TRACY HILLS SPECIFIC PLAN
DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT
VOLUME II
DECEMBER 2014

APPENDIX H-2b
TRAFFIC CONDITIONS ANALYSIS (SYNCHRO) – LIVERMORE, DATED FALL 2014

Intersection	
Intersection Delay, s/veh	206.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	12	6	63	145	352	58	29	81	4	12	469	107
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	320	-	-	-	-	-	190	-	-	150	-	235
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	81	81	81	86	86	86	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	8	84	179	435	72	34	94	5	13	499	114

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	941	690	499	734	688	97	499	0	0	99	0	0
Stage 1	524	524	-	164	164	-	-	-	-	-	-	-
Stage 2	417	166	-	570	524	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	243	368	572	336	# 369	959	1065	-	-	1494	-	-
Stage 1	537	530	-	838	762	-	-	-	-	-	-	-
Stage 2	613	761	-	506	530	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	-	353	572	273	# 354	959	1065	-	-	1494	-	-
Mov Capacity-2 Maneuver	-	353	-	273	# 354	-	-	-	-	-	-	-
Stage 1	520	525	-	811	738	-	-	-	-	-	-	-
Stage 2	226	737	-	421	525	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	+	$ 466.3	2.2	0.2
HCM LOS	-	F		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1065	-	-	+	+	350	1494	-	-
HCM Lane V/C Ratio	0.032	-	-	+	+	1.958	0.009	-	-
HCM Control Delay (s)	8.491	-	-	+	+	$ 466.3	7.43	-	-
HCM Lane LOS	A			+	+	F	A		
HCM 95th %tile Q(veh)	0.098	-	-	+	+	47.327	0.026	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	38.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	128	24	39	1	549	60	8	5	4	14	26	152
Peak Hour Factor	0.84	0.84	0.84	0.82	0.82	0.82	0.71	0.71	0.71	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	152	29	46	1	670	73	11	7	6	15	28	162
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.7	55.3	10.1	11.8
HCM LOS	B	F	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	67%	0%	7%
Vol Thru, %	29%	13%	90%	14%
Vol Right, %	24%	20%	10%	79%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	191	610	192
LT Vol	5	24	549	26
Through Vol	4	39	60	152
RT Vol	8	128	1	14
Lane Flow Rate	24	227	744	204
Geometry Grp	1	1	1	1
Degree of Util (X)	0.046	0.358	1	0.337
Departure Headway (Hd)	6.849	5.665	4.94	5.933
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	531	643	736	617
Service Time	4.785	3.63	2.978	3.874
HCM Lane V/C Ratio	0.045	0.353	1.011	0.331
HCM Control Delay	10.1	11.7	55.3	11.8
HCM Lane LOS	B	B	F	B
HCM 95th-tile Q	0.1	1.6	16.5	1.5

Notes

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	152	100	805	245	90	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1544	1770	1863	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1544	1770	1863	1770	1583
Peak-hour factor, PHF	0.75	0.75	0.92	0.92	0.87	0.87
Adj. Flow (vph)	203	133	875	266	103	459
RTOR Reduction (vph)	0	112	0	0	0	89
Lane Group Flow (vph)	203	21	875	266	103	370
Confl. Peds. (#/hr)		2	2			
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	15.4	15.4	47.1	66.5	18.4	65.5
Effective Green, g (s)	15.4	15.4	47.1	66.5	18.4	65.5
Actuated g/C Ratio	0.16	0.16	0.49	0.70	0.19	0.69
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	300	248	872	1297	341	1085
v/s Ratio Prot	c0.11		c0.49	0.14	0.06	c0.17
v/s Ratio Perm		0.01				0.07
v/c Ratio	0.68	0.09	1.00	0.21	0.30	0.34
Uniform Delay, d1	37.7	34.1	24.2	5.1	33.0	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.9	0.2	31.3	0.1	2.3	0.2
Delay (s)	43.6	34.2	55.5	5.2	35.3	6.3
Level of Service	D	C	E	A	D	A
Approach Delay (s)	39.9			43.8	11.7	
Approach LOS	D			D	B	

Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	95.5	Sum of lost time (s)	14.6
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	396	625	456	70	146	640
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	1
Cap, veh/h	483	862	1709	722	199	1070
Arrive On Green	0.27	0.27	0.46	0.46	0.06	0.57
Sat Flow, veh/h	1774	3167	3725	1573	3442	1863
Grp Volume(v), veh/h	426	672	507	78	162	711
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1573	1721	1863
Q Serve(g_s), s	15.9	13.5	5.9	2.0	3.2	18.2
Cycle Q Clear(g_c), s	15.9	13.5	5.9	2.0	3.2	18.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	483	862	1709	722	199	1070
V/C Ratio(X)	0.88	0.78	0.30	0.11	0.81	0.66
Avail Cap(c_a), veh/h	506	903	1709	722	199	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	23.2	11.7	10.7	32.2	10.1
Incr Delay (d2), s/veh	16.1	4.2	0.4	0.3	22.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	8.9	5.6	2.6	0.8	2.0	8.3
Lane Grp Delay (d), s/veh	40.2	27.5	12.2	11.0	54.2	13.4
Lane Grp LOS	D	C	B	B	D	B
Approach Vol, veh/h	1098		585			873
Approach Delay, s/veh	32.4		12.0			21.0
Approach LOS	C		B			C

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			37.0		8.0	45.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			31.7		4.0	39.7
Max Q Clear Time (g_c+I1), s			7.9		5.2	20.2
Green Ext Time (p_c), s			9.7		0.0	8.9

Intersection Summary	
HCM 2010 Ctrl Delay	23.8
HCM 2010 LOS	C

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	941	4	412	342	2	707
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.97	0.97
Adj. Flow (vph)	1057	4	453	376	2	729
RTOR Reduction (vph)	0	1	0	95	0	0
Lane Group Flow (vph)	1057	3	453	281	2	729
Turn Type	NA	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	71.7	72.5	46.1	46.1	0.8	50.9
Effective Green, g (s)	71.7	72.5	46.1	46.1	0.8	50.9
Actuated g/C Ratio	0.54	0.54	0.35	0.35	0.01	0.38
Clearance Time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	952	861	644	547	10	711
v/s Ratio Prot	c0.60	0.00	0.24		0.00	c0.39
v/s Ratio Perm		0.00		0.18		
v/c Ratio	1.11	0.00	0.70	0.51	0.20	1.03
Uniform Delay, d1	30.7	13.9	37.6	34.6	65.9	41.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	64.3	0.0	6.3	3.4	9.6	40.3
Delay (s)	95.1	13.9	44.0	38.0	75.5	81.5
Level of Service	F	B	D	D	E	F
Approach Delay (s)	94.8		41.3			81.5
Approach LOS	F		D			F

Intersection Summary			
HCM 2000 Control Delay	74.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	133.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	98.2%	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)	178	0	352	0	0	0	0	709	363	0	801	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					3539	1583		3539	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					3539	1583		3539	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	198	0	391	0	0	0	0	797	408	0	931	110
RTOR Reduction (vph)	0	0	376	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	198	0	15	0	0	0	0	797	408	0	931	110
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		5						Free			Free
Actuated Green, G (s)	12.1		4.0					82.3	105.0		73.0	105.0
Effective Green, g (s)	12.1		4.0					82.3	105.0		73.0	105.0
Actuated g/C Ratio	0.12		0.04					0.78	1.00		0.70	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	395		106					2773	1583		2460	1583
v/s Ratio Prot								0.23			c0.26	
v/s Ratio Perm	c0.06		0.01						c0.26			0.07
v/c Ratio	0.50		0.14					0.29	0.26		0.38	0.07
Uniform Delay, d1	43.6		48.8					3.2	0.0		6.6	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0		0.6					0.3	0.4		0.4	0.1
Delay (s)	44.6		49.4					3.4	0.4		7.1	0.1
Level of Service	D		D					A	A		A	A
Approach Delay (s)		47.8			0.0			2.4			6.3	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM research does not support more than two 'Free' approaches at the intersection.

Intersection	
Intersection Delay, s/veh	94.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	69	217	33	4	14	10	50	509	172	126	91	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	320	-	-	-	-	-	190	-	-	150	-	235
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	58	58	58	89	89	89	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	226	34	7	24	17	56	572	193	140	101	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1183	1259	101	1292	1162	669	101	0	0	765	0	0
Stage 1	381	381	-	781	781	-	-	-	-	-	-	-
Stage 2	802	878	-	511	381	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	166	# 171	954	140	195	458	1491	-	-	848	-	-
Stage 1	641	613	-	388	405	-	-	-	-	-	-	-
Stage 2	378	366	-	545	613	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	120	# 137	954	-	157	458	1491	-	-	848	-	-
Mov Capacity-2 Maneuver	120	# 137	-	-	157	-	-	-	-	-	-	-
Stage 1	617	512	-	373	390	-	-	-	-	-	-	-
Stage 2	328	352	-	245	512	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 411.6	+	0.5	5.3
HCM LOS	F	-		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1491	-	-	120	151	+	848	-	-
HCM Lane V/C Ratio	0.038	-	-	0.399	1.883	+	0.165	-	-
HCM Control Delay (s)	7.509	-	-	53.7	$ 471.9	+	10.083	-	-
HCM Lane LOS	A			F	F	+	B		
HCM 95th %tile Q(veh)	0.117	-	-	1.681	21.607	+	0.589	-	-

Notes
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Intersection	
Intersection Delay, s/veh	41.3
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	154	553	26	2	41	11	18	16	5	72	19	122
Peak Hour Factor	0.95	0.95	0.95	0.84	0.84	0.84	0.65	0.65	0.65	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	162	582	27	2	49	13	28	25	8	81	21	137
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	55.4	9.4	10.3	12.4
HCM LOS	F	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	21%	4%	34%
Vol Thru, %	41%	75%	76%	9%
Vol Right, %	13%	4%	20%	57%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	733	54	213
LT Vol	16	553	41	19
Through Vol	5	26	11	122
RT Vol	18	154	2	72
Lane Flow Rate	60	772	64	239
Geometry Grp	1	1	1	1
Degree of Util (X)	0.107	1	0.101	0.385
Departure Headway (Hd)	6.436	5.001	5.671	5.797
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	556	733	626	622
Service Time	4.48	3.001	3.763	3.813
HCM Lane V/C Ratio	0.108	1.053	0.102	0.384
HCM Control Delay	10.3	55.4	9.4	12.4
HCM Lane LOS	B	F	A	B
HCM 95th-tile Q	0.4	16.4	0.3	1.8

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	189	121	549	214	93	867
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1549	1770	1863	1770	1570
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1549	1770	1863	1770	1570
Peak-hour factor, PHF	0.92	0.92	0.89	0.89	0.90	0.90
Adj. Flow (vph)	205	132	617	240	103	963
RTOR Reduction (vph)	0	107	0	0	0	144
Lane Group Flow (vph)	205	25	617	240	103	819
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						1
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	14.0	14.0	27.1	45.1	18.4	45.5
Effective Green, g (s)	14.0	14.0	27.1	45.1	18.4	45.5
Actuated g/C Ratio	0.19	0.19	0.37	0.61	0.25	0.61
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	351	292	647	1133	439	964
v/s Ratio Prot	c0.11		c0.35	0.13	0.06	c0.31
v/s Ratio Perm		0.02				0.21
v/c Ratio	0.58	0.09	0.95	0.21	0.23	0.85
Uniform Delay, d1	27.4	24.8	22.9	6.5	22.2	11.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.1	24.3	0.1	1.3	7.1
Delay (s)	29.9	24.9	47.2	6.6	23.5	18.6
Level of Service	C	C	D	A	C	B
Approach Delay (s)	27.9			35.8	19.1	
Approach LOS	C			D	B	

Intersection Summary			
HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	74.1	Sum of lost time (s)	14.6
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	247	95	559	267	446	769
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	1
Cap, veh/h	322	575	1740	740	492	1243
Arrive On Green	0.18	0.18	0.47	0.47	0.14	0.67
Sat Flow, veh/h	1774	3167	3725	1583	3442	1863
Grp Volume(v), veh/h	281	108	601	287	485	836
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1721	1863
Q Serve(g_s), s	10.8	2.0	7.2	8.3	9.8	19.0
Cycle Q Clear(g_c), s	10.8	2.0	7.2	8.3	9.8	19.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	322	575	1740	740	492	1243
V/C Ratio(X)	0.87	0.19	0.35	0.39	0.99	0.67
Avail Cap(c_a), veh/h	322	575	1740	740	492	1243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	24.3	11.8	12.1	29.9	7.0
Incr Delay (d2), s/veh	22.2	0.2	0.5	1.5	36.9	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	6.7	0.8	3.1	3.3	6.6	8.0
Lane Grp Delay (d), s/veh	50.1	24.4	12.4	13.7	66.9	10.0
Lane Grp LOS	D	C	B	B	E	A
Approach Vol, veh/h	389		888			1321
Approach Delay, s/veh	42.9		12.8			30.9
Approach LOS	D		B			C

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			38.0		14.0	52.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			32.7		10.0	46.7
Max Q Clear Time (g_c+I1), s			10.3		11.8	21.0
Green Ext Time (p_c), s			12.5		0.0	13.5

Intersection Summary	
HCM 2010 Ctrl Delay	26.5
HCM 2010 LOS	C

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	374	4	511	1073	1	618
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.88	0.88
Adj. Flow (vph)	416	4	555	1166	1	702
RTOR Reduction (vph)	0	3	0	476	0	0
Lane Group Flow (vph)	416	1	555	690	1	702
Turn Type	NA	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.1	15.9	32.7	32.7	0.8	37.5
Effective Green, g (s)	15.1	15.9	32.7	32.7	0.8	37.5
Actuated g/C Ratio	0.24	0.25	0.52	0.52	0.01	0.59
Clearance Time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	422	398	963	819	22	1105
v/s Ratio Prot	c0.24	0.00	0.30		0.00	c0.38
v/s Ratio Perm		0.00		c0.44		
v/c Ratio	0.99	0.00	0.58	0.84	0.05	0.64
Uniform Delay, d1	23.9	17.7	10.5	13.0	30.8	8.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	39.7	0.0	2.5	10.2	0.9	2.8
Delay (s)	63.7	17.7	13.0	23.3	31.7	11.2
Level of Service	E	B	B	C	C	B
Approach Delay (s)	63.2		20.0			11.2
Approach LOS	E		B			B

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	0	353	0	0	0	0	718	568	0	877	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					3539	1583		3539	1551
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					3539	1583		3539	1551
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	177	0	401	0	0	0	0	789	624	0	923	229
RTOR Reduction (vph)	0	0	386	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	0	15	0	0	0	0	789	624	0	923	229
Confl. Peds. (#/hr)												1
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		5						Free			Free
Actuated Green, G (s)	11.8		4.0					82.6	105.0		73.3	105.0
Effective Green, g (s)	11.8		4.0					82.6	105.0		73.3	105.0
Actuated g/C Ratio	0.11		0.04					0.79	1.00		0.70	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	385		106					2784	1583		2470	1551
v/s Ratio Prot								0.22			0.26	
v/s Ratio Perm	0.05		0.01						c0.39			0.15
v/c Ratio	0.46		0.14					0.28	0.39		0.37	0.15
Uniform Delay, d1	43.6		48.8					3.1	0.0		6.5	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9		0.6					0.3	0.7		0.4	0.2
Delay (s)	44.5		49.5					3.3	0.7		6.9	0.2
Level of Service	D		D					A	A		A	A
Approach Delay (s)		47.9			0.0			2.2			5.6	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM research does not support more than two 'Free' approaches at the intersection.

Intersection	
Intersection Delay, s/veh	289.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	12	6	63	155	423	63	29	83	4	12	470	107
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	320	-	-	-	-	-	190	-	-	150	-	235
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	81	81	81	86	86	86	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	8	84	191	522	78	34	97	5	13	500	114

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	992	695	500	738	692	99	500	0	0	101	0	0
Stage 1	526	526	-	166	166	-	-	-	-	-	-	-
Stage 2	466	169	-	572	526	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	225	366	571	334	# 367	957	1064	-	-	1491	-	-
Stage 1	535	529	-	836	761	-	-	-	-	-	-	-
Stage 2	577	759	-	505	529	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	-	351	571	271	# 352	957	1064	-	-	1491	-	-
Mov Capacity-2 Maneuver	-	351	-	271	# 352	-	-	-	-	-	-	-
Stage 1	518	524	-	809	737	-	-	-	-	-	-	-
Stage 2	150	735	-	420	524	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	+	$ 606.6	2.1	0.2
HCM LOS	-	F		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1064	-	-	+	+	348	1491	-	-
HCM Lane V/C Ratio	0.032	-	-	+	+	2.274	0.009	-	-
HCM Control Delay (s)	8.494	-	-	+	+	$ 606.6	7.435	-	-
HCM Lane LOS	A			+	+	F	A		
HCM 95th %tile Q(veh)	0.098	-	-	+	+	60.338	0.026	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	40.2
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	128	26	39	1	642	69	8	5	4	14	26	155
Peak Hour Factor	0.84	0.84	0.84	0.82	0.82	0.82	0.71	0.71	0.71	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	152	31	46	1	783	84	11	7	6	15	28	165
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.7	55.3	10.1	11.8
HCM LOS	B	F	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	66%	0%	7%
Vol Thru, %	29%	13%	90%	13%
Vol Right, %	24%	20%	10%	79%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	193	712	195
LT Vol	5	26	642	26
Through Vol	4	39	69	155
RT Vol	8	128	1	14
Lane Flow Rate	24	230	868	207
Geometry Grp	1	1	1	1
Degree of Util (X)	0.045	0.354	1	0.335
Departure Headway (Hd)	6.774	5.541	4.967	5.817
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	532	643	738	616
Service Time	4.774	3.623	2.969	3.865
HCM Lane V/C Ratio	0.045	0.358	1.176	0.336
HCM Control Delay	10.1	11.7	55.3	11.8
HCM Lane LOS	B	B	F	B
HCM 95th-tile Q	0.1	1.6	16.5	1.5

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	153	100	896	249	90	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1544	1770	1863	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1544	1770	1863	1770	1583
Peak-hour factor, PHF	0.75	0.75	0.92	0.92	0.87	0.87
Adj. Flow (vph)	204	133	974	271	103	459
RTOR Reduction (vph)	0	111	0	0	0	88
Lane Group Flow (vph)	204	22	974	271	103	371
Confl. Peds. (#/hr)		2	2			
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	15.5	15.5	47.1	66.6	18.4	65.5
Effective Green, g (s)	15.5	15.5	47.1	66.6	18.4	65.5
Actuated g/C Ratio	0.16	0.16	0.49	0.70	0.19	0.69
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	302	250	872	1297	340	1084
v/s Ratio Prot	c0.11		c0.55	0.15	0.06	c0.17
v/s Ratio Perm		0.01				0.07
v/c Ratio	0.68	0.09	1.12	0.21	0.30	0.34
Uniform Delay, d1	37.7	34.0	24.2	5.1	33.1	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.9	0.1	67.9	0.1	2.3	0.2
Delay (s)	43.6	34.2	92.2	5.2	35.4	6.4
Level of Service	D	C	F	A	D	A
Approach Delay (s)	39.9			73.2	11.7	
Approach LOS	D			E	B	

Intersection Summary			
HCM 2000 Control Delay	51.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	95.6	Sum of lost time (s)	14.6
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	460	625	498	70	146	649
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	1
Cap, veh/h	499	891	1687	712	197	1056
Arrive On Green	0.28	0.28	0.45	0.45	0.06	0.57
Sat Flow, veh/h	1774	3167	3725	1573	3442	1863
Grp Volume(v), veh/h	495	672	553	78	162	721
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1573	1721	1863
Q Serve(g_s), s	19.5	13.5	6.7	2.0	3.3	19.1
Cycle Q Clear(g_c), s	19.5	13.5	6.7	2.0	3.3	19.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	499	891	1687	712	197	1056
V/C Ratio(X)	0.99	0.75	0.33	0.11	0.82	0.68
Avail Cap(c_a), veh/h	499	891	1687	712	197	1056
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	22.9	12.3	11.0	32.7	10.7
Incr Delay (d2), s/veh	38.0	3.7	0.5	0.3	23.8	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	13.7	5.5	3.0	0.8	2.0	8.9
Lane Grp Delay (d), s/veh	63.0	26.6	12.8	11.3	56.5	14.3
Lane Grp LOS	E	C	B	B	E	B
Approach Vol, veh/h	1167		631			883
Approach Delay, s/veh	42.1		12.6			22.0
Approach LOS	D		B			C

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			37.0		8.0	45.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			31.7		4.0	39.7
Max Q Clear Time (g_c+I1), s			8.7		5.3	21.1
Green Ext Time (p_c), s			10.1		0.0	9.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.5
HCM 2010 LOS	C

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	958	4	453	371	2	774
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.97	0.97
Adj. Flow (vph)	1076	4	498	408	2	798
RTOR Reduction (vph)	0	1	0	94	0	0
Lane Group Flow (vph)	1076	3	498	314	2	798
Turn Type	NA	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	71.7	72.5	46.1	46.1	0.8	50.9
Effective Green, g (s)	71.7	72.5	46.1	46.1	0.8	50.9
Actuated g/C Ratio	0.54	0.54	0.35	0.35	0.01	0.38
Clearance Time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	952	861	644	547	10	711
v/s Ratio Prot	c0.61	0.00	0.27		0.00	c0.43
v/s Ratio Perm		0.00		0.20		
v/c Ratio	1.13	0.00	0.77	0.57	0.20	1.12
Uniform Delay, d1	30.7	13.9	38.9	35.5	65.9	41.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	72.0	0.0	8.8	4.3	9.6	72.7
Delay (s)	102.7	13.9	47.7	39.9	75.5	113.8
Level of Service	F	B	D	D	E	F
Approach Delay (s)	102.4		44.2			113.7
Approach LOS	F		D			F

Intersection Summary			
HCM 2000 Control Delay	86.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	133.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	102.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	178	0	352	0	0	0	0	709	363	0	801	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					3539	1583		3539	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					3539	1583		3539	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	198	0	391	0	0	0	0	797	408	0	931	110
RTOR Reduction (vph)	0	0	376	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	198	0	15	0	0	0	0	797	408	0	931	110
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		5						Free			Free
Actuated Green, G (s)	12.1		4.0					82.3	105.0		73.0	105.0
Effective Green, g (s)	12.1		4.0					82.3	105.0		73.0	105.0
Actuated g/C Ratio	0.12		0.04					0.78	1.00		0.70	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	395		106					2773	1583		2460	1583
v/s Ratio Prot								0.23			c0.26	
v/s Ratio Perm	c0.06		0.01						c0.26			0.07
v/c Ratio	0.50		0.14					0.29	0.26		0.38	0.07
Uniform Delay, d1	43.6		48.8					3.2	0.0		6.6	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0		0.6					0.3	0.4		0.4	0.1
Delay (s)	44.6		49.4					3.4	0.4		7.1	0.1
Level of Service	D		D					A	A		A	A
Approach Delay (s)		47.8			0.0			2.4			6.3	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM research does not support more than two 'Free' approaches at the intersection.

Intersection	
Intersection Delay, s/veh	185.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	69	294	33	4	15	10	50	511	190	129	93	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	320	-	-	-	-	-	190	-	-	150	-	235
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	58	58	58	89	89	89	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	306	34	7	26	17	56	574	213	143	103	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1205	1290	103	1353	1183	681	103	0	0	788	0	0
Stage 1	390	390	-	793	793	-	-	-	-	-	-	-
Stage 2	815	900	-	560	390	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	161	# 163	952	127	189	450	1489	-	-	831	-	-
Stage 1	634	608	-	382	400	-	-	-	-	-	-	-
Stage 2	371	357	-	513	608	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	114	# 130	952	-	151	450	1489	-	-	831	-	-
Mov Capacity-2 Maneuver	114	# 130	-	-	151	-	-	-	-	-	-	-
Stage 1	610	503	-	368	385	-	-	-	-	-	-	-
Stage 2	320	344	-	160	503	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 706.9	+	0.5	5.4
HCM LOS	F	-		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1489	-	-	114	140	+	831	-	-
HCM Lane V/C Ratio	0.038	-	-	0.42	2.604	+	0.172	-	-
HCM Control Delay (s)	7.513	-	-	57.8	$ 792.2	+	10.233	-	-
HCM Lane LOS	A			F	F	+	B		
HCM 95th %tile Q(veh)	0.118	-	-	1.788	32.305	+	0.621	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	42.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	154	665	26	2	48	12	18	16	5	74	19	122
Peak Hour Factor	0.95	0.95	0.95	0.84	0.84	0.84	0.65	0.65	0.65	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	162	700	27	2	57	14	28	25	8	83	21	137
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	55.6	9.5	10.3	12.5
HCM LOS	F	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	18%	3%	34%
Vol Thru, %	41%	79%	77%	9%
Vol Right, %	13%	3%	19%	57%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	845	62	215
LT Vol	16	665	48	19
Through Vol	5	26	12	122
RT Vol	18	154	2	74
Lane Flow Rate	60	889	74	242
Geometry Grp	1	1	1	1
Degree of Util (X)	0.108	1	0.117	0.39
Departure Headway (Hd)	6.453	4.938	5.688	5.811
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	553	729	624	621
Service Time	4.515	3.027	3.783	3.84
HCM Lane V/C Ratio	0.108	1.219	0.119	0.39
HCM Control Delay	10.3	55.6	9.5	12.5
HCM Lane LOS	B	F	A	B
HCM 95th-tile Q	0.4	16.4	0.4	1.8

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	190	121	551	218	93	975
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1549	1770	1863	1770	1570
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1549	1770	1863	1770	1570
Peak-hour factor, PHF	0.92	0.92	0.89	0.89	0.90	0.90
Adj. Flow (vph)	207	132	619	245	103	1083
RTOR Reduction (vph)	0	107	0	0	0	143
Lane Group Flow (vph)	207	25	619	245	103	940
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						1
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	14.1	14.1	27.1	45.2	18.4	45.5
Effective Green, g (s)	14.1	14.1	27.1	45.2	18.4	45.5
Actuated g/C Ratio	0.19	0.19	0.37	0.61	0.25	0.61
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	354	294	646	1134	438	962
v/s Ratio Prot	c0.11		0.35	0.13	0.06	c0.36
v/s Ratio Perm		0.02				0.24
v/c Ratio	0.58	0.09	0.96	0.22	0.24	0.98
Uniform Delay, d1	27.4	24.7	23.0	6.5	22.3	13.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.1	25.1	0.1	1.3	23.3
Delay (s)	29.8	24.9	48.1	6.6	23.5	37.1
Level of Service	C	C	D	A	C	D
Approach Delay (s)	27.9			36.4	36.0	
Approach LOS	C			D	D	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	74.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	247	95	589	335	446	794
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	1
Cap, veh/h	322	575	1740	740	492	1243
Arrive On Green	0.18	0.18	0.47	0.47	0.14	0.67
Sat Flow, veh/h	1774	3167	3725	1583	3442	1863
Grp Volume(v), veh/h	281	108	633	360	485	863
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1721	1863
Q Serve(g_s), s	10.8	2.0	7.6	11.0	9.8	20.1
Cycle Q Clear(g_c), s	10.8	2.0	7.6	11.0	9.8	20.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	322	575	1740	740	492	1243
V/C Ratio(X)	0.87	0.19	0.36	0.49	0.99	0.69
Avail Cap(c_a), veh/h	322	575	1740	740	492	1243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	24.3	12.0	12.9	29.9	7.2
Incr Delay (d2), s/veh	22.2	0.2	0.6	2.3	36.9	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	6.7	0.8	3.4	4.5	6.6	8.5
Lane Grp Delay (d), s/veh	50.1	24.4	12.6	15.1	66.9	10.4
Lane Grp LOS	D	C	B	B	E	B
Approach Vol, veh/h	389		993			1348
Approach Delay, s/veh	42.9		13.5			30.7
Approach LOS	D		B			C

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			38.0		14.0	52.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			32.7		10.0	46.7
Max Q Clear Time (g_c+I1), s			13.0		11.8	22.1
Green Ext Time (p_c), s			12.3		0.0	14.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.2
HCM 2010 LOS	C

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	387	4	605	1133	1	643
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.88	0.88
Adj. Flow (vph)	430	4	658	1232	1	731
RTOR Reduction (vph)	0	3	0	425	0	0
Lane Group Flow (vph)	430	1	658	807	1	731
Turn Type	NA	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.1	15.9	32.7	32.7	0.8	37.5
Effective Green, g (s)	15.1	15.9	32.7	32.7	0.8	37.5
Actuated g/C Ratio	0.24	0.25	0.52	0.52	0.01	0.59
Clearance Time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	422	398	963	819	22	1105
v/s Ratio Prot	c0.24	0.00	0.35		0.00	c0.39
v/s Ratio Perm		0.00		c0.51		
v/c Ratio	1.02	0.00	0.68	0.99	0.05	0.66
Uniform Delay, d1	24.1	17.7	11.4	15.0	30.8	8.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	48.7	0.0	3.9	28.2	0.9	3.1
Delay (s)	72.7	17.7	15.3	43.2	31.7	11.7
Level of Service	E	B	B	D	C	B
Approach Delay (s)	72.2		33.5			11.7
Approach LOS	E		C			B

Intersection Summary			
HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	81.2%	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)	156	0	353	0	0	0	0	718	568	0	877	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					3539	1583		3539	1551
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					3539	1583		3539	1551
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	177	0	401	0	0	0	0	789	624	0	923	229
RTOR Reduction (vph)	0	0	386	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	0	15	0	0	0	0	789	624	0	923	229
Confl. Peds. (#/hr)												1
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		5						Free			Free
Actuated Green, G (s)	11.8		4.0					82.6	105.0		73.3	105.0
Effective Green, g (s)	11.8		4.0					82.6	105.0		73.3	105.0
Actuated g/C Ratio	0.11		0.04					0.79	1.00		0.70	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	385		106					2784	1583		2470	1551
v/s Ratio Prot								0.22			0.26	
v/s Ratio Perm	0.05		0.01						c0.39			0.15
v/c Ratio	0.46		0.14					0.28	0.39		0.37	0.15
Uniform Delay, d1	43.6		48.8					3.1	0.0		6.5	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9		0.6					0.3	0.7		0.4	0.2
Delay (s)	44.5		49.5					3.3	0.7		6.9	0.2
Level of Service	D		D					A	A		A	A
Approach Delay (s)		47.9			0.0			2.2			5.6	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM research does not support more than two 'Free' approaches at the intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	12	6	63	155	423	63	29	83	4	12	470	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Cap, veh/h	27	34	360	238	577	86	49	597	31	23	606	508
Arrive On Green	0.02	0.25	0.25	0.13	0.36	0.36	0.03	0.34	0.34	0.01	0.33	0.33
Sat Flow, veh/h	1774	140	1465	1774	1584	237	1774	1756	91	1774	1863	1562
Grp Volume(v), veh/h	16	0	92	191	0	600	34	0	102	13	500	114
Grp Sat Flow(s),veh/h/ln	1774	0	1604	1774	0	1821	1774	0	1847	1774	1863	1562
Q Serve(g_s), s	0.6	0.0	3.2	7.3	0.0	21.7	1.3	0.0	2.7	0.5	17.2	3.7
Cycle Q Clear(g_c), s	0.6	0.0	3.2	7.3	0.0	21.7	1.3	0.0	2.7	0.5	17.2	3.7
Prop In Lane	1.00		0.91	1.00		0.13	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	27	0	394	238	0	663	49	0	628	23	606	508
V/C Ratio(X)	0.59	0.00	0.23	0.80	0.00	0.90	0.69	0.00	0.16	0.57	0.83	0.22
Avail Cap(c_a), veh/h	102	0	394	434	0	752	102	0	922	102	930	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	0.0	21.0	29.2	0.0	20.9	33.5	0.0	16.0	34.1	21.6	17.1
Incr Delay (d2), s/veh	18.7	0.0	0.3	6.3	0.0	13.4	15.9	0.0	0.1	20.8	3.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.4	0.0	1.2	3.4	0.0	10.8	0.8	0.0	1.1	0.3	7.7	1.2
Lane Grp Delay (d), s/veh	52.7	0.0	21.3	35.5	0.0	34.3	49.4	0.0	16.1	54.9	25.3	17.3
Lane Grp LOS	D		C	D		C	D		B	D	C	B
Approach Vol, veh/h		108			791			136			627	
Approach Delay, s/veh		25.9			34.6			24.5			24.5	
Approach LOS		C			C			C			C	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	5.1	22.4		13.3	30.6		5.9	28.9		4.9	27.9	
Change Period (Y+Rc), s	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Max Green Setting (Gmax), s	4.0	15.7		17.0	28.7		4.0	34.7		4.0	34.7	
Max Q Clear Time (g_c+I1), s	2.6	5.2		9.3	23.7		3.3	4.7		2.5	19.2	
Green Ext Time (p_c), s	0.0	3.0		0.3	1.6		0.0	4.0		0.0	3.4	
Intersection Summary												
HCM 2010 Ctrl Delay			29.4									
HCM 2010 LOS			C									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	128	26	39	1	642	69	8	5	4	14	26	155
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Cap, veh/h	189	456	676	774	835	90	174	155	133	334	39	231
Arrive On Green	0.11	0.67	0.67	0.50	0.50	0.50	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1774	678	1007	1317	1654	177	1185	927	795	1395	235	1384
Grp Volume(v), veh/h	152	0	77	1	0	867	11	0	13	15	0	193
Grp Sat Flow(s),veh/h/ln	1774	0	1685	1317	0	1831	1185	0	1722	1395	0	1619
Q Serve(g_s), s	5.5	0.0	1.0	0.0	0.0	29.3	0.6	0.0	0.4	0.6	0.0	7.4
Cycle Q Clear(g_c), s	5.5	0.0	1.0	0.0	0.0	29.3	8.0	0.0	0.4	1.0	0.0	7.4
Prop In Lane	1.00		0.60	1.00		0.10	1.00		0.46	1.00		0.85
Lane Grp Cap(c), veh/h	189	0	1132	774	0	924	174	0	288	334	0	271
V/C Ratio(X)	0.81	0.00	0.07	0.00	0.00	0.94	0.06	0.00	0.05	0.04	0.00	0.71
Avail Cap(c_a), veh/h	189	0	1170	804	0	966	223	0	359	391	0	337
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.7	0.0	3.7	8.1	0.0	15.3	29.7	0.0	23.0	23.4	0.0	25.9
Incr Delay (d2), s/veh	21.9	0.0	0.0	0.0	0.0	15.8	0.2	0.0	0.1	0.1	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.3	0.0	0.2	0.0	0.0	14.9	0.2	0.0	0.2	0.2	0.0	3.2
Lane Grp Delay (d), s/veh	50.7	0.0	3.7	8.1	0.0	31.2	29.8	0.0	23.1	23.5	0.0	31.2
Lane Grp LOS	D		A	A		C	C		C	C		C
Approach Vol, veh/h		229			868			24			208	
Approach Delay, s/veh		34.9			31.1			26.2			30.6	
Approach LOS		C			C			C			C	
Timer												
Assigned Phs	7	4			8			2			6	
Phs Duration (G+Y+Rc), s	11.0	49.5			38.5			16.3			16.3	
Change Period (Y+Rc), s	4.0	5.3			5.3			5.3			5.3	
Max Green Setting (Gmax), s	7.0	45.7			34.7			13.7			13.7	
Max Q Clear Time (g_c+I1), s	7.5	3.0			31.3			10.0			9.4	
Green Ext Time (p_c), s	0.0	7.9			1.9			0.4			0.4	
Intersection Summary												
HCM 2010 Ctrl Delay			31.6									
HCM 2010 LOS			C									
Notes												

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	153	100	896	249	90	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1543	1770	1863	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1543	1770	1863	1770	1583
Peak-hour factor, PHF	0.75	0.75	0.92	0.92	0.87	0.87
Adj. Flow (vph)	204	133	974	271	103	459
RTOR Reduction (vph)	0	112	0	0	0	98
Lane Group Flow (vph)	204	21	974	271	103	361
Confl. Peds. (#/hr)		2	2			
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	17.1	17.1	58.1	79.2	19.7	77.8
Effective Green, g (s)	17.1	17.1	58.1	79.2	19.7	77.8
Actuated g/C Ratio	0.16	0.16	0.53	0.72	0.18	0.71
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	290	240	939	1347	318	1124
v/s Ratio Prot	c0.11		c0.55	0.15	c0.06	0.17
v/s Ratio Perm		0.01				0.06
v/c Ratio	0.70	0.09	1.04	0.20	0.32	0.32
Uniform Delay, d1	43.8	39.5	25.7	4.9	39.1	5.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.5	0.2	39.5	0.1	2.7	0.2
Delay (s)	51.3	39.7	65.2	5.0	41.8	6.1
Level of Service	D	D	E	A	D	A
Approach Delay (s)	46.7			52.1	12.6	
Approach LOS	D			D	B	

Intersection Summary			
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	109.5	Sum of lost time (s)	14.6
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	460	625	498	70	146	649
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	2
Cap, veh/h	558	995	1610	679	188	2016
Arrive On Green	0.31	0.31	0.43	0.43	0.05	0.54
Sat Flow, veh/h	1774	3167	3725	1572	3442	3725
Grp Volume(v), veh/h	495	672	553	78	162	721
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1572	1721	1863
Q Serve(g_s), s	19.5	13.5	7.3	2.2	3.4	8.1
Cycle Q Clear(g_c), s	19.5	13.5	7.3	2.2	3.4	8.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	558	995	1610	679	188	2016
V/C Ratio(X)	0.89	0.68	0.34	0.11	0.86	0.36
Avail Cap(c_a), veh/h	597	1066	1610	679	188	2016
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	21.9	13.9	12.4	34.4	9.6
Incr Delay (d2), s/veh	14.5	1.6	0.6	0.3	31.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	10.6	5.3	3.3	0.8	2.3	3.4
Lane Grp Delay (d), s/veh	38.4	23.5	14.5	12.8	65.9	10.1
Lane Grp LOS	D	C	B	B	E	B
Approach Vol, veh/h	1167		631			883
Approach Delay, s/veh	29.8		14.3			20.3
Approach LOS	C		B			C

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			37.0		8.0	45.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			31.7		4.0	39.7
Max Q Clear Time (g_c+I1), s			9.3		5.4	10.1
Green Ext Time (p_c), s			9.8		0.0	11.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.0
HCM 2010 LOS	C

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	958	4	453	371	2	774
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	4.0	5.3
Lane Util. Factor	0.97		0.95	1.00	1.00	0.95
Frt	1.00		1.00	0.85	1.00	1.00
Flt Protected	0.95		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3440		3539	1583	1770	3539
Flt Permitted	0.95		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3440		3539	1583	1770	3539
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.97	0.97
Adj. Flow (vph)	1076	4	498	408	2	798
RTOR Reduction (vph)	1	0	0	248	0	0
Lane Group Flow (vph)	1079	0	498	160	2	798
Turn Type	NA		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	22.0		24.2	24.2	0.8	29.0
Effective Green, g (s)	22.0		24.2	24.2	0.8	29.0
Actuated g/C Ratio	0.36		0.39	0.39	0.01	0.47
Clearance Time (s)	5.3		5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1228		1390	621	22	1666
v/s Ratio Prot	c0.31		0.14		0.00	c0.23
v/s Ratio Perm				0.10		
v/c Ratio	0.88		0.36	0.26	0.09	0.48
Uniform Delay, d1	18.6		13.2	12.6	30.0	11.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.4		0.7	1.0	1.8	1.0
Delay (s)	26.0		13.9	13.6	31.8	12.1
Level of Service	C		B	B	C	B
Approach Delay (s)	26.0		13.8			12.2
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	14.6
Intersection Capacity Utilization	57.7%	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)	178	0	352	0	0	0	0	710	405	0	808	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.91	1.00		0.91	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					5085	1583		5085	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					5085	1583		5085	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	198	0	391	0	0	0	0	798	455	0	940	110
RTOR Reduction (vph)	0	0	79	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	198	0	312	0	0	0	0	798	455	0	940	110
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		4						Free			Free
Actuated Green, G (s)	13.9		13.9					45.5	70.0		45.5	70.0
Effective Green, g (s)	13.9		13.9					45.5	70.0		45.5	70.0
Actuated g/C Ratio	0.20		0.20					0.65	1.00		0.65	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	681		553					3305	1583		3305	1583
v/s Ratio Prot								0.16			0.18	
v/s Ratio Perm	0.06		c0.11						c0.29			0.07
v/c Ratio	0.29		0.56					0.24	0.29		0.28	0.07
Uniform Delay, d1	23.9		25.3					5.1	0.0		5.3	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2		1.3					0.2	0.5		0.2	0.1
Delay (s)	24.1		26.6					5.3	0.5		5.5	0.1
Level of Service	C		C					A	A		A	A
Approach Delay (s)		25.8			0.0			3.5			4.9	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	36.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	521	0	1040	0	0	0	0	466	108	0	1754	45
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	0.0	186.3	190.0
Lanes	2	0	3				0	4	0	0	4	0
Cap, veh/h	1338	0	1792				0	3140	0	0	3048	78
Arrive On Green	0.38	0.00	0.38				0.00	0.42	0.00	0.00	0.42	0.42
Sat Flow, veh/h	3548	0	4750				0	7451	0	0	7232	186
Grp Volume(v), veh/h	453	0	1251				0	561	0	0	1473	483
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	0	0	1863	1830
Q Serve(g_s), s	4.8	0.0	11.7				0.0	2.5	0.0	0.0	10.9	10.9
Cycle Q Clear(g_c), s	4.8	0.0	11.7				0.0	2.5	0.0	0.0	10.9	10.9
Prop In Lane	1.00		1.00				0.00		0.00	0.00		0.10
Lane Grp Cap(c), veh/h	1338	0	1792				0	3140	0	0	2355	771
V/C Ratio(X)	0.34	0.00	0.70				0.00	0.18	0.00	0.00	0.63	0.63
Avail Cap(c_a), veh/h	1732	0	2319				0	3354	0	0	2516	824
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	13.9				0.0	9.5	0.0	0.0	12.0	12.0
Incr Delay (d2), s/veh	0.1	0.0	0.6				0.0	0.0	0.0	0.0	0.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.9	0.0	4.2				0.0	0.9	0.0	0.0	4.1	4.2
Lane Grp Delay (d), s/veh	11.9	0.0	14.5				0.0	9.6	0.0	0.0	12.4	13.3
Lane Grp LOS	B		B					A			B	B
Approach Vol, veh/h		1704						561			1956	
Approach Delay, s/veh		13.8						9.6			12.6	
Approach LOS		B						A			B	

Timer												
Assigned Phs		4						2			6	
Phs Duration (G+Y+Rc), s		25.2						27.5			27.5	
Change Period (Y+Rc), s		5.3						5.3			5.3	
Max Green Setting (Gmax), s		25.7						23.7			23.7	
Max Q Clear Time (g_c+I1), s		13.7						4.5			12.9	
Green Ext Time (p_c), s		6.1						15.2			9.3	

Intersection Summary												
HCM 2010 Ctrl Delay			12.7									
HCM 2010 LOS			B									

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	69	294	33	4	15	10	50	511	190	129	93	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Cap, veh/h	93	339	38	13	169	111	72	606	225	169	979	832
Arrive On Green	0.05	0.21	0.21	0.01	0.16	0.16	0.04	0.47	0.47	0.10	0.53	0.53
Sat Flow, veh/h	1774	1647	183	1774	1053	688	1774	1288	478	1774	1863	1583
Grp Volume(v), veh/h	72	0	340	7	0	43	56	0	787	143	103	26
Grp Sat Flow(s),veh/h/ln	1774	0	1830	1774	0	1741	1774	0	1766	1774	1863	1583
Q Serve(g_s), s	3.4	0.0	15.2	0.3	0.0	1.8	2.6	0.0	35.8	6.7	2.3	0.7
Cycle Q Clear(g_c), s	3.4	0.0	15.2	0.3	0.0	1.8	2.6	0.0	35.8	6.7	2.3	0.7
Prop In Lane	1.00		0.10	1.00		0.40	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	93	0	377	13	0	280	72	0	831	169	979	832
V/C Ratio(X)	0.78	0.00	0.90	0.55	0.00	0.15	0.78	0.00	0.95	0.85	0.11	0.03
Avail Cap(c_a), veh/h	190	0	385	84	0	280	148	0	875	169	979	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	0.0	32.6	41.7	0.0	30.4	40.0	0.0	21.3	37.5	10.0	9.6
Incr Delay (d2), s/veh	12.8	0.0	23.4	32.2	0.0	0.3	16.7	0.0	18.3	31.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.8	0.0	9.2	0.3	0.0	0.7	1.5	0.0	18.2	4.4	0.9	0.2
Lane Grp Delay (d), s/veh	52.2	0.0	56.0	73.9	0.0	30.6	56.8	0.0	39.6	68.7	10.1	9.6
Lane Grp LOS	D		E	E		C	E		D	E	B	A
Approach Vol, veh/h		412			50			843			272	
Approach Delay, s/veh		55.4			36.7			40.7			40.9	
Approach LOS		E			D			D			D	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	8.4	22.6		4.6	18.8		7.4	44.9		12.0	49.5	
Change Period (Y+Rc), s	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Max Green Setting (Gmax), s	9.0	17.7		4.0	12.7		7.0	41.7		8.0	42.7	
Max Q Clear Time (g_c+I1), s	5.4	17.2		2.3	3.8		4.6	37.8		8.7	4.3	
Green Ext Time (p_c), s	0.0	0.1		0.0	1.3		0.0	1.8		0.0	7.1	
Intersection Summary												
HCM 2010 Ctrl Delay			44.5									
HCM 2010 LOS			D									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	154	665	26	2	48	12	18	16	5	74	19	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Cap, veh/h	212	873	34	286	397	98	389	351	112	507	56	364
Arrive On Green	0.12	0.49	0.49	0.28	0.28	0.28	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1774	1782	69	725	1438	353	1223	1353	433	1370	215	1401
Grp Volume(v), veh/h	162	0	727	2	0	71	28	0	33	83	0	158
Grp Sat Flow(s),veh/h/ln	1774	0	1851	725	0	1791	1223	0	1786	1370	0	1616
Q Serve(g_s), s	3.7	0.0	14.0	0.1	0.0	1.3	0.8	0.0	0.6	2.1	0.0	3.4
Cycle Q Clear(g_c), s	3.7	0.0	14.0	5.0	0.0	1.3	4.2	0.0	0.6	2.7	0.0	3.4
Prop In Lane	1.00		0.04	1.00		0.20	1.00		0.24	1.00		0.87
Lane Grp Cap(c), veh/h	212	0	907	286	0	495	389	0	464	507	0	419
V/C Ratio(X)	0.76	0.00	0.80	0.01	0.00	0.14	0.07	0.00	0.07	0.16	0.00	0.38
Avail Cap(c_a), veh/h	502	0	1559	423	0	833	467	0	578	594	0	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	9.1	15.0	0.0	11.6	14.6	0.0	11.8	12.8	0.0	12.9
Incr Delay (d2), s/veh	5.7	0.0	1.7	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.6	0.0	4.1	0.0	0.0	0.5	0.2	0.0	0.2	0.6	0.0	1.2
Lane Grp Delay (d), s/veh	23.7	0.0	10.8	15.0	0.0	11.7	14.7	0.0	11.9	13.0	0.0	13.4
Lane Grp LOS	C		B	B		B	B		B	B		B
Approach Vol, veh/h		889			73			61			241	
Approach Delay, s/veh		13.1			11.8			13.2			13.3	
Approach LOS		B			B			B			B	
Timer												
Assigned Phs	7	4			8			2			6	
Phs Duration (G+Y+Rc), s	9.1	26.1			17.0			16.3			16.3	
Change Period (Y+Rc), s	4.0	5.3			5.3			5.3			5.3	
Max Green Setting (Gmax), s	12.0	35.7			19.7			13.7			13.7	
Max Q Clear Time (g_c+I1), s	5.7	16.0			7.0			6.2			5.4	
Green Ext Time (p_c), s	0.2	4.8			3.9			0.8			0.8	
Intersection Summary												
HCM 2010 Ctrl Delay			13.1									
HCM 2010 LOS			B									
Notes												

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	190	121	551	218	93	975
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1548	1770	1863	1770	1574
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1548	1770	1863	1770	1574
Peak-hour factor, PHF	0.92	0.92	0.89	0.89	0.90	0.90
Adj. Flow (vph)	207	132	619	245	103	1083
RTOR Reduction (vph)	0	109	0	0	0	153
Lane Group Flow (vph)	207	23	619	245	103	930
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						1
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	18.1	18.1	51.5	73.6	19.4	70.9
Effective Green, g (s)	18.1	18.1	51.5	73.6	19.4	70.9
Actuated g/C Ratio	0.17	0.17	0.50	0.71	0.19	0.68
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	325	270	879	1323	331	1077
v/s Ratio Prot	c0.11		0.35	0.13	0.06	c0.43
v/s Ratio Perm		0.01				0.16
v/c Ratio	0.64	0.09	0.70	0.19	0.31	0.86
Uniform Delay, d1	39.7	35.8	20.2	5.0	36.3	12.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	0.1	2.6	0.1	2.4	7.3
Delay (s)	43.8	36.0	22.7	5.1	38.8	19.9
Level of Service	D	D	C	A	D	B
Approach Delay (s)	40.7			17.7	21.6	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	103.6	Sum of lost time (s)	14.6
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	247	95	589	335	446	794
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	2
Cap, veh/h	322	575	1740	740	492	2485
Arrive On Green	0.18	0.18	0.47	0.47	0.14	0.67
Sat Flow, veh/h	1774	3167	3725	1583	3442	3725
Grp Volume(v), veh/h	281	108	633	360	485	863
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1721	1863
Q Serve(g_s), s	10.8	2.0	7.6	11.0	9.8	7.0
Cycle Q Clear(g_c), s	10.8	2.0	7.6	11.0	9.8	7.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	322	575	1740	740	492	2485
V/C Ratio(X)	0.87	0.19	0.36	0.49	0.99	0.35
Avail Cap(c_a), veh/h	322	575	1740	740	492	2485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	24.3	12.0	12.9	29.9	5.0
Incr Delay (d2), s/veh	22.2	0.2	0.6	2.3	36.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	6.7	0.8	3.4	4.5	6.6	2.8
Lane Grp Delay (d), s/veh	50.1	24.4	12.6	15.1	66.9	5.4
Lane Grp LOS	D	C	B	B	E	A
Approach Vol, veh/h	389		993			1348
Approach Delay, s/veh	42.9		13.5			27.5
Approach LOS	D		B			C

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			38.0		14.0	52.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			32.7		10.0	46.7
Max Q Clear Time (g_c+I1), s			13.0		11.8	9.0
Green Ext Time (p_c), s			11.9		0.0	16.9

Intersection Summary	
HCM 2010 Ctrl Delay	24.6
HCM 2010 LOS	C

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	387	4	605	1133	1	643
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	4.0	5.3
Lane Util. Factor	0.97		0.95	1.00	1.00	0.95
Frt	1.00		1.00	0.85	1.00	1.00
Flt Protected	0.95		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3438		3539	1583	1770	3539
Flt Permitted	0.95		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3438		3539	1583	1770	3539
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.88	0.88
Adj. Flow (vph)	430	4	658	1232	1	731
RTOR Reduction (vph)	1	0	0	420	0	0
Lane Group Flow (vph)	433	0	658	812	1	731
Turn Type	NA		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	11.0		41.8	41.8	0.8	46.6
Effective Green, g (s)	11.0		41.8	41.8	0.8	46.6
Actuated g/C Ratio	0.16		0.61	0.61	0.01	0.68
Clearance Time (s)	5.3		5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	554		2169	970	20	2418
v/s Ratio Prot	c0.13		0.19		0.00	c0.21
v/s Ratio Perm				c0.51		
v/c Ratio	0.78		0.30	0.84	0.05	0.30
Uniform Delay, d1	27.4		6.3	10.5	33.3	4.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1		0.4	8.5	1.0	0.3
Delay (s)	34.5		6.6	19.0	34.4	4.6
Level of Service	C		A	B	C	A
Approach Delay (s)	34.5		14.7			4.7
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	81.2%	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)	156	0	353	0	0	0	0	718	593	0	902	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.91	1.00		0.91	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					5085	1583		5085	1551
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					5085	1583		5085	1551
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	177	0	401	0	0	0	0	789	652	0	949	229
RTOR Reduction (vph)	0	0	114	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	0	287	0	0	0	0	789	652	0	949	229
Confl. Peds. (#/hr)												1
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		4						Free			Free
Actuated Green, G (s)	19.0		19.0					100.4	130.0		100.4	130.0
Effective Green, g (s)	19.0		19.0					100.4	130.0		100.4	130.0
Actuated g/C Ratio	0.15		0.15					0.77	1.00		0.77	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	501		407					3927	1583		3927	1551
v/s Ratio Prot								0.16			0.19	
v/s Ratio Perm	0.05		c0.10						c0.41			0.15
v/c Ratio	0.35		0.71					0.20	0.41		0.24	0.15
Uniform Delay, d1	50.0		52.8					4.0	0.0		4.1	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4		5.5					0.1	0.8		0.1	0.2
Delay (s)	50.4		58.4					4.1	0.8		4.3	0.2
Level of Service	D		E					A	A		A	A
Approach Delay (s)		55.9			0.0			2.6			3.5	
Approach LOS		E			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1318	0	309	0	0	0	0	1818	320	0	441	62
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	0.0	186.3	190.0
Lanes	3	0	2				0	4	0	0	4	0
Cap, veh/h	2058	0	1225				0	3146	0	0	2714	367
Arrive On Green	0.39	0.00	0.39				0.00	0.42	0.00	0.00	0.42	0.42
Sat Flow, veh/h	5322	0	3167				0	7451	0	0	6426	870
Grp Volume(v), veh/h	1581	0	284				0	1998	0	0	444	141
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	0	0	1863	1708
Q Serve(g_s), s	14.4	0.0	3.4				0.0	11.7	0.0	0.0	2.8	2.9
Cycle Q Clear(g_c), s	14.4	0.0	3.4				0.0	11.7	0.0	0.0	2.8	2.9
Prop In Lane	1.00		1.00				0.00		0.00	0.00		0.51
Lane Grp Cap(c), veh/h	2058	0	1225				0	3146	0	0	2360	721
V/C Ratio(X)	0.77	0.00	0.23				0.00	0.64	0.00	0.00	0.19	0.20
Avail Cap(c_a), veh/h	2369	0	1409				0	3316	0	0	2487	760
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	11.5				0.0	12.7	0.0	0.0	10.1	10.1
Incr Delay (d2), s/veh	1.4	0.0	0.1				0.0	0.4	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	6.0	0.0	1.2				0.0	4.5	0.0	0.0	1.1	1.0
Lane Grp Delay (d), s/veh	16.2	0.0	11.6				0.0	13.0	0.0	0.0	10.1	10.2
Lane Grp LOS	B		B					B			B	B
Approach Vol, veh/h		1865						1998			585	
Approach Delay, s/veh		15.5						13.0			10.1	
Approach LOS		B						B			B	

Timer												
Assigned Phs		4						2			6	
Phs Duration (G+Y+Rc), s		26.8						28.7			28.7	
Change Period (Y+Rc), s		5.3						5.3			5.3	
Max Green Setting (Gmax), s		24.7						24.7			24.7	
Max Q Clear Time (g_c+I1), s		16.4						13.7			4.9	
Green Ext Time (p_c), s		5.1						9.7			16.3	

Intersection Summary		
HCM 2010 Ctrl Delay		13.7
HCM 2010 LOS		B

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	155	13	63	145	352	126	47	258	14	12	469	144
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Cap, veh/h	209	89	441	215	432	155	70	597	32	22	583	489
Arrive On Green	0.12	0.33	0.33	0.12	0.33	0.33	0.04	0.34	0.34	0.01	0.31	0.31
Sat Flow, veh/h	1774	273	1351	1774	1310	470	1774	1753	93	1774	1863	1562
Grp Volume(v), veh/h	207	0	101	179	0	591	55	0	316	13	499	153
Grp Sat Flow(s),veh/h/ln	1774	0	1624	1774	0	1780	1774	0	1846	1774	1863	1562
Q Serve(g_s), s	10.9	0.0	4.2	9.2	0.0	30.7	2.9	0.0	12.7	0.7	23.4	6.9
Cycle Q Clear(g_c), s	10.9	0.0	4.2	9.2	0.0	30.7	2.9	0.0	12.7	0.7	23.4	6.9
Prop In Lane	1.00		0.83	1.00		0.26	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	209	0	530	215	0	586	70	0	629	22	583	489
V/C Ratio(X)	0.99	0.00	0.19	0.83	0.00	1.01	0.78	0.00	0.50	0.60	0.86	0.31
Avail Cap(c_a), veh/h	209	0	530	343	0	586	76	0	707	76	714	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	0.0	22.6	40.0	0.0	31.2	44.3	0.0	24.4	45.8	30.0	24.4
Incr Delay (d2), s/veh	58.7	0.0	0.2	9.2	0.0	39.1	37.6	0.0	0.6	23.5	8.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	8.2	0.0	1.6	4.4	0.0	18.9	2.0	0.0	5.6	0.4	11.8	2.5
Lane Grp Delay (d), s/veh	99.7	0.0	22.7	49.2	0.0	70.3	81.9	0.0	25.1	69.3	38.5	24.7
Lane Grp LOS	F		C	D		F	F		C	E	D	C
Approach Vol, veh/h		308			770			371			665	
Approach Delay, s/veh		74.5			65.4			33.5			36.0	
Approach LOS		E			E			C			D	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	15.0	35.7		15.3	36.0		7.7	37.0		5.1	34.5	
Change Period (Y+Rc), s	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Max Green Setting (Gmax), s	11.0	23.7		18.0	30.7		4.0	35.7		4.0	35.7	
Max Q Clear Time (g_c+I1), s	12.9	6.2		11.2	32.7		4.9	14.7		2.7	25.4	
Green Ext Time (p_c), s	0.0	3.8		0.2	0.0		0.0	5.2		0.0	3.8	
Intersection Summary												
HCM 2010 Ctrl Delay			51.9									
HCM 2010 LOS			D									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	148	83	39	16	681	239	11	13	14	40	26	152
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Cap, veh/h	177	893	415	819	787	276	112	114	127	246	34	195
Arrive On Green	0.10	0.74	0.74	0.60	0.60	0.60	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1774	1204	560	1238	1319	462	1188	807	897	1364	239	1381
Grp Volume(v), veh/h	176	0	145	20	0	1121	15	0	38	43	0	190
Grp Sat Flow(s),veh/h/ln	1774	0	1764	1238	0	1781	1188	0	1704	1364	0	1619
Q Serve(g_s), s	8.9	0.0	2.1	0.6	0.0	53.7	1.1	0.0	1.8	2.6	0.0	10.3
Cycle Q Clear(g_c), s	8.9	0.0	2.1	0.6	0.0	53.7	11.4	0.0	1.8	4.3	0.0	10.3
Prop In Lane	1.00		0.32	1.00		0.26	1.00		0.53	1.00		0.85
Lane Grp Cap(c), veh/h	177	0	1307	819	0	1063	112	0	241	246	0	228
V/C Ratio(X)	0.99	0.00	0.11	0.02	0.00	1.05	0.13	0.00	0.16	0.17	0.00	0.83
Avail Cap(c_a), veh/h	177	0	1307	819	0	1063	112	0	241	246	0	228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.5	0.0	3.3	7.4	0.0	18.2	43.2	0.0	34.0	35.9	0.0	37.6
Incr Delay (d2), s/veh	65.1	0.0	0.0	0.0	0.0	43.3	0.5	0.0	0.3	0.3	0.0	22.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	7.0	0.0	0.6	0.2	0.0	33.1	0.4	0.0	0.8	0.9	0.0	5.5
Lane Grp Delay (d), s/veh	105.6	0.0	3.3	7.5	0.0	61.4	43.7	0.0	34.3	36.2	0.0	59.8
Lane Grp LOS	F		A	A		F	D		C	D		E
Approach Vol, veh/h		321			1141			53			233	
Approach Delay, s/veh		59.4			60.5			36.9			55.4	
Approach LOS		E			E			D			E	
Timer												
Assigned Phs	7	4			8			2			6	
Phs Duration (G+Y+Rc), s	13.0	72.0			59.0			18.0			18.0	
Change Period (Y+Rc), s	4.0	5.3			5.3			5.3			5.3	
Max Green Setting (Gmax), s	9.0	66.7			53.7			12.7			12.7	
Max Q Clear Time (g_c+I1), s	10.9	4.1			55.7			13.4			12.3	
Green Ext Time (p_c), s	0.0	15.1			0.0			0.0			0.1	
Intersection Summary												
HCM 2010 Ctrl Delay			58.9									
HCM 2010 LOS			E									
Notes												

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	328	181	805	448	171	709
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1542	1770	1863	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1542	1770	1863	1770	1583
Peak-hour factor, PHF	0.75	0.75	0.92	0.92	0.87	0.87
Adj. Flow (vph)	437	241	875	487	197	815
RTOR Reduction (vph)	0	185	0	0	0	30
Lane Group Flow (vph)	437	56	875	487	197	785
Confl. Peds. (#/hr)		2	2			
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	27.7	27.7	58.0	89.7	19.7	77.7
Effective Green, g (s)	27.7	27.7	58.0	89.7	19.7	77.7
Actuated g/C Ratio	0.23	0.23	0.48	0.75	0.16	0.65
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	430	355	855	1392	290	1024
v/s Ratio Prot	c0.23		c0.49	0.26	0.11	c0.37
v/s Ratio Perm		0.04				0.13
v/c Ratio	1.02	0.16	1.02	0.35	0.68	0.77
Uniform Delay, d1	46.1	36.8	31.0	5.2	47.2	14.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	47.6	0.2	36.8	0.2	12.1	3.5
Delay (s)	93.7	37.0	67.8	5.3	59.3	18.3
Level of Service	F	D	E	A	E	B
Approach Delay (s)	73.6			45.5	26.3	
Approach LOS	E			D	C	

Intersection Summary			
HCM 2000 Control Delay	45.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	396	1137	2348	70	315	998
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	2
Cap, veh/h	452	808	2121	897	246	2493
Arrive On Green	0.25	0.25	0.57	0.57	0.07	0.67
Sat Flow, veh/h	1774	3167	3725	1575	3442	3725
Grp Volume(v), veh/h	426	1223	2609	78	350	1109
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1575	1721	1863
Q Serve(g_s), s	33.0	35.7	79.7	3.1	10.0	19.6
Cycle Q Clear(g_c), s	33.0	35.7	79.7	3.1	10.0	19.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	452	808	2121	897	246	2493
V/C Ratio(X)	0.94	1.51	1.23	0.09	1.42	0.44
Avail Cap(c_a), veh/h	452	808	2121	897	246	2493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	52.2	30.2	13.7	65.0	10.9
Incr Delay (d2), s/veh	28.2	237.9	107.9	0.2	212.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	18.7	41.3	68.6	1.3	11.8	8.8
Lane Grp Delay (d), s/veh	79.3	290.1	138.1	13.9	277.7	11.5
Lane Grp LOS	E	F	F	B	F	B
Approach Vol, veh/h	1649		2687			1459
Approach Delay, s/veh	235.6		134.5			75.4
Approach LOS	F		F			E

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			85.0		14.0	99.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			79.7		10.0	93.7
Max Q Clear Time (g_c+I1), s			81.7		12.0	21.6
Green Ext Time (p_c), s			0.0		0.0	67.7

Intersection Summary	
HCM 2010 Ctrl Delay	148.4
HCM 2010 LOS	F

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	941	79	1433	761	15	1004
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	4.0	5.3
Lane Util. Factor	0.97		0.95	1.00	1.00	0.95
Frt	0.99		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3414		3539	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3414		3539	1583	1770	3539
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.97	0.97
Adj. Flow (vph)	1057	89	1575	836	15	1035
RTOR Reduction (vph)	7	0	0	160	0	0
Lane Group Flow (vph)	1139	0	1575	676	15	1035
Turn Type	NA		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	29.7		48.1	48.1	0.8	52.9
Effective Green, g (s)	29.7		48.1	48.1	0.8	52.9
Actuated g/C Ratio	0.32		0.52	0.52	0.01	0.57
Clearance Time (s)	5.3		5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1087		1826	816	15	2008
v/s Ratio Prot	c0.33		c0.45		0.01	c0.29
v/s Ratio Perm				0.43		
v/c Ratio	1.05		0.86	0.83	1.00	0.52
Uniform Delay, d1	31.8		19.7	19.1	46.2	12.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	40.6		5.7	9.5	232.4	0.9
Delay (s)	72.3		25.3	28.5	278.6	13.3
Level of Service	E		C	C	F	B
Approach Delay (s)	72.3		26.4			17.1
Approach LOS	E		C			B

Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	93.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	77.8%	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)	1205	0	755	0	0	0	0	1328	1544	0	801	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.91	1.00		0.91	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					5085	1583		5085	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					5085	1583		5085	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	1339	0	839	0	0	0	0	1492	1735	0	931	309
RTOR Reduction (vph)	0	0	459	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1339	0	380	0	0	0	0	1492	1735	0	931	309
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		5						Free			Free
Actuated Green, G (s)	24.7		4.0					69.7	105.0		60.4	105.0
Effective Green, g (s)	24.7		4.0					69.7	105.0		60.4	105.0
Actuated g/C Ratio	0.24		0.04					0.66	1.00		0.58	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	807		106					3375	1583		2925	1583
v/s Ratio Prot								0.29			0.18	
v/s Ratio Perm	c0.39		c0.14						c1.10			0.20
v/c Ratio	1.66		3.59					0.44	1.10		0.32	0.20
Uniform Delay, d1	40.1		50.5					8.4	52.5		11.6	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	302.2		1187.0					0.4	53.7		0.3	0.3
Delay (s)	342.3		1237.5					8.8	106.2		11.9	0.3
Level of Service	F		F					A	F		B	A
Approach Delay (s)		687.2			0.0			61.2			9.0	
Approach LOS		F			A			E			A	

Intersection Summary			
HCM 2000 Control Delay	256.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	521	0	1983	0	0	0	0	1826	551	0	3281	135
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	0.0	186.3	190.0
Lanes	2	0	3				0	4	0	0	4	0
Cap, veh/h	1614	0	2161				0	3497	0	0	3338	135
Arrive On Green	0.46	0.00	0.46				0.00	0.47	0.00	0.00	0.47	0.47
Sat Flow, veh/h	3548	0	4750				0	7451	0	0	7112	288
Grp Volume(v), veh/h	453	0	2276				0	2200	0	0	2788	925
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	0	0	1863	1812
Q Serve(g_s), s	11.2	0.0	63.7				0.0	31.1	0.0	0.0	65.7	65.7
Cycle Q Clear(g_c), s	11.2	0.0	63.7				0.0	31.1	0.0	0.0	65.7	65.7
Prop In Lane	1.00		1.00				0.00		0.00	0.00		0.16
Lane Grp Cap(c), veh/h	1614	0	2161				0	3497	0	0	2622	850
V/C Ratio(X)	0.28	0.00	1.05				0.00	0.63	0.00	0.00	1.06	1.09
Avail Cap(c_a), veh/h	1614	0	2161				0	3497	0	0	2622	850
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	38.2				0.0	28.0	0.0	0.0	37.1	37.2
Incr Delay (d2), s/veh	0.1	0.0	35.1				0.0	0.4	0.0	0.0	37.2	57.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	5.1	0.0	32.6				0.0	14.3	0.0	0.0	39.2	42.9
Lane Grp Delay (d), s/veh	23.9	0.0	73.3				0.0	28.3	0.0	0.0	74.4	94.6
Lane Grp LOS	C		F					C			F	F
Approach Vol, veh/h		2729						2200			3713	
Approach Delay, s/veh		65.1						28.3			79.4	
Approach LOS		E						C			E	

Timer												
Assigned Phs		4						2			6	
Phs Duration (G+Y+Rc), s		69.0						71.0			71.0	
Change Period (Y+Rc), s		5.3						5.3			5.3	
Max Green Setting (Gmax), s		63.7						65.7			65.7	
Max Q Clear Time (g_c+I1), s		65.7						33.1			67.7	
Green Ext Time (p_c), s		0.0						32.5			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay		61.9
HCM 2010 LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	201	217	434	14	24	10	50	509	172	126	398	294
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Cap, veh/h	237	194	387	32	291	121	72	544	184	138	835	709
Arrive On Green	0.13	0.35	0.35	0.02	0.23	0.23	0.04	0.41	0.41	0.08	0.45	0.45
Sat Flow, veh/h	1774	556	1111	1774	1252	519	1774	1325	447	1774	1863	1583
Grp Volume(v), veh/h	209	0	678	24	0	58	56	0	765	140	442	327
Grp Sat Flow(s),veh/h/ln	1774	0	1667	1774	0	1771	1774	0	1772	1774	1863	1583
Q Serve(g_s), s	14.8	0.0	44.7	1.7	0.0	3.3	4.0	0.0	52.7	10.0	22.0	18.4
Cycle Q Clear(g_c), s	14.8	0.0	44.7	1.7	0.0	3.3	4.0	0.0	52.7	10.0	22.0	18.4
Prop In Lane	1.00		0.67	1.00		0.29	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	237	0	581	32	0	412	72	0	728	138	835	709
V/C Ratio(X)	0.88	0.00	1.17	0.75	0.00	0.14	0.78	0.00	1.05	1.01	0.53	0.46
Avail Cap(c_a), veh/h	346	0	581	55	0	412	124	0	728	138	835	709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	0.0	41.8	62.7	0.0	39.1	61.0	0.0	37.8	59.1	25.6	24.6
Incr Delay (d2), s/veh	16.3	0.0	92.9	29.7	0.0	0.2	16.2	0.0	47.6	79.9	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	7.8	0.0	33.5	1.0	0.0	1.5	2.2	0.0	32.5	7.6	10.1	6.9
Lane Grp Delay (d), s/veh	70.8	0.0	134.7	92.4	0.0	39.2	77.2	0.0	85.4	139.0	26.3	25.1
Lane Grp LOS	E		F	F		D	E		F	F	C	C
Approach Vol, veh/h		887			82			821			909	
Approach Delay, s/veh		119.7			54.8			84.9			43.2	
Approach LOS		F			D			F			D	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	21.2	50.0		6.3	35.1		9.2	58.0		14.0	62.8	
Change Period (Y+Rc), s	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Max Green Setting (Gmax), s	25.0	44.7		4.0	23.7		9.0	52.7		10.0	53.7	
Max Q Clear Time (g_c+I1), s	16.8	46.7		3.7	5.3		6.0	54.7		12.0	24.0	
Green Ext Time (p_c), s	0.3	0.0		0.0	4.7		0.0	0.0		0.0	10.7	
Intersection Summary												
HCM 2010 Ctrl Delay			81.4									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	154	553	33	15	153	58	54	39	13	638	37	184
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Cap, veh/h	177	574	35	80	237	90	611	739	246	778	151	746
Arrive On Green	0.10	0.33	0.33	0.19	0.19	0.19	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1774	1740	105	803	1279	485	1126	1338	446	1313	274	1350
Grp Volume(v), veh/h	162	0	617	18	0	251	83	0	80	717	0	249
Grp Sat Flow(s),veh/h/ln	1774	0	1844	803	0	1764	1126	0	1784	1313	0	1624
Q Serve(g_s), s	8.1	0.0	29.7	0.0	0.0	12.2	3.8	0.0	1.9	47.8	0.0	7.3
Cycle Q Clear(g_c), s	8.1	0.0	29.7	16.7	0.0	12.2	11.1	0.0	1.9	49.7	0.0	7.3
Prop In Lane	1.00		0.06	1.00		0.27	1.00		0.25	1.00		0.83
Lane Grp Cap(c), veh/h	177	0	609	80	0	327	611	0	985	778	0	897
V/C Ratio(X)	0.91	0.00	1.01	0.22	0.00	0.77	0.14	0.00	0.08	0.92	0.00	0.28
Avail Cap(c_a), veh/h	177	0	609	80	0	327	611	0	985	778	0	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.1	0.0	30.2	45.0	0.0	34.8	13.6	0.0	9.4	21.7	0.0	10.7
Incr Delay (d2), s/veh	43.6	0.0	40.0	1.4	0.0	10.4	0.1	0.0	0.0	16.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	5.6	0.0	19.3	0.4	0.0	6.2	1.0	0.0	0.7	18.3	0.0	2.6
Lane Grp Delay (d), s/veh	83.7	0.0	70.1	46.4	0.0	45.2	13.7	0.0	9.5	38.1	0.0	10.8
Lane Grp LOS	F		F	D		D	B		A	D		B
Approach Vol, veh/h		779			269			163			966	
Approach Delay, s/veh		72.9			45.3			11.6			31.1	
Approach LOS		E			D			B			C	
Timer												
Assigned Phs	7	4			8			2			6	
Phs Duration (G+Y+Rc), s	13.0	35.0			22.0			55.0			55.0	
Change Period (Y+Rc), s	4.0	5.3			5.3			5.3			5.3	
Max Green Setting (Gmax), s	9.0	29.7			16.7			49.7			49.7	
Max Q Clear Time (g_c+I1), s	10.1	31.7			18.7			13.1			51.7	
Green Ext Time (p_c), s	0.0	0.0			0.0			5.1			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			46.4									
HCM 2010 LOS			D									
Notes												

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	711	152	957	435	137	867
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1546	1770	1863	1770	1576
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1546	1770	1863	1770	1576
Peak-hour factor, PHF	0.92	0.92	0.89	0.89	0.90	0.90
Adj. Flow (vph)	773	165	1075	489	152	963
RTOR Reduction (vph)	0	110	0	0	0	20
Lane Group Flow (vph)	773	55	1075	489	152	943
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						1
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	49.7	49.7	67.0	120.7	18.7	85.7
Effective Green, g (s)	49.7	49.7	67.0	120.7	18.7	85.7
Actuated g/C Ratio	0.33	0.33	0.45	0.80	0.12	0.57
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	617	512	790	1499	220	900
v/s Ratio Prot	c0.41		c0.61	0.26	0.09	c0.47
v/s Ratio Perm		0.04				0.13
v/c Ratio	1.25	0.11	1.36	0.33	0.69	1.05
Uniform Delay, d1	50.1	34.8	41.5	3.9	62.9	32.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	126.8	0.1	170.5	0.1	16.4	43.2
Delay (s)	176.9	34.9	212.0	4.0	79.2	75.4
Level of Service	F	C	F	A	E	E
Approach Delay (s)	151.9			147.0	75.9	
Approach LOS	F			F	E	

Intersection Summary			
HCM 2000 Control Delay	126.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	111.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	247	753	1584	267	1005	2249
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	2
Cap, veh/h	266	475	1687	717	1008	2885
Arrive On Green	0.15	0.15	0.45	0.45	0.29	0.77
Sat Flow, veh/h	1774	3167	3725	1583	3442	3725
Grp Volume(v), veh/h	281	856	1703	287	1092	2445
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1721	1863
Q Serve(g_s), s	21.0	21.0	63.4	17.0	41.0	60.3
Cycle Q Clear(g_c), s	21.0	21.0	63.4	17.0	41.0	60.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	266	475	1687	717	1008	2885
V/C Ratio(X)	1.06	1.80	1.01	0.40	1.08	0.85
Avail Cap(c_a), veh/h	266	475	1687	717	1008	2885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	59.5	38.3	25.6	49.5	10.4
Incr Delay (d2), s/veh	70.7	369.3	24.2	1.7	53.7	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	14.9	33.0	35.4	7.1	25.7	25.8
Lane Grp Delay (d), s/veh	130.2	428.8	62.5	27.3	103.2	13.7
Lane Grp LOS	F	F	F	C	F	B
Approach Vol, veh/h	1137		1990			3537
Approach Delay, s/veh	355.0		57.4			41.3
Approach LOS	F		E			D

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			68.7		45.0	113.7
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			63.4		41.0	108.4
Max Q Clear Time (g_c+I1), s			65.4		43.0	62.3
Green Ext Time (p_c), s			0.0		0.0	45.1

Intersection Summary	
HCM 2010 Ctrl Delay	99.7
HCM 2010 LOS	F

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	514	323	1029	1101	16	1401
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	4.0	5.3
Lane Util. Factor	0.97		0.95	1.00	1.00	0.95
Frt	0.94		1.00	0.85	1.00	1.00
Flt Protected	0.97		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3303		3539	1583	1770	3539
Flt Permitted	0.97		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3303		3539	1583	1770	3539
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.88	0.88
Adj. Flow (vph)	571	359	1118	1197	18	1592
RTOR Reduction (vph)	144	0	0	498	0	0
Lane Group Flow (vph)	786	0	1118	699	18	1592
Turn Type	NA		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	13.1		29.7	29.7	0.8	34.5
Effective Green, g (s)	13.1		29.7	29.7	0.8	34.5
Actuated g/C Ratio	0.23		0.51	0.51	0.01	0.59
Clearance Time (s)	5.3		5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	743		1805	807	24	2097
v/s Ratio Prot	c0.24		0.32		0.01	c0.45
v/s Ratio Perm				c0.44		
v/c Ratio	1.06		0.62	0.87	0.75	0.76
Uniform Delay, d1	22.6		10.2	12.5	28.6	8.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	49.3		1.6	12.0	80.1	2.6
Delay (s)	71.9		11.8	24.5	108.7	11.4
Level of Service	E		B	C	F	B
Approach Delay (s)	71.9		18.4			12.5
Approach LOS	E		B			B

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	0	1307	0	0	0	0	1696	1189	0	2474	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.91	1.00		0.91	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					5085	1583		5085	1551
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					5085	1583		5085	1551
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	240	0	1485	0	0	0	0	1864	1307	0	2604	421
RTOR Reduction (vph)	0	0	11	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	240	0	1474	0	0	0	0	1864	1307	0	2604	421
Confl. Peds. (#/hr)												1
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		4						Free			Free
Actuated Green, G (s)	57.7		57.7					61.7	130.0		61.7	130.0
Effective Green, g (s)	57.7		57.7					61.7	130.0		61.7	130.0
Actuated g/C Ratio	0.44		0.44					0.47	1.00		0.47	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	1523		1236					2413	1583		2413	1551
v/s Ratio Prot								0.37			c0.51	
v/s Ratio Perm	0.07		c0.53						0.83			0.27
v/c Ratio	0.16		1.19					0.77	0.83		1.08	0.27
Uniform Delay, d1	21.6		36.1					28.3	0.0		34.1	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0		95.0					2.5	5.1		43.9	0.4
Delay (s)	21.7		131.2					30.8	5.1		78.0	0.4
Level of Service	C		F					C	A		E	A
Approach Delay (s)		115.9			0.0			20.2			67.2	
Approach LOS		F			A			C			E	

Intersection Summary			
HCM 2000 Control Delay	59.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1318	0	443	0	0	0	0	4527	1064	0	1756	160
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	0.0	186.3	190.0
Lanes	3	0	2				0	4	0	0	4	0
Cap, veh/h	1373	0	817				0	5002	0	0	4518	411
Arrive On Green	0.26	0.00	0.26				0.00	0.67	0.00	0.00	0.67	0.67
Sat Flow, veh/h	5322	0	3167				0	7451	0	0	6730	612
Grp Volume(v), veh/h	1610	0	407				0	4975	0	0	1695	533
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	0	0	1863	1754
Q Serve(g_s), s	38.7	0.0	16.4				0.0	99.1	0.0	0.0	21.5	21.5
Cycle Q Clear(g_c), s	38.7	0.0	16.4				0.0	99.1	0.0	0.0	21.5	21.5
Prop In Lane	1.00		1.00				0.00		0.00	0.00		0.35
Lane Grp Cap(c), veh/h	1373	0	817				0	5002	0	0	3752	1178
V/C Ratio(X)	1.17	0.00	0.50				0.00	0.99	0.00	0.00	0.45	0.45
Avail Cap(c_a), veh/h	1373	0	817				0	5002	0	0	3752	1178
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	0.0	47.4				0.0	24.4	0.0	0.0	11.6	11.6
Incr Delay (d2), s/veh	85.7	0.0	0.5				0.0	11.5	0.0	0.0	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	28.8	0.0	6.8				0.0	46.5	0.0	0.0	9.1	8.7
Lane Grp Delay (d), s/veh	141.4	0.0	47.9				0.0	35.9	0.0	0.0	11.7	11.9
Lane Grp LOS	F		D					D			B	B
Approach Vol, veh/h		2017						4975			2228	
Approach Delay, s/veh		122.5						35.9			11.8	
Approach LOS		F						D			B	

Timer			
Assigned Phs	4	2	6
Phs Duration (G+Y+Rc), s	44.0	106.0	106.0
Change Period (Y+Rc), s	5.3	5.3	5.3
Max Green Setting (Gmax), s	38.7	100.7	100.7
Max Q Clear Time (g_c+I1), s	40.7	101.1	23.5
Green Ext Time (p_c), s	0.0	0.0	76.6

Intersection Summary	
HCM 2010 Ctrl Delay	49.0
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	155	13	63	155	423	131	47	260	14	12	470	144
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Cap, veh/h	209	87	431	228	449	139	70	598	32	22	584	490
Arrive On Green	0.12	0.32	0.32	0.13	0.33	0.33	0.04	0.34	0.34	0.01	0.31	0.31
Sat Flow, veh/h	1774	273	1351	1774	1365	423	1774	1753	93	1774	1863	1562
Grp Volume(v), veh/h	207	0	101	191	0	684	55	0	318	13	500	153
Grp Sat Flow(s),veh/h/ln	1774	0	1624	1774	0	1788	1774	0	1846	1774	1863	1562
Q Serve(g_s), s	10.9	0.0	4.2	9.8	0.0	30.7	2.9	0.0	12.8	0.7	23.5	6.9
Cycle Q Clear(g_c), s	10.9	0.0	4.2	9.8	0.0	30.7	2.9	0.0	12.8	0.7	23.5	6.9
Prop In Lane	1.00		0.83	1.00		0.24	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	209	0	518	228	0	589	70	0	630	22	584	490
V/C Ratio(X)	0.99	0.00	0.19	0.84	0.00	1.16	0.78	0.00	0.51	0.60	0.86	0.31
Avail Cap(c_a), veh/h	209	0	518	342	0	589	76	0	707	76	713	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0	23.1	39.7	0.0	31.3	44.4	0.0	24.5	45.8	30.0	24.3
Incr Delay (d2), s/veh	58.9	0.0	0.2	11.0	0.0	90.5	37.6	0.0	0.6	23.5	8.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	8.2	0.0	1.7	4.9	0.0	27.4	2.0	0.0	5.8	0.4	11.8	2.5
Lane Grp Delay (d), s/veh	100.0	0.0	23.2	50.7	0.0	121.8	82.0	0.0	25.1	69.3	38.6	24.7
Lane Grp LOS	F		C	D		F	F		C	E	D	C
Approach Vol, veh/h		308			875			373			666	
Approach Delay, s/veh		74.8			106.3			33.5			36.0	
Approach LOS		E			F			C			D	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	15.0	35.0		16.0	36.0		7.7	37.1		5.1	34.5	
Change Period (Y+Rc), s	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Max Green Setting (Gmax), s	11.0	23.7		18.0	30.7		4.0	35.7		4.0	35.7	
Max Q Clear Time (g_c+I1), s	12.9	6.2		11.8	32.7		4.9	14.8		2.7	25.5	
Green Ext Time (p_c), s	0.0	4.5		0.2	0.0		0.0	5.2		0.0	3.8	
Intersection Summary												
HCM 2010 Ctrl Delay			68.6									
HCM 2010 LOS			E									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	148	85	39	16	774	248	11	13	14	40	26	155
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Cap, veh/h	177	899	409	817	808	258	109	114	127	246	33	195
Arrive On Green	0.10	0.74	0.74	0.60	0.60	0.60	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1774	1213	552	1236	1353	433	1185	807	897	1364	235	1384
Grp Volume(v), veh/h	176	0	147	20	0	1246	15	0	38	43	0	193
Grp Sat Flow(s),veh/h/ln	1774	0	1765	1236	0	1786	1185	0	1704	1364	0	1619
Q Serve(g_s), s	8.9	0.0	2.1	0.6	0.0	53.7	1.1	0.0	1.8	2.6	0.0	10.5
Cycle Q Clear(g_c), s	8.9	0.0	2.1	0.6	0.0	53.7	11.6	0.0	1.8	4.3	0.0	10.5
Prop In Lane	1.00		0.31	1.00		0.24	1.00		0.53	1.00		0.85
Lane Grp Cap(c), veh/h	177	0	1308	817	0	1066	109	0	241	246	0	228
V/C Ratio(X)	0.99	0.00	0.11	0.02	0.00	1.17	0.14	0.00	0.16	0.17	0.00	0.85
Avail Cap(c_a), veh/h	177	0	1308	817	0	1066	109	0	241	246	0	228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.5	0.0	3.3	7.4	0.0	18.2	43.3	0.0	34.0	35.9	0.0	37.7
Incr Delay (d2), s/veh	65.1	0.0	0.0	0.0	0.0	86.3	0.6	0.0	0.3	0.3	0.0	24.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	7.0	0.0	0.6	0.2	0.0	46.0	0.4	0.0	0.8	0.9	0.0	5.7
Lane Grp Delay (d), s/veh	105.6	0.0	3.3	7.5	0.0	104.5	43.9	0.0	34.3	36.2	0.0	61.9
Lane Grp LOS	F		A	A		F	D		C	D		E
Approach Vol, veh/h		323			1266			53			236	
Approach Delay, s/veh		59.1			103.0			37.0			57.2	
Approach LOS		E			F			D			E	
Timer												
Assigned Phs	7	4			8			2			6	
Phs Duration (G+Y+Rc), s	13.0	72.0			59.0			18.0			18.0	
Change Period (Y+Rc), s	4.0	5.3			5.3			5.3			5.3	
Max Green Setting (Gmax), s	9.0	66.7			53.7			12.7			12.7	
Max Q Clear Time (g_c+I1), s	10.9	4.1			55.7			13.6			12.5	
Green Ext Time (p_c), s	0.0	19.9			0.0			0.0			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			87.8									
HCM 2010 LOS			F									
Notes												

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	329	181	896	452	171	709
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1542	1770	1863	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1542	1770	1863	1770	1583
Peak-hour factor, PHF	0.75	0.75	0.92	0.92	0.87	0.87
Adj. Flow (vph)	439	241	974	491	197	815
RTOR Reduction (vph)	0	185	0	0	0	30
Lane Group Flow (vph)	439	56	974	491	197	785
Confl. Peds. (#/hr)		2	2			
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	27.7	27.7	58.0	89.7	19.7	77.7
Effective Green, g (s)	27.7	27.7	58.0	89.7	19.7	77.7
Actuated g/C Ratio	0.23	0.23	0.48	0.75	0.16	0.65
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	430	355	855	1392	290	1024
v/s Ratio Prot	c0.24		c0.55	0.26	0.11	c0.37
v/s Ratio Perm		0.04				0.13
v/c Ratio	1.02	0.16	1.14	0.35	0.68	0.77
Uniform Delay, d1	46.1	36.8	31.0	5.2	47.2	14.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	48.8	0.2	76.7	0.2	12.1	3.5
Delay (s)	95.0	37.0	107.7	5.4	59.3	18.3
Level of Service	F	D	F	A	E	B
Approach Delay (s)	74.4			73.4	26.3	
Approach LOS	E			E	C	

Intersection Summary			
HCM 2000 Control Delay	58.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	460	1137	2390	70	315	1007
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	2
Cap, veh/h	452	808	2121	897	246	2493
Arrive On Green	0.25	0.25	0.57	0.57	0.07	0.67
Sat Flow, veh/h	1774	3167	3725	1575	3442	3725
Grp Volume(v), veh/h	495	1223	2656	78	350	1119
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1575	1721	1863
Q Serve(g_s), s	35.7	35.7	79.7	3.1	10.0	19.9
Cycle Q Clear(g_c), s	35.7	35.7	79.7	3.1	10.0	19.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	452	808	2121	897	246	2493
V/C Ratio(X)	1.09	1.51	1.25	0.09	1.42	0.45
Avail Cap(c_a), veh/h	452	808	2121	897	246	2493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	52.2	30.2	13.7	65.0	10.9
Incr Delay (d2), s/veh	70.3	237.9	117.6	0.2	212.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	25.3	41.3	71.5	1.3	11.8	9.1
Lane Grp Delay (d), s/veh	122.4	290.1	147.8	13.9	277.7	11.5
Lane Grp LOS	F	F	F	B	F	B
Approach Vol, veh/h	1718		2734			1469
Approach Delay, s/veh	241.8		143.9			75.0
Approach LOS	F		F			E

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			85.0		14.0	99.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			79.7		10.0	93.7
Max Q Clear Time (g_c+I1), s			81.7		12.0	21.9
Green Ext Time (p_c), s			0.0		0.0	67.9

Intersection Summary	
HCM 2010 Ctrl Delay	155.2
HCM 2010 LOS	F

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	958	79	1474	790	15	1071
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	4.0	5.3
Lane Util. Factor	0.97		0.95	1.00	1.00	0.95
Frt	0.99		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3415		3539	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3415		3539	1583	1770	3539
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.97	0.97
Adj. Flow (vph)	1076	89	1620	868	15	1104
RTOR Reduction (vph)	7	0	0	162	0	0
Lane Group Flow (vph)	1158	0	1620	706	15	1104
Turn Type	NA		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	29.7		48.1	48.1	0.8	52.9
Effective Green, g (s)	29.7		48.1	48.1	0.8	52.9
Actuated g/C Ratio	0.32		0.52	0.52	0.01	0.57
Clearance Time (s)	5.3		5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1088		1826	816	15	2008
v/s Ratio Prot	c0.34		c0.46		0.01	c0.31
v/s Ratio Perm				0.45		
v/c Ratio	1.06		0.89	0.87	1.00	0.55
Uniform Delay, d1	31.8		20.1	19.7	46.2	12.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	46.2		6.8	11.9	232.4	1.1
Delay (s)	77.9		27.0	31.6	278.6	13.8
Level of Service	E		C	C	F	B
Approach Delay (s)	77.9		28.6			17.3
Approach LOS	E		C			B

Intersection Summary			
HCM 2000 Control Delay	38.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	93.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	79.4%	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)	1205	0	755	0	0	0	0	1329	1586	0	808	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.91	1.00		0.91	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					5085	1583		5085	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					5085	1583		5085	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	1339	0	839	0	0	0	0	1493	1782	0	940	309
RTOR Reduction (vph)	0	0	57	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1339	0	782	0	0	0	0	1493	1782	0	940	309
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		4						Free			Free
Actuated Green, G (s)	29.7		29.7					29.7	70.0		29.7	70.0
Effective Green, g (s)	29.7		29.7					29.7	70.0		29.7	70.0
Actuated g/C Ratio	0.42		0.42					0.42	1.00		0.42	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	1456		1182					2157	1583		2157	1583
v/s Ratio Prot								0.29			0.18	
v/s Ratio Perm	0.39		0.28						c1.13			0.20
v/c Ratio	0.92		0.66					0.69	1.13		0.44	0.20
Uniform Delay, d1	19.0		16.1					16.4	35.0		14.2	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	9.6		1.4					1.9	65.4		0.6	0.3
Delay (s)	28.6		17.5					18.3	100.4		14.9	0.3
Level of Service	C		B					B	F		B	A
Approach Delay (s)		24.3			0.0			63.0			11.3	
Approach LOS		C			A			E			B	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	521	0	1984	0	0	0	0	1833	553	1	3290	135
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	190.0	186.3	190.0
Lanes	2	0	3				0	4	0	0	4	0
Cap, veh/h	1614	0	2161				0	3497	0	26	3112	126
Arrive On Green	0.46	0.00	0.46				0.00	0.47	0.00	0.47	0.47	0.47
Sat Flow, veh/h	3548	0	4750				0	7451	0	0	6631	268
Grp Volume(v), veh/h	453	0	2278				0	2208	0	999	1819	905
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	0	1861	1695	1648
Q Serve(g_s), s	11.2	0.0	63.7				0.0	31.3	0.0	7.4	65.7	65.7
Cycle Q Clear(g_c), s	11.2	0.0	63.7				0.0	31.3	0.0	65.7	65.7	65.7
Prop In Lane	1.00		1.00				0.00		0.00	0.00		0.16
Lane Grp Cap(c), veh/h	1614	0	2161				0	3497	0	899	1591	773
V/C Ratio(X)	0.28	0.00	1.05				0.00	0.63	0.00	1.11	1.14	1.17
Avail Cap(c_a), veh/h	1614	0	2161				0	3497	0	899	1591	773
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	38.2				0.0	28.0	0.0	38.1	37.1	37.2
Incr Delay (d2), s/veh	0.1	0.0	35.5				0.0	0.4	0.0	65.6	72.6	90.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	5.1	0.0	32.7				0.0	14.4	0.0	48.1	43.4	46.1
Lane Grp Delay (d), s/veh	23.9	0.0	73.6				0.0	28.4	0.0	103.6	109.7	127.6
Lane Grp LOS	C		F					C		F	F	F
Approach Vol, veh/h		2731						2208			3724	
Approach Delay, s/veh		65.4						28.4			112.4	
Approach LOS		E						C			F	

Timer												
Assigned Phs		4						2			6	
Phs Duration (G+Y+Rc), s		69.0						71.0			71.0	
Change Period (Y+Rc), s		5.3						5.3			5.3	
Max Green Setting (Gmax), s		63.7						65.7			65.7	
Max Q Clear Time (g_c+I1), s		65.7						33.3			67.7	
Green Ext Time (p_c), s		0.0						32.3			0.0	

Intersection Summary		
HCM 2010 Ctrl Delay		76.2
HCM 2010 LOS		E

Notes
User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	201	294	434	14	25	10	50	511	190	129	400	294
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Cap, veh/h	237	237	350	32	296	117	72	529	196	138	835	709
Arrive On Green	0.13	0.35	0.35	0.02	0.23	0.23	0.04	0.41	0.41	0.08	0.45	0.45
Sat Flow, veh/h	1774	680	1005	1774	1271	503	1774	1288	478	1774	1863	1583
Grp Volume(v), veh/h	209	0	758	24	0	60	56	0	787	143	444	327
Grp Sat Flow(s),veh/h/ln	1774	0	1685	1774	0	1774	1774	0	1765	1774	1863	1583
Q Serve(g_s), s	14.8	0.0	44.7	1.7	0.0	3.4	4.0	0.0	52.7	10.0	22.2	18.4
Cycle Q Clear(g_c), s	14.8	0.0	44.7	1.7	0.0	3.4	4.0	0.0	52.7	10.0	22.2	18.4
Prop In Lane	1.00		0.60	1.00		0.28	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	237	0	587	32	0	412	72	0	725	138	835	709
V/C Ratio(X)	0.88	0.00	1.29	0.75	0.00	0.15	0.78	0.00	1.09	1.03	0.53	0.46
Avail Cap(c_a), veh/h	346	0	587	55	0	412	124	0	725	138	835	709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	0.0	41.8	62.7	0.0	39.1	61.0	0.0	37.8	59.1	25.7	24.6
Incr Delay (d2), s/veh	16.3	0.0	143.3	29.7	0.0	0.2	16.2	0.0	59.0	85.9	0.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	7.8	0.0	42.1	1.0	0.0	1.5	2.2	0.0	34.6	7.8	10.1	6.9
Lane Grp Delay (d), s/veh	70.8	0.0	185.1	92.4	0.0	39.3	77.2	0.0	96.8	145.1	26.3	25.1
Lane Grp LOS	E		F	F		D	E		F	F	C	C
Approach Vol, veh/h		967			84			843			914	
Approach Delay, s/veh		160.4			54.4			95.5			44.5	
Approach LOS		F			D			F			D	
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	21.2	50.0		6.3	35.1		9.2	58.0		14.0	62.8	
Change Period (Y+Rc), s	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Max Green Setting (Gmax), s	25.0	44.7		4.0	23.7		9.0	52.7		10.0	53.7	
Max Q Clear Time (g_c+I1), s	16.8	46.7		3.7	5.4		6.0	54.7		12.0	24.2	
Green Ext Time (p_c), s	0.3	0.0		0.0	5.4		0.0	0.0		0.0	11.0	
Intersection Summary												
HCM 2010 Ctrl Delay			100.0									
HCM 2010 LOS			F									
Notes												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	154	665	33	15	160	59	54	39	13	640	37	184
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Cap, veh/h	177	581	29	80	239	88	611	739	246	778	151	746
Arrive On Green	0.10	0.33	0.33	0.19	0.19	0.19	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1774	1759	88	719	1291	476	1126	1338	446	1313	274	1350
Grp Volume(v), veh/h	162	0	735	18	0	260	83	0	80	719	0	249
Grp Sat Flow(s),veh/h/ln	1774	0	1847	719	0	1766	1126	0	1784	1313	0	1624
Q Serve(g_s), s	8.1	0.0	29.7	0.0	0.0	12.7	3.8	0.0	1.9	47.8	0.0	7.3
Cycle Q Clear(g_c), s	8.1	0.0	29.7	16.7	0.0	12.7	11.1	0.0	1.9	49.7	0.0	7.3
Prop In Lane	1.00		0.05	1.00		0.27	1.00		0.25	1.00		0.83
Lane Grp Cap(c), veh/h	177	0	610	80	0	328	611	0	985	778	0	897
V/C Ratio(X)	0.91	0.00	1.21	0.22	0.00	0.79	0.14	0.00	0.08	0.92	0.00	0.28
Avail Cap(c_a), veh/h	177	0	610	80	0	328	611	0	985	778	0	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.1	0.0	30.2	45.0	0.0	35.0	13.6	0.0	9.4	21.8	0.0	10.7
Incr Delay (d2), s/veh	43.6	0.0	107.5	1.4	0.0	12.6	0.1	0.0	0.0	16.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	5.6	0.0	30.7	0.4	0.0	6.6	1.0	0.0	0.7	18.6	0.0	2.6
Lane Grp Delay (d), s/veh	83.7	0.0	137.6	46.4	0.0	47.6	13.7	0.0	9.5	38.6	0.0	10.8
Lane Grp LOS	F		F	D		D	B		A	D		B
Approach Vol, veh/h		897			278			163			968	
Approach Delay, s/veh		127.9			47.5			11.6			31.4	
Approach LOS		F			D			B			C	
Timer												
Assigned Phs	7	4			8			2			6	
Phs Duration (G+Y+Rc), s	13.0	35.0			22.0			55.0			55.0	
Change Period (Y+Rc), s	4.0	5.3			5.3			5.3			5.3	
Max Green Setting (Gmax), s	9.0	29.7			16.7			49.7			49.7	
Max Q Clear Time (g_c+I1), s	10.1	31.7			18.7			13.1			51.7	
Green Ext Time (p_c), s	0.0	0.0			0.0			5.1			0.0	
Intersection Summary												
HCM 2010 Ctrl Delay			69.5									
HCM 2010 LOS			E									
Notes												

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	712	152	959	439	137	975
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1546	1770	1863	1770	1576
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1546	1770	1863	1770	1576
Peak-hour factor, PHF	0.92	0.92	0.89	0.89	0.90	0.90
Adj. Flow (vph)	774	165	1078	493	152	1083
RTOR Reduction (vph)	0	110	0	0	0	20
Lane Group Flow (vph)	774	55	1078	493	152	1063
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						1
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	49.7	49.7	67.0	120.7	18.7	85.7
Effective Green, g (s)	49.7	49.7	67.0	120.7	18.7	85.7
Actuated g/C Ratio	0.33	0.33	0.45	0.80	0.12	0.57
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	617	512	790	1499	220	900
v/s Ratio Prot	c0.42		c0.61	0.26	0.09	c0.53
v/s Ratio Perm		0.04				0.15
v/c Ratio	1.25	0.11	1.36	0.33	0.69	1.18
Uniform Delay, d1	50.1	34.8	41.5	3.9	62.9	32.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	127.4	0.1	172.2	0.1	16.4	92.9
Delay (s)	177.6	34.9	213.7	4.0	79.2	125.0
Level of Service	F	C	F	A	E	F
Approach Delay (s)	152.5			147.9	119.4	
Approach LOS	F			F	F	

Intersection Summary			
HCM 2000 Control Delay	139.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	111.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	247	753	1614	335	1005	2274
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	2
Cap, veh/h	266	475	1687	717	1008	2885
Arrive On Green	0.15	0.15	0.45	0.45	0.29	0.77
Sat Flow, veh/h	1774	3167	3725	1583	3442	3725
Grp Volume(v), veh/h	281	856	1735	360	1092	2472
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1721	1863
Q Serve(g_s), s	21.0	21.0	63.4	22.5	41.0	62.3
Cycle Q Clear(g_c), s	21.0	21.0	63.4	22.5	41.0	62.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	266	475	1687	717	1008	2885
V/C Ratio(X)	1.06	1.80	1.03	0.50	1.08	0.86
Avail Cap(c_a), veh/h	266	475	1687	717	1008	2885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	59.5	38.3	27.1	49.5	10.6
Incr Delay (d2), s/veh	70.7	369.3	29.5	2.5	53.7	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	14.9	33.0	36.7	9.5	25.7	26.8
Lane Grp Delay (d), s/veh	130.2	428.8	67.8	29.6	103.2	14.1
Lane Grp LOS	F	F	F	C	F	B
Approach Vol, veh/h	1137		2095			3564
Approach Delay, s/veh	355.0		61.2			41.4
Approach LOS	F		E			D

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			68.7		45.0	113.7
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			63.4		41.0	108.4
Max Q Clear Time (g_c+I1), s			65.4		43.0	64.3
Green Ext Time (p_c), s			0.0		0.0	43.4

Intersection Summary	
HCM 2010 Ctrl Delay	100.0
HCM 2010 LOS	F

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	527	323	1123	1161	16	1426
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	4.0	5.3
Lane Util. Factor	0.97		0.95	1.00	1.00	0.95
Frt	0.94		1.00	0.85	1.00	1.00
Flt Protected	0.97		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3305		3539	1583	1770	3539
Flt Permitted	0.97		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3305		3539	1583	1770	3539
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.88	0.88
Adj. Flow (vph)	586	359	1221	1262	18	1620
RTOR Reduction (vph)	138	0	0	480	0	0
Lane Group Flow (vph)	807	0	1221	782	18	1620
Turn Type	NA		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	13.1		29.7	29.7	0.8	34.5
Effective Green, g (s)	13.1		29.7	29.7	0.8	34.5
Actuated g/C Ratio	0.23		0.51	0.51	0.01	0.59
Clearance Time (s)	5.3		5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	743		1805	807	24	2097
v/s Ratio Prot	c0.24		0.34		0.01	c0.46
v/s Ratio Perm				c0.49		
v/c Ratio	1.09		0.68	0.97	0.75	0.77
Uniform Delay, d1	22.6		10.7	13.8	28.6	8.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	58.9		2.1	24.9	80.1	2.8
Delay (s)	81.5		12.7	38.7	108.7	11.7
Level of Service	F		B	D	F	B
Approach Delay (s)	81.5		25.9			12.8
Approach LOS	F		C			B

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	83.0%	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)	211	0	1307	0	0	0	0	1696	1214	0	2499	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.91	1.00		0.91	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					5085	1583		5085	1551
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					5085	1583		5085	1551
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	240	0	1485	0	0	0	0	1864	1334	0	2631	421
RTOR Reduction (vph)	0	0	11	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	240	0	1474	0	0	0	0	1864	1334	0	2631	421
Confl. Peds. (#/hr)												1
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		4						Free			Free
Actuated Green, G (s)	57.7		57.7					61.7	130.0		61.7	130.0
Effective Green, g (s)	57.7		57.7					61.7	130.0		61.7	130.0
Actuated g/C Ratio	0.44		0.44					0.47	1.00		0.47	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	1523		1236					2413	1583		2413	1551
v/s Ratio Prot								0.37			c0.52	
v/s Ratio Perm	0.07		c0.53						0.84			0.27
v/c Ratio	0.16		1.19					0.77	0.84		1.09	0.27
Uniform Delay, d1	21.6		36.1					28.3	0.0		34.1	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0		95.0					2.5	5.6		48.2	0.4
Delay (s)	21.7		131.2					30.8	5.6		82.4	0.4
Level of Service	C		F					C	A		F	A
Approach Delay (s)		115.9			0.0			20.3			71.1	
Approach LOS		F			A			C			E	

Intersection Summary			
HCM 2000 Control Delay	60.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1318	0	446	0	0	0	0	4566	1084	6	1756	160
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	190.0	186.3	190.0
Lanes	3	0	2				0	4	0	0	4	0
Cap, veh/h	1373	0	817				0	5002	0	24	3847	349
Arrive On Green	0.26	0.00	0.26				0.00	0.67	0.00	0.67	0.67	0.67
Sat Flow, veh/h	5322	0	3167				0	7451	0	0	5730	520
Grp Volume(v), veh/h	1611	0	410				0	5018	0	449	1212	574
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	0	1257	1695	1603
Q Serve(g_s), s	38.7	0.0	16.6				0.0	100.7	0.0	0.0	27.4	27.5
Cycle Q Clear(g_c), s	38.7	0.0	16.6				0.0	100.7	0.0	100.7	27.4	27.5
Prop In Lane	1.00		1.00				0.00		0.00	0.02		0.32
Lane Grp Cap(c), veh/h	1373	0	817				0	5002	0	868	2276	1076
V/C Ratio(X)	1.17	0.00	0.50				0.00	1.00	0.00	0.52	0.53	0.53
Avail Cap(c_a), veh/h	1373	0	817				0	5002	0	868	2276	1076
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	0.0	47.4				0.0	24.7	0.0	25.6	12.6	12.6
Incr Delay (d2), s/veh	86.0	0.0	0.5				0.0	13.5	0.0	0.5	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	28.9	0.0	6.9				0.0	47.8	0.0	10.8	10.7	10.2
Lane Grp Delay (d), s/veh	141.7	0.0	47.9				0.0	38.1	0.0	26.1	12.8	13.1
Lane Grp LOS	F		D					F		C	B	B
Approach Vol, veh/h		2021						5018			2235	
Approach Delay, s/veh		122.6						38.1			15.6	
Approach LOS		F						D			B	

Timer												
Assigned Phs		4						2			6	
Phs Duration (G+Y+Rc), s		44.0						106.0			106.0	
Change Period (Y+Rc), s		5.3						5.3			5.3	
Max Green Setting (Gmax), s		38.7						100.7			100.7	
Max Q Clear Time (g_c+I1), s		40.7						102.7			102.7	
Green Ext Time (p_c), s		0.0						0.0			0.0	

Intersection Summary	
HCM 2010 Ctrl Delay	51.1
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	221.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	12	6	63	147	366	59	29	81	4	12	469	107
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	320	-	-	-	-	-	190	-	-	150	-	235
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	81	81	81	86	86	86	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	8	84	181	452	73	34	94	5	13	499	114

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	950	690	499	734	688	97	499	0	0	99	0	0
Stage 1	524	524	-	164	164	-	-	-	-	-	-	-
Stage 2	426	166	-	570	524	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	240	368	572	336	# 369	959	1065	-	-	1494	-	-
Stage 1	537	530	-	838	762	-	-	-	-	-	-	-
Stage 2	606	761	-	506	530	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	-	353	572	273	# 354	959	1065	-	-	1494	-	-
Mov Capacity-2 Maneuver	-	353	-	273	# 354	-	-	-	-	-	-	-
Stage 1	520	525	-	811	738	-	-	-	-	-	-	-
Stage 2	210	737	-	421	525	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	+	$ 492.8	2.2	0.2
HCM LOS	-	F		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1065	-	-	+	+	350	1494	-	-
HCM Lane V/C Ratio	0.032	-	-	+	+	2.018	0.009	-	-
HCM Control Delay (s)	8.491	-	-	+	+	$ 492.8	7.43	-	-
HCM Lane LOS	A			+	+	F	A		
HCM 95th %tile Q(veh)	0.098	-	-	+	+	49.835	0.026	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	38.9
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	128	24	39	1	567	62	8	5	4	14	26	153
Peak Hour Factor	0.84	0.84	0.84	0.82	0.82	0.82	0.71	0.71	0.71	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	152	29	46	1	691	76	11	7	6	15	28	163
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.6	55.2	10.1	11.7
HCM LOS	B	F	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	67%	0%	7%
Vol Thru, %	29%	13%	90%	13%
Vol Right, %	24%	20%	10%	79%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	191	630	193
LT Vol	5	24	567	26
Through Vol	4	39	62	153
RT Vol	8	128	1	14
Lane Flow Rate	24	227	768	205
Geometry Grp	1	1	1	1
Degree of Util (X)	0.045	0.349	1	0.331
Departure Headway (Hd)	6.759	5.528	4.953	5.802
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	533	646	738	618
Service Time	4.759	3.613	2.955	3.86
HCM Lane V/C Ratio	0.045	0.351	1.041	0.332
HCM Control Delay	10.1	11.6	55.2	11.7
HCM Lane LOS	B	B	F	B
HCM 95th-tile Q	0.1	1.6	16.5	1.4

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	152	100	823	246	90	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1544	1770	1863	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1544	1770	1863	1770	1583
Peak-hour factor, PHF	0.75	0.75	0.92	0.92	0.87	0.87
Adj. Flow (vph)	203	133	895	267	103	459
RTOR Reduction (vph)	0	112	0	0	0	89
Lane Group Flow (vph)	203	21	895	267	103	370
Confl. Peds. (#/hr)		2	2			
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	15.4	15.4	47.1	66.5	18.4	65.5
Effective Green, g (s)	15.4	15.4	47.1	66.5	18.4	65.5
Actuated g/C Ratio	0.16	0.16	0.49	0.70	0.19	0.69
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	300	248	872	1297	341	1085
v/s Ratio Prot	c0.11		c0.51	0.14	0.06	c0.17
v/s Ratio Perm		0.01				0.07
v/c Ratio	0.68	0.09	1.03	0.21	0.30	0.34
Uniform Delay, d1	37.7	34.1	24.2	5.1	33.0	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.9	0.2	37.4	0.1	2.3	0.2
Delay (s)	43.6	34.2	61.6	5.2	35.3	6.3
Level of Service	D	C	E	A	D	A
Approach Delay (s)	39.9			48.6	11.7	
Approach LOS	D			D	B	

Intersection Summary			
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	95.5	Sum of lost time (s)	14.6
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	409	625	464	70	146	642
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	1
Cap, veh/h	490	874	1700	718	198	1064
Arrive On Green	0.28	0.28	0.46	0.46	0.06	0.57
Sat Flow, veh/h	1774	3167	3725	1573	3442	1863
Grp Volume(v), veh/h	440	672	516	78	162	713
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1573	1721	1863
Q Serve(g_s), s	16.6	13.5	6.1	2.0	3.2	18.5
Cycle Q Clear(g_c), s	16.6	13.5	6.1	2.0	3.2	18.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	490	874	1700	718	198	1064
V/C Ratio(X)	0.90	0.77	0.30	0.11	0.82	0.67
Avail Cap(c_a), veh/h	503	898	1700	718	198	1064
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	23.1	11.9	10.8	32.4	10.3
Incr Delay (d2), s/veh	18.6	4.0	0.5	0.3	22.8	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	9.6	5.6	2.6	0.8	2.0	8.3
Lane Grp Delay (d), s/veh	42.8	27.1	12.4	11.1	55.1	13.7
Lane Grp LOS	D	C	B	B	E	B
Approach Vol, veh/h	1112		594			875
Approach Delay, s/veh	33.3		12.2			21.4
Approach LOS	C		B			C

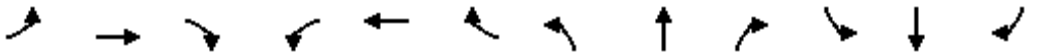
Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			37.0		8.0	45.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			31.7		4.0	39.7
Max Q Clear Time (g_c+I1), s			8.1		5.2	20.5
Green Ext Time (p_c), s			9.8		0.0	8.9

Intersection Summary	
HCM 2010 Ctrl Delay	24.4
HCM 2010 LOS	C

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	944	4	420	348	2	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.97	0.97
Adj. Flow (vph)	1061	4	462	382	2	742
RTOR Reduction (vph)	0	1	0	95	0	0
Lane Group Flow (vph)	1061	3	462	287	2	742
Turn Type	NA	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	71.7	72.5	46.1	46.1	0.8	50.9
Effective Green, g (s)	71.7	72.5	46.1	46.1	0.8	50.9
Actuated g/C Ratio	0.54	0.54	0.35	0.35	0.01	0.38
Clearance Time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	952	861	644	547	10	711
v/s Ratio Prot	c0.60	0.00	0.25		0.00	c0.40
v/s Ratio Perm		0.00		0.18		
v/c Ratio	1.11	0.00	0.72	0.53	0.20	1.04
Uniform Delay, d1	30.7	13.9	37.9	34.8	65.9	41.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	65.9	0.0	6.7	3.6	9.6	45.7
Delay (s)	96.7	13.9	44.6	38.4	75.5	86.8
Level of Service	F	B	D	D	E	F
Approach Delay (s)	96.3		41.8			86.8
Approach LOS	F		D			F

Intersection Summary			
HCM 2000 Control Delay	76.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	133.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	178	0	352	0	0	0	0	709	371	0	802	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.95	1.00		0.95	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					3539	1583		3539	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					3539	1583		3539	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	198	0	391	0	0	0	0	797	417	0	933	110
RTOR Reduction (vph)	0	0	376	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	198	0	15	0	0	0	0	797	417	0	933	110
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		5						Free			Free
Actuated Green, G (s)	12.1		4.0					82.3	105.0		73.0	105.0
Effective Green, g (s)	12.1		4.0					82.3	105.0		73.0	105.0
Actuated g/C Ratio	0.12		0.04					0.78	1.00		0.70	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	395		106					2773	1583		2460	1583
v/s Ratio Prot								0.23			c0.26	
v/s Ratio Perm	c0.06		0.01						c0.26			0.07
v/c Ratio	0.50		0.14					0.29	0.26		0.38	0.07
Uniform Delay, d1	43.6		48.8					3.2	0.0		6.6	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0		0.6					0.3	0.4		0.4	0.1
Delay (s)	44.6		49.4					3.4	0.4		7.1	0.1
Level of Service	D		D					A	A		A	A
Approach Delay (s)		47.8			0.0			2.4			6.3	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM research does not support more than two 'Free' approaches at the intersection.

Intersection	
Intersection Delay, s/veh	106.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	69	230	33	4	14	10	50	509	175	126	91	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	320	-	-	-	-	-	190	-	-	150	-	235
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	58	58	58	89	89	89	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	240	34	7	24	17	56	572	197	140	101	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1184	1262	101	1301	1164	670	101	0	0	769	0	0
Stage 1	381	381	-	783	783	-	-	-	-	-	-	-
Stage 2	803	881	-	518	381	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	166	# 170	954	138	194	457	1491	-	-	845	-	-
Stage 1	641	613	-	387	404	-	-	-	-	-	-	-
Stage 2	377	365	-	541	613	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	120	# 137	954	-	156	457	1491	-	-	845	-	-
Mov Capacity-2 Maneuver	120	# 137	-	-	156	-	-	-	-	-	-	-
Stage 1	617	511	-	372	389	-	-	-	-	-	-	-
Stage 2	327	351	-	231	511	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 452.5	+	0.5	5.3
HCM LOS	F	-		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1491	-	-	120	150	+	845	-	-
HCM Lane V/C Ratio	0.038	-	-	0.399	1.986	+	0.166	-	-
HCM Control Delay (s)	7.509	-	-	53.7	$ 516.7	+	10.104	-	-
HCM Lane LOS	A			F	F	+	B		
HCM 95th %tile Q(veh)	0.117	-	-	1.681	23.287	+	0.592	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	41.6
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	154	571	26	2	42	11	18	16	5	72	19	122
Peak Hour Factor	0.95	0.95	0.95	0.84	0.84	0.84	0.65	0.65	0.65	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	162	601	27	2	50	13	28	25	8	81	21	137
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	55.5	9.4	10.3	12.5
HCM LOS	F	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	21%	4%	34%
Vol Thru, %	41%	76%	76%	9%
Vol Right, %	13%	3%	20%	57%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	751	55	213
LT Vol	16	571	42	19
Through Vol	5	26	11	122
RT Vol	18	154	2	72
Lane Flow Rate	60	791	65	239
Geometry Grp	1	1	1	1
Degree of Util (X)	0.108	1	0.104	0.389
Departure Headway (Hd)	6.492	5.013	5.706	5.848
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	556	727	624	622
Service Time	4.49	3.013	3.777	3.818
HCM Lane V/C Ratio	0.108	1.088	0.104	0.384
HCM Control Delay	10.3	55.5	9.4	12.5
HCM Lane LOS	B	F	A	B
HCM 95th-tile Q	0.4	16.4	0.3	1.8

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	189	121	549	215	93	885
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1549	1770	1863	1770	1570
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1549	1770	1863	1770	1570
Peak-hour factor, PHF	0.92	0.92	0.89	0.89	0.90	0.90
Adj. Flow (vph)	205	132	617	242	103	983
RTOR Reduction (vph)	0	107	0	0	0	144
Lane Group Flow (vph)	205	25	617	242	103	839
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						1
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	14.0	14.0	27.1	45.1	18.4	45.5
Effective Green, g (s)	14.0	14.0	27.1	45.1	18.4	45.5
Actuated g/C Ratio	0.19	0.19	0.37	0.61	0.25	0.61
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	351	292	647	1133	439	964
v/s Ratio Prot	c0.11		c0.35	0.13	0.06	c0.32
v/s Ratio Perm		0.02				0.22
v/c Ratio	0.58	0.09	0.95	0.21	0.23	0.87
Uniform Delay, d1	27.4	24.8	22.9	6.5	22.2	11.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.1	24.3	0.1	1.3	8.5
Delay (s)	29.9	24.9	47.2	6.6	23.5	20.3
Level of Service	C	C	D	A	C	C
Approach Delay (s)	27.9			35.8	20.6	
Approach LOS	C			D	C	

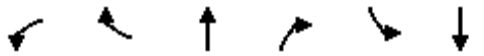
Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	74.1	Sum of lost time (s)	14.6
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	247	95	564	278	446	773
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	1
Cap, veh/h	322	575	1740	740	492	1243
Arrive On Green	0.18	0.18	0.47	0.47	0.14	0.67
Sat Flow, veh/h	1774	3167	3725	1583	3442	1863
Grp Volume(v), veh/h	281	108	606	299	485	840
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1721	1863
Q Serve(g_s), s	10.8	2.0	7.2	8.7	9.8	19.1
Cycle Q Clear(g_c), s	10.8	2.0	7.2	8.7	9.8	19.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	322	575	1740	740	492	1243
V/C Ratio(X)	0.87	0.19	0.35	0.40	0.99	0.68
Avail Cap(c_a), veh/h	322	575	1740	740	492	1243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	24.3	11.9	12.3	29.9	7.1
Incr Delay (d2), s/veh	22.2	0.2	0.6	1.6	36.9	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	6.7	0.8	3.2	3.5	6.6	8.0
Lane Grp Delay (d), s/veh	50.1	24.4	12.4	13.9	66.9	10.0
Lane Grp LOS	D	C	B	B	E	B
Approach Vol, veh/h	389		905			1325
Approach Delay, s/veh	42.9		12.9			30.8
Approach LOS	D		B			C

Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			38.0		14.0	52.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			32.7		10.0	46.7
Max Q Clear Time (g_c+I1), s			10.7		11.8	21.1
Green Ext Time (p_c), s			12.5		0.0	13.6

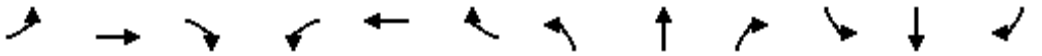
Intersection Summary	
HCM 2010 Ctrl Delay	26.4
HCM 2010 LOS	C

Notes



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	376	4	527	1083	1	622
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.88	0.88
Adj. Flow (vph)	418	4	573	1177	1	707
RTOR Reduction (vph)	0	3	0	466	0	0
Lane Group Flow (vph)	418	1	573	711	1	707
Turn Type	NA	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.1	15.9	32.7	32.7	0.8	37.5
Effective Green, g (s)	15.1	15.9	32.7	32.7	0.8	37.5
Actuated g/C Ratio	0.24	0.25	0.52	0.52	0.01	0.59
Clearance Time (s)	5.3	4.0	5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	422	398	963	819	22	1105
v/s Ratio Prot	c0.24	0.00	0.31		0.00	c0.38
v/s Ratio Perm		0.00		c0.45		
v/c Ratio	0.99	0.00	0.60	0.87	0.05	0.64
Uniform Delay, d1	24.0	17.7	10.6	13.4	30.8	8.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	41.2	0.0	2.7	12.1	0.9	2.8
Delay (s)	65.2	17.7	13.3	25.4	31.7	11.3
Level of Service	E	B	B	C	C	B
Approach Delay (s)	64.7		21.5			11.3
Approach LOS	E		C			B

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	78.1%	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)	156	0	353	0	0	0	0	718	572	0	881	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					3539	1583		3539	1551
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					3539	1583		3539	1551
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	177	0	401	0	0	0	0	789	629	0	927	229
RTOR Reduction (vph)	0	0	386	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	0	15	0	0	0	0	789	629	0	927	229
Confl. Peds. (#/hr)												1
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		5						Free			Free
Actuated Green, G (s)	11.8		4.0					82.6	105.0		73.3	105.0
Effective Green, g (s)	11.8		4.0					82.6	105.0		73.3	105.0
Actuated g/C Ratio	0.11		0.04					0.79	1.00		0.70	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	385		106					2784	1583		2470	1551
v/s Ratio Prot								0.22			0.26	
v/s Ratio Perm	0.05		0.01						c0.40			0.15
v/c Ratio	0.46		0.14					0.28	0.40		0.38	0.15
Uniform Delay, d1	43.6		48.8					3.1	0.0		6.5	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9		0.6					0.3	0.7		0.4	0.2
Delay (s)	44.5		49.5					3.3	0.7		6.9	0.2
Level of Service	D		D					A	A		A	A
Approach Delay (s)		47.9			0.0			2.2			5.6	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM research does not support more than two 'Free' approaches at the intersection.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	12	6	63	147	366	59	29	81	4	12	469	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Cap, veh/h	27	31	328	229	528	85	50	606	32	23	615	516
Arrive On Green	0.02	0.22	0.22	0.13	0.34	0.34	0.03	0.35	0.35	0.01	0.33	0.33
Sat Flow, veh/h	1774	140	1465	1774	1565	253	1774	1753	93	1774	1863	1562
Grp Volume(v), veh/h	16	0	92	181	0	525	34	0	99	13	499	114
Grp Sat Flow(s),veh/h/ln	1774	0	1604	1774	0	1818	1774	0	1846	1774	1863	1562
Q Serve(g_s), s	0.6	0.0	3.0	6.4	0.0	17.3	1.2	0.0	2.4	0.5	15.8	3.4
Cycle Q Clear(g_c), s	0.6	0.0	3.0	6.4	0.0	17.3	1.2	0.0	2.4	0.5	15.8	3.4
Prop In Lane	1.00		0.91	1.00		0.14	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	27	0	359	229	0	614	50	0	638	23	615	516
V/C Ratio(X)	0.58	0.00	0.26	0.79	0.00	0.86	0.68	0.00	0.16	0.57	0.81	0.22
Avail Cap(c_a), veh/h	110	0	391	468	0	810	110	0	994	110	1003	841
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	20.6	27.2	0.0	19.9	31.0	0.0	14.6	31.6	19.8	15.6
Incr Delay (d2), s/veh	18.1	0.0	0.4	6.0	0.0	7.0	14.8	0.0	0.1	20.3	2.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.4	0.0	1.2	2.9	0.0	7.6	0.7	0.0	1.0	0.3	7.0	1.1
Lane Grp Delay (d), s/veh	49.6	0.0	21.0	33.2	0.0	26.9	45.8	0.0	14.7	51.9	22.4	15.8
Lane Grp LOS	D		C	C		C	D		B	D	C	B
Approach Vol, veh/h		108			706			133			626	
Approach Delay, s/veh		25.2			28.5			22.6			21.8	
Approach LOS		C			C			C			C	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	5.0	19.7		12.3	27.1		5.8	27.6		4.8	26.6	
Change Period (Y+Rc), s	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Max Green Setting (Gmax), s	4.0	15.7		17.0	28.7		4.0	34.7		4.0	34.7	
Max Q Clear Time (g_c+I1), s	2.6	5.0		8.4	19.3		3.2	4.4		2.5	17.8	
Green Ext Time (p_c), s	0.0	2.6		0.3	2.4		0.0	4.0		0.0	3.5	

Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	128	24	39	1	567	62	8	5	4	14	26	153
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Cap, veh/h	191	420	666	742	780	86	202	167	143	361	43	249
Arrive On Green	0.11	0.65	0.65	0.47	0.47	0.47	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1774	650	1031	1319	1649	181	1187	927	795	1395	237	1382
Grp Volume(v), veh/h	152	0	75	1	0	767	11	0	13	15	0	191
Grp Sat Flow(s),veh/h/ln	1774	0	1681	1319	0	1831	1187	0	1722	1395	0	1619
Q Serve(g_s), s	5.1	0.0	1.0	0.0	0.0	23.2	0.5	0.0	0.4	0.5	0.0	6.7
Cycle Q Clear(g_c), s	5.1	0.0	1.0	0.0	0.0	23.2	7.2	0.0	0.4	0.9	0.0	6.7
Prop In Lane	1.00		0.61	1.00		0.10	1.00		0.46	1.00		0.85
Lane Grp Cap(c), veh/h	191	0	1086	742	0	866	202	0	310	361	0	292
V/C Ratio(X)	0.80	0.00	0.07	0.00	0.00	0.89	0.05	0.00	0.04	0.04	0.00	0.65
Avail Cap(c_a), veh/h	203	0	1258	868	0	1040	254	0	386	422	0	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	4.0	8.5	0.0	14.6	26.6	0.0	20.7	21.1	0.0	23.3
Incr Delay (d2), s/veh	18.6	0.0	0.0	0.0	0.0	8.2	0.1	0.0	0.1	0.0	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	3.0	0.0	0.2	0.0	0.0	10.7	0.2	0.0	0.2	0.2	0.0	2.7
Lane Grp Delay (d), s/veh	45.2	0.0	4.0	8.5	0.0	22.7	26.7	0.0	20.7	21.1	0.0	26.2
Lane Grp LOS	D		A	A		C	C		C	C		C
Approach Vol, veh/h		227			768			24			206	
Approach Delay, s/veh		31.6			22.7			23.5			25.8	
Approach LOS		C			C			C			C	
Timer												
Assigned Phs	7	4			8			2			6	
Phs Duration (G+Y+Rc), s	10.6	44.8			34.2			16.3			16.3	
Change Period (Y+Rc), s	4.0	5.3			5.3			5.3			5.3	
Max Green Setting (Gmax), s	7.0	45.7			34.7			13.7			13.7	
Max Q Clear Time (g_c+I1), s	7.1	3.0			25.2			9.2			8.7	
Green Ext Time (p_c), s	0.0	6.4			3.7			0.4			0.5	
Intersection Summary												
HCM 2010 Ctrl Delay			24.9									
HCM 2010 LOS			C									
Notes												

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	152	100	823	246	90	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1543	1770	1863	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1543	1770	1863	1770	1583
Peak-hour factor, PHF	0.75	0.75	0.92	0.92	0.87	0.87
Adj. Flow (vph)	203	133	895	267	103	459
RTOR Reduction (vph)	0	112	0	0	0	99
Lane Group Flow (vph)	203	21	895	267	103	360
Confl. Peds. (#/hr)		2	2			
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	17.1	17.1	58.1	79.2	19.7	77.8
Effective Green, g (s)	17.1	17.1	58.1	79.2	19.7	77.8
Actuated g/C Ratio	0.16	0.16	0.53	0.72	0.18	0.71
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	290	240	939	1347	318	1124
v/s Ratio Prot	c0.11		c0.51	0.14	c0.06	0.17
v/s Ratio Perm		0.01				0.06
v/c Ratio	0.70	0.09	0.95	0.20	0.32	0.32
Uniform Delay, d1	43.8	39.5	24.4	4.9	39.1	5.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.2	0.2	18.9	0.1	2.7	0.2
Delay (s)	51.0	39.7	43.3	5.0	41.8	6.1
Level of Service	D	D	D	A	D	A
Approach Delay (s)	46.5			34.5	12.6	
Approach LOS	D			C	B	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	109.5	Sum of lost time (s)	14.6
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	409	625	464	70	146	642
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	2
Cap, veh/h	524	935	1655	698	193	2072
Arrive On Green	0.30	0.30	0.44	0.44	0.06	0.56
Sat Flow, veh/h	1774	3167	3725	1573	3442	3725
Grp Volume(v), veh/h	440	672	516	78	162	713
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1573	1721	1863
Q Serve(g_s), s	16.6	13.5	6.4	2.1	3.3	7.5
Cycle Q Clear(g_c), s	16.6	13.5	6.4	2.1	3.3	7.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	524	935	1655	698	193	2072
V/C Ratio(X)	0.84	0.72	0.31	0.11	0.84	0.34
Avail Cap(c_a), veh/h	614	1096	1655	698	193	2072
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	22.5	12.8	11.6	33.4	8.7
Incr Delay (d2), s/veh	8.9	1.9	0.5	0.3	26.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	8.4	5.3	2.8	0.8	2.1	3.1
Lane Grp Delay (d), s/veh	32.5	24.4	13.3	11.9	60.1	9.1
Lane Grp LOS	C	C	B	B	E	A
Approach Vol, veh/h	1112		594			875
Approach Delay, s/veh	27.6		13.1			18.6
Approach LOS	C		B			B

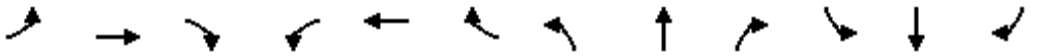
Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			37.0		8.0	45.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			31.7		4.0	39.7
Max Q Clear Time (g_c+I1), s			8.4		5.3	9.5
Green Ext Time (p_c), s			9.6		0.0	10.6

Intersection Summary	
HCM 2010 Ctrl Delay	21.2
HCM 2010 LOS	C

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	944	4	420	348	2	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	4.0	5.3
Lane Util. Factor	0.97		0.95	1.00	1.00	0.95
Frt	1.00		1.00	0.85	1.00	1.00
Flt Protected	0.95		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3440		3539	1583	1770	3539
Flt Permitted	0.95		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3440		3539	1583	1770	3539
Peak-hour factor, PHF	0.89	0.89	0.91	0.91	0.97	0.97
Adj. Flow (vph)	1061	4	462	382	2	742
RTOR Reduction (vph)	1	0	0	231	0	0
Lane Group Flow (vph)	1064	0	462	151	2	742
Turn Type	NA		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	21.8		24.2	24.2	0.8	29.0
Effective Green, g (s)	21.8		24.2	24.2	0.8	29.0
Actuated g/C Ratio	0.36		0.39	0.39	0.01	0.47
Clearance Time (s)	5.3		5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1221		1394	623	23	1671
v/s Ratio Prot	c0.31		0.13		0.00	c0.21
v/s Ratio Perm				0.10		
v/c Ratio	0.87		0.33	0.24	0.09	0.44
Uniform Delay, d1	18.5		13.0	12.5	29.9	10.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1		0.6	0.9	1.6	0.9
Delay (s)	25.6		13.6	13.4	31.6	11.7
Level of Service	C		B	B	C	B
Approach Delay (s)	25.6		13.5			11.7
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	61.4	Sum of lost time (s)	14.6
Intersection Capacity Utilization	55.8%	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)	178	0	352	0	0	0	0	709	371	0	802	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.91	1.00		0.91	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					5085	1583		5085	1583
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					5085	1583		5085	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.92	0.92	0.92	0.89	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	198	0	391	0	0	0	0	797	417	0	933	110
RTOR Reduction (vph)	0	0	81	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	198	0	310	0	0	0	0	797	417	0	933	110
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		4						Free			Free
Actuated Green, G (s)	13.8		13.8					45.6	70.0		45.6	70.0
Effective Green, g (s)	13.8		13.8					45.6	70.0		45.6	70.0
Actuated g/C Ratio	0.20		0.20					0.65	1.00		0.65	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	676		549					3312	1583		3312	1583
v/s Ratio Prot								0.16			0.18	
v/s Ratio Perm	0.06		c0.11						c0.26			0.07
v/c Ratio	0.29		0.56					0.24	0.26		0.28	0.07
Uniform Delay, d1	23.9		25.4					5.0	0.0		5.2	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2		1.3					0.2	0.4		0.2	0.1
Delay (s)	24.2		26.7					5.2	0.4		5.4	0.1
Level of Service	C		C					A	A		A	A
Approach Delay (s)		25.9			0.0			3.6			4.9	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	36.6%	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)	521	0	1039	0	0	0	0	460	106	0	1747	44
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	0.0	186.3	190.0
Lanes	2	0	3				0	4	0	0	4	0
Cap, veh/h	1339	0	1792				0	3138	0	0	3047	77
Arrive On Green	0.38	0.00	0.38				0.00	0.42	0.00	0.00	0.42	0.42
Sat Flow, veh/h	3548	0	4750				0	7451	0	0	7236	183
Grp Volume(v), veh/h	453	0	1250				0	554	0	0	1467	480
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	0	0	1863	1830
Q Serve(g_s), s	4.8	0.0	11.7				0.0	2.4	0.0	0.0	10.8	10.8
Cycle Q Clear(g_c), s	4.8	0.0	11.7				0.0	2.4	0.0	0.0	10.8	10.8
Prop In Lane	1.00		1.00				0.00		0.00	0.00		0.10
Lane Grp Cap(c), veh/h	1339	0	1792				0	3138	0	0	2353	771
V/C Ratio(X)	0.34	0.00	0.70				0.00	0.18	0.00	0.00	0.62	0.62
Avail Cap(c_a), veh/h	1734	0	2322				0	3359	0	0	2519	825
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	13.8				0.0	9.5	0.0	0.0	11.9	11.9
Incr Delay (d2), s/veh	0.1	0.0	0.6				0.0	0.0	0.0	0.0	0.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.9	0.0	4.2				0.0	0.9	0.0	0.0	4.0	4.2
Lane Grp Delay (d), s/veh	11.8	0.0	14.5				0.0	9.5	0.0	0.0	12.4	13.3
Lane Grp LOS	B		B					A			B	B
Approach Vol, veh/h		1703						554			1947	
Approach Delay, s/veh		13.8						9.5			12.6	
Approach LOS		B						A			B	

Timer			
Assigned Phs	4	2	6
Phs Duration (G+Y+Rc), s	25.1	27.4	27.4
Change Period (Y+Rc), s	5.3	5.3	5.3
Max Green Setting (Gmax), s	25.7	23.7	23.7
Max Q Clear Time (g_c+I1), s	13.7	4.4	12.8
Green Ext Time (p_c), s	6.1	15.2	9.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	69	230	33	4	14	10	50	509	175	126	91	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Cap, veh/h	93	295	42	13	142	101	71	624	215	174	990	841
Arrive On Green	0.05	0.18	0.18	0.01	0.14	0.14	0.04	0.47	0.47	0.10	0.53	0.53
Sat Flow, veh/h	1774	1597	226	1774	1016	720	1774	1317	454	1774	1863	1583
Grp Volume(v), veh/h	72	0	274	7	0	41	56	0	769	140	101	26
Grp Sat Flow(s),veh/h/ln	1774	0	1823	1774	0	1736	1774	0	1771	1774	1863	1583
Q Serve(g_s), s	3.2	0.0	11.3	0.3	0.0	1.6	2.5	0.0	31.8	6.1	2.1	0.6
Cycle Q Clear(g_c), s	3.2	0.0	11.3	0.3	0.0	1.6	2.5	0.0	31.8	6.1	2.1	0.6
Prop In Lane	1.00		0.12	1.00		0.41	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	93	0	337	13	0	243	71	0	838	174	990	841
V/C Ratio(X)	0.78	0.00	0.81	0.55	0.00	0.17	0.79	0.00	0.92	0.81	0.10	0.03
Avail Cap(c_a), veh/h	203	0	410	90	0	280	158	0	939	180	1011	860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	0.0	30.8	38.9	0.0	29.8	37.4	0.0	19.3	34.7	9.1	8.8
Incr Delay (d2), s/veh	12.9	0.0	10.0	31.8	0.0	0.3	17.0	0.0	12.7	22.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.7	0.0	5.9	0.2	0.0	0.7	1.4	0.0	15.3	3.7	0.8	0.2
Lane Grp Delay (d), s/veh	49.7	0.0	40.7	70.7	0.0	30.1	54.4	0.0	32.0	57.0	9.2	8.8
Lane Grp LOS	D		D	E		C	D		C	E	A	A
Approach Vol, veh/h		346			48			825			267	
Approach Delay, s/veh		42.6			36.0			33.5			34.2	
Approach LOS		D			D			C			C	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	8.1	19.8		4.6	16.3		7.2	42.5		11.7	47.1	
Change Period (Y+Rc), s	4.0	5.3		4.0	5.3		4.0	5.3		4.0	5.3	
Max Green Setting (Gmax), s	9.0	17.7		4.0	12.7		7.0	41.7		8.0	42.7	
Max Q Clear Time (g_c+I1), s	5.2	13.3		2.3	3.6		4.5	33.8		8.1	4.1	
Green Ext Time (p_c), s	0.0	0.6		0.0	1.1		0.0	3.5		0.0	6.8	

Intersection Summary	
HCM 2010 Ctrl Delay	35.8
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	154	571	26	2	42	11	18	16	5	72	19	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus Adj	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 Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Cap, veh/h	212	850	38	342	375	98	399	358	115	517	57	371
Arrive On Green	0.12	0.48	0.48	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1774	1769	79	795	1419	369	1223	1353	433	1370	215	1401
Grp Volume(v), veh/h	162	0	628	2	0	63	28	0	33	81	0	158
Grp Sat Flow(s),veh/h/ln	1774	0	1849	795	0	1788	1223	0	1786	1370	0	1616
Q Serve(g_s), s	3.7	0.0	11.1	0.1	0.0	1.1	0.8	0.0	0.6	2.0	0.0	3.3
Cycle Q Clear(g_c), s	3.7	0.0	11.1	2.2	0.0	1.1	4.1	0.0	0.6	2.5	0.0	3.3
Prop In Lane	1.00		0.04	1.00		0.21	1.00		0.24	1.00		0.87
Lane Grp Cap(c), veh/h	212	0	888	342	0	473	399	0	473	517	0	428
V/C Ratio(X)	0.76	0.00	0.71	0.01	0.00	0.13	0.07	0.00	0.07	0.16	0.00	0.37
Avail Cap(c_a), veh/h	512	0	1588	509	0	848	479	0	589	606	0	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	8.5	12.9	0.0	11.7	14.1	0.0	11.4	12.4	0.0	12.5
Incr Delay (d2), s/veh	5.6	0.0	1.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.6	0.0	3.1	0.0	0.0	0.4	0.2	0.0	0.2	0.6	0.0	1.1
Lane Grp Delay (d), s/veh	23.4	0.0	9.5	12.9	0.0	11.8	14.2	0.0	11.5	12.5	0.0	13.0
Lane Grp LOS	C		A	B		B	B		B	B		B
Approach Vol, veh/h		790			65			61			239	
Approach Delay, s/veh		12.4			11.8			12.7			12.8	
Approach LOS		B			B			B			B	
Timer												
Assigned Phs	7	4			8			2			6	
Phs Duration (G+Y+Rc), s	9.0	25.3			16.3			16.3			16.3	
Change Period (Y+Rc), s	4.0	5.3			5.3			5.3			5.3	
Max Green Setting (Gmax), s	12.0	35.7			19.7			13.7			13.7	
Max Q Clear Time (g_c+I1), s	5.7	13.1			4.2			6.1			5.3	
Green Ext Time (p_c), s	0.2	4.1			3.6			0.8			0.8	
Intersection Summary												
HCM 2010 Ctrl Delay			12.5									
HCM 2010 LOS			B									
Notes												

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	189	121	549	215	93	885
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1548	1770	1863	1770	1573
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1548	1770	1863	1770	1573
Peak-hour factor, PHF	0.92	0.92	0.89	0.89	0.90	0.90
Adj. Flow (vph)	205	132	617	242	103	983
RTOR Reduction (vph)	0	107	0	0	0	171
Lane Group Flow (vph)	205	25	617	242	103	812
Confl. Peds. (#/hr)		1	1			
Confl. Bikes (#/hr)						1
Turn Type	NA	Perm	Prot	NA	NA	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	17.3	17.3	40.0	61.3	19.4	59.4
Effective Green, g (s)	17.3	17.3	40.0	61.3	19.4	59.4
Actuated g/C Ratio	0.19	0.19	0.44	0.67	0.21	0.65
Clearance Time (s)	5.3	5.3	4.0	5.3	5.3	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	353	293	775	1250	376	1023
v/s Ratio Prot	c0.11		c0.35	0.13	0.06	c0.35
v/s Ratio Perm		0.02				0.17
v/c Ratio	0.58	0.09	0.80	0.19	0.27	0.79
Uniform Delay, d1	33.7	30.5	22.1	5.7	30.1	11.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.1	5.7	0.1	1.8	4.3
Delay (s)	36.1	30.6	27.8	5.7	31.9	15.9
Level of Service	D	C	C	A	C	B
Approach Delay (s)	34.0			21.6	17.4	
Approach LOS	C			C	B	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	91.3	Sum of lost time (s)	14.6
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	247	95	564	278	446	773
Number	3	18	2	12	1	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	2	1	2	2
Cap, veh/h	322	575	1740	740	492	2485
Arrive On Green	0.18	0.18	0.47	0.47	0.14	0.67
Sat Flow, veh/h	1774	3167	3725	1583	3442	3725
Grp Volume(v), veh/h	281	108	606	299	485	840
Grp Sat Flow(s),veh/h/ln	1774	1583	1863	1583	1721	1863
Q Serve(g_s), s	10.8	2.0	7.2	8.7	9.8	6.8
Cycle Q Clear(g_c), s	10.8	2.0	7.2	8.7	9.8	6.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	322	575	1740	740	492	2485
V/C Ratio(X)	0.87	0.19	0.35	0.40	0.99	0.34
Avail Cap(c_a), veh/h	322	575	1740	740	492	2485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	24.3	11.9	12.3	29.9	5.0
Incr Delay (d2), s/veh	22.2	0.2	0.6	1.6	36.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	6.7	0.8	3.2	3.5	6.6	2.6
Lane Grp Delay (d), s/veh	50.1	24.4	12.4	13.9	66.9	5.4
Lane Grp LOS	D	C	B	B	E	A
Approach Vol, veh/h	389		905			1325
Approach Delay, s/veh	42.9		12.9			27.9
Approach LOS	D		B			C

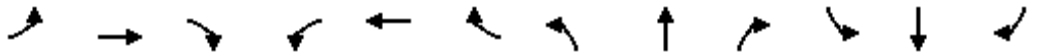
Timer						
Assigned Phs			2		1	6
Phs Duration (G+Y+Rc), s			38.0		14.0	52.0
Change Period (Y+Rc), s			5.3		4.0	5.3
Max Green Setting (Gmax), s			32.7		10.0	46.7
Max Q Clear Time (g_c+I1), s			10.7		11.8	8.8
Green Ext Time (p_c), s			12.1		0.0	15.7

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Notes

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	376	4	527	1083	1	622
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3	5.3	4.0	5.3
Lane Util. Factor	0.97		0.95	1.00	1.00	0.95
Frt	1.00		1.00	0.85	1.00	1.00
Flt Protected	0.95		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3438		3539	1583	1770	3539
Flt Permitted	0.95		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3438		3539	1583	1770	3539
Peak-hour factor, PHF	0.90	0.90	0.92	0.92	0.88	0.88
Adj. Flow (vph)	418	4	573	1177	1	707
RTOR Reduction (vph)	1	0	0	420	0	0
Lane Group Flow (vph)	421	0	573	757	1	707
Turn Type	NA		NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	11.0		41.8	41.8	0.8	46.6
Effective Green, g (s)	11.0		41.8	41.8	0.8	46.6
Actuated g/C Ratio	0.16		0.61	0.61	0.01	0.68
Clearance Time (s)	5.3		5.3	5.3	4.0	5.3
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	554		2169	970	20	2418
v/s Ratio Prot	c0.12		0.16		0.00	c0.20
v/s Ratio Perm				c0.48		
v/c Ratio	0.76		0.26	0.78	0.05	0.29
Uniform Delay, d1	27.3		6.1	9.8	33.3	4.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1		0.3	6.2	1.0	0.3
Delay (s)	33.4		6.4	16.0	34.4	4.6
Level of Service	C		A	B	C	A
Approach Delay (s)	33.4		12.9			4.6
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	14.6
Intersection Capacity Utilization	78.1%	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)	156	0	353	0	0	0	0	718	572	0	881	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3		5.3					5.3	4.0		5.3	4.0
Lane Util. Factor	0.97		0.88					0.91	1.00		0.91	1.00
Frpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00		1.00					1.00	1.00		1.00	1.00
Frt	1.00		0.85					1.00	0.85		1.00	0.85
Flt Protected	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (prot)	3433		2787					5085	1583		5085	1551
Flt Permitted	0.95		1.00					1.00	1.00		1.00	1.00
Satd. Flow (perm)	3433		2787					5085	1583		5085	1551
Peak-hour factor, PHF	0.88	0.88	0.88	0.92	0.92	0.92	0.91	0.91	0.91	0.95	0.95	0.95
Adj. Flow (vph)	177	0	401	0	0	0	0	789	629	0	927	229
RTOR Reduction (vph)	0	0	122	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	0	279	0	0	0	0	789	629	0	927	229
Confl. Peds. (#/hr)												1
Turn Type	custom		custom					NA	Free		NA	Free
Protected Phases								2			6	
Permitted Phases	4		4						Free			Free
Actuated Green, G (s)	18.5		18.5					100.9	130.0		100.9	130.0
Effective Green, g (s)	18.5		18.5					100.9	130.0		100.9	130.0
Actuated g/C Ratio	0.14		0.14					0.78	1.00		0.78	1.00
Clearance Time (s)	5.3		5.3					5.3			5.3	
Vehicle Extension (s)	3.0		3.0					3.0			3.0	
Lane Grp Cap (vph)	488		396					3946	1583		3946	1551
v/s Ratio Prot								0.16			0.18	
v/s Ratio Perm	0.05		c0.10						c0.40			0.15
v/c Ratio	0.36		0.71					0.20	0.40		0.23	0.15
Uniform Delay, d1	50.4		53.1					3.9	0.0		4.0	0.0
Progression Factor	1.00		1.00					1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5		5.6					0.1	0.7		0.1	0.2
Delay (s)	50.9		58.8					4.0	0.7		4.1	0.2
Level of Service	D		E					A	A		A	A
Approach Delay (s)		56.4			0.0			2.5			3.3	
Approach LOS		E			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1318	0	306	0	0	0	0	1785	303	0	441	57
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3				0.0	186.3	190.0	0.0	186.3	190.0
Lanes	3	0	2				0	4	0	0	4	0
Cap, veh/h	2061	0	1226				0	3138	0	0	2737	341
Arrive On Green	0.39	0.00	0.39				0.00	0.42	0.00	0.00	0.42	0.42
Sat Flow, veh/h	5322	0	3167				0	7451	0	0	6498	809
Grp Volume(v), veh/h	1581	0	282				0	1962	0	0	439	140
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1863	0	0	1863	1719
Q Serve(g_s), s	14.3	0.0	3.3				0.0	11.4	0.0	0.0	2.7	2.8
Cycle Q Clear(g_c), s	14.3	0.0	3.3				0.0	11.4	0.0	0.0	2.7	2.8
Prop In Lane	1.00		1.00				0.00		0.00	0.00		0.47
Lane Grp Cap(c), veh/h	2061	0	1226				0	3138	0	0	2353	724
V/C Ratio(X)	0.77	0.00	0.23				0.00	0.63	0.00	0.00	0.19	0.19
Avail Cap(c_a), veh/h	2376	0	1414				0	3327	0	0	2495	767
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	11.4				0.0	12.6	0.0	0.0	10.1	10.1
Incr Delay (d2), s/veh	1.3	0.0	0.1				0.0	0.3	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	5.8	0.0	1.2				0.0	4.4	0.0	0.0	1.1	1.0
Lane Grp Delay (d), s/veh	16.1	0.0	11.5				0.0	12.9	0.0	0.0	10.1	10.2
Lane Grp LOS	B		B					B			B	B
Approach Vol, veh/h		1863						1962			579	
Approach Delay, s/veh		15.4						12.9			10.1	
Approach LOS		B						B			B	

Timer												
Assigned Phs		4						2			6	
Phs Duration (G+Y+Rc), s		26.7						28.6			28.6	
Change Period (Y+Rc), s		5.3						5.3			5.3	
Max Green Setting (Gmax), s		24.7						24.7			24.7	
Max Q Clear Time (g_c+I1), s		16.3						13.4			4.8	
Green Ext Time (p_c), s		5.1						9.9			16.2	

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.