Queues

1: SW 12th Avenue & Hillsboro Bvd

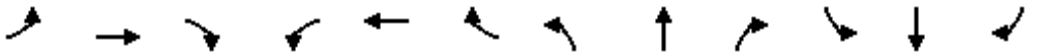
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	315	2289	370	1500	505	109	152	261	27	27	27
v/c Ratio	0.91	0.73	0.98	0.55	0.47	0.30	0.77	0.49	0.36	0.35	0.07
Control Delay	99.1	26.2	112.9	21.6	9.2	75.1	102.4	15.6	95.6	95.0	0.3
Queue Delay	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.1	26.2	112.9	21.9	9.4	75.1	102.4	15.6	95.6	95.0	0.3
Queue Length 50th (ft)	362	653	229	270	109	62	178	50	33	33	0
Queue Length 95th (ft)	#525	827	#346	303	116	93	255	136	72	72	1
Internal Link Dist (ft)		580		548			436			396	
Turn Bay Length (ft)	450		375		350	225		250	200		
Base Capacity (vph)	372	3122	379	2723	1215	610	331	536	252	257	426
Starvation Cap Reductn	0	0	0	479	173	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.73	0.98	0.67	0.48	0.18	0.46	0.49	0.11	0.11	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: SW 12th Avenue & Hillsboro Bvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	290	1915	190	340	1380	465	100	140	240	40	10	25
Future Volume (vph)	290	1915	190	340	1380	465	100	140	240	40	10	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	0.91		0.97	0.91	1.00	0.97	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	1770	5016		3433	5085	1583	3433	1863	1583	1681	1719	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	1770	5016		3433	5085	1583	3433	1863	1583	1681	1719	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	2082	207	370	1500	505	109	152	261	43	11	27
RTOR Reduction (vph)	0	5	0	0	0	107	0	0	165	0	0	21
Lane Group Flow (vph)	315	2284	0	370	1500	398	109	152	96	27	27	6
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	1	6		5	2	3	4	4	5	3	3	1
Permitted Phases						2			4			3
Actuated Green, G (s)	33.4	109.9		17.9	94.4	102.5	19.1	19.1	37.0	8.1	8.1	41.5
Effective Green, g (s)	35.4	111.9		19.9	96.4	106.5	19.1	19.1	37.0	8.1	8.1	41.5
Actuated g/C Ratio	0.20	0.62		0.11	0.54	0.59	0.11	0.11	0.21	0.04	0.04	0.23
Clearance Time (s)	6.5	6.5		6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	1.5	3.0		2.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5
Lane Grp Cap (vph)	348	3118		379	2723	936	364	197	325	75	77	364
v/s Ratio Prot	c0.18	c0.46		0.11	0.29	c0.02	0.03	c0.08	0.03	0.02	0.02	0.00
v/s Ratio Perm						0.23			0.03			0.00
v/c Ratio	0.91	0.73		0.98	0.55	0.43	0.30	0.77	0.29	0.36	0.35	0.02
Uniform Delay, d1	70.7	23.7		79.8	27.5	20.1	74.3	78.3	60.5	83.4	83.4	53.5
Progression Factor	1.00	1.00		0.98	0.72	0.89	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.4	1.6		35.5	0.7	0.1	0.2	15.5	0.2	1.1	1.0	0.0
Delay (s)	96.0	25.2		113.6	20.6	17.9	74.4	93.9	60.6	84.5	84.4	53.5
Level of Service	F	C		F	C	B	E	F	E	F	F	D
Approach Delay (s)		33.8			34.5			73.2			74.1	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	38.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	23.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	1462	895	1495	642	853
v/c Ratio	0.29	0.57	0.58	0.82	0.69
Control Delay	0.1	4.8	27.1	52.7	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	0.1	4.8	27.1	52.7	42.9
Queue Length 50th (ft)	0	104	476	661	458
Queue Length 95th (ft)	0	190	529	693	448
Internal Link Dist (ft)	548		319		
Turn Bay Length (ft)		150			
Base Capacity (vph)	5085	1583	2585	948	1494
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.57	0.58	0.68	0.57

Intersection Summary

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑↑	↱		↑↑↑		↰		↱↱		
Traffic Volume (vph)	0	1345	850	0	1375	0	610	0	810	0	0
Future Volume (vph)	0	1345	850	0	1375	0	610	0	810	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.0	2.0		4.5		4.5		4.5		
Lane Util. Factor		0.91	1.00		0.91		1.00		0.88		
Frt		1.00	0.85		1.00		1.00		0.85		
Flt Protected		1.00	1.00		1.00		0.95		1.00		
Satd. Flow (prot)		5085	1583		5085		1770		2787		
Flt Permitted		1.00	1.00		1.00		0.95		1.00		
Satd. Flow (perm)		5085	1583		5085		1770		2787		
Peak-hour factor, PHF	0.92	0.92	0.95	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.92
Adj. Flow (vph)	0	1462	895	0	1495	0	642	0	853	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1462	895	0	1495	0	642	0	853	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA	Perm		NA		Prot		Prot		
Protected Phases		Free!			2		8!		3		
Permitted Phases			Free								
Actuated Green, G (s)		180.0	180.0		89.5		77.5		77.5		
Effective Green, g (s)		180.0	180.0		91.5		79.5		79.5		
Actuated g/C Ratio		1.00	1.00		0.51		0.44		0.44		
Clearance Time (s)					6.5		6.5		6.5		
Vehicle Extension (s)					3.0		2.5		2.5		
Lane Grp Cap (vph)		5085	1583		2584		781		1230		
v/s Ratio Prot		0.29			0.29		c0.36		0.31		
v/s Ratio Perm			c0.57								
v/c Ratio		0.29	0.57		0.58		0.82		0.69		
Uniform Delay, d1		0.0	0.0		30.8		44.0		40.4		
Progression Factor		1.00	1.00		0.80		1.00		1.00		
Incremental Delay, d2		0.1	1.0		0.8		6.8		1.6		
Delay (s)		0.1	1.0		25.6		50.9		42.0		
Level of Service		A	A		C		D		D		
Approach Delay (s)		0.5			25.6			45.8		0.0	
Approach LOS		A			C			D		A	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

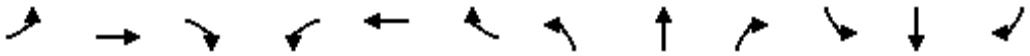
! Phase conflict between lane groups.

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	1495	1734	880	576	842
v/c Ratio	0.54	0.63	0.56	0.30	0.77
Control Delay	13.0	13.4	2.7	19.3	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	13.4	2.7	19.3	28.0
Queue Length 50th (ft)	243	393	58	76	215
Queue Length 95th (ft)	219	m302	m10	98	282
Internal Link Dist (ft)	286	371			
Turn Bay Length (ft)			250	350	350
Base Capacity (vph)	2769	2769	1568	2106	1201
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.63	0.56	0.27	0.70

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1375	0	0	1595	810	530	0	800	0	0	0
Future Volume (vph)	0	1375	0	0	1595	810	530	0	800	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	2.0	2.0		2.0			
Lane Util. Factor		0.91			0.91	1.00	0.94		0.88			
Frt		1.00			1.00	0.85	1.00		0.85			
Flt Protected		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085			5085	1568	4990		2787			
Flt Permitted		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085			5085	1568	4990		2787			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1495	0	0	1734	880	576	0	842	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	26	0	0	0
Lane Group Flow (vph)	0	1495	0	0	1734	880	576	0	816	0	0	0
Heavy Vehicles (%)	3%	2%	2%	2%	2%	3%	2%	3%	2%	3%	3%	3%
Turn Type		NA			NA	Free	Prot		Prot			
Protected Phases		6			2		4		4			
Permitted Phases						Free						
Actuated Green, G (s)		47.0			47.0	90.0	32.5		32.5			
Effective Green, g (s)		49.0			49.0	90.0	34.5		34.5			
Actuated g/C Ratio		0.54			0.54	1.00	0.38		0.38			
Clearance Time (s)		6.5			6.5		4.0		4.0			
Vehicle Extension (s)		3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)		2768			2768	1568	1912		1068			
v/s Ratio Prot		0.29			c0.34		0.12		c0.29			
v/s Ratio Perm						0.56						
v/c Ratio		0.54			0.63	0.56	0.30		0.76			
Uniform Delay, d1		13.2			14.2	0.0	19.3		24.2			
Progression Factor		0.89			0.87	1.00	1.00		1.00			
Incremental Delay, d2		0.7			0.6	0.8	0.1		3.3			
Delay (s)		12.5			12.9	0.8	19.4		27.5			
Level of Service		B			B	A	B		C			
Approach Delay (s)		12.5			8.8			24.2			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Queues

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	342	1891	130	87	2038	103	484	92	174	43	5	92
v/c Ratio	0.92	0.58	0.12	0.76	0.67	0.10	1.64	0.31	0.44	0.52	0.08	0.42
Control Delay	94.9	19.4	2.5	117.7	25.1	0.2	340.1	70.9	14.1	87.2	87.0	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.9	19.4	2.5	117.7	25.1	0.2	340.1	70.9	14.1	87.2	87.0	5.7
Queue Length 50th (ft)	198	460	19	103	567	0	~757	99	9	42	6	0
Queue Length 95th (ft)	#304	485	m30	#195	614	0	#991	163	87	82	22	0
Internal Link Dist (ft)		660			631			513			403	
Turn Bay Length (ft)	300		150	100		200	125					340
Base Capacity (vph)	371	3280	1067	120	3064	1021	296	610	629	82	393	470
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.58	0.12	0.72	0.67	0.10	1.64	0.15	0.28	0.52	0.01	0.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

4: SW Natura Boulevard/Fairway Drive & Hillsboro Bvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	315	1740	120	80	1875	95	445	85	160	40	5	85
Future Volume (vph)	315	1740	120	80	1875	95	445	85	160	40	5	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.41	1.00	1.00	0.70	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	767	1863	1583	1299	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	342	1891	130	87	2038	103	484	92	174	43	5	92
RTOR Reduction (vph)	0	0	47	0	0	42	0	0	138	0	0	88
Lane Group Flow (vph)	342	1891	83	87	2038	61	484	92	36	43	5	4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		8
Actuated Green, G (s)	17.5	113.0	113.0	9.8	105.3	105.3	38.2	29.0	29.0	10.4	7.2	7.2
Effective Green, g (s)	19.5	115.0	115.0	11.8	107.3	107.3	38.2	29.0	29.0	10.4	7.2	7.2
Actuated g/C Ratio	0.11	0.64	0.64	0.07	0.60	0.60	0.21	0.16	0.16	0.06	0.04	0.04
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	3.0	3.0	1.5	3.0	3.0	1.5	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	371	3248	1011	116	3031	943	302	300	255	83	74	63
v/s Ratio Prot	c0.10	0.37		0.05	c0.40		c0.22	0.05		0.01	0.00	
v/s Ratio Perm			0.05			0.04	c0.12		0.02	0.02		0.00
v/c Ratio	0.92	0.58	0.08	0.75	0.67	0.07	1.60	0.31	0.14	0.52	0.07	0.06
Uniform Delay, d1	79.5	18.7	12.4	82.7	24.5	15.3	68.4	66.6	64.8	81.9	83.2	83.1
Progression Factor	0.87	1.03	1.35	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.7	0.6	0.1	21.2	1.2	0.1	286.2	0.2	0.1	2.3	0.1	0.1
Delay (s)	92.9	19.9	16.9	103.8	25.7	15.4	354.6	66.8	64.9	84.2	83.3	83.3
Level of Service	F	B	B	F	C	B	F	E	E	F	F	F
Approach Delay (s)		30.3			28.3			252.1			83.6	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Queues

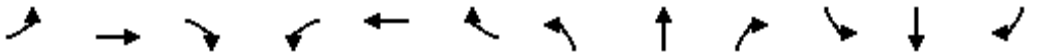
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	408	1565	207	370	1125	625	217	734	712	522	609	326
v/c Ratio	0.86	1.09	0.24	0.68	0.75	0.65	0.79	1.16	1.09	1.09	0.72	0.57
Control Delay	94.0	101.7	10.3	88.8	37.9	18.3	101.3	151.6	104.1	137.1	69.0	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.0	101.7	10.3	88.8	37.9	18.3	101.3	151.6	104.1	137.1	69.0	16.8
Queue Length 50th (ft)	246	~1090	51	237	336	209	131	~538	~850	~356	353	61
Queue Length 95th (ft)	#324	#1225	105	296	478	245	#193	#674	#1109	#480	428	172
Internal Link Dist (ft)		620			1001			569			457	
Turn Bay Length (ft)	550		500	550		500	300		300	650		650
Base Capacity (vph)	486	1435	865	543	1507	961	278	631	656	478	841	575
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	1.09	0.24	0.68	0.75	0.65	0.78	1.16	1.09	1.09	0.72	0.57

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	1440	190	340	1035	575	200	675	655	480	560	300
Future Volume (vph)	375	1440	190	340	1035	575	200	675	655	480	560	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	5.9	5.5	4.0	5.9	5.9	5.9	5.5	5.9	5.9	5.9
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	408	1565	207	370	1125	625	217	734	712	522	609	326
RTOR Reduction (vph)	0	0	63	0	0	33	0	0	76	0	0	200
Lane Group Flow (vph)	408	1565	144	370	1125	592	217	734	636	522	609	126
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	22.8	71.0	83.4	26.5	74.7	97.8	12.4	30.1	56.6	23.1	40.8	40.8
Effective Green, g (s)	24.8	73.0	87.4	28.5	76.7	101.8	14.4	32.1	60.6	25.1	42.8	42.8
Actuated g/C Ratio	0.14	0.41	0.49	0.16	0.43	0.57	0.08	0.18	0.34	0.14	0.24	0.24
Clearance Time (s)	7.5	6.0	7.9	7.5	6.0	7.9	7.9	7.9	7.5	7.9	7.9	7.9
Vehicle Extension (s)	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	3.0
Lane Grp Cap (vph)	472	1435	768	543	1508	895	274	631	532	478	841	376
v/s Ratio Prot	0.12	c0.44	0.01	0.11	c0.32	0.09	0.06	0.21	c0.19	c0.15	0.17	
v/s Ratio Perm			0.08			0.28			0.21			0.08
v/c Ratio	0.86	1.09	0.19	0.68	0.75	0.66	0.79	1.16	1.20	1.09	0.72	0.34
Uniform Delay, d1	76.0	53.5	26.2	71.5	43.5	27.2	81.3	74.0	59.7	77.5	63.2	56.8
Progression Factor	1.00	1.00	1.00	1.16	0.80	0.71	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.7	52.5	0.0	2.2	2.6	1.1	13.5	90.0	105.5	68.5	3.1	0.5
Delay (s)	90.6	106.0	26.2	85.3	37.5	20.4	94.9	164.0	165.2	145.9	66.3	57.4
Level of Service	F	F	C	F	D	C	F	F	F	F	E	E
Approach Delay (s)		95.5			40.8			155.5			92.8	
Approach LOS		F			D			F			F	

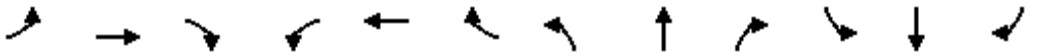
Intersection Summary			
HCM 2000 Control Delay	92.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	21.3
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	397	2402	446	1902	386	54	55	130	60	120
v/c Ratio	0.62	0.68	0.78	0.68	0.38	0.38	0.39	0.26	0.57	0.19
Control Delay	54.3	17.1	85.3	25.2	3.1	86.4	86.5	16.7	101.6	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	17.1	85.3	25.2	3.1	86.4	86.5	16.7	101.6	14.2
Queue Length 50th (ft)	215	321	262	455	26	65	66	33	70	13
Queue Length 95th (ft)	m198	m396	324	511	64	118	122	89	123	44
Internal Link Dist (ft)		900		925			695		185	
Turn Bay Length (ft)	700		750		700			150		
Base Capacity (vph)	646	3555	686	2786	1009	158	160	515	141	666
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.68	0.65	0.68	0.38	0.34	0.34	0.25	0.43	0.18

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

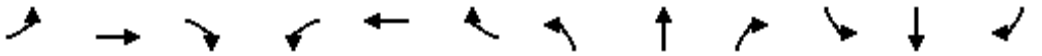


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	365	1660	550	410	1750	355	90	10	120	45	10	110
Future Volume (vph)	365	1660	550	410	1750	355	90	10	120	45	10	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	0.97	0.86		0.97	0.91	1.00	0.95	0.95	1.00		1.00	0.88
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.96	1.00
Satd. Flow (prot)	3367	6169		3433	5085	1524	1681	1702	1583		1586	2030
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.96	1.00
Satd. Flow (perm)	3367	6169		3433	5085	1524	1681	1702	1583		1586	2030
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	397	1804	598	446	1902	386	98	11	130	49	11	120
RTOR Reduction (vph)	0	29	0	0	0	175	0	0	68	0	0	66
Lane Group Flow (vph)	397	2373	0	446	1902	211	54	55	62	0	60	54
Heavy Vehicles (%)	4%	2%	2%	2%	2%	6%	2%	2%	2%	18%	2%	40%
Turn Type	Prot	NA		Prot	NA	Prot	Split	NA	pt+ov	Split	NA	pt+ov
Protected Phases	1	6		5	2	2	3 5	3	3	4 1	4	4
Permitted Phases												
Actuated Green, G (s)	32.4	100.9		28.1	96.6	96.6	15.1	15.1	49.2		11.9	50.3
Effective Green, g (s)	34.4	102.9		30.1	98.6	98.6	15.1	15.1	49.2		11.9	50.3
Actuated g/C Ratio	0.19	0.57		0.17	0.55	0.55	0.08	0.08	0.27		0.07	0.28
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0			6.0	
Vehicle Extension (s)	1.5	3.0		2.5	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	643	3526		574	2785	834	141	142	432		104	567
v/s Ratio Prot	0.12	c0.38		c0.13	c0.37	0.14	0.03	c0.03	0.04		c0.04	0.03
v/s Ratio Perm												
v/c Ratio	0.62	0.67		0.78	0.68	0.25	0.38	0.39	0.14		0.58	0.09
Uniform Delay, d1	66.8	26.8		71.7	29.4	21.4	78.0	78.1	49.5		81.6	48.0
Progression Factor	0.80	0.63		1.09	0.81	1.25	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.1		4.8	1.0	0.6	1.7	1.8	0.2		7.5	0.1
Delay (s)	53.7	16.9		82.8	24.7	27.3	79.8	79.8	49.6		89.1	48.1
Level of Service	D	B		F	C	C	E	E	D		F	D
Approach Delay (s)		22.1			34.6			63.4			61.8	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	1970	847	2125	453	589
v/c Ratio	0.85	0.76	0.61	0.49	0.78
Control Delay	39.5	37.4	26.4	57.4	69.3
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	39.5	37.4	26.7	57.4	69.3
Queue Length 50th (ft)	500	331	662	234	369
Queue Length 95th (ft)	410	401	736	293	454
Internal Link Dist (ft)	925		322		
Turn Bay Length (ft)		500		500	500
Base Capacity (vph)	2328	1125	3460	926	752
Starvation Cap Reductn	0	0	551	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.85	0.75	0.73	0.49	0.78

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1440	385	805	1955	0	0	0	0	430	0	560
Future Volume (vph)	0	1440	385	805	1955	0	0	0	0	430	0	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.5					4.4		4.4
Lane Util. Factor		0.81		0.97	0.91					0.97		0.88
Frt		0.97		1.00	1.00					1.00		0.85
Flt Protected		1.00		0.95	1.00					0.95		1.00
Satd. Flow (prot)		7311		3433	5085					3433		2787
Flt Permitted		1.00		0.95	1.00					0.95		1.00
Satd. Flow (perm)		7311		3433	5085					3433		2787
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	1565	405	847	2125	0	0	0	0	453	0	589
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1944	0	847	2125	0	0	0	0	453	0	589
Turn Type		NA		Prot	NA					Prot		Prot
Protected Phases		6		5 4	2 4					3		3
Permitted Phases												
Actuated Green, G (s)		54.7		53.9	120.6					46.6		46.6
Effective Green, g (s)		56.7		57.9	122.6					48.6		48.6
Actuated g/C Ratio		0.32		0.32	0.68					0.27		0.27
Clearance Time (s)		6.0								6.4		6.4
Vehicle Extension (s)		3.0								2.0		2.0
Lane Grp Cap (vph)		2302		1104	3463					926		752
v/s Ratio Prot		c0.27		c0.25	0.42					0.13		c0.21
v/s Ratio Perm												
v/c Ratio		0.84		0.77	0.61					0.49		0.78
Uniform Delay, d1		57.5		55.0	15.7					55.3		60.8
Progression Factor		0.64		1.20	1.62					1.00		1.00
Incremental Delay, d2		3.1		2.8	0.3					0.1		4.9
Delay (s)		40.0		68.8	25.7					55.4		65.8
Level of Service		D		E	C					E		E
Approach Delay (s)		40.0			38.0			0.0			61.3	
Approach LOS		D			D			A			E	

Intersection Summary			
HCM 2000 Control Delay	42.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBR
Lane Group Flow (vph)	1565	453	2533	758	495
v/c Ratio	0.52	0.16	0.44	0.81	0.74
Control Delay	4.7	0.1	16.1	78.2	76.4
Queue Delay	0.0	0.0	0.5	0.0	0.0
Total Delay	4.7	0.1	16.6	78.2	76.4
Queue Length 50th (ft)	53	0	558	308	245
Queue Length 95th (ft)	114	m0	589	361	303
Internal Link Dist (ft)	233		630	1225	
Turn Bay Length (ft)		700		410	430
Base Capacity (vph)	2986	2787	5762	931	673
Starvation Cap Reductn	8	0	2519	0	0
Spillback Cap Reductn	7	0	391	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.16	0.78	0.81	0.74

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1440	430	0	2330	720	470
Future Volume (vph)	1440	430	0	2330	720	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	2.0		4.5	4.4	4.4
Lane Util. Factor	0.91	0.88		0.81	0.94	0.76
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	1.00	1.00		1.00	0.95	1.00
Satd. Flow (prot)	5085	2787		7544	4990	3610
Flt Permitted	1.00	1.00		1.00	0.95	1.00
Satd. Flow (perm)	5085	2787		7544	4990	3610
Peak-hour factor, PHF	0.92	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	1565	453	0	2533	758	495
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1565	453	0	2533	758	495
Turn Type	NA	Free		NA	Prot	Prot
Protected Phases	6 3			2 3	4	4
Permitted Phases		Free				
Actuated Green, G (s)	101.3	180.0		135.5	31.6	31.6
Effective Green, g (s)	105.3	180.0		133.1	33.6	33.6
Actuated g/C Ratio	0.58	1.00		0.74	0.19	0.19
Clearance Time (s)					6.4	6.4
Vehicle Extension (s)					3.5	3.5
Lane Grp Cap (vph)	2974	2787		5578	931	673
v/s Ratio Prot	c0.31			c0.34	c0.15	0.14
v/s Ratio Perm		0.16				
v/c Ratio	0.53	0.16		0.45	0.81	0.74
Uniform Delay, d1	22.4	0.0		9.2	70.2	69.0
Progression Factor	0.38	1.00		2.10	1.00	1.00
Incremental Delay, d2	0.0	0.1		0.0	5.7	4.3
Delay (s)	8.5	0.1		19.4	75.9	73.3
Level of Service	A	A		B	E	E
Approach Delay (s)	6.6			19.4	74.9	
Approach LOS	A			B	E	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

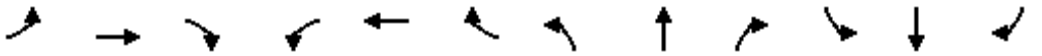
c Critical Lane Group

Queues

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	277	1457	342	228	1728	103	380	212	196	266	217	424
v/c Ratio	0.81	0.64	0.40	0.71	0.78	0.13	0.91	0.26	0.38	0.67	0.68	0.95
Control Delay	80.2	27.1	11.4	91.8	47.4	3.0	69.9	55.7	7.9	49.8	79.8	68.1
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.2	27.2	11.4	91.8	47.4	3.0	69.9	55.7	7.9	49.8	79.8	68.1
Queue Length 50th (ft)	170	529	158	136	657	0	344	106	0	223	239	273
Queue Length 95th (ft)	#230	576	204	186	752	27	#454	142	67	293	328	#446
Internal Link Dist (ft)		630			1233			1112			1327	
Turn Bay Length (ft)	300		300	200		300	260		260	170		170
Base Capacity (vph)	354	2263	856	352	2229	763	420	961	572	411	396	502
Starvation Cap Reductn	0	176	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.70	0.40	0.65	0.78	0.13	0.90	0.22	0.34	0.65	0.55	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	1340	315	210	1590	95	350	195	180	245	200	390
Future Volume (vph)	255	1340	315	210	1590	95	350	195	180	245	200	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4	4.4	5.7	5.7	5.7	5.7	5.7	5.7
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.27	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	512	3539	1583	1153	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	277	1457	342	228	1728	103	380	212	196	266	217	424
RTOR Reduction (vph)	0	0	152	0	0	58	0	0	150	0	0	174
Lane Group Flow (vph)	277	1457	190	228	1728	45	380	212	46	266	217	250
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		8
Actuated Green, G (s)	16.0	78.1	78.1	14.8	76.9	76.9	68.6	42.3	42.3	51.5	30.9	30.9
Effective Green, g (s)	18.0	80.1	80.1	16.8	78.9	78.9	68.6	42.3	42.3	51.5	30.9	30.9
Actuated g/C Ratio	0.10	0.44	0.44	0.09	0.44	0.44	0.38	0.23	0.23	0.29	0.17	0.17
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	5.7	5.7	5.7	5.7	5.7	5.7
Vehicle Extension (s)	1.5	3.0	3.0	1.5	3.0	3.0	1.5	2.0	2.0	1.5	2.0	2.0
Lane Grp Cap (vph)	343	2262	704	320	2228	693	418	831	372	400	319	271
v/s Ratio Prot	c0.08	0.29		0.07	c0.34		c0.16	0.06		0.08	0.12	
v/s Ratio Perm			0.12			0.03	c0.18		0.03	0.11		0.16
v/c Ratio	0.81	0.64	0.27	0.71	0.78	0.07	0.91	0.26	0.12	0.67	0.68	0.92
Uniform Delay, d1	79.3	38.9	31.5	79.3	43.0	29.2	45.6	56.0	54.2	54.0	69.9	73.4
Progression Factor	0.82	0.64	1.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.4	1.2	0.8	6.1	1.8	0.0	22.7	0.1	0.1	3.2	4.7	34.2
Delay (s)	75.2	26.0	41.8	85.4	44.8	29.3	68.3	56.1	54.3	57.2	74.6	107.6
Level of Service	E	C	D	F	D	C	E	E	D	E	E	F
Approach Delay (s)		35.2			48.5			61.5			84.9	
Approach LOS		D			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	51.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Queues

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2549	174	1946	158	207
v/c Ratio	0.60	0.79	0.51	0.69	0.54
Control Delay	17.9	77.9	1.9	64.9	11.3
Queue Delay	0.0	1.5	0.1	0.0	0.0
Total Delay	17.9	79.4	2.0	64.9	11.3
Queue Length 50th (ft)	297	103	34	119	0
Queue Length 95th (ft)	376	#237	32	181	65
Internal Link Dist (ft)	575		175	531	
Turn Bay Length (ft)					
Base Capacity (vph)	4279	221	3791	545	631
Starvation Cap Reductn	0	7	458	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.81	0.58	0.29	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2230	115	160	1790	145	190
Future Volume (vph)	2230	115	160	1790	145	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	9.0	9.0
Lane Util. Factor	0.81		1.00	0.91	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	7489		1770	5085	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	7489		1770	5085	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2424	125	174	1946	158	207
RTOR Reduction (vph)	5	0	0	0	0	180
Lane Group Flow (vph)	2544	0	174	1946	158	27
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2 3		1	1 2 3	4	
Permitted Phases					4	4
Actuated Green, G (s)	66.5		13.0	87.5	15.5	15.5
Effective Green, g (s)	68.5		15.0	89.5	15.5	15.5
Actuated g/C Ratio	0.57		0.12	0.75	0.13	0.13
Clearance Time (s)			8.0		9.0	9.0
Vehicle Extension (s)			1.5		2.0	2.0
Lane Grp Cap (vph)	4274		221	3792	228	204
v/s Ratio Prot	c0.34		c0.10	0.38	c0.09	
v/s Ratio Perm						0.02
v/c Ratio	0.60		0.79	0.51	0.69	0.13
Uniform Delay, d1	16.7		51.0	6.3	50.0	46.3
Progression Factor	1.00		1.09	0.22	1.00	1.00
Incremental Delay, d2	0.1		14.1	0.0	7.1	0.1
Delay (s)	16.9		69.5	1.4	57.1	46.4
Level of Service	B		E	A	E	D
Approach Delay (s)	16.9			7.0	51.0	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	103	2527	1940	92	272	179
v/c Ratio	0.78	0.53	0.49	0.09	0.61	0.53
Control Delay	70.9	2.7	10.6	1.2	54.8	15.9
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	70.9	2.7	10.6	1.2	54.8	15.9
Queue Length 50th (ft)	79	29	222	1	104	17
Queue Length 95th (ft)	m#173	46	278	m5	140	81
Internal Link Dist (ft)		175	1004		271	
Turn Bay Length (ft)				450		
Base Capacity (vph)	132	4778	3977	1017	1058	595
Starvation Cap Reductn	0	476	0	0	0	0
Spillback Cap Reductn	0	0	39	0	0	5
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.59	0.49	0.09	0.26	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	2325	1785	85	250	165
Future Volume (vph)	95	2325	1785	85	250	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	9.0	9.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	6408	6408	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	6408	6408	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	2527	1940	92	272	179
RTOR Reduction (vph)	0	0	0	35	0	135
Lane Group Flow (vph)	103	2527	1940	57	272	44
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	3	1 2 3	1 2		4	
Permitted Phases				1 2		4
Actuated Green, G (s)	7.0	87.5	72.5	72.5	15.5	15.5
Effective Green, g (s)	9.0	89.5	74.5	74.5	15.5	15.5
Actuated g/C Ratio	0.08	0.75	0.62	0.62	0.13	0.13
Clearance Time (s)	8.0				9.0	9.0
Vehicle Extension (s)	1.5				2.0	2.0
Lane Grp Cap (vph)	132	4779	3978	982	443	204
v/s Ratio Prot	c0.06	c0.39	0.30		c0.08	
v/s Ratio Perm				0.04		0.03
v/c Ratio	0.78	0.53	0.49	0.06	0.61	0.22
Uniform Delay, d1	54.5	6.4	12.4	8.9	49.4	46.8
Progression Factor	0.71	0.34	0.79	0.47	1.00	1.00
Incremental Delay, d2	19.9	0.0	0.0	0.0	1.8	0.2
Delay (s)	58.4	2.2	9.8	4.2	51.2	47.0
Level of Service	E	A	A	A	D	D
Approach Delay (s)		4.4	9.5		49.5	
Approach LOS		A	A		D	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	1701	1063	1457	505	558
v/c Ratio	0.47	0.67	0.51	0.58	0.79
Control Delay	6.0	10.4	7.7	22.7	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.0	10.4	7.7	22.7	30.9
Queue Length 50th (ft)	84	362	135	81	106
Queue Length 95th (ft)	157	466	160	123	#182
Internal Link Dist (ft)	1004		259		
Turn Bay Length (ft)		250			
Base Capacity (vph)	3609	1583	2864	886	719
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.67	0.51	0.57	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑↑↑	↱		↑↑↑		↰↰		↱↱		
Traffic Volume (vph)	0	1565	1010	0	1340	0	480	0	530	0	0
Future Volume (vph)	0	1565	1010	0	1340	0	480	0	530	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	2.0		5.5		5.5		5.5		
Lane Util. Factor		0.86	1.00		0.91		0.97		0.88		
Frt		1.00	0.85		1.00		1.00		0.85		
Flt Protected		1.00	1.00		1.00		0.95		1.00		
Satd. Flow (prot)		6408	1583		5085		3433		2787		
Flt Permitted		1.00	1.00		1.00		0.95		1.00		
Satd. Flow (perm)		6408	1583		5085		3433		2787		
Peak-hour factor, PHF	0.92	0.92	0.95	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.92
Adj. Flow (vph)	0	1701	1063	0	1457	0	505	0	558	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1701	1063	0	1457	0	505	0	558	0	0
Turn Type		NA	Free		NA		Prot		Prot		
Protected Phases		6			2		3		3		
Permitted Phases			Free								
Actuated Green, G (s)		31.8	60.0		31.8		13.2		13.2		
Effective Green, g (s)		33.8	60.0		33.8		15.2		15.2		
Actuated g/C Ratio		0.56	1.00		0.56		0.25		0.25		
Clearance Time (s)		7.5			7.5		7.5		7.5		
Vehicle Extension (s)		3.0			3.0		2.5		2.5		
Lane Grp Cap (vph)		3609	1583		2864		869		706		
v/s Ratio Prot		0.27			0.29		0.15		0.20		
v/s Ratio Perm			c0.67								
v/c Ratio		0.47	0.67		0.51		0.58		0.79		
Uniform Delay, d1		7.8	0.0		8.0		19.6		20.9		
Progression Factor		0.72	1.00		0.89		1.00		1.00		
Incremental Delay, d2		0.4	2.0		0.5		0.8		5.8		
Delay (s)		6.0	2.0		7.6		20.4		26.7		
Level of Service		A	A		A		C		C		
Approach Delay (s)		4.5			7.6			23.7		0.0	
Approach LOS		A			A			C		A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL2	NBR
Lane Group Flow (vph)	1266	1913	600	579	442
v/c Ratio	0.44	0.66	0.38	0.68	0.64
Control Delay	6.5	7.2	0.2	25.0	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	7.2	0.2	25.0	24.9
Queue Length 50th (ft)	111	159	0	95	79
Queue Length 95th (ft)	75	m157	m0	143	126
Internal Link Dist (ft)	270	1155			
Turn Bay Length (ft)			250		
Base Capacity (vph)	2895	2895	1583	886	719
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.66	0.38	0.65	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER
Lane Configurations		↑↑↑			↑↑↑	↱	↰↰		↱↱		
Traffic Volume (vph)	0	1165	0	0	1760	570	550	0	420	0	0
Future Volume (vph)	0	1165	0	0	1760	570	550	0	420	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	2.0	5.5		5.5		
Lane Util. Factor		0.91			0.91	1.00	0.97		0.88		
Frt		1.00			1.00	0.85	1.00		0.85		
Flt Protected		1.00			1.00	1.00	0.95		1.00		
Satd. Flow (prot)		5085			5085	1583	3433		2787		
Flt Permitted		1.00			1.00	1.00	0.95		1.00		
Satd. Flow (perm)		5085			5085	1583	3433		2787		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.92	0.92
Adj. Flow (vph)	0	1266	0	0	1913	600	579	0	442	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1266	0	0	1913	600	579	0	442	0	0
Turn Type		NA			NA	Free	Prot		Prot		
Protected Phases		6			2		4		4		
Permitted Phases						Free					
Actuated Green, G (s)		32.2			32.2	60.0	12.8		12.8		
Effective Green, g (s)		34.2			34.2	60.0	14.8		14.8		
Actuated g/C Ratio		0.57			0.57	1.00	0.25		0.25		
Clearance Time (s)		7.5			7.5		7.5		7.5		
Vehicle Extension (s)		3.0			3.0		2.5		2.5		
Lane Grp Cap (vph)		2898			2898	1583	846		687		
v/s Ratio Prot		0.25			c0.38		c0.17		0.16		
v/s Ratio Perm						0.38					
v/c Ratio		0.44			0.66	0.38	0.68		0.64		
Uniform Delay, d1		7.4			8.9	0.0	20.5		20.2		
Progression Factor		0.80			0.75	1.00	1.00		1.00		
Incremental Delay, d2		0.4			0.3	0.2	2.1		1.8		
Delay (s)		6.3			7.0	0.2	22.6		22.1		
Level of Service		A			A	A	C		C		
Approach Delay (s)		6.3			5.4			22.4		0.0	
Approach LOS		A			A			C		A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues

5: NE 3rd Ave & Sample Road

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	424	1299	60	1804	250	228	82	109	223	571
v/c Ratio	1.00	0.59	0.48	0.98	0.72	0.45	0.15	0.32	0.45	1.06
Control Delay	88.0	20.3	66.9	54.9	44.6	39.3	0.6	28.9	40.3	87.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.0	20.3	66.9	54.9	44.6	39.3	0.6	28.9	40.3	87.5
Queue Length 50th (ft)	168	247	45	500	140	146	0	56	144	~388
Queue Length 95th (ft)	#280	299	91	#619	#220	225	0	98	222	#611
Internal Link Dist (ft)		1155		834		912			742	
Turn Bay Length (ft)	550		490		250		225	200		
Base Capacity (vph)	425	2194	131	1836	345	509	544	338	492	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.59	0.46	0.98	0.72	0.45	0.15	0.32	0.45	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	1050	145	55	1575	85	230	210	75	100	205	525
Future Volume (vph)	390	1050	145	55	1575	85	230	210	75	100	205	525
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	4944		1752	4997		1752	1845	1568	1752	1845	1568
Flt Permitted	0.95	1.00		0.95	1.00		0.48	1.00	1.00	0.51	1.00	1.00
Satd. Flow (perm)	3400	4944		1752	4997		882	1845	1568	941	1845	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	424	1141	158	60	1712	92	250	228	82	109	223	571
RTOR Reduction (vph)	0	15	0	0	5	0	0	0	59	0	0	120
Lane Group Flow (vph)	424	1284	0	60	1799	0	250	228	23	109	223	451
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases							4		4	8		8
Actuated Green, G (s)	13.0	49.5		5.5	42.0		40.1	33.1	33.1	37.9	32.0	32.0
Effective Green, g (s)	15.0	51.5		7.5	44.0		40.1	33.1	33.1	37.9	32.0	32.0
Actuated g/C Ratio	0.12	0.43		0.06	0.37		0.33	0.28	0.28	0.32	0.27	0.27
Clearance Time (s)	7.0	7.0		7.0	7.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	1.5	3.0		1.5	3.0		1.5	2.0	2.0	1.5	2.0	2.0
Lane Grp Cap (vph)	425	2121		109	1832		345	508	432	337	492	418
v/s Ratio Prot	c0.12	0.26		0.03	c0.36		c0.04	0.12		0.02	0.12	
v/s Ratio Perm							0.20		0.01	0.09		c0.29
v/c Ratio	1.00	0.61		0.55	0.98		0.72	0.45	0.05	0.32	0.45	1.08
Uniform Delay, d1	52.5	26.4		54.6	37.6		35.1	35.9	31.9	30.1	36.7	44.0
Progression Factor	0.89	0.75		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	40.3	1.2		3.4	17.2		6.3	0.2	0.0	0.2	0.2	67.2
Delay (s)	86.8	21.0		58.0	54.8		41.3	36.1	31.9	30.3	36.9	111.2
Level of Service	F	C		E	D		D	D	C	C	D	F
Approach Delay (s)		37.2			54.9			37.8			83.1	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	52.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	2261	299	2266	65	250	11	402	274	281	359
v/c Ratio	0.56	0.91	1.16	0.86	0.05	0.70	0.06	1.04	0.91	0.91	0.86
Control Delay	88.5	40.2	166.8	20.2	0.1	70.9	55.1	99.4	88.6	89.3	46.6
Queue Delay	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.5	40.2	166.8	20.9	0.1	70.9	55.1	99.4	88.6	89.3	46.6
Queue Length 50th (ft)	44	698	~169	545	0	115	9	~337	255	263	172
Queue Length 95th (ft)	#98	#873	m#258	536	m0	157	29	#506	#415	#425	#330
Internal Link Dist (ft)		580		548			436			396	
Turn Bay Length (ft)	450		375		350	225		250	200		
Base Capacity (vph)	88	2475	257	2623	1213	784	425	387	324	330	419
Starvation Cap Reductn	0	0	0	121	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.91	1.16	0.91	0.05	0.32	0.03	1.04	0.85	0.85	0.86

Intersection Summary

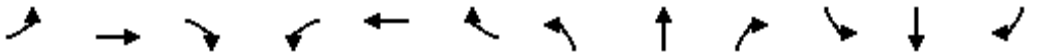
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

1: SW 12th Avenue & Hillsboro Bvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1935	145	275	2085	60	230	10	370	420	90	330
Future Volume (vph)	45	1935	145	275	2085	60	230	10	370	420	90	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.0	6.0	6.0	6.5	6.0	6.0	6.5
Lane Util. Factor	1.00	0.91		0.97	0.91	1.00	0.97	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	1770	5032		3433	5085	1583	3433	1863	1583	1681	1714	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	1770	5032		3433	5085	1583	3433	1863	1583	1681	1714	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	2103	158	299	2266	65	250	11	402	457	98	359
RTOR Reduction (vph)	0	5	0	0	0	19	0	0	62	0	0	83
Lane Group Flow (vph)	49	2256	0	299	2266	46	250	11	340	274	281	276
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	1	6		5	2	3	4	4	5	3	3	1
Permitted Phases						2			4			3
Actuated Green, G (s)	5.0	66.7		8.5	70.2	95.4	14.6	14.6	23.1	25.2	25.2	30.2
Effective Green, g (s)	7.0	68.7		10.5	72.2	99.4	14.6	14.6	23.1	25.2	25.2	30.2
Actuated g/C Ratio	0.05	0.49		0.08	0.52	0.71	0.10	0.10	0.17	0.18	0.18	0.22
Clearance Time (s)	6.5	6.5		6.5	6.5	6.0	6.0	6.0	6.5	6.0	6.0	6.5
Vehicle Extension (s)	1.5	3.0		2.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5
Lane Grp Cap (vph)	88	2469		257	2622	1123	358	194	261	302	308	341
v/s Ratio Prot	0.03	c0.45		0.09	c0.45	0.01	0.07	0.01	c0.08	0.16	c0.16	0.03
v/s Ratio Perm						0.02			0.14			0.15
v/c Ratio	0.56	0.91		1.16	0.86	0.04	0.70	0.06	1.30	0.91	0.91	0.81
Uniform Delay, d1	65.0	32.9		64.8	29.6	6.1	60.6	56.5	58.5	56.3	56.3	52.2
Progression Factor	1.00	1.00		1.28	0.55	0.01	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	6.6		99.5	2.9	0.0	4.7	0.0	161.6	28.4	29.3	12.5
Delay (s)	69.3	39.5		182.4	19.2	0.1	65.3	56.5	220.1	84.7	85.6	64.7
Level of Service	E	D		F	B	A	E	E	F	F	F	E
Approach Delay (s)		40.2			37.3			159.0			77.1	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	56.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	23.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Queues

Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	2092	842	1967	684	642
v/c Ratio	0.41	0.53	0.78	0.88	0.53
Control Delay	0.1	0.7	24.4	50.0	30.0
Queue Delay	0.0	0.0	0.7	0.0	0.0
Total Delay	0.1	0.7	25.1	50.0	30.0
Queue Length 50th (ft)	0	0	369	549	233
Queue Length 95th (ft)	m0	m0	641	693	277
Internal Link Dist (ft)	548		319		
Turn Bay Length (ft)		150			
Base Capacity (vph)	5085	1583	2535	853	1343
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	244	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.53	0.86	0.80	0.48

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑↑	↱		↑↑↑		↰		↱↱		
Traffic Volume (vph)	0	1925	800	0	1810	0	650	0	610	0	0
Future Volume (vph)	0	1925	800	0	1810	0	650	0	610	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.0	2.0		4.5		4.5		4.5		
Lane Util. Factor		0.91	1.00		0.91		1.00		0.88		
Frt		1.00	0.85		1.00		1.00		0.85		
Flt Protected		1.00	1.00		1.00		0.95		1.00		
Satd. Flow (prot)		5085	1583		5085		1770		2787		
Flt Permitted		1.00	1.00		1.00		0.95		1.00		
Satd. Flow (perm)		5085	1583		5085		1770		2787		
Peak-hour factor, PHF	0.92	0.92	0.95	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.92
Adj. Flow (vph)	0	2092	842	0	1967	0	684	0	642	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2092	842	0	1967	0	684	0	642	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type		NA	Perm		NA		Prot		Prot		
Protected Phases		Free!			2		8!		3		
Permitted Phases			Free								
Actuated Green, G (s)		140.0	140.0		67.8		59.2		59.2		
Effective Green, g (s)		140.0	140.0		69.8		61.2		61.2		
Actuated g/C Ratio		1.00	1.00		0.50		0.44		0.44		
Clearance Time (s)					6.5		6.5		6.5		
Vehicle Extension (s)					3.0		2.5		2.5		
Lane Grp Cap (vph)		5085	1583		2535		773		1218		
v/s Ratio Prot		0.41			c0.39		c0.39		0.23		
v/s Ratio Perm			0.53								
v/c Ratio		0.41	0.53		0.78		0.88		0.53		
Uniform Delay, d1		0.0	0.0		28.7		36.2		28.8		
Progression Factor		1.00	1.00		0.76		1.00		1.00		
Incremental Delay, d2		0.1	0.5		1.7		11.7		0.3		
Delay (s)		0.1	0.5		23.5		47.9		29.1		
Level of Service		A	A		C		D		C		
Approach Delay (s)		0.2			23.5			38.8		0.0	
Approach LOS		A			C			D		A	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

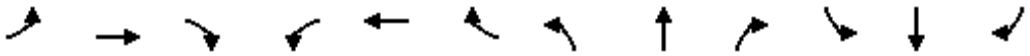
c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	2038	2315	804	620	789
v/c Ratio	0.70	0.79	0.51	0.37	0.82
Control Delay	13.3	12.3	0.6	18.4	28.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	12.3	0.6	18.4	28.2
Queue Length 50th (ft)	240	302	0	69	159
Queue Length 95th (ft)	254	m324	m0	97	#240
Internal Link Dist (ft)	286	371			
Turn Bay Length (ft)			250	350	350
Base Capacity (vph)	2920	2920	1568	1710	991
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.70	0.79	0.51	0.36	0.80

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1875	0	0	2130	740	570	0	750	0	0	0
Future Volume (vph)	0	1875	0	0	2130	740	570	0	750	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	2.0	2.0		2.0			
Lane Util. Factor		0.91			0.91	1.00	0.94		0.88			
Frt		1.00			1.00	0.85	1.00		0.85			
Flt Protected		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085			5085	1568	4990		2787			
Flt Permitted		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085			5085	1568	4990		2787			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	2038	0	0	2315	804	620	0	789	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	37	0	0	0
Lane Group Flow (vph)	0	2038	0	0	2315	804	620	0	752	0	0	0
Heavy Vehicles (%)	3%	2%	2%	2%	2%	3%	2%	3%	2%	3%	3%	3%
Turn Type		NA			NA	Free	Prot		Prot			
Protected Phases		6			2		4		4			
Permitted Phases						Free						
Actuated Green, G (s)		38.2			38.2	70.0	21.3		21.3			
Effective Green, g (s)		40.2			40.2	70.0	23.3		23.3			
Actuated g/C Ratio		0.57			0.57	1.00	0.33		0.33			
Clearance Time (s)		6.5			6.5		4.0		4.0			
Vehicle Extension (s)		3.0			3.0		3.0		3.0			
Lane Grp Cap (vph)		2920			2920	1568	1660		927			
v/s Ratio Prot		0.40			c0.46		0.12		c0.27			
v/s Ratio Perm						0.51						
v/c Ratio		0.70			0.79	0.51	0.37		0.81			
Uniform Delay, d1		10.6			11.6	0.0	17.8		21.3			
Progression Factor		1.11			0.93	1.00	1.00		1.00			
Incremental Delay, d2		1.2			1.2	0.6	0.1		5.5			
Delay (s)		13.0			12.1	0.6	17.9		26.8			
Level of Service		B			B	A	B		C			
Approach Delay (s)		13.0			9.1			22.9			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Queues

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	2413	337	152	2467	38	315	11	141	136	54	337
v/c Ratio	0.60	0.86	0.36	1.00	0.83	0.04	1.08	0.03	0.38	0.43	0.16	0.88
Control Delay	77.3	24.6	8.6	135.8	27.5	0.1	125.0	43.4	12.7	46.2	46.5	57.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.3	24.6	8.6	135.8	27.5	0.1	125.0	43.4	12.7	46.2	46.5	57.8
Queue Length 50th (ft)	45	598	102	141	632	0	~286	8	12	100	42	197
Queue Length 95th (ft)	m65	#921	m175	#290	#858	0	#351	25	66	144	75	291
Internal Link Dist (ft)		660			631			513			403	
Turn Bay Length (ft)	300		150	100		200	125					340
Base Capacity (vph)	171	2799	928	152	2984	979	291	492	510	313	505	520
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.86	0.36	1.00	0.83	0.04	1.08	0.02	0.28	0.43	0.11	0.65

Intersection Summary

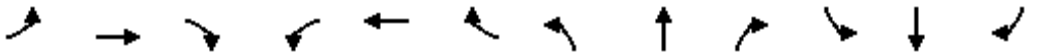
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

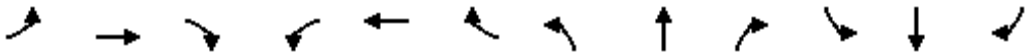
4: SW Natura Boulevard/Fairway Drive & Hillsboro Bvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	2220	310	140	2270	35	290	10	130	125	50	310
Future Volume (vph)	95	2220	310	140	2270	35	290	10	130	125	50	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.72	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1345	1863	1583	1341	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	2413	337	152	2467	38	315	11	141	136	54	337
RTOR Reduction (vph)	0	0	57	0	0	16	0	0	104	0	0	103
Lane Group Flow (vph)	103	2413	280	152	2467	22	315	11	37	136	54	234
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		8
Actuated Green, G (s)	5.0	75.1	75.1	10.1	80.2	80.2	28.8	23.8	23.8	30.8	24.8	24.8
Effective Green, g (s)	7.0	77.1	77.1	12.1	82.2	82.2	28.8	23.8	23.8	30.8	24.8	24.8
Actuated g/C Ratio	0.05	0.55	0.55	0.09	0.59	0.59	0.21	0.17	0.17	0.22	0.18	0.18
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	3.0	3.0	1.5	3.0	3.0	1.5	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	171	2800	871	152	2985	929	291	316	269	313	330	280
v/s Ratio Prot	0.03	c0.47		c0.09	0.49		c0.04	0.01		0.02	0.03	
v/s Ratio Perm			0.18			0.01	c0.18		0.02	0.08		0.15
v/c Ratio	0.60	0.86	0.32	1.00	0.83	0.02	1.08	0.03	0.14	0.43	0.16	0.84
Uniform Delay, d1	65.1	26.9	17.2	64.0	23.2	12.1	54.9	48.5	49.4	46.6	48.8	55.6
Progression Factor	1.02	0.76	0.66	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	2.6	0.7	73.0	2.8	0.0	76.5	0.0	0.1	0.4	0.1	18.3
Delay (s)	69.4	23.1	11.9	136.9	26.0	12.1	131.4	48.5	49.5	46.9	48.9	73.9
Level of Service	E	C	B	F	C	B	F	D	D	D	D	E
Approach Delay (s)		23.5			32.1			104.7			64.4	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	36.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Queues



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	380	1424	207	527	1755	587	277	560	435	478	832	696
v/c Ratio	1.14	1.03	0.24	1.10	1.14	0.59	1.11	0.82	0.67	0.88	0.84	1.22
Control Delay	161.3	85.0	6.5	131.0	117.6	15.8	162.0	80.7	40.6	91.9	70.4	152.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	161.3	85.0	6.5	131.0	117.6	15.8	162.0	80.7	40.6	91.9	70.4	152.2
Queue Length 50th (ft)	~268	~943	24	~369	~1257	209	~191	340	329	287	492	~844
Queue Length 95th (ft)	#383	#1082	75	m#473	#1391	m308	#294	416	465	#372	580	#1103
Internal Link Dist (ft)		620			1001			569			457	
Turn Bay Length (ft)	550		500	550		500	300		300	650		650
Base Capacity (vph)	333	1382	855	480	1533	1007	249	682	651	558	985	571
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	1.03	0.24	1.10	1.14	0.58	1.11	0.82	0.67	0.86	0.84	1.22

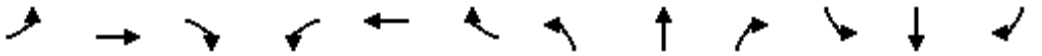
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	1310	190	485	1615	540	255	515	400	440	765	640
Future Volume (vph)	350	1310	190	485	1615	540	255	515	400	440	765	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	5.9	5.5	4.0	5.9	5.9	5.9	5.5	5.9	5.9	5.9
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	1424	207	527	1755	587	277	560	435	478	832	696
RTOR Reduction (vph)	0	0	90	0	0	31	0	0	76	0	0	131
Lane Group Flow (vph)	380	1424	117	527	1755	556	277	560	359	478	832	565
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases			6			2			4			8
Actuated Green, G (s)	15.5	68.3	79.4	23.2	76.0	102.5	11.1	32.7	55.9	26.5	48.1	48.1
Effective Green, g (s)	17.5	70.3	83.4	25.2	78.0	106.5	13.1	34.7	59.9	28.5	50.1	50.1
Actuated g/C Ratio	0.10	0.39	0.46	0.14	0.43	0.59	0.07	0.19	0.33	0.16	0.28	0.28
Clearance Time (s)	7.5	6.0	7.9	7.5	6.0	7.9	7.9	7.9	7.5	7.9	7.9	7.9
Vehicle Extension (s)	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	3.0
Lane Grp Cap (vph)	333	1382	733	480	1533	936	249	682	526	543	985	440
v/s Ratio Prot	0.11	0.40	0.01	c0.15	c0.50	0.09	c0.08	0.16	0.10	0.14	0.24	
v/s Ratio Perm			0.06			0.26			0.13			c0.36
v/c Ratio	1.14	1.03	0.16	1.10	1.14	0.59	1.11	0.82	0.68	0.88	0.84	1.28
Uniform Delay, d1	81.2	54.9	28.0	77.4	51.0	23.1	83.5	69.7	51.8	74.1	61.3	65.0
Progression Factor	1.00	1.00	1.00	1.04	1.06	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	93.3	32.3	0.0	60.5	69.8	0.4	90.6	7.9	2.9	15.0	6.7	144.6
Delay (s)	174.5	87.2	28.0	140.9	123.8	18.9	174.0	77.5	54.7	89.0	68.0	209.5
Level of Service	F	F	C	F	F	B	F	E	D	F	E	F
Approach Delay (s)		97.6			105.5			90.8			122.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	105.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	21.3
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Queues

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	103	2233	130	1853	114	243	240	511	168	549
v/c Ratio	0.60	0.83	0.76	0.86	0.16	0.64	0.63	0.90	0.57	0.91
Control Delay	81.2	40.7	107.2	50.2	5.3	71.8	71.2	62.3	73.5	72.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.2	40.7	107.2	50.2	5.3	71.8	71.2	62.3	73.5	72.8
Queue Length 50th (ft)	61	561	0	668	6	274	269	441	179	306
Queue Length 95th (ft)	m68	m563	m#123	728	m25	384	380	#653	266	#425
Internal Link Dist (ft)		900		925			695		185	
Turn Bay Length (ft)	700		750		750			150		
Base Capacity (vph)	171	2697	171	2145	708	392	394	570	316	631
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.83	0.76	0.86	0.16	0.62	0.61	0.90	0.53	0.87

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

2: Newport Center Dr/SW 12th Avenue & SR 869/SW 10th Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	1970	85	120	1705	105	430	15	470	150	5	505
Future Volume (vph)	95	1970	85	120	1705	105	430	15	470	150	5	505
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	0.97	0.86		0.97	0.91	1.00	0.95	0.95	1.00		1.00	0.88
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.95	1.00
Satd. Flow (prot)	3367	6368		3433	5085	1524	1681	1691	1583		1542	2030
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.95	1.00
Satd. Flow (perm)	3367	6368		3433	5085	1524	1681	1691	1583		1542	2030
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	2141	92	130	1853	114	467	16	511	163	5	549
RTOR Reduction (vph)	0	3	0	0	0	66	0	0	101	0	0	67
Lane Group Flow (vph)	103	2230	0	130	1853	48	243	240	410	0	168	482
Heavy Vehicles (%)	4%	2%	2%	2%	2%	6%	2%	2%	2%	18%	2%	40%
Turn Type	Prot	NA		Prot	NA	Prot	Split	NA	pt+ov	Split	NA	pt+ov
Protected Phases	1	6		5	2	2	3 5	3	3	4 1	4	4
Permitted Phases												
Actuated Green, G (s)	7.2	74.1		7.0	73.9	73.9	40.4	40.4	53.4		34.5	47.7
Effective Green, g (s)	9.2	76.1		9.0	75.9	75.9	40.4	40.4	53.4		34.5	47.7
Actuated g/C Ratio	0.05	0.42		0.05	0.42	0.42	0.22	0.22	0.30		0.19	0.27
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0			6.0	
Vehicle Extension (s)	1.5	3.0		2.5	3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)	172	2692		171	2144	642	377	379	469		295	537
v/s Ratio Prot	0.03	c0.35		0.04	c0.36	0.03	0.14	0.14	c0.26		0.11	c0.24
v/s Ratio Perm												
v/c Ratio	0.60	0.83		0.76	0.86	0.07	0.64	0.63	0.88		0.57	0.90
Uniform Delay, d1	83.6	46.1		84.4	47.4	31.1	63.3	63.1	60.1		66.0	63.8
Progression Factor	0.90	0.84		1.00	0.95	0.98	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.4	1.2		15.2	4.4	0.2	3.8	3.4	16.5		2.5	17.6
Delay (s)	76.5	39.8		99.3	49.4	30.6	67.0	66.5	76.6		68.5	81.4
Level of Service	E	D		F	D	C	E	E	E		E	F
Approach Delay (s)		41.4			51.5			71.8			78.4	
Approach LOS		D			D			E			E	

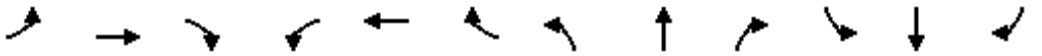
Intersection Summary			
HCM 2000 Control Delay	54.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Queues

Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	2794	811	1641	316	442
v/c Ratio	0.95	0.73	0.42	0.49	0.85
Control Delay	30.9	52.0	3.9	68.6	86.6
Queue Delay	0.0	0.0	0.1	0.0	0.0
Total Delay	30.9	52.0	4.0	68.6	86.6
Queue Length 50th (ft)	498	337	112	174	290
Queue Length 95th (ft)	538	400	113	228	#384
Internal Link Dist (ft)	925		322		
Turn Bay Length (ft)		500		500	500
Base Capacity (vph)	2937	1110	3884	640	520
Starvation Cap Reductn	0	0	810	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.95	0.73	0.53	0.49	0.85

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1980	610	770	1510	0	0	0	0	300	0	420
Future Volume (vph)	0	1980	610	770	1510	0	0	0	0	300	0	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.5					4.4		4.4
Lane Util. Factor		0.81		0.97	0.91					0.97		0.88
Frt		0.97		1.00	1.00					1.00		0.85
Flt Protected		1.00		0.95	1.00					0.95		1.00
Satd. Flow (prot)		7284		3433	5085					3433		2787
Flt Permitted		1.00		0.95	1.00					0.95		1.00
Satd. Flow (perm)		7284		3433	5085					3433		2787
Peak-hour factor, PHF	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	2152	642	811	1641	0	0	0	0	316	0	442
RTOR Reduction (vph)	0	30	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2764	0	811	1641	0	0	0	0	316	0	442
Turn Type		NA		Prot	NA					Prot		Prot
Protected Phases		6		5 4	2 4					3		3
Permitted Phases												
Actuated Green, G (s)		69.8		53.8	135.5					31.6		31.6
Effective Green, g (s)		71.8		57.8	133.1					33.6		33.6
Actuated g/C Ratio		0.40		0.32	0.74					0.19		0.19
Clearance Time (s)		6.0								6.4		6.4
Vehicle Extension (s)		3.0								2.0		2.0
Lane Grp Cap (vph)		2905		1102	3760					640		520
v/s Ratio Prot		c0.38		c0.24	0.32					0.09		c0.16
v/s Ratio Perm												
v/c Ratio		0.95		0.74	0.44					0.49		0.85
Uniform Delay, d1		52.4		54.3	9.0					65.6		70.8
Progression Factor		0.49		1.28	0.48					1.00		1.00
Incremental Delay, d2		5.3		2.4	0.1					0.2		11.9
Delay (s)		31.2		71.8	4.4					65.8		82.6
Level of Service		C		E	A					E		F
Approach Delay (s)		31.2			26.7			0.0			75.6	
Approach LOS		C			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBR
Lane Group Flow (vph)	1663	789	2185	621	716
v/c Ratio	0.56	0.28	0.40	0.55	0.88
Control Delay	3.5	0.1	4.8	63.6	79.7
Queue Delay	0.1	0.0	0.3	0.0	0.0
Total Delay	3.6	0.1	5.1	63.6	79.7
Queue Length 50th (ft)	84	0	32	232	362
Queue Length 95th (ft)	m118	m0	m49	278	#434
Internal Link Dist (ft)	233		630	1225	
Turn Bay Length (ft)		700		410	430
Base Capacity (vph)	2988	2787	5461	1131	818
Starvation Cap Reductn	132	0	2202	0	0
Spillback Cap Reductn	255	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.28	0.67	0.55	0.88

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

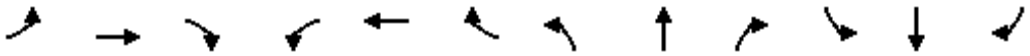
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1530	750	0	2010	590	680
Future Volume (vph)	1530	750	0	2010	590	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	2.0		4.5	4.4	4.4
Lane Util. Factor	0.91	0.88		0.81	0.94	0.76
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	1.00	1.00		1.00	0.95	1.00
Satd. Flow (prot)	5085	2787		7544	4990	3610
Flt Permitted	1.00	1.00		1.00	0.95	1.00
Satd. Flow (perm)	5085	2787		7544	4990	3610
Peak-hour factor, PHF	0.92	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	1663	789	0	2185	621	716
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1663	789	0	2185	621	716
Turn Type	NA	Free		NA	Prot	Prot
Protected Phases	6 3			2 3	4	4
Permitted Phases		Free				
Actuated Green, G (s)	101.4	180.0		128.4	38.8	38.8
Effective Green, g (s)	105.4	180.0		130.4	40.8	40.8
Actuated g/C Ratio	0.59	1.00		0.72	0.23	0.23
Clearance Time (s)					6.4	6.4
Vehicle Extension (s)					3.5	3.5
Lane Grp Cap (vph)	2977	2787		5465	1131	818
v/s Ratio Prot	c0.33			c0.29	0.12	c0.20
v/s Ratio Perm		0.28				
v/c Ratio	0.56	0.28		0.40	0.55	0.88
Uniform Delay, d1	23.0	0.0		9.6	61.5	67.1
Progression Factor	0.25	1.00		0.48	1.00	1.00
Incremental Delay, d2	0.1	0.1		0.0	0.6	10.6
Delay (s)	5.8	0.1		4.6	62.1	77.7
Level of Service	A	A		A	E	E
Approach Delay (s)	4.0			4.6	70.4	
Approach LOS	A			A	E	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues

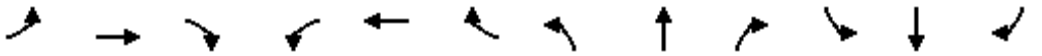


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	321	1772	310	375	1413	147	332	201	245	299	337	440
v/c Ratio	0.77	0.87	0.41	0.89	0.69	0.21	0.98	0.24	0.44	0.66	0.93	0.89
Control Delay	93.2	52.3	14.2	100.0	47.4	10.0	97.7	56.6	8.2	48.2	102.5	53.3
Queue Delay	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.2	53.7	14.2	100.0	47.4	10.0	97.7	56.6	8.2	48.2	102.5	53.3
Queue Length 50th (ft)	183	608	68	228	520	21	339	102	0	252	391	261
Queue Length 95th (ft)	m232	710	m142	#314	586	74	#552	142	78	342	#567	#455
Internal Link Dist (ft)		630			1233			1112			1327	
Turn Bay Length (ft)	300		300	200		300	260		260	170		170
Base Capacity (vph)	467	2041	756	431	2049	708	340	843	563	470	386	511
Starvation Cap Reductn	0	121	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.92	0.41	0.87	0.69	0.21	0.98	0.24	0.44	0.64	0.87	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	1630	285	345	1300	135	305	185	225	275	310	405
Future Volume (vph)	295	1630	285	345	1300	135	305	185	225	275	310	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.4	4.4	4.4	4.4	4.4	5.7	5.7	5.7	5.7	5.7	5.7
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3539	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.10	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	189	3539	1583	1165	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	321	1772	310	375	1413	147	332	201	245	299	337	440
RTOR Reduction (vph)	0	0	121	0	0	70	0	0	187	0	0	186
Lane Group Flow (vph)	321	1772	189	375	1413	77	332	201	58	299	337	254
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2	4		4	8		8
Actuated Green, G (s)	19.9	70.2	70.2	20.2	70.5	70.5	71.1	42.3	42.3	58.2	35.1	35.1
Effective Green, g (s)	21.9	72.2	72.2	22.2	72.5	72.5	71.1	42.3	42.3	58.2	35.1	35.1
Actuated g/C Ratio	0.12	0.40	0.40	0.12	0.40	0.40	0.39	0.23	0.23	0.32	0.20	0.20
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	5.7	5.7	5.7	5.7	5.7	5.7
Vehicle Extension (s)	1.5	3.0	3.0	1.5	3.0	3.0	1.5	2.0	2.0	1.5	2.0	2.0
Lane Grp Cap (vph)	417	2039	634	423	2048	637	340	831	372	454	363	308
v/s Ratio Prot	0.09	c0.35		c0.11	0.28		c0.16	0.06		0.08	0.18	
v/s Ratio Perm			0.12			0.05	c0.22		0.04	0.13		0.16
v/c Ratio	0.77	0.87	0.30	0.89	0.69	0.12	0.98	0.24	0.15	0.66	0.93	0.82
Uniform Delay, d1	76.6	49.6	36.7	77.7	44.5	33.7	58.0	55.8	54.7	49.6	71.2	69.5
Progression Factor	1.09	0.96	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.8	3.3	0.2	19.0	1.9	0.4	41.9	0.1	0.1	2.6	29.0	15.5
Delay (s)	89.2	50.9	36.2	96.7	46.4	34.1	99.9	55.9	54.7	52.2	100.2	85.0
Level of Service	F	D	D	F	D	C	F	E	D	D	F	F
Approach Delay (s)		54.1			55.2			74.3			80.7	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	61.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	20.2
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Queues

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2755	272	2516	125	130
v/c Ratio	0.64	0.95	0.64	0.67	0.46
Control Delay	20.1	95.8	2.5	72.8	13.6
Queue Delay	0.0	43.4	0.2	0.0	0.0
Total Delay	20.1	139.2	2.8	72.8	13.6
Queue Length 50th (ft)	369	196	61	103	0
Queue Length 95th (ft)	443	#396	42	164	58
Internal Link Dist (ft)	575		175	531	
Turn Bay Length (ft)					
Base Capacity (vph)	4288	285	3961	503	543
Starvation Cap Reductn	0	56	613	0	0
Spillback Cap Reductn	153	0	0	0	2
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.67	1.19	0.75	0.25	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2440	95	250	2315	115	120
Future Volume (vph)	2440	95	250	2315	115	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	9.0	9.0
Lane Util. Factor	0.81		1.00	0.91	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	7502		1770	5085	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	7502		1770	5085	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2652	103	272	2516	125	130
RTOR Reduction (vph)	3	0	0	0	0	116
Lane Group Flow (vph)	2752	0	272	2516	125	14
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2 3		1	1 2 3	4	
Permitted Phases					4	4
Actuated Green, G (s)	72.3		19.0	99.3	13.7	13.7
Effective Green, g (s)	74.3		21.0	101.3	13.7	13.7
Actuated g/C Ratio	0.57		0.16	0.78	0.11	0.11
Clearance Time (s)			8.0		9.0	9.0
Vehicle Extension (s)			1.5		2.0	2.0
Lane Grp Cap (vph)	4287		285	3962	186	166
v/s Ratio Prot	c0.37		c0.15	c0.49	c0.07	
v/s Ratio Perm						0.01
v/c Ratio	0.64		0.95	0.64	0.67	0.08
Uniform Delay, d1	18.8		54.0	6.3	56.0	52.5
Progression Factor	1.00		1.11	0.29	1.00	1.00
Incremental Delay, d2	0.2		34.6	0.2	7.3	0.1
Delay (s)	19.1		94.3	2.0	63.3	52.6
Level of Service	B		F	A	E	D
Approach Delay (s)	19.1			11.0	57.8	
Approach LOS	B			B	E	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	196	2587	2620	315	207	168
v/c Ratio	1.03	0.52	0.65	0.28	0.57	0.53
Control Delay	107.2	2.2	13.1	1.0	61.0	13.6
Queue Delay	0.0	0.1	0.1	0.0	0.0	0.1
Total Delay	107.2	2.2	13.1	1.0	61.0	13.8
Queue Length 50th (ft)	~176	25	355	1	87	0
Queue Length 95th (ft)	#334	38	450	m12	122	65
Internal Link Dist (ft)		175	1004		271	
Turn Bay Length (ft)				450		
Base Capacity (vph)	190	4992	4006	1107	977	570
Starvation Cap Reductn	0	737	0	0	0	0
Spillback Cap Reductn	0	0	185	0	0	60
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.61	0.69	0.28	0.21	0.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	180	2380	2410	290	190	155
Future Volume (vph)	180	2380	2410	290	190	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	9.0	9.0
Lane Util. Factor	1.00	0.86	0.86	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	6408	6408	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	6408	6408	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	2587	2620	315	207	168
RTOR Reduction (vph)	0	0	0	118	0	150
Lane Group Flow (vph)	196	2587	2620	197	207	18
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	3	1 2 3	1 2		4	
Permitted Phases				1 2		4
Actuated Green, G (s)	12.0	99.3	79.3	79.3	13.7	13.7
Effective Green, g (s)	14.0	101.3	81.3	81.3	13.7	13.7
Actuated g/C Ratio	0.11	0.78	0.63	0.63	0.11	0.11
Clearance Time (s)	8.0				9.0	9.0
Vehicle Extension (s)	1.5				2.0	2.0
Lane Grp Cap (vph)	190	4993	4007	989	361	166
v/s Ratio Prot	c0.11	0.40	c0.41		c0.06	
v/s Ratio Perm				0.12		0.01
v/c Ratio	1.03	0.52	0.65	0.20	0.57	0.11
Uniform Delay, d1	58.0	5.3	15.4	10.4	55.4	52.6
Progression Factor	0.68	0.33	0.79	0.55	1.00	1.00
Incremental Delay, d2	66.1	0.0	0.2	0.0	1.4	0.1
Delay (s)	105.7	1.8	12.3	5.7	56.7	52.7
Level of Service	F	A	B	A	E	D
Approach Delay (s)		9.1	11.6		54.9	
Approach LOS		A	B		D	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues

Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	2022	747	2125	563	784
v/c Ratio	0.61	0.47	0.81	0.52	0.90
Control Delay	10.7	2.6	13.8	20.4	36.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	2.6	13.8	20.4	36.9
Queue Length 50th (ft)	196	30	231	92	165
Queue Length 95th (ft)	295	78	276	136	#276
Internal Link Dist (ft)	1004		259		
Turn Bay Length (ft)		250			
Base Capacity (vph)	3312	1583	2628	1082	878
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.47	0.81	0.52	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑↑↑	↱		↑↑↑		↰↰		↱↱		
Traffic Volume (vph)	0	1860	710	0	1955	0	535	0	745	0	0
Future Volume (vph)	0	1860	710	0	1955	0	535	0	745	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	2.0		5.5		5.5		5.5		
Lane Util. Factor		0.86	1.00		0.91		0.97		0.88		
Frt		1.00	0.85		1.00		1.00		0.85		
Flt Protected		1.00	1.00		1.00		0.95		1.00		
Satd. Flow (prot)		6408	1583		5085		3433		2787		
Flt Permitted		1.00	1.00		1.00		0.95		1.00		
Satd. Flow (perm)		6408	1583		5085		3433		2787		
Peak-hour factor, PHF	0.92	0.92	0.95	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.92
Adj. Flow (vph)	0	2022	747	0	2125	0	563	0	784	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2022	747	0	2125	0	563	0	784	0	0
Turn Type		NA	Free		NA		Prot		Prot		
Protected Phases		6			2		3		3		
Permitted Phases			Free								
Actuated Green, G (s)		31.6	65.0		31.6		18.4		18.4		
Effective Green, g (s)		33.6	65.0		33.6		20.4		20.4		
Actuated g/C Ratio		0.52	1.00		0.52		0.31		0.31		
Clearance Time (s)		7.5			7.5		7.5		7.5		
Vehicle Extension (s)		3.0			3.0		2.5		2.5		
Lane Grp Cap (vph)		3312	1583		2628		1077		874		
v/s Ratio Prot		0.32			c0.42		0.16		c0.28		
v/s Ratio Perm			0.47								
v/c Ratio		0.61	0.47		0.81		0.52		0.90		
Uniform Delay, d1		11.1	0.0		13.0		18.3		21.3		
Progression Factor		0.90	1.00		0.91		1.00		1.00		
Incremental Delay, d2		0.7	0.9		1.9		0.4		11.8		
Delay (s)		10.7	0.9		13.7		18.7		33.1		
Level of Service		B	A		B		B		C		
Approach Delay (s)		8.0			13.7			27.0		0.0	
Approach LOS		A			B			C		A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Queues

Lane Group	EBT	WBT	WBR	NBL2	NBR
Lane Group Flow (vph)	1832	1842	453	1200	705
v/c Ratio	0.73	0.73	0.29	0.83	0.60
Control Delay	18.9	16.5	0.2	39.3	31.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.9	16.5	0.2	39.3	31.3
Queue Length 50th (ft)	384	179	0	451	254
Queue Length 95th (ft)	396	m232	m0	513	307
Internal Link Dist (ft)	270	1155			
Turn Bay Length (ft)			250		
Base Capacity (vph)	2522	2522	1583	1571	1275
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.73	0.29	0.76	0.55

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER
Lane Configurations											
Traffic Volume (vph)	0	1685	0	0	1695	430	1140	0	670	0	0
Future Volume (vph)	0	1685	0	0	1695	430	1140	0	670	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	2.0	5.5		5.5		
Lane Util. Factor		0.91			0.91	1.00	0.97		0.88		
Frt		1.00			1.00	0.85	1.00		0.85		
Flt Protected		1.00			1.00	1.00	0.95		1.00		
Satd. Flow (prot)		5085			5085	1583	3433		2787		
Flt Permitted		1.00			1.00	1.00	0.95		1.00		
Satd. Flow (perm)		5085			5085	1583	3433		2787		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.92	0.92
Adj. Flow (vph)	0	1832	0	0	1842	453	1200	0	705	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1832	0	0	1842	453	1200	0	705	0	0
Turn Type		NA			NA	Free	Prot		Prot		
Protected Phases		6			2		4		4		
Permitted Phases						Free					
Actuated Green, G (s)		62.5			62.5	130.0	52.5		52.5		
Effective Green, g (s)		64.5			64.5	130.0	54.5		54.5		
Actuated g/C Ratio		0.50			0.50	1.00	0.42		0.42		
Clearance Time (s)		7.5			7.5		7.5		7.5		
Vehicle Extension (s)		3.0			3.0		2.5		2.5		
Lane Grp Cap (vph)		2522			2522	1583	1439		1168		
v/s Ratio Prot		0.36			c0.36		c0.35		0.25		
v/s Ratio Perm						0.29					
v/c Ratio		0.73			0.73	0.29	0.83		0.60		
Uniform Delay, d1		25.8			25.9	0.0	33.7		29.4		
Progression Factor		0.65			0.58	1.00	1.00		1.00		
Incremental Delay, d2		0.9			0.9	0.2	4.2		0.7		
Delay (s)		17.6			15.9	0.2	38.0		30.1		
Level of Service		B			B	A	D		C		
Approach Delay (s)		17.6			12.8			35.0		0.0	
Approach LOS		B			B			D		A	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Queues

5: NE 3rd Ave & Sample Road

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	511	2049	114	1771	261	337	120	87	266	418
v/c Ratio	0.97	0.82	0.93	0.85	1.09	0.82	0.24	0.51	0.76	0.90
Control Delay	85.2	27.7	125.3	40.3	120.8	64.4	1.1	42.8	63.3	47.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.2	27.7	125.3	40.3	120.8	64.4	1.1	42.8	63.3	47.1
Queue Length 50th (ft)	234	350	97	489	~197	272	0	53	214	184
Queue Length 95th (ft)	#343	479	#217	#658	#280	358	0	87	291	303
Internal Link Dist (ft)		1155		834		912			742	
Turn Bay Length (ft)	550		490		250		225	200		
Base Capacity (vph)	528	2492	122	2075	240	515	583	171	458	547
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.82	0.93	0.85	1.09	0.65	0.21	0.51	0.58	0.76

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	470	1670	215	105	1500	130	240	310	110	80	245	385
Future Volume (vph)	470	1670	215	105	1500	130	240	310	110	80	245	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4998		1770	5025		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.25	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	3433	4998		1770	5025		473	1863	1583	477	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	511	1815	234	114	1630	141	261	337	120	87	266	418
RTOR Reduction (vph)	0	11	0	0	7	0	0	0	94	0	0	170
Lane Group Flow (vph)	511	2038	0	114	1764	0	261	337	26	87	266	248
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases							4		4	8		8
Actuated Green, G (s)	18.0	62.5		7.0	51.5		38.6	28.6	28.6	30.4	24.5	24.5
Effective Green, g (s)	20.0	64.5		9.0	53.5		38.6	28.6	28.6	30.4	24.5	24.5
Actuated g/C Ratio	0.15	0.50		0.07	0.41		0.30	0.22	0.22	0.23	0.19	0.19
Clearance Time (s)	7.0	7.0		7.0	7.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	1.5	3.0		1.5	3.0		1.5	2.0	2.0	1.5	2.0	2.0
Lane Grp Cap (vph)	528	2479		122	2067		240	409	348	170	351	298
v/s Ratio Prot	c0.15	c0.41		0.06	0.35		c0.08	c0.18		0.02	0.14	
v/s Ratio Perm							c0.24		0.02	0.10		0.16
v/c Ratio	0.97	0.82		0.93	0.85		1.09	0.82	0.08	0.51	0.76	0.83
Uniform Delay, d1	54.7	27.9		60.2	34.7		43.3	48.3	40.2	40.9	49.9	50.8
Progression Factor	1.08	0.87		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.3	2.4		60.3	4.7		83.4	12.1	0.0	1.1	8.1	17.1
Delay (s)	84.5	26.7		120.6	39.4		126.7	60.4	40.3	41.9	58.0	67.9
Level of Service	F	C		F	D		F	E	D	D	E	E
Approach Delay (s)		38.2			44.3			81.1			61.5	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	48.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group