume to Capacity	0.34	0.29	0.25	0.25	0.32
Queue Length 95th (ft)	0	0	0	0	34
Control Delay (s)	0.0	0.0	0.0	0.0	15.7
Lane LOS					C
Approach Delay (s)	0.0		0.0		15.7
Approach LOS					C

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	249	669	280	442	669	296	271	90	153	299	81	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.91		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	3502	3444		3502	3270		3502	3210	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	3502	3444		3502	3270		3502	3210	
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)	271	727	304	480	727	322	295	98	166	325	88	248
RTOR Reduction (vph)	0	0	162	0	53	0	0	132	0	0	204	0
Lane Group Flow (vph)	271	727	142	480	996	0	295	132	0	325	132	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	12.2	26.1	42.1	15.9	29.8		16.0	18.7		13.3	16.0	
Effective Green, g (s)	12.2	26.1	42.1	15.9	29.8		16.0	18.7		13.3	16.0	
Actuated g/C Ratio	0.14	0.29	0.47	0.18	0.33		0.18	0.21		0.15	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	474	1046	827	618	1140		622	679		517	570	
v/s Ratio Prot	0.08	0.20	0.03	c0.14	c0.29		0.08	c0.04		c0.09	c0.04	
v/s Ratio Perm			0.06									
v/c Ratio	0.57	0.70	0.17	0.78	0.87		0.47	0.20		0.63	0.23	
Uniform Delay, d1	36.5	28.4	13.9	35.4	28.3		33.2	29.4		36.0	31.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	3.8	0.5	6.1	7.6		2.6	0.6		2.4	0.2	
Delay (s)	38.1	32.2	14.3	41.4	36.0		35.8	30.1		38.4	31.9	
Level of Service	D	C	B	D	D		D	C		D	C	
Approach Delay (s)		29.3			37.7			33.1			35.1	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	33.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	184	693	286	324	39	402	698	97	32	1179	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	1900	1615	1805	1870		3502	3610	1615	1805	5187	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	1900	1615	1805	1870		3502	3610	1615	1805	5187	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	200	753	311	352	42	437	759	105	35	1282	76
RTOR Reduction (vph)	0	0	48	0	4	0	0	0	51	0	0	56
Lane Group Flow (vph)	82	200	705	311	390	0	437	759	54	35	1282	20
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	5.6	16.5	49.9	21.9	32.8		33.4	61.4	61.4	4.2	32.2	32.2
Effective Green, g (s)	5.6	16.5	49.9	21.9	32.8		33.4	61.4	61.4	4.2	32.2	32.2
Actuated g/C Ratio	0.05	0.14	0.42	0.18	0.27		0.28	0.51	0.51	0.04	0.27	0.27
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	163	261	725	329	511		974	1847	826	63	1391	433
v/s Ratio Prot	0.02	0.11	c0.27	c0.17	0.21		0.12	0.21		0.02	c0.25	
v/s Ratio Perm			0.17						0.03			0.01
v/c Ratio	0.50	0.77	0.97	0.95	0.76		0.45	0.41	0.07	0.56	0.92	0.05
Uniform Delay, d1	55.8	49.9	34.4	48.5	40.0		35.7	18.1	14.8	57.0	42.7	32.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	19.1	26.6	35.2	6.7		0.3	0.7	0.2	10.2	10.3	0.0
Delay (s)	58.3	69.0	61.0	83.6	46.7		36.0	18.8	15.0	67.2	53.0	32.6
Level of Service	E	E	E	F	D		D	B	B	E	D	C
Approach Delay (s)		62.3			63.0			24.3			52.2	
Approach LOS		E			E			C			D	

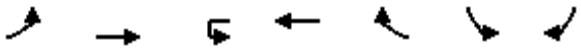
Intersection Summary			
HCM 2000 Control Delay	48.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	629	167	95	665	85	195	72	134	124	126	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	0.97		1.00	0.98		1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3496		1805	3549		1805	1714		1805	3350	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3496		1805	3549		1805	1714		1805	3350	
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)	88	684	182	103	723	92	212	78	146	135	137	127
RTOR Reduction (vph)	0	26	0	0	10	0	0	72	0	0	101	0
Lane Group Flow (vph)	88	840	0	103	805	0	212	152	0	135	163	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.5	27.3		12.0	32.8		16.0	18.7		16.0	18.7	
Effective Green, g (s)	6.5	27.3		12.0	32.8		16.0	18.7		16.0	18.7	
Actuated g/C Ratio	0.07	0.30		0.13	0.36		0.18	0.21		0.18	0.21	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	252	1060		240	1293		320	356		320	696	
v/s Ratio Prot	0.03	c0.24		0.06	c0.23		c0.12	c0.09		0.07	0.05	
v/s Ratio Perm												
v/c Ratio	0.35	0.79		0.43	0.62		0.66	0.43		0.42	0.23	
Uniform Delay, d1	39.7	28.8		35.9	23.5		34.5	31.0		32.9	29.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	6.1		1.2	0.9		10.3	3.7		4.0	0.8	
Delay (s)	40.6	34.8		37.1	24.5		44.8	34.7		36.9	30.5	
Level of Service	D	C		D	C		D	C		D	C	
Approach Delay (s)		35.4			25.9			39.6			32.7	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	699	167	113	689	27	137	15	121	26	24	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.97		1.00	0.99			0.94			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1805	3505		1805	3590			1742			1795	
Flt Permitted	0.95	1.00		0.95	1.00			0.82			0.86	
Satd. Flow (perm)	1805	3505		1805	3590			1470			1578	
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)	24	760	182	123	749	29	149	16	132	28	26	21
RTOR Reduction (vph)	0	23	0	0	3	0	0	36	0	0	15	0
Lane Group Flow (vph)	24	919	0	123	775	0	0	261	0	0	60	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	2.8	34.6		9.4	41.2			24.0			24.0	
Effective Green, g (s)	2.8	34.6		9.4	41.2			24.0			24.0	
Actuated g/C Ratio	0.03	0.43		0.12	0.52			0.30			0.30	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	63	1515		212	1848			441			473	
v/s Ratio Prot	0.01	c0.26		c0.07	0.22							
v/s Ratio Perm								c0.18			0.04	
v/c Ratio	0.38	0.61		0.58	0.42			0.59			0.13	
Uniform Delay, d1	37.8	17.5		33.4	12.0			23.8			20.4	
Progression Factor	1.00	1.00		0.73	0.55			1.00			1.00	
Incremental Delay, d2	3.8	1.8		3.7	0.7			5.8			0.6	
Delay (s)	41.6	19.3		28.1	7.3			29.6			20.9	
Level of Service	D	B		C	A			C			C	
Approach Delay (s)		19.8			10.1			29.6			20.9	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	31	815	0	816	9	12	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.95	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	3610		3610	1615	1805	1615
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	3610		3610	1615	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	886	0	887	10	13	14
RTOR Reduction (vph)	0	0	0	0	4	0	11
Lane Group Flow (vph)	34	886	0	887	6	13	3
Turn Type	Prot	NA	Prot	NA	Perm	Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases					6		4
Actuated Green, G (s)	4.8	56.0		47.2	47.2	16.0	16.0
Effective Green, g (s)	4.8	56.0		47.2	47.2	16.0	16.0
Actuated g/C Ratio	0.06	0.70		0.59	0.59	0.20	0.20
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	108	2527		2129	952	361	323
v/s Ratio Prot	0.02	c0.25		c0.25		c0.01	
v/s Ratio Perm					0.00		0.00
v/c Ratio	0.31	0.35		0.42	0.01	0.04	0.01
Uniform Delay, d1	36.0	4.8		8.9	6.7	25.8	25.6
Progression Factor	0.98	0.85		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.3		0.6	0.0	0.2	0.0
Delay (s)	36.6	4.3		9.5	6.8	26.0	25.7
Level of Service	D	A		A	A	C	C
Approach Delay (s)		5.5		9.5		25.8	
Approach LOS		A		A		C	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	241	387	1986	428	262	1189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3502	1615	3610	1615	1805	3610
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3502	1615	3610	1615	1805	3610
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	421	2159	465	285	1292
RTOR Reduction (vph)	0	4	0	200	0	0
Lane Group Flow (vph)	262	417	2159	265	285	1292
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	12.7	31.0	57.0	57.0	18.3	79.3
Effective Green, g (s)	12.7	31.0	57.0	57.0	18.3	79.3
Actuated g/C Ratio	0.13	0.31	0.57	0.57	0.18	0.79
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	444	565	2057	920	330	2862
v/s Ratio Prot	0.07	c0.13	c0.60		c0.16	0.36
v/s Ratio Perm		0.12		0.16		
v/c Ratio	0.59	0.74	1.05	0.29	0.86	0.45
Uniform Delay, d1	41.2	30.9	21.5	11.1	39.6	3.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	5.0	34.3	0.8	20.2	0.5
Delay (s)	43.3	35.9	55.8	11.9	59.8	3.9
Level of Service	D	D	E	B	E	A
Approach Delay (s)	38.7		48.1			14.0
Approach LOS	D		D			B

Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

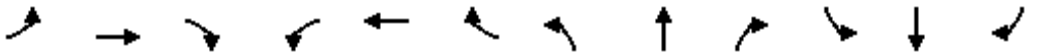
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	696	216	0	838	0	235
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	757	235	0	911	0	255
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1057		
pX, platoon unblocked						
vC, conflicting volume			991		1329	496
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			991		1329	496
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	51
cM capacity (veh/h)			705		149	525

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	504	487	455	455	255
Volume Left	0	0	0	0	0
Volume Right	0	235	0	0	255
cSH	1700	1700	1700	1700	525
Volume to Capacity	0.30	0.29	0.27	0.27	0.49
Queue Length 95th (ft)	0	0	0	0	66
Control Delay (s)	0.0	0.0	0.0	0.0	18.2
Lane LOS					C
Approach Delay (s)	0.0		0.0		18.2
Approach LOS					C

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	169	103	289	261	454	39	191	255	289	60	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.90		1.00	0.91		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	3502	3266		3502	3301		3502	3483	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	3502	3266		3502	3301		3502	3483	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	184	112	314	284	493	42	208	277	314	65	20
RTOR Reduction (vph)	0	0	58	0	309	0	0	206	0	0	17	0
Lane Group Flow (vph)	12	184	54	314	468	0	42	279	0	314	68	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	1.4	18.8	38.8	12.4	29.8		20.0	20.4		12.4	12.8	
Effective Green, g (s)	1.4	18.8	38.8	12.4	29.8		20.0	20.4		12.4	12.8	
Actuated g/C Ratio	0.02	0.24	0.48	0.16	0.37		0.25	0.25		0.16	0.16	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	61	848	864	542	1216		875	841		542	557	
v/s Ratio Prot	0.00	0.05	0.02	c0.09	c0.14		0.01	c0.08		c0.09	0.02	
v/s Ratio Perm			0.02									
v/c Ratio	0.20	0.22	0.06	0.58	0.38		0.05	0.33		0.58	0.12	
Uniform Delay, d1	38.7	24.7	10.9	31.4	18.4		22.8	24.2		31.4	28.8	
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	0.6	0.1	1.5	0.2		0.1	1.1		1.5	0.1	
Delay (s)	40.3	25.3	11.1	32.9	18.6		22.9	25.3		32.9	28.9	
Level of Service	D	C	B	C	B		C	C		C	C	
Approach Delay (s)		20.7			22.7			25.1			32.0	
Approach LOS		C			C			C			C	

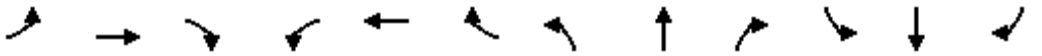
Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	205	418	213	174	23	492	1568	313	32	820	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00		0.97	0.95	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	1900	1615	1805	1867		3502	3610	1615	1805	5187	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	1900	1615	1805	1867		3502	3610	1615	1805	5187	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	223	454	232	189	25	535	1704	340	35	891	52
RTOR Reduction (vph)	0	0	38	0	5	0	0	0	98	0	0	35
Lane Group Flow (vph)	92	223	416	232	209	0	535	1704	242	35	891	17
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	5.6	15.1	34.2	11.0	20.5		19.1	43.7	43.7	4.2	28.8	28.8
Effective Green, g (s)	5.6	15.1	34.2	11.0	20.5		19.1	43.7	43.7	4.2	28.8	28.8
Actuated g/C Ratio	0.06	0.17	0.38	0.12	0.23		0.21	0.49	0.49	0.05	0.32	0.32
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	217	318	685	220	425		743	1752	784	84	1659	516
v/s Ratio Prot	0.03	c0.12	c0.13	c0.13	0.11		0.15	c0.47		0.02	0.17	
v/s Ratio Perm			0.13						0.15			0.01
v/c Ratio	0.42	0.70	0.61	1.05	0.49		0.72	0.97	0.31	0.42	0.54	0.03
Uniform Delay, d1	40.6	35.3	22.5	39.5	30.2		33.0	22.6	14.0	41.7	25.1	21.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	6.8	1.5	75.8	0.9		3.4	15.9	1.0	3.3	0.3	0.0
Delay (s)	42.0	42.2	24.0	115.3	31.1		36.4	38.5	15.0	45.0	25.5	21.1
Level of Service	D	D	C	F	C		D	D	B	D	C	C
Approach Delay (s)		31.4			74.9			35.0			25.9	
Approach LOS		C			E			C			C	

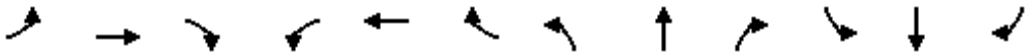
Intersection Summary			
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

YEAR 2035 WITH 6-LANES CONDITIONS



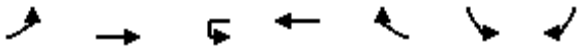
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	1391	181	290	790	139	169	91	235	190	281	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.98		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)	3502	5097		3502	5071		1805	3610	1615	1805	3610	1615
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)	3502	5097		3502	5071		1805	3610	1615	1805	3610	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	86	1391	181	290	790	139	169	91	235	190	281	113
RTOR Reduction (vph)	0	18	0	0	24	0	0	0	193	0	0	83
Lane Group Flow (vph)	86	1554	0	290	905	0	169	91	42	190	281	30
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases									8			4
Actuated Green, G (s)	7.9	29.3		12.7	34.1		16.0	16.0	16.0	16.0	16.0	23.9
Effective Green, g (s)	7.9	29.3		12.7	34.1		16.0	16.0	16.0	16.0	16.0	23.9
Actuated g/C Ratio	0.09	0.33		0.14	0.38		0.18	0.18	0.18	0.18	0.18	0.27
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	307	1659		494	1921		320	641	287	320	641	500
v/s Ratio Prot	0.02	c0.30		c0.08	0.18		0.09	0.03		c0.11	c0.08	0.01
v/s Ratio Perm									0.03			0.01
v/c Ratio	0.28	0.94		0.59	0.47		0.53	0.14	0.15	0.59	0.44	0.06
Uniform Delay, d1	38.4	29.5		36.2	21.1		33.6	31.2	31.2	34.0	33.0	24.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	11.5		1.8	0.2		6.1	0.5	1.1	7.9	2.2	0.1
Delay (s)	38.9	40.9		38.0	21.3		39.7	31.7	32.3	41.9	35.2	24.7
Level of Service	D	D		D	C		D	C	C	D	D	C
Approach Delay (s)		40.8			25.3			34.7			35.3	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	1674	128	152	1087	16	95	4	86	41	35	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.94			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1805	5187	1615	1805	5176			1736			1784	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.80			0.87	
Satd. Flow (perm)	1805	5187	1615	1805	5176			1430			1577	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	14	1674	128	152	1087	16	95	4	86	41	35	37
RTOR Reduction (vph)	0	0	69	0	2	0	0	38	0	0	21	0
Lane Group Flow (vph)	14	1674	59	152	1101	0	0	147	0	0	92	0
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)	1.4	34.8	34.8	14.3	47.7			18.9			18.9	
Effective Green, g (s)	1.4	34.8	34.8	14.3	47.7			18.9			18.9	
Actuated g/C Ratio	0.02	0.43	0.43	0.18	0.60			0.24			0.24	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	31	2256	702	322	3086			337			372	
v/s Ratio Prot	0.01	c0.32		c0.08	0.21							
v/s Ratio Perm			0.04					c0.10			0.06	
v/c Ratio	0.45	0.74	0.08	0.47	0.36			0.44			0.25	
Uniform Delay, d1	38.9	18.9	13.2	29.5	8.3			26.0			24.8	
Progression Factor	1.00	1.00	1.00	1.65	2.84			1.00			1.00	
Incremental Delay, d2	10.1	2.3	0.2	1.0	0.3			4.1			1.6	
Delay (s)	49.0	21.1	13.5	49.7	23.8			30.1			26.3	
Level of Service	D	C	B	D	C			C			C	
Approach Delay (s)		20.8			27.0			30.1			26.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

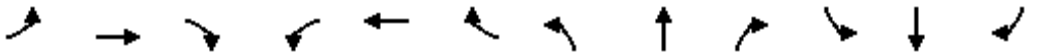


Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	5	1796	0	1236	7	17	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		0.91		1.00	1.00
Frt	1.00	1.00		1.00		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1805	5187		5183		1805	1615
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1805	5187		5183		1805	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	1796	0	1236	7	17	19
RTOR Reduction (vph)	0	0	0	1	0	0	15
Lane Group Flow (vph)	5	1796	0	1242	0	17	4
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	1.4	56.0		50.6		16.0	16.0
Effective Green, g (s)	1.4	56.0		50.6		16.0	16.0
Actuated g/C Ratio	0.02	0.70		0.63		0.20	0.20
Clearance Time (s)	4.0	4.0		4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	31	3630		3278		361	323
v/s Ratio Prot	0.00	c0.35		0.24		c0.01	
v/s Ratio Perm							0.00
v/c Ratio	0.16	0.49		0.38		0.05	0.01
Uniform Delay, d1	38.7	5.5		7.1		25.8	25.7
Progression Factor	1.26	0.99		1.79		1.00	1.00
Incremental Delay, d2	1.8	0.4		0.3		0.2	0.1
Delay (s)	50.5	5.8		13.0		26.1	25.7
Level of Service	D	A		B		C	C
Approach Delay (s)		5.9		13.0		25.9	
Approach LOS		A		B		C	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

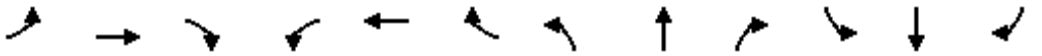
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	589	714	560	290	887	913
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.88	0.91	1.00	0.97	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	2842	5187	1615	3502	5187
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	2842	5187	1615	3502	5187
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	589	714	560	290	887	913
RTOR Reduction (vph)	0	20	0	6	0	0
Lane Group Flow (vph)	589	694	560	284	887	913
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Actuated Green, G (s)	28.1	50.1	17.9	46.0	22.0	43.9
Effective Green, g (s)	28.1	50.1	17.9	46.0	22.0	43.9
Actuated g/C Ratio	0.35	0.63	0.22	0.58	0.28	0.55
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	634	1921	1160	1009	963	2846
v/s Ratio Prot	c0.33	0.10	c0.11	0.10	c0.25	0.18
v/s Ratio Perm		0.14		0.08		
v/c Ratio	0.93	0.36	0.48	0.28	0.92	0.32
Uniform Delay, d1	25.0	7.2	27.0	8.6	28.2	9.9
Progression Factor	1.00	1.00	0.84	0.40	1.59	2.41
Incremental Delay, d2	19.9	0.1	1.4	0.2	12.5	0.3
Delay (s)	44.9	7.3	24.2	3.6	57.1	24.1
Level of Service	D	A	C	A	E	C
Approach Delay (s)	24.3		17.2			40.4
Approach LOS	C		B			D

Intersection Summary			
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



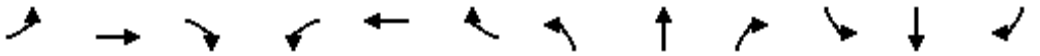
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	7	99	14	5	40	122	842	6	48	1409	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00		1.00	1.00		1.00	0.91		1.00	0.91	1.00
Frt		0.89		1.00	0.87		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1681		1805	1647		1805	5181		1805	5187	1615
Flt Permitted		0.95		0.59	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1604		1118	1647		1805	5181		1805	5187	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	7	99	14	5	40	122	842	6	48	1409	30
RTOR Reduction (vph)	0	91	0	0	37	0	0	1	0	0	0	11
Lane Group Flow (vph)	0	31	0	14	8	0	122	847	0	48	1409	19
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)		6.8		6.8	6.8		9.4	56.0		5.2	51.8	51.8
Effective Green, g (s)		6.8		6.8	6.8		9.4	56.0		5.2	51.8	51.8
Actuated g/C Ratio		0.08		0.08	0.08		0.12	0.70		0.07	0.65	0.65
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		136		95	139		212	3626		117	3358	1045
v/s Ratio Prot					0.01		c0.07	0.16		0.03	c0.27	
v/s Ratio Perm		c0.02		0.01								0.01
v/c Ratio		0.23		0.15	0.06		0.58	0.23		0.41	0.42	0.02
Uniform Delay, d1		34.2		33.9	33.7		33.4	4.3		35.9	6.8	5.0
Progression Factor		1.00		1.00	1.00		1.00	1.00		0.53	1.47	1.00
Incremental Delay, d2		0.9		0.7	0.2		3.7	0.2		2.0	0.1	0.0
Delay (s)		35.0		34.6	33.8		37.2	4.5		21.1	10.1	5.0
Level of Service		D		C	C		D	A		C	B	A
Approach Delay (s)		35.0			34.0			8.6			10.4	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



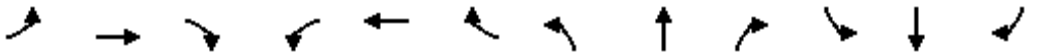
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	544	739	602	631	244	232	1302	169	146	1957	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	0.88	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	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	0.95	1.00	1.00
Satd. Flow (prot)	3502	5187	2842	3502	3610	1615	3502	5187	1615	3502	5187	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	5187	2842	3502	3610	1615	3502	5187	1615	3502	5187	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	240	544	739	602	631	244	232	1302	169	146	1957	107
RTOR Reduction (vph)	0	0	34	0	0	58	0	0	15	0	0	38
Lane Group Flow (vph)	240	544	705	602	631	186	232	1302	154	146	1957	69
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.1	15.6	29.6	23.3	25.8	34.8	14.0	56.1	79.4	9.0	51.1	64.2
Effective Green, g (s)	13.1	15.6	29.6	23.3	25.8	34.8	14.0	56.1	79.4	9.0	51.1	64.2
Actuated g/C Ratio	0.11	0.13	0.25	0.19	0.22	0.29	0.12	0.47	0.66	0.08	0.43	0.54
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	382	674	795	679	776	468	408	2424	1122	262	2208	864
v/s Ratio Prot	0.07	0.10	c0.10	0.17	c0.17	0.03	0.07	0.25	0.03	0.04	c0.38	0.01
v/s Ratio Perm			0.14			0.09			0.07			0.03
v/c Ratio	0.63	0.81	0.89	0.89	0.81	0.40	0.57	0.54	0.14	0.56	0.89	0.08
Uniform Delay, d1	51.1	50.7	43.6	47.1	44.8	34.2	50.1	22.7	7.6	53.6	31.8	13.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.63	1.65
Incremental Delay, d2	3.2	7.0	11.7	13.3	6.5	0.6	1.8	0.9	0.1	1.5	3.5	0.0
Delay (s)	54.3	57.8	55.3	60.4	51.3	34.7	52.0	23.6	7.6	60.6	55.4	22.4
Level of Service	D	E	E	E	D	C	D	C	A	E	E	C
Approach Delay (s)		56.0			52.3			25.9			54.1	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	47.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



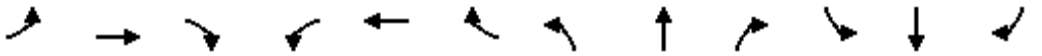
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	582	438	504	667	329	447	166	161	371	181	445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.93		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	3502	3431		3502	3343		3502	3225	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	3502	3431		3502	3343		3502	3225	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	380	582	438	504	667	329	447	166	161	371	181	445
RTOR Reduction (vph)	0	0	132	0	58	0	0	124	0	0	309	0
Lane Group Flow (vph)	380	582	306	504	938	0	447	203	0	371	317	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	16.0	25.5	41.5	19.5	29.0		16.0	23.2		15.8	23.0	
Effective Green, g (s)	16.0	25.5	41.5	19.5	29.0		16.0	23.2		15.8	23.0	
Actuated g/C Ratio	0.16	0.26	0.42	0.20	0.29		0.16	0.23		0.16	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	560	920	734	682	994		560	775		553	741	
v/s Ratio Prot	0.11	0.16	0.07	c0.14	c0.27		c0.13	0.06		0.11	c0.10	
v/s Ratio Perm			0.12									
v/c Ratio	0.68	0.63	0.42	0.74	0.94		0.80	0.26		0.67	0.43	
Uniform Delay, d1	39.6	33.1	20.7	37.9	34.7		40.4	31.4		39.7	32.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.3	3.3	1.7	4.2	16.6		11.3	0.8		3.2	0.4	
Delay (s)	42.8	36.4	22.4	42.1	51.4		51.8	32.2		42.8	33.3	
Level of Service	D	D	C	D	D		D	C		D	C	
Approach Delay (s)		33.8			48.2			43.5			36.8	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	40.7	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)	16.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



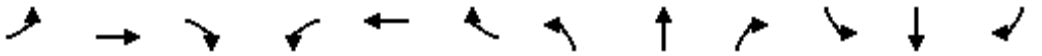
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	213	367	487	176	473	96	421	1243	122	118	1546	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1805	3519		3502	5187	1615	3502	5187	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	3610	1615	1805	3519		3502	5187	1615	3502	5187	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	213	367	487	176	473	96	421	1243	122	118	1546	216
RTOR Reduction (vph)	0	0	52	0	14	0	0	0	42	0	0	22
Lane Group Flow (vph)	213	367	435	176	555	0	421	1243	80	118	1546	194
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4						2			6
Actuated Green, G (s)	17.0	22.3	44.5	15.4	20.7		22.2	58.4	58.4	7.9	44.1	61.1
Effective Green, g (s)	17.0	22.3	44.5	15.4	20.7		22.2	58.4	58.4	7.9	44.1	61.1
Actuated g/C Ratio	0.14	0.19	0.37	0.13	0.17		0.18	0.49	0.49	0.07	0.37	0.51
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	670	598	231	607		647	2524	785	230	1906	876
v/s Ratio Prot	0.12	0.10	c0.13	0.10	c0.16		0.12	0.24		0.03	c0.30	0.03
v/s Ratio Perm			0.14						0.05			0.09
v/c Ratio	0.84	0.55	0.73	0.76	0.91		0.65	0.49	0.10	0.51	0.81	0.22
Uniform Delay, d1	50.1	44.3	32.5	50.5	48.8		45.3	20.8	16.6	54.2	34.2	16.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.38	1.67	2.78	1.00	1.00	1.00
Incremental Delay, d2	20.4	0.9	4.4	13.8	18.3		2.0	0.6	0.2	1.9	2.7	0.1
Delay (s)	70.6	45.2	37.0	64.3	67.1		64.6	35.3	46.5	56.1	36.9	16.4
Level of Service	E	D	D	E	E		E	D	D	E	D	B
Approach Delay (s)		46.5			66.5			43.0			35.8	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



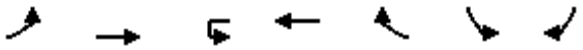
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	84	902	157	231	1198	229	222	122	317	301	200	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		0.97	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.98		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)	3502	5072		3502	5062		1805	3610	1615	1805	3610	1615
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)	3502	5072		3502	5062		1805	3610	1615	1805	3610	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	84	902	157	231	1198	229	222	122	317	301	200	137
RTOR Reduction (vph)	0	25	0	0	27	0	0	0	261	0	0	61
Lane Group Flow (vph)	84	1034	0	231	1400	0	222	122	56	301	200	76
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases									8			4
Actuated Green, G (s)	7.8	30.8		11.2	34.2		16.0	16.0	16.0	16.0	16.0	23.8
Effective Green, g (s)	7.8	30.8		11.2	34.2		16.0	16.0	16.0	16.0	16.0	23.8
Actuated g/C Ratio	0.09	0.34		0.12	0.38		0.18	0.18	0.18	0.18	0.18	0.26
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	303	1735		435	1923		320	641	287	320	641	498
v/s Ratio Prot	0.02	0.20		c0.07	c0.28		0.12	0.03		c0.17	c0.06	0.01
v/s Ratio Perm									0.03			0.03
v/c Ratio	0.28	0.60		0.53	0.73		0.69	0.19	0.20	0.94	0.31	0.15
Uniform Delay, d1	38.5	24.5		36.9	23.9		34.7	31.5	31.5	36.5	32.2	25.4
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	0.5	1.5		1.2	1.4		11.7	0.7	1.5	37.2	1.3	0.1
Delay (s)	39.0	26.0		38.2	25.3		46.4	32.1	33.0	73.8	33.5	25.5
Level of Service	D	C		D	C		D	C	C	E	C	C
Approach Delay (s)		26.9			27.1			37.4			50.8	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	1368	129	71	1457	24	176	8	116	25	9	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.95			0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1805	5187	1615	1805	5174			1750			1754	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.79			0.84	
Satd. Flow (perm)	1805	5187	1615	1805	5174			1415			1501	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	1368	129	71	1457	24	176	8	116	25	9	25
RTOR Reduction (vph)	0	0	56	0	2	0	0	28	0	0	17	0
Lane Group Flow (vph)	24	1368	73	71	1479	0	0	272	0	0	42	0
Turn Type	Prot	NA	Perm	Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)	2.8	34.8	34.8	6.2	38.2			27.0			27.0	
Effective Green, g (s)	2.8	34.8	34.8	6.2	38.2			27.0			27.0	
Actuated g/C Ratio	0.03	0.43	0.43	0.08	0.48			0.34			0.34	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	63	2256	702	139	2470			477			506	
v/s Ratio Prot	0.01	0.26		c0.04	c0.29							
v/s Ratio Perm			0.05					c0.19			0.03	
v/c Ratio	0.38	0.61	0.10	0.51	0.60			0.57			0.08	
Uniform Delay, d1	37.8	17.3	13.4	35.4	15.3			21.7			18.1	
Progression Factor	1.00	1.00	1.00	0.76	1.09			1.00			1.00	
Incremental Delay, d2	3.8	1.2	0.3	2.8	1.0			4.9			0.3	
Delay (s)	41.6	18.6	13.7	29.8	17.7			26.6			18.4	
Level of Service	D	B	B	C	B			C			B	
Approach Delay (s)		18.5			18.2			26.6			18.4	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

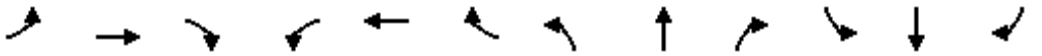


Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	32	1477	0	1539	9	11	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		0.91		1.00	1.00
Frt	1.00	1.00		1.00		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1805	5187		5182		1805	1615
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1805	5187		5182		1805	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	1477	0	1539	9	11	13
RTOR Reduction (vph)	0	0	0	1	0	0	10
Lane Group Flow (vph)	32	1477	0	1547	0	11	3
Turn Type	Prot	NA	Prot	NA		Prot	Perm
Protected Phases	5	2	1	6		4	
Permitted Phases							4
Actuated Green, G (s)	2.8	56.0		49.2		16.0	16.0
Effective Green, g (s)	2.8	56.0		49.2		16.0	16.0
Actuated g/C Ratio	0.03	0.70		0.62		0.20	0.20
Clearance Time (s)	4.0	4.0		4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	63	3630		3186		361	323
v/s Ratio Prot	0.02	c0.28		c0.30		c0.01	
v/s Ratio Perm							0.00
v/c Ratio	0.51	0.41		0.49		0.03	0.01
Uniform Delay, d1	37.9	5.0		8.5		25.8	25.6
Progression Factor	1.23	0.46		1.86		1.00	1.00
Incremental Delay, d2	5.2	0.3		0.5		0.2	0.0
Delay (s)	51.9	2.6		16.2		25.9	25.7
Level of Service	D	A		B		C	C
Approach Delay (s)		3.7		16.2		25.8	
Approach LOS		A		B		C	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

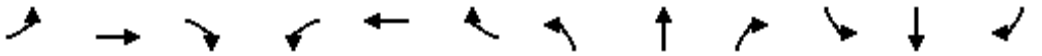
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	409	755	811	488	777	731
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.88	0.91	1.00	0.97	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	2842	5187	1615	3502	5187
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	2842	5187	1615	3502	5187
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	409	755	811	488	777	731
RTOR Reduction (vph)	0	7	0	12	0	0
Lane Group Flow (vph)	409	748	811	476	777	731
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Actuated Green, G (s)	22.5	45.5	22.5	45.0	23.0	49.5
Effective Green, g (s)	22.5	45.5	22.5	45.0	23.0	49.5
Actuated g/C Ratio	0.28	0.57	0.28	0.56	0.29	0.62
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	507	1758	1458	989	1006	3209
v/s Ratio Prot	c0.23	0.12	c0.16	0.14	c0.22	0.14
v/s Ratio Perm		0.14		0.16		
v/c Ratio	0.81	0.43	0.56	0.48	0.77	0.23
Uniform Delay, d1	26.7	9.8	24.5	10.5	26.1	6.8
Progression Factor	1.01	1.11	0.91	0.57	0.96	1.62
Incremental Delay, d2	9.0	0.2	1.5	0.4	3.5	0.2
Delay (s)	36.1	11.0	23.6	6.3	28.5	11.1
Level of Service	D	B	C	A	C	B
Approach Delay (s)	19.8		17.1			20.1
Approach LOS	B		B			C

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



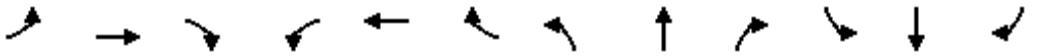
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	17	178	24	30	45	123	1246	33	52	1093	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00		1.00	1.00		1.00	0.91		1.00	0.91	1.00
Frt		0.90		1.00	0.91		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1690		1805	1729		1805	5167		1805	5187	1615
Flt Permitted		0.93		0.40	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		1585		768	1729		1805	5167		1805	5187	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	38	17	178	24	30	45	123	1246	33	52	1093	25
RTOR Reduction (vph)	0	156	0	0	39	0	0	2	0	0	0	13
Lane Group Flow (vph)	0	77	0	24	36	0	123	1277	0	52	1093	12
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								6
Actuated Green, G (s)		9.9		9.9	9.9		18.4	52.8		5.3	39.7	39.7
Effective Green, g (s)		9.9		9.9	9.9		18.4	52.8		5.3	39.7	39.7
Actuated g/C Ratio		0.12		0.12	0.12		0.23	0.66		0.07	0.50	0.50
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		196		95	213		415	3410		119	2574	801
v/s Ratio Prot					0.02		0.07	c0.25		0.03	c0.21	
v/s Ratio Perm		c0.05		0.03								0.01
v/c Ratio		0.39		0.25	0.17		0.30	0.37		0.44	0.42	0.02
Uniform Delay, d1		32.3		31.7	31.4		25.5	6.1		35.9	12.9	10.2
Progression Factor		1.00		1.00	1.00		1.00	1.00		0.77	1.43	1.00
Incremental Delay, d2		1.3		1.4	0.4		0.4	0.3		2.4	0.1	0.0
Delay (s)		33.6		33.1	31.7		25.9	6.5		30.1	18.4	10.2
Level of Service		C		C	C		C	A		C	B	B
Approach Delay (s)		33.6			32.1			8.2			18.8	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



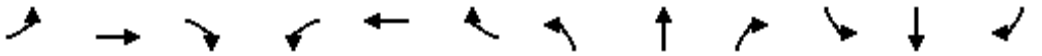
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	337	587	371	651	952	312	282	2250	324	199	1596	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	0.88	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	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	0.95	1.00	1.00
Satd. Flow (prot)	3502	5187	2842	3502	3610	1615	3502	5187	1615	3502	5187	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	5187	2842	3502	3610	1615	3502	5187	1615	3502	5187	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	337	587	371	651	952	312	282	2250	324	199	1596	168
RTOR Reduction (vph)	0	0	73	0	0	37	0	0	21	0	0	50
Lane Group Flow (vph)	337	587	298	651	952	275	282	2250	303	199	1596	118
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	9.0	15.4	25.4	18.6	25.0	32.0	10.0	43.0	61.6	7.0	40.0	49.0
Effective Green, g (s)	9.0	15.4	25.4	18.6	25.0	32.0	10.0	43.0	61.6	7.0	40.0	49.0
Actuated g/C Ratio	0.09	0.15	0.25	0.19	0.25	0.32	0.10	0.43	0.62	0.07	0.40	0.49
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	315	798	721	651	902	516	350	2230	994	245	2074	791
v/s Ratio Prot	0.10	0.11	0.04	c0.19	c0.26	0.04	c0.08	c0.43	0.06	0.06	0.31	0.01
v/s Ratio Perm			0.06			0.13			0.13			0.06
v/c Ratio	1.07	0.74	0.41	1.00	1.06	0.53	0.81	1.01	0.30	0.81	0.77	0.15
Uniform Delay, d1	45.5	40.4	31.1	40.7	37.5	27.9	44.0	28.5	9.1	45.9	26.0	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	70.5	3.5	0.4	35.3	45.7	1.1	12.7	21.3	0.2	18.2	2.8	0.1
Delay (s)	116.0	43.9	31.5	76.0	83.2	28.9	56.7	49.8	9.3	64.1	28.8	14.1
Level of Service	F	D	C	E	F	C	E	D	A	E	C	B
Approach Delay (s)		59.1			71.9			45.9			31.1	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	50.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	282	375	210	378	473	127	446	190	341	154	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		0.97	0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3502	3610	1615	3502	3309		3502	3448		3502	3403	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3502	3610	1615	3502	3309		3502	3448		3502	3403	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	56	282	375	210	378	473	127	446	190	341	154	95
RTOR Reduction (vph)	0	0	179	0	233	0	0	56	0	0	76	0
Lane Group Flow (vph)	56	282	196	210	618	0	127	580	0	341	173	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6		3	8		7	4	
Permitted Phases			2									
Actuated Green, G (s)	4.5	21.9	37.9	10.1	27.5		16.0	19.1		12.9	16.0	
Effective Green, g (s)	4.5	21.9	37.9	10.1	27.5		16.0	19.1		12.9	16.0	
Actuated g/C Ratio	0.06	0.27	0.47	0.13	0.34		0.20	0.24		0.16	0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	196	988	845	442	1137		700	823		564	680	
v/s Ratio Prot	0.02	0.08	0.05	c0.06	c0.19		0.04	c0.17		c0.10	0.05	
v/s Ratio Perm			0.07									
v/c Ratio	0.29	0.29	0.23	0.48	0.54		0.18	0.70		0.60	0.25	
Uniform Delay, d1	36.2	22.9	12.4	32.5	21.2		26.6	27.9		31.2	27.0	
Progression Factor	0.87	1.59	1.01	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.5	0.5	0.8	0.5		0.6	5.0		1.8	0.2	
Delay (s)	32.2	37.0	13.1	33.3	21.7		27.1	32.9		33.0	27.2	
Level of Service	C	D	B	C	C		C	C		C	C	
Approach Delay (s)		24.0			24.0			31.9			30.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	218	381	339	255	441	86	450	2139	310	121	1369	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1805	3522		3502	5187	1615	3502	5187	1615
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	3610	1615	1805	3522		3502	5187	1615	3502	5187	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	218	381	339	255	441	86	450	2139	310	121	1369	170
RTOR Reduction (vph)	0	0	52	0	14	0	0	0	58	0	0	23
Lane Group Flow (vph)	218	381	287	255	513	0	450	2139	252	121	1369	147
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4						2			6
Actuated Green, G (s)	16.5	20.3	44.2	17.0	20.8		23.9	59.4	59.4	7.3	42.8	59.3
Effective Green, g (s)	16.5	20.3	44.2	17.0	20.8		23.9	59.4	59.4	7.3	42.8	59.3
Actuated g/C Ratio	0.14	0.17	0.37	0.14	0.17		0.20	0.49	0.49	0.06	0.36	0.49
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	248	610	594	255	610		697	2567	799	213	1850	798
v/s Ratio Prot	0.12	0.11	0.10	c0.14	c0.15		0.13	c0.41		0.03	c0.26	0.03
v/s Ratio Perm			0.08						0.16			0.07
v/c Ratio	0.88	0.62	0.48	1.00	0.84		0.65	0.83	0.32	0.57	0.74	0.18
Uniform Delay, d1	50.8	46.3	29.1	51.5	48.0		44.2	26.0	18.1	54.8	33.7	16.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.37	1.62	2.11	1.00	1.00	1.00
Incremental Delay, d2	27.7	2.0	0.6	56.4	10.2		1.0	1.6	0.5	3.5	1.6	0.1
Delay (s)	78.5	48.3	29.7	107.9	58.2		61.5	43.9	38.7	58.3	35.3	17.0
Level of Service	E	D	C	F	E		E	D	D	E	D	B
Approach Delay (s)		48.6			74.4			46.1			35.1	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			