














## **APPENDIX L**

### **2020 & 2040 Build 1 Synchro Intersection Analysis**

# Queues

1: SW 12th Avenue & Hillsboro Blvd































											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	277	2168	321	1457	495	98	147	196	22	22	22
v/c Ratio	0.89	0.68	0.90	0.51	0.44	0.28	0.77	0.38	0.31	0.30	0.06
Control Delay	102.0	23.3	103.6	20.9	4.4	75.1	102.7	8.1	94.0	93.2	0.3
Queue Delay	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.0	23.3	103.6	21.3	4.6	75.1	102.7	8.1	94.0	93.2	0.3
Queue Length 50th (ft)	320	570	199	285	47	56	172	0	27	27	0
Queue Length 95th (ft)	#473	723	#295	496	133	85	247	67	63	63	0
Internal Link Dist (ft)		580		548			436			396	
Turn Bay Length (ft)	450		375		350	225		250	200		
Base Capacity (vph)	331	3187	356	2859	1254	610	331	514	252	259	387
Starvation Cap Reductn	0	0	0	732	225	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	0.84	0.68	0.90	0.69	0.48	0.16	0.44	0.38	0.09	0.08	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 Blvd












												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  		 			 		
Traffic Volume (vph)	255	1830	165	295	1340	455	90	135	180	30	10	20
Future Volume (vph)	255	1830	165	295	1340	455	90	135	180	30	10	20
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
Flt	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	0.98	1.00
Satd. Flow (prot)	1770	5022		3433	5085	1583	3433	1863	1583	1681	1726	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (perm)	1770	5022		3433	5085	1583	3433	1863	1583	1681	1726	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	1989	179	321	1457	495	98	147	196	33	11	22
RTOR Reduction (vph)	0	4	0	0	0	107	0	0	158	0	0	17
Lane Group Flow (vph)	277	2164	0	321	1457	388	98	147	38	22	22	5
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)	29.5	112.0		16.7	99.2	106.9	18.6	18.6	35.3	7.7	7.7	37.2
Effective Green, g (s)	31.5	114.0		18.7	101.2	110.9	18.6	18.6	35.3	7.7	7.7	37.2
Actuated g/C Ratio	0.18	0.63		0.10	0.56	0.62	0.10	0.10	0.20	0.04	0.04	0.21
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)	309	3180		356	2858	975	354	192	310	71	73	327
v/s Ratio Prot	c0.16	c0.43		0.09	0.29	c0.02	0.03	c0.08	0.01	0.01	0.01	0.00
v/s Ratio Perm						0.22			0.01			0.00
v/c Ratio	0.90	0.68		0.90	0.51	0.40	0.28	0.77	0.12	0.31	0.30	0.01
Uniform Delay, d1	72.7	21.3		79.7	24.2	17.6	74.5	78.6	59.6	83.6	83.5	56.8
Progression Factor	1.00	1.00		0.99	0.80	0.47	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.0	1.2		22.1	0.6	0.1	0.2	15.0	0.1	0.9	0.8	0.0
Delay (s)	98.6	22.5		101.2	19.9	8.3	74.6	93.6	59.7	84.5	84.4	56.8
Level of Service	F	C		F	B	A	E	F	E	F	F	E
Approach Delay (s)		31.1			28.9			74.3			75.2	
Approach LOS		C			C			E			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			34.3	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			180.0	Sum of lost time (s)				23.0				
Intersection Capacity Utilization			73.3%	ICU Level of Service				D				
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

	→	↘	←	↙	↘
Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	1413	779	1505	542	742
v/c Ratio	0.28	0.49	0.51	0.83	0.72
Control Delay	0.1	2.7	15.9	62.1	52.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	0.1	2.7	15.9	62.1	52.1
Queue Length 50th (ft)	0	38	378	581	427
Queue Length 95th (ft)	0	62	435	653	448
Internal Link Dist (ft)	548		319		
Turn Bay Length (ft)	150				
Base Capacity (vph)	5085	1583	2947	889	1401
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	0.28	0.49	0.51	0.61	0.53
<b>Intersection Summary</b>					

# HCM Signalized Intersection Capacity Analysis

2: Hillsboro Bvd & I-95 SB RAMP

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	
Lane Configurations		↑↑↑	↑		↑↑↑		↑		↑↑			
Traffic Volume (vph)	0	1300	740	0	1385	0	515	0	705	0	0	
Future Volume (vph)	0	1300	740	0	1385	0	515	0	705	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	1413	779	0	1505	0	542	0	742	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	1413	779	0	1505	0	542	0	742	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		102.3		64.7		64.7			
Effective Green, g (s)		180.0	180.0		104.3		66.7		66.7			
Actuated g/C Ratio		1.00	1.00		0.58		0.37		0.37			
Clearance Time (s)					6.5		6.5		6.5			
Vehicle Extension (s)					3.0		2.5		2.5			
Lane Grp Cap (vph)		5085	1583		2946		655		1032			
v/s Ratio Prot		0.28			0.30		c0.31		0.27			
v/s Ratio Perm			c0.49									
v/c Ratio		0.28	0.49		0.51		0.83		0.72			
Uniform Delay, d1		0.0	0.0		22.6		51.4		48.6			
Progression Factor		1.00	1.00		0.64		1.00		1.00			
Incremental Delay, d2		0.1	0.8		0.6		8.3		2.3			
Delay (s)		0.1	0.8		15.0		59.7		50.9			
Level of Service		A	A		B		E		D			
Approach Delay (s)		0.4			15.0			54.6		0.0		
Approach LOS		A			B			D		A		
<b>Intersection Summary</b>												
HCM 2000 Control Delay			18.8								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)	9.0
Intersection Capacity Utilization			58.9%								ICU Level of Service	B
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

# Queues

3: I-95 NB Ramp & Hillsboro Blvd













	→	←	↖	↗	
Lane Group	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	1364	1549	772	641	758
v/c Ratio	0.47	0.54	0.49	0.36	0.73
Control Delay	9.1	7.2	1.4	21.1	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	7.2	1.4	21.1	27.3
Queue Length 50th (ft)	106	124	2	92	194
Queue Length 95th (ft)	243	m163	m0	110	242
Internal Link Dist (ft)	286	371			
Turn Bay Length (ft)			250	350	350
Base Capacity (vph)	2886	2886	1568	2106	1205
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	0.54	0.49	0.30	0.63

## Intersection Summary

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












# HCM Signalized Intersection Capacity Analysis

3: I-95 NB Ramp & Hillsboro Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↑	↑↑↑		↑↑			
Traffic Volume (vph)	0	1255	0	0	1425	710	590	0	720	0	0	0
Future Volume (vph)	0	1255	0	0	1425	710	590	0	720	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			
Flt		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	1364	0	0	1549	772	641	0	758	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	32	0	0	0
Lane Group Flow (vph)	0	1364	0	0	1549	772	641	0	726	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)		49.1			49.1	90.0	30.4		30.4			
Effective Green, g (s)		51.1			51.1	90.0	32.4		32.4			
Actuated g/C Ratio		0.57			0.57	1.00	0.36		0.36			
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)		2887			2887	1568	1796		1003			
v/s Ratio Prot		0.27			c0.30		0.13		c0.26			
v/s Ratio Perm						0.49						
v/c Ratio		0.47			0.54	0.49	0.36		0.72			
Uniform Delay, d1		11.5			12.1	0.0	21.1		24.9			
Progression Factor		0.71			0.54	1.00	1.00		1.00			
Incremental Delay, d2		0.5			0.3	0.5	0.1		2.6			
Delay (s)		8.6			6.9	0.5	21.3		27.5			
Level of Service		A			A	A	C		C			
Approach Delay (s)		8.6			4.8			24.7			0.0	
Approach LOS		A			A			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.3			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			6.5			
Intersection Capacity Utilization			56.5%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

4: SW Natura Boulevard/Fairway Drive & Hillsboro Blvd

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	315	1717	114	76	1902	435	87	147	33	5	71
v/c Ratio	0.96	0.51	0.10	0.60	0.68	1.76	0.35	0.43	0.40	0.08	0.32
Control Delay	106.7	14.2	1.5	100.5	30.4	395.7	76.5	13.6	80.1	87.0	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.7	14.2	1.5	100.5	30.4	395.7	76.5	13.6	80.1	87.0	3.8
Queue Length 50th (ft)	393	277	4	88	578	~697	96	0	33	6	0
Queue Length 95th (ft)	#587	368	19	150	630	#924	160	72	70	22	0
Internal Link Dist (ft)		660			631		513			403	
Turn Bay Length (ft)	300		150	100		125					340
Base Capacity (vph)	331	3393	1099	149	2792	247	558	577	82	393	470
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.51	0.10	0.51	0.68	1.76	0.16	0.25	0.40	0.01	0.15




























## 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

4: SW Natura Boulevard/Fairway Drive & Hillsboro Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	290	1580	105	70	1670	80	400	80	135	30	5	65
Future Volume (vph)	290	1580	105	70	1670	80	400	80	135	30	5	65
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		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5050		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.41	1.00	1.00	0.70	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5050		767	1863	1583	1305	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)	315	1717	114	76	1815	87	435	87	147	33	5	71
RTOR Reduction (vph)	0	0	39	0	2	0	0	0	127	0	0	68
Lane Group Flow (vph)	315	1717	75	76	1900	0	435	87	20	33	5	3
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6				4		4	8		8
Actuated Green, G (s)	31.5	117.0	117.0	10.8	96.3		33.2	24.0	24.0	10.4	7.2	7.2
Effective Green, g (s)	33.5	119.0	119.0	12.8	98.3		33.2	24.0	24.0	10.4	7.2	7.2
Actuated g/C Ratio	0.19	0.66	0.66	0.07	0.55		0.18	0.13	0.13	0.06	0.04	0.04
Clearance Time (s)	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		1.5	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	329	3361	1046	125	2757		252	248	211	83	74	63
v/s Ratio Prot	c0.18	0.34		0.04	c0.38		c0.19	0.05		0.01	0.00	
v/s Ratio Perm			0.05				c0.13		0.01	0.02		0.00
v/c Ratio	0.96	0.51	0.07	0.61	0.69		1.73	0.35	0.09	0.40	0.07	0.05
Uniform Delay, d1	72.5	15.6	10.9	81.2	29.7		71.1	70.9	68.4	81.4	83.2	83.1
Progression Factor	0.99	0.90	1.27	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	34.5	0.5	0.1	5.6	1.4		343.0	0.3	0.1	1.1	0.1	0.1
Delay (s)	106.4	14.5	13.9	86.8	31.2		414.1	71.2	68.5	82.6	83.3	83.2
Level of Service	F	B	B	F	C		F	E	E	F	F	F
Approach Delay (s)		27.9			33.3			293.5			83.0	
Approach LOS		C			C			F			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			67.6			HCM 2000 Level of Service		E				
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			180.0			Sum of lost time (s)		21.0				
Intersection Capacity Utilization			91.4%			ICU Level of Service		F				
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

1: S Military Trail & SR 869/SW 10th Street

























												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	342	2413	109	332	1516	326	201	870	630	478	598	310
v/c Ratio	1.03	1.11	0.12	0.83	0.96	0.35	0.76	1.23	1.12	1.22	0.71	0.20
Control Delay	122.6	97.9	1.1	75.0	56.9	4.6	86.7	162.5	105.7	174.2	57.8	0.3
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	122.6	97.9	1.1	75.0	56.9	4.6	86.7	162.5	105.7	174.2	57.8	0.3
Queue Length 50th (ft)	~184	~986	0	169	741	38	101	~550	~463	~295	284	0
Queue Length 95th (ft)	#288	#1072	12	#239	#916	86	#159	#685	#708	#411	355	0
Internal Link Dist (ft)		620			1001			569			457	
Turn Bay Length (ft)	280		500	550		600	350			300		200
Base Capacity (vph)	331	2169	908	400	1580	934	263	710	560	391	842	1583
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	1.03	1.11	0.12	0.83	0.96	0.35	0.76	1.23	1.13	1.22	0.71	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.

# HCM Signalized Intersection Capacity Analysis

1: S Military Trail & SR 869/SW 10th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	315	2220	100	305	1395	300	185	800	580	440	550	285
Future Volume (vph)	315	2220	100	305	1395	300	185	800	580	440	550	285
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	2.0
Lane Util. Factor	0.97	0.91	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	5085	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	5085	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)	342	2413	109	332	1516	326	201	870	630	478	598	310
RTOR Reduction (vph)	0	0	54	0	0	65	0	0	54	0	0	0
Lane Group Flow (vph)	342	2413	55	332	1516	261	201	870	576	478	598	310
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Free
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases			6			2			4			Free
Actuated Green, G (s)	12.5	62.0	71.5	15.5	65.0	80.1	9.5	28.1	43.6	15.1	33.7	150.0
Effective Green, g (s)	14.5	64.0	75.5	17.5	67.0	84.1	11.5	30.1	47.6	17.1	35.7	150.0
Actuated g/C Ratio	0.10	0.43	0.50	0.12	0.45	0.56	0.08	0.20	0.32	0.11	0.24	1.00
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	
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	
Lane Grp Cap (vph)	331	2169	796	400	1580	887	263	710	502	391	842	1583
v/s Ratio Prot	0.10	c0.47	0.01	0.10	0.43	0.03	0.06	c0.25	c0.13	c0.14	0.17	
v/s Ratio Perm			0.03			0.13			0.23			c0.20
v/c Ratio	1.03	1.11	0.07	0.83	0.96	0.29	0.76	1.23	1.15	1.22	0.71	0.20
Uniform Delay, d1	67.8	43.0	19.2	64.8	40.2	17.3	67.9	59.9	51.2	66.5	52.4	0.0
Progression Factor	1.00	1.00	1.00	0.90	1.07	0.70	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	58.3	57.8	0.0	11.9	14.1	0.1	11.2	113.7	87.5	121.0	2.8	0.3
Delay (s)	126.1	100.8	19.2	70.1	57.0	12.1	79.2	173.7	138.7	187.5	55.2	0.3
Level of Service	F	F	B	E	E	B	E	F	F	F	E	A
Approach Delay (s)		100.7			52.3			149.6			88.6	
Approach LOS		F			D			F			F	









## Intersection Summary

HCM 2000 Control Delay	95.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	21.3
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

# Queues

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































								
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	304	2679	538	391	2033	359	141	141
v/c Ratio	0.64	0.74	0.47	0.64	0.42	0.31	0.21	0.34
Control Delay	34.1	6.2	2.6	31.9	3.0	2.3	7.6	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	6.2	2.6	31.9	3.0	2.3	7.6	9.8
Queue Length 50th (ft)	93	187	42	102	59	23	1	1
Queue Length 95th (ft)	m82	m106	m33	m113	m60	m27	21	22
Internal Link Dist (ft)	900			925				
Turn Bay Length (ft)	460		400	750		500	120	
Base Capacity (vph)	493	3631	1149	640	4815	1162	687	430
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.74	0.47	0.61	0.42	0.31	0.21	0.33

## Intersection Summary

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)	280	2465	495	360	1870	330	0	0	130	0	0	130
Future Volume (vph)	280	2465	495	360	1870	330	0	0	130	0	0	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0			6.0			6.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.86	1.00			0.76			0.76
Frt	1.00	1.00	0.85	1.00	1.00	0.85			0.85			0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (prot)	3367	5085	1583	3433	6408	1524			3610			2630
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (perm)	3367	5085	1583	3433	6408	1524			3610			2630
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)	304	2679	538	391	2033	359	0	0	141	0	0	141
RTOR Reduction (vph)	0	0	19	0	0	17	0	0	111	0	0	116
Lane Group Flow (vph)	304	2679	519	391	2033	342	0	0	30	0	0	25
Heavy Vehicles (%)	4%	2%	2%	2%	2%	6%	2%	2%	2%	18%	2%	40%
Turn Type	Prot	NA	Perm	Prot	NA	Perm			Over			Over
Protected Phases	1	6		5	2				5			1
Permitted Phases			6			2						
Actuated Green, G (s)	8.6	51.6	51.6	11.4	54.4	54.4			11.4			8.6
Effective Green, g (s)	10.6	53.6	53.6	13.4	56.4	56.4			11.4			8.6
Actuated g/C Ratio	0.14	0.71	0.71	0.18	0.75	0.75			0.15			0.11
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	3.0	2.5	3.0	3.0			2.5			1.5
Lane Grp Cap (vph)	475	3634	1131	613	4818	1146			548			301
v/s Ratio Prot	0.09	c0.53		c0.11	0.32				0.01			0.01
v/s Ratio Perm			0.33			0.22						
v/c Ratio	0.64	0.74	0.46	0.64	0.42	0.30			0.05			0.08
Uniform Delay, d1	30.4	6.5	4.5	28.6	3.4	3.0			27.2			29.7
Progression Factor	1.10	0.91	0.59	1.00	0.82	0.76			1.00			1.00
Incremental Delay, d2	0.2	0.1	0.0	1.3	0.2	0.5			0.0			0.0
Delay (s)	33.7	5.9	2.7	29.8	3.0	2.7			27.2			29.7
Level of Service	C	A	A	C	A	A			C			C
Approach Delay (s)		7.8			6.7			27.2			29.7	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			8.2				HCM 2000 Level of Service		A			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			75.0				Sum of lost time (s)		10.0			
Intersection Capacity Utilization			64.6%				ICU Level of Service		C			
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

3: SR 869/SW 10th Street & I-95 SB Off-Ramp













	→	↘	↙	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	2130	668	616	1848	337	905
v/c Ratio	0.97	0.42	0.64	0.58	0.31	1.02
Control Delay	46.1	0.6	23.0	7.0	39.7	86.1
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	46.1	0.6	23.0	7.2	39.7	86.1
Queue Length 50th (ft)	450	0	138	219	128	~533
Queue Length 95th (ft)	#570	0	208	204	172	#679
Internal Link Dist (ft)	925			635		
Turn Bay Length (ft)		500	305		500	500
Base Capacity (vph)	2192	1583	970	3169	1089	884
Starvation Cap Reductn	0	0	0	400	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.42	0.64	0.67	0.31	1.02

## 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

3: SR 869/SW 10th Street & I-95 SB Off-Ramp

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗	↘↗	↑↑↑					↘↗		↗
Traffic Volume (vph)	0	1960	635	585	1700	0	0	0	0	320	0	860
Future Volume (vph)	0	1960	635	585	1700	0	0	0	0	320	0	860
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	2.0	4.0	4.5					4.4		4.4
Lane Util. Factor		0.81	1.00	0.97	0.91					0.97		0.88
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)		7544	1583	3433	5085					3433		2787
Flt Permitted		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (perm)		7544	1583	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	2130	668	616	1848	0	0	0	0	337	0	905
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2130	668	616	1848	0	0	0	0	337	0	905
Turn Type		NA	Free	Prot	NA					Prot		Perm
Protected Phases		6		5 4	2 4					3		
Permitted Phases			Free									3
Actuated Green, G (s)		41.6	150.0	38.0	91.5					45.6		45.6
Effective Green, g (s)		43.6	150.0	42.0	89.1					47.6		47.6
Actuated g/C Ratio		0.29	1.00	0.28	0.59					0.32		0.32
Clearance Time (s)		6.0								6.4		6.4
Vehicle Extension (s)		3.0								2.0		2.0
Lane Grp Cap (vph)		2192	1583	961	3020					1089		884
v/s Ratio Prot		c0.28		c0.18	c0.36					0.10		
v/s Ratio Perm			0.42									c0.32
v/c Ratio		0.97	0.42	0.64	0.61					0.31		1.02
Uniform Delay, d1		52.6	0.0	47.4	19.4					38.8		51.2
Progression Factor		0.67	1.00	0.79	0.37					1.00		1.00
Incremental Delay, d2		10.6	0.6	1.4	0.4					0.1		36.4
Delay (s)		45.7	0.6	38.9	7.6					38.8		87.6
Level of Service		D	A	D	A					D		F
Approach Delay (s)		34.9			15.4			0.0			74.4	
Approach LOS		C			B			A			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			35.1			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				16.8		
Intersection Capacity Utilization			70.3%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

# Queues

4: I-95 NB On/Off-Ramp & SR 869/SW 10th Street

	→	↘	←	↙	↖	↗
Lane Group	EBT	EBR	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	1185	1253	1777	284	684	442
v/c Ratio	0.38	0.45	0.32	0.18	0.69	0.61
Control Delay	4.3	7.8	4.2	0.2	59.7	58.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.3	7.8	4.2	0.2	59.7	58.9
Queue Length 50th (ft)	101	350	63	0	222	175
Queue Length 95th (ft)	m113	m375	86	0	270	225
Internal Link Dist (ft)	635		630			
Turn Bay Length (ft)		700			410	430
Base Capacity (vph)	3105	2787	5587	1583	998	722
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.45	0.32	0.18	0.69	0.61













## Intersection Summary

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



# HCM Signalized Intersection Capacity Analysis













4: I-95 NB On/Off-Ramp & SR 869/SW 10th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗↗		↑↑↑↑	↗	↗↗↗		↗↗↗			
Traffic Volume (vph)	0	1090	1190	0	1635	270	650	0	420	0	0	0
Future Volume (vph)	0	1090	1190	0	1635	270	650	0	420	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	2.0		4.5	2.0	4.4		4.4			
Lane Util. Factor		0.91	0.88		0.81	1.00	0.94		0.76			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	2787		7544	1583	4990		3610			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	2787		7544	1583	4990		3610			
Peak-hour factor, PHF	0.92	0.92	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1185	1253	0	1777	284	684	0	442	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1185	1253	0	1777	284	684	0	442	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Prot			
Protected Phases		6 3			2 3		4		4			
Permitted Phases			Free			Free						
Actuated Green, G (s)		87.2	150.0		109.2	150.0	28.0		28.0			
Effective Green, g (s)		91.2	150.0		111.2	150.0	30.0		30.0			
Actuated g/C Ratio		0.61	1.00		0.74	1.00	0.20		0.20			
Clearance Time (s)							6.4		6.4			
Vehicle Extension (s)							3.5		3.5			
Lane Grp Cap (vph)		3091	2787		5592	1583	998		722			
v/s Ratio Prot		0.23			0.24		c0.14		0.12			
v/s Ratio Perm			c0.45			0.18						
v/c Ratio		0.38	0.45		0.32	0.18	0.69		0.61			
Uniform Delay, d1		15.0	0.0		6.6	0.0	55.6		54.7			
Progression Factor		0.51	1.00		0.62	1.00	1.00		1.00			
Incremental Delay, d2		0.0	0.2		0.0	0.2	2.0		1.6			
Delay (s)		7.6	0.2		4.1	0.2	57.7		56.3			
Level of Service		A	A		A	A	E		E			
Approach Delay (s)		3.8			3.5			57.1			0.0	
Approach LOS		A			A			E			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			14.4				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			150.0				Sum of lost time (s)		18.8			
Intersection Capacity Utilization			51.4%				ICU Level of Service		A			
Analysis Period (min)			15									

c Critical Lane Group

# Queues

## 5: Research Park Boulevard/SW Natura Boulevard & SR 869/SW 10th Street


































												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	207	1163	272	103	1549	87	217	141	130	239	163	304
v/c Ratio	0.67	0.51	0.32	0.38	0.75	0.11	0.68	0.38	0.29	0.67	0.70	0.64
Control Delay	45.8	18.5	6.0	37.0	22.2	0.3	32.8	34.1	1.6	30.7	48.6	10.2
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	45.8	18.5	6.0	37.0	22.2	0.3	32.8	34.1	1.6	30.7	48.6	10.2
Queue Length 50th (ft)	51	169	31	23	225	0	77	32	0	85	73	0
Queue Length 95th (ft)	76	187	52	46	281	0	#138	58	0	147	#148	60
Internal Link Dist (ft)		630			1233			1112			1327	
Turn Bay Length (ft)	200		370	200		200	260		260	170		170
Base Capacity (vph)	311	2260	854	274	2065	770	329	401	462	374	255	492
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	0.67	0.51	0.32	0.38	0.75	0.11	0.66	0.35	0.28	0.64	0.64	0.62

### Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

5: Research Park Boulevard/SW Natura Boulevard & SR 869/SW 10th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (vph)	190	1070	250	95	1425	80	200	130	120	220	150	280
Future Volume (vph)	190	1070	250	95	1425	80	200	130	120	220	150	280
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	0.65	1.00	1.00	0.56	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1218	3539	1583	1050	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)	207	1163	272	103	1549	87	217	141	130	239	163	304
RTOR Reduction (vph)	0	0	156	0	0	53	0	0	116	0	0	266
Lane Group Flow (vph)	207	1163	116	103	1549	34	217	141	14	239	163	38
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)	6.0	30.0	30.0	3.2	27.2	27.2	16.2	8.0	8.0	19.0	9.4	9.4
Effective Green, g (s)	8.0	32.0	32.0	5.2	29.2	29.2	16.2	8.0	8.0	19.0	9.4	9.4
Actuated g/C Ratio	0.11	0.43	0.43	0.07	0.39	0.39	0.22	0.11	0.11	0.25	0.13	0.13
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)	366	2169	675	238	1979	616	323	377	168	358	233	198
v/s Ratio Prot	0.06	c0.23		0.03	c0.30		0.07	0.04		c0.09	c0.09	
v/s Ratio Perm			0.07			0.02	0.07		0.01	0.08		0.02
v/c Ratio	0.57	0.54	0.17	0.43	0.78	0.05	0.67	0.37	0.08	0.67	0.70	0.19
Uniform Delay, d1	31.8	16.0	13.3	33.5	20.1	14.3	26.3	31.2	30.2	24.2	31.4	29.4
Progression Factor	1.08	1.12	3.32	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.9	0.5	0.5	3.2	0.2	4.3	0.2	0.1	3.6	7.2	0.2
Delay (s)	35.6	18.7	44.7	33.9	23.3	14.5	30.6	31.4	30.3	27.8	38.7	29.6
Level of Service	D	B	D	C	C	B	C	C	C	C	D	C
Approach Delay (s)		25.2			23.5			30.7			31.1	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.0	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			75.0	Sum of lost time (s)				20.2				
Intersection Capacity Utilization			69.1%	ICU Level of Service				C				
Analysis Period (min)			15									

c Critical Lane Group

# Queues

1: NW 5th Terr & Sample Road

	→	↙	←	↘	↗
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2299	152	1821	147	190
v/c Ratio	0.54	0.64	0.48	0.68	0.53
Control Delay	17.1	62.0	1.6	65.1	11.8
Queue Delay	0.0	1.4	0.1	0.0	0.0
Total Delay	17.1	63.4	1.7	65.1	11.8
Queue Length 50th (ft)	257	84	27	111	0
Queue Length 95th (ft)	325	#155	27	170	64
Internal Link Dist (ft)	575		175	531	
Turn Bay Length (ft)					
Base Capacity (vph)	4265	236	3824	545	619
Starvation Cap Reductn	0	18	458	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.70	0.54	0.27	0.31

## Intersection Summary

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







# HCM Signalized Intersection Capacity Analysis

1: NW 5th Terr & Sample Road

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	>		>	>	>	>
Traffic Volume (vph)	2010	105	140	1675	135	175
Future Volume (vph)	2010	105	140	1675	135	175
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)	7488		1770	5085	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	7488		1770	5085	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2185	114	152	1821	147	190
RTOR Reduction (vph)	5	0	0	0	0	167
Lane Group Flow (vph)	2294	0	152	1821	147	23
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2 3		1	1 2 3	4	
Permitted Phases					4	4
Actuated Green, G (s)	66.2		14.0	88.2	14.8	14.8
Effective Green, g (s)	68.2		16.0	90.2	14.8	14.8
Actuated g/C Ratio	0.57		0.13	0.75	0.12	0.12
Clearance Time (s)			8.0		9.0	9.0
Vehicle Extension (s)			1.5		2.0	2.0
Lane Grp Cap (vph)	4255		236	3822	218	195
v/s Ratio Prot	c0.31		c0.09	0.36	c0.08	
v/s Ratio Perm						0.01
v/c Ratio	0.54		0.64	0.48	0.67	0.12
Uniform Delay, d1	16.1		49.3	5.8	50.3	46.8
Progression Factor	1.00		1.00	0.20	1.00	1.00
Incremental Delay, d2	0.1		4.1	0.0	6.3	0.1
Delay (s)	16.2		53.6	1.2	56.6	46.9
Level of Service	B		D	A	E	D
Approach Delay (s)	16.2			5.2	51.1	
Approach LOS	B			A	D	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			14.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.61			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	27.0
Intersection Capacity Utilization			57.4%		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)	92	2283	1810	82	250	163
v/c Ratio	0.70	0.47	0.45	0.08	0.59	0.49
Control Delay	63.6	2.4	9.8	1.4	55.0	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.6	2.4	9.8	1.4	55.0	13.2
Queue Length 50th (ft)	70	26	182	2	95	5
Queue Length 95th (ft)	#153	43	251	m5	130	64
Internal Link Dist (ft)		175	1004		271	
Turn Bay Length (ft)				450		
Base Capacity (vph)	132	4818	4017	1023	1058	595
Starvation Cap Reductn	0	529	0	0	0	0
Spillback Cap Reductn	0	0	14	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.53	0.45	0.08	0.24	0.27

## 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: Sample Road & NW 5th Ave

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		  	  		 	 	
Traffic Volume (vph)	85	2100	1665	75	230	150	
Future Volume (vph)	85	2100	1665	75	230	150	
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)	92	2283	1810	82	250	163	
RTOR Reduction (vph)	0	0	0	31	0	137	
Lane Group Flow (vph)	92	2283	1810	51	250	26	
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	88.2	73.2	73.2	14.8	14.8	
Effective Green, g (s)	9.0	90.2	75.2	75.2	14.8	14.8	
Actuated g/C Ratio	0.08	0.75	0.63	0.63	0.12	0.12	
Clearance Time (s)	8.0				9.0	9.0	
Vehicle Extension (s)	1.5				2.0	2.0	
Lane Grp Cap (vph)	132	4816	4015	992	423	195	
v/s Ratio Prot	c0.05	c0.36	0.28		c0.07		
v/s Ratio Perm				0.03		0.02	
v/c Ratio	0.70	0.47	0.45	0.05	0.59	0.13	
Uniform Delay, d1	54.2	5.7	11.7	8.6	49.7	46.9	
Progression Factor	0.72	0.34	0.78	0.55	1.00	1.00	
Incremental Delay, d2	10.6	0.0	0.0	0.0	1.5	0.1	
Delay (s)	49.6	2.0	9.1	4.8	51.2	47.0	
Level of Service	D	A	A	A	D	D	
Approach Delay (s)		3.8	8.9		49.6		
Approach LOS		A	A		D		
<b>Intersection Summary</b>							
HCM 2000 Control Delay			9.9		HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio			0.56				
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	27.0	
Intersection Capacity Utilization			52.9%		ICU Level of Service	A	
Analysis Period (min)			15				

c Critical Lane Group

# Queues

3: Sample Road & I-95 SB RAMP












	→	↘	←	↙	↘
Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	1554	947	1391	442	484
v/c Ratio	0.43	0.60	0.48	0.52	0.70
Control Delay	5.3	7.8	7.1	21.9	26.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	7.8	7.1	21.9	26.7
Queue Length 50th (ft)	74	244	109	70	89
Queue Length 95th (ft)	124	360	144	108	138
Internal Link Dist (ft)	1004		259		
Turn Bay Length (ft)		250			
Base Capacity (vph)	3650	1583	2897	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	0.43	0.60	0.48	0.50	0.67
<b>Intersection Summary</b>					

2020AM Build 1\_Sample Road.syn



# HCM Signalized Intersection Capacity Analysis

3: Sample Road & I-95 SB RAMP

											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑↑	↑		↑↑↑		↑↑		↑↑		
Traffic Volume (vph)	0	1430	900	0	1280	0	420	0	460	0	0
Future Volume (vph)	0	1430	900	0	1280	0	420	0	460	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	1554	947	0	1391	0	442	0	484	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1554	947	0	1391	0	442	0	484	0	0
Turn Type		NA	Free		NA		Prot		Prot		
Protected Phases		6			2		3		3		
Permitted Phases			Free								
Actuated Green, G (s)		32.2	60.0		32.2		12.8		12.8		
Effective Green, g (s)		34.2	60.0		34.2		14.8		14.8		
Actuated g/C Ratio		0.57	1.00		0.57		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)		3652	1583		2898		846		687		
v/s Ratio Prot		0.24			0.27		0.13		0.17		
v/s Ratio Perm			c0.60								
v/c Ratio		0.43	0.60		0.48		0.52		0.70		
Uniform Delay, d1		7.3	0.0		7.6		19.5		20.6		
Progression Factor		0.67	1.00		0.85		1.00		1.00		
Incremental Delay, d2		0.3	1.5		0.5		0.4		3.1		
Delay (s)		5.2	1.5		6.9		20.0		23.7		
Level of Service		A	A		A		B		C		
Approach Delay (s)		3.8			6.9			21.9		0.0	
Approach LOS		A			A			C		A	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			8.2				HCM 2000 Level of Service			A	
HCM 2000 Volume to Capacity ratio			0.73								
Actuated Cycle Length (s)			60.0				Sum of lost time (s)			11.0	
Intersection Capacity Utilization			58.4%				ICU Level of Service			B	
Analysis Period (min)			15								

c Critical Lane Group

# Queues













	→	←	↖	↗	
Lane Group	EBT	WBT	WBR	NBL2	NBR
Lane Group Flow (vph)	1130	1848	463	495	358
v/c Ratio	0.38	0.62	0.29	0.63	0.56
Control Delay	5.2	4.7	0.2	24.7	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	4.7	0.2	24.7	24.0
Queue Length 50th (ft)	81	90	0	81	64
Queue Length 95th (ft)	56	m145	m0	124	104
Internal Link Dist (ft)	270	1155			
Turn Bay Length (ft)			250		
Base Capacity (vph)	2984	2984	1583	829	673
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	0.38	0.62	0.29	0.60	0.53

## Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis











4: I-95 NB RAMP & Sample Road

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER	
Lane Configurations		↑↑↑			↑↑↑	↑	↑↑		↑↑			
Traffic Volume (vph)	0	1040	0	0	1700	440	470	0	340	0	0	
Future Volume (vph)	0	1040	0	0	1700	440	470	0	340	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	1130	0	0	1848	463	495	0	358	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	1130	0	0	1848	463	495	0	358	0	0	
Turn Type		NA			NA	Free	Prot		Prot			
Protected Phases		6			2		4		4			
Permitted Phases						Free						
Actuated Green, G (s)		33.2			33.2	60.0	11.8		11.8			
Effective Green, g (s)		35.2			35.2	60.0	13.8		13.8			
Actuated g/C Ratio		0.59			0.59	1.00	0.23		0.23			
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)		2983			2983	1583	789		641			
v/s Ratio Prot		0.22			c0.36		c0.14		0.13			
v/s Ratio Perm						0.29						
v/c Ratio		0.38			0.62	0.29	0.63		0.56			
Uniform Delay, d1		6.6			8.1	0.0	20.8		20.4			
Progression Factor		0.72			0.51	1.00	1.00		1.00			
Incremental Delay, d2		0.3			0.5	0.2	1.4		0.8			
Delay (s)		5.1			4.6	0.2	22.1		21.3			
Level of Service		A			A	A	C		C			
Approach Delay (s)		5.1			3.7			21.8		0.0		
Approach LOS		A			A			C		A		
<b>Intersection Summary</b>												
HCM 2000 Control Delay			7.7								HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			60.0								Sum of lost time (s)	11.0
Intersection Capacity Utilization			53.5%								ICU Level of Service	A
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)	386	1114	49	1669	212	217	65	92	212	516
v/c Ratio	0.91	0.48	0.43	0.87	0.66	0.44	0.12	0.29	0.43	0.97
Control Delay	70.8	17.7	66.2	40.1	42.8	39.6	0.5	29.2	39.4	63.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.8	17.7	66.2	40.1	42.8	39.6	0.5	29.2	39.4	63.9
Queue Length 50th (ft)	147	203	37	437	117	138	0	47	135	293
Queue Length 95th (ft)	#243	263	79	505	183	214	0	86	209	#517
Internal Link Dist (ft)		1155		834		912			742	
Turn Bay Length (ft)	550		490		250		225	200		
Base Capacity (vph)	425	2311	116	1927	323	507	543	320	507	543
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	0.91	0.48	0.42	0.87	0.66	0.43	0.12	0.29	0.42	0.95

## Intersection Summary

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












# HCM Signalized Intersection Capacity Analysis

5: NE 3rd Ave & Sample Road

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	910	115	45	1470	65	195	200	60	85	195	475
Future Volume (vph)	355	910	115	45	1470	65	195	200	60	85	195	475
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	4951		1752	5004		1752	1845	1568	1752	1845	1568
Flt Permitted	0.95	1.00		0.95	1.00		0.51	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	3400	4951		1752	5004		945	1845	1568	930	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)	386	989	125	49	1598	71	212	217	65	92	212	516
RTOR Reduction (vph)	0	13	0	0	4	0	0	0	48	0	0	114
Lane Group Flow (vph)	386	1101	0	49	1665	0	212	217	17	92	212	402
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	52.3		4.8	44.1		36.9	31.9	31.9	36.9	31.9	31.9
Effective Green, g (s)	15.0	54.3		6.8	46.1		36.9	31.9	31.9	36.9	31.9	31.9
Actuated g/C Ratio	0.12	0.45		0.06	0.38		0.31	0.27	0.27	0.31	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	2240		99	1922		324	490	416	320	490	416
v/s Ratio Prot	c0.11	0.22		0.03	c0.33		c0.03	0.12		0.01	0.11	
v/s Ratio Perm							0.17		0.01	0.08		c0.26
v/c Ratio	0.91	0.49		0.49	0.87		0.65	0.44	0.04	0.29	0.43	0.97
Uniform Delay, d1	51.8	23.1		54.9	34.1		36.5	36.7	32.7	30.5	36.5	43.5
Progression Factor	0.88	0.75		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.1	0.7		1.4	5.6		3.6	0.2	0.0	0.2	0.2	35.0
Delay (s)	66.7	18.0		56.4	39.7		40.0	36.9	32.7	30.7	36.8	78.5
Level of Service	E	B		E	D		D	D	C	C	D	E
Approach Delay (s)		30.6			40.1			37.7			62.4	
Approach LOS		C			D			D			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			40.7				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			22.0		
Intersection Capacity Utilization			84.2%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

1: SW 12th Avenue & Hillsboro Blvd
































											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	43	2059	250	2234	54	223	11	332	268	276	337
v/c Ratio	0.42	0.86	1.25	0.93	0.05	0.64	0.06	0.89	0.83	0.84	0.67
Control Delay	67.2	33.8	191.8	26.2	0.1	60.0	47.6	59.8	68.4	69.0	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	33.8	191.8	26.2	0.1	60.0	47.6	59.8	68.4	69.0	17.9
Queue Length 50th (ft)	33	517	~128	405	0	87	8	192	208	215	69
Queue Length 95th (ft)	72	#701	m#213	#785	m0	124	26	#324	306	313	146
Internal Link Dist (ft)		580		548			436			396	
Turn Bay Length (ft)	450		375		350	225		250	200		
Base Capacity (vph)	103	2391	200	2410	1213	915	496	375	378	385	506
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.86	1.25	0.93	0.04	0.24	0.02	0.89	0.71	0.72	0.67

## 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 Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  		 		 		 	
Traffic Volume (vph)	40	1765	130	230	2055	50	205	10	305	410	90	310
Future Volume (vph)	40	1765	130	230	2055	50	205	10	305	410	90	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	4.0	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
Flt	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	5033		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	5033		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)	43	1918	141	250	2234	54	223	11	332	446	98	337
RTOR Reduction (vph)	0	5	0	0	0	17	0	0	74	0	0	144
Lane Group Flow (vph)	43	2054	0	250	2234	37	223	11	258	268	276	193
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	54.9		5.0	54.9	77.8	12.2	12.2	17.2	22.9	22.9	27.9
Effective Green, g (s)	7.0	56.9		7.0	56.9	81.8	12.2	12.2	17.2	22.9	22.9	27.9
Actuated g/C Ratio	0.06	0.47		0.06	0.47	0.68	0.10	0.10	0.14	0.19	0.19	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)	103	2386		200	2411	1079	349	189	226	320	327	368
v/s Ratio Prot	0.02	0.41		c0.07	c0.44	0.01	0.06	0.01	c0.05	0.16	c0.16	0.02
v/s Ratio Perm						0.02			0.12			0.10
v/c Ratio	0.42	0.86		1.25	0.93	0.03	0.64	0.06	1.14	0.84	0.84	0.52
Uniform Delay, d1	54.5	28.0		56.5	29.6	6.2	51.8	48.7	51.4	46.8	46.8	40.2
Progression Factor	1.00	1.00		1.19	0.61	0.02	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	4.4		139.8	6.0	0.0	2.8	0.0	103.8	16.4	17.1	0.6
Delay (s)	55.5	32.4		206.7	23.9	0.1	54.6	48.8	155.2	63.2	63.9	40.9
Level of Service	E	C		F	C	A	D	D	F	E	E	D
Approach Delay (s)		32.9			41.4			113.5			54.9	
Approach LOS		C			D			F			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			47.1	HCM 2000 Level of Service				D				
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				23.0				
Intersection Capacity Utilization			83.8%	ICU Level of Service				E				
Analysis Period (min)			15									
c Critical Lane Group												

## Queues

2: Hillsboro Bvd & I-95 SB RAMP

	→	↘	←	↙	↵
Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	1924	747	1978	574	542
v/c Ratio	0.38	0.47	0.72	0.85	0.51
Control Delay	0.1	0.7	19.4	45.9	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	0.1	0.7	19.4	45.9	29.5
Queue Length 50th (ft)	0	0	244	395	177
Queue Length 95th (ft)	0	m0	550	499	213
Internal Link Dist (ft)	548		319		
Turn Bay Length (ft)		150			
Base Capacity (vph)	5085	1583	2757	789	1242
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	0.38	0.47	0.72	0.73	0.44












### Intersection Summary

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



# HCM Signalized Intersection Capacity Analysis

2: Hillsboro Bvd & I-95 SB RAMP

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	
Lane Configurations		↑↑↑	↑		↑↑↑		↑		↑↑			
Traffic Volume (vph)	0	1770	710	0	1820	0	545	0	515	0	0	
Future Volume (vph)	0	1770	710	0	1820	0	545	0	515	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			
Flt		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	1924	747	0	1978	0	574	0	542	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	1924	747	0	1978	0	574	0	542	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)		120.0	120.0		63.1		43.9		43.9			
Effective Green, g (s)		120.0	120.0		65.1		45.9		45.9			
Actuated g/C Ratio		1.00	1.00		0.54		0.38		0.38			
Clearance Time (s)					6.5		6.5		6.5			
Vehicle Extension (s)					3.0		2.5		2.5			
Lane Grp Cap (vph)		5085	1583		2758		677		1066			
v/s Ratio Prot		0.38			c0.39		c0.32		0.19			
v/s Ratio Perm			0.47									
v/c Ratio		0.38	0.47		0.72		0.85		0.51			
Uniform Delay, d1		0.0	0.0		20.6		33.9		28.4			
Progression Factor		1.00	1.00		0.83		1.00		1.00			
Incremental Delay, d2		0.1	0.5		1.2		9.5		0.3			
Delay (s)		0.1	0.5		18.3		43.4		28.7			
Level of Service		A	A		B		D		C			
Approach Delay (s)		0.2			18.3			36.2		0.0		
Approach LOS		A			B			D		A		
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.4								HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			120.0								Sum of lost time (s)	9.0
Intersection Capacity Utilization			60.7%								ICU Level of Service	B
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

# Queues













	→	←	↖	↗	
Lane Group	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	1832	2152	696	685	716
v/c Ratio	0.62	0.73	0.44	0.44	0.79
Control Delay	10.3	9.4	0.5	17.6	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	9.4	0.5	17.6	24.9
Queue Length 50th (ft)	185	152	0	68	119
Queue Length 95th (ft)	188	m259	m0	96	#193
Internal Link Dist (ft)	286	371			
Turn Bay Length (ft)			250	350	350
Base Capacity (vph)	2960	2960	1568	1580	926
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	0.62	0.73	0.44	0.43	0.77

## 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

3: I-95 NB Ramp & Hillsboro Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↑	↑↑↑		↑↑			
Traffic Volume (vph)	0	1685	0	0	1980	640	630	0	680	0	0	0
Future Volume (vph)	0	1685	0	0	1980	640	630	0	680	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	1832	0	0	2152	696	685	0	716	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	44	0	0	0
Lane Group Flow (vph)	0	1832	0	0	2152	696	685	0	672	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)		32.9			32.9	60.0	16.6		16.6			
Effective Green, g (s)		34.9			34.9	60.0	18.6		18.6			
Actuated g/C Ratio		0.58			0.58	1.00	0.31		0.31			
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)		2957			2957	1568	1546		863			
v/s Ratio Prot		0.36			c0.42		0.14		c0.24			
v/s Ratio Perm						0.44						
v/c Ratio		0.62			0.73	0.44	0.44		0.78			
Uniform Delay, d1		8.2			9.1	0.0	16.6		18.8			
Progression Factor		1.12			0.91	1.00	1.00		1.00			
Incremental Delay, d2		0.9			1.0	0.5	0.2		4.5			
Delay (s)		10.1			9.2	0.5	16.8		23.3			
Level of Service		B			A	A	B		C			
Approach Delay (s)		10.1			7.1			20.1			0.0	
Approach LOS		B			A			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			60.0			Sum of lost time (s)			6.5			
Intersection Capacity Utilization			63.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

4: SW Natura Boulevard/Fairway Drive & Hillsboro Blvd




























											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	87	2207	277	130	2283	288	11	125	120	54	310
v/c Ratio	0.81	0.77	0.29	1.01	0.78	1.14	0.04	0.36	0.44	0.19	0.85
Control Delay	96.7	16.8	4.7	136.9	23.2	141.6	39.3	7.1	42.1	42.4	46.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.7	16.8	4.7	136.9	23.2	141.6	39.3	7.1	42.1	42.4	46.3
Queue Length 50th (ft)	65	389	33	~103	471	~238	7	0	77	37	129
Queue Length 95th (ft)	m#124	521	m103	#234	660	#294	23	36	116	68	215
Internal Link Dist (ft)		660			631		513			403	
Turn Bay Length (ft)	300		150	100		125					340
Base Capacity (vph)	107	2876	956	129	2934	253	574	588	275	589	600
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.77	0.29	1.01	0.78	1.14	0.02	0.21	0.44	0.09	0.52

## 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 Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	80	2030	255	120	2070	30	265	10	115	110	50	285
Future Volume (vph)	80	2030	255	120	2070	30	265	10	115	110	50	285
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		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5074		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.72	1.00	1.00	0.71	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5074		1345	1863	1583	1321	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)	87	2207	277	130	2250	33	288	11	125	120	54	310
RTOR Reduction (vph)	0	0	61	0	1	0	0	0	107	0	0	123
Lane Group Flow (vph)	87	2207	216	130	2282	0	288	11	18	120	54	187
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6				4		4	8		8
Actuated Green, G (s)	5.3	65.9	65.9	6.8	67.4		21.3	17.3	17.3	23.3	18.3	18.3
Effective Green, g (s)	7.3	67.9	67.9	8.8	69.4		21.3	17.3	17.3	23.3	18.3	18.3
Actuated g/C Ratio	0.06	0.57	0.57	0.07	0.58		0.18	0.14	0.14	0.19	0.15	0.15
Clearance Time (s)	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		1.5	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	107	2877	895	129	2934		252	268	228	275	284	241
v/s Ratio Prot	0.05	0.43		c0.07	c0.45		c0.04	0.01		0.02	0.03	
v/s Ratio Perm			0.14				c0.16		0.01	0.07		0.12
v/c Ratio	0.81	0.77	0.24	1.01	0.78		1.14	0.04	0.08	0.44	0.19	0.78
Uniform Delay, d1	55.7	20.0	13.1	55.6	19.4		48.8	44.2	44.5	42.1	44.4	48.9
Progression Factor	1.05	0.70	0.54	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	27.2	1.5	0.5	81.3	2.1		100.7	0.0	0.1	0.4	0.1	13.3
Delay (s)	85.9	15.5	7.6	136.9	21.5		149.6	44.2	44.5	42.5	44.5	62.2
Level of Service	F	B	A	F	C		F	D	D	D	D	E
Approach Delay (s)		17.0			27.7			115.9			55.3	
Approach LOS		B			C			F			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			31.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			21.0			
Intersection Capacity Utilization			86.7%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

1: S Military Trail & SR 869/SW 10th Street

























												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	375	1848	207	418	2397	500	152	658	332	245	897	495
v/c Ratio	1.22	0.76	0.22	0.86	1.28	0.49	0.95	1.03	0.55	1.18	1.31	0.31
Control Delay	178.2	35.2	5.8	66.2	161.3	9.0	128.7	103.2	19.9	176.5	194.9	0.5
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	178.2	35.2	5.8	66.2	161.3	9.0	128.7	103.2	19.9	176.5	194.9	0.5
Queue Length 50th (ft)	~230	541	27	212	~1574	146	77	~362	122	~147	~591	0
Queue Length 95th (ft)	#338	601	68	#284	#1672	111	#152	#491	203	#240	#726	0
Internal Link Dist (ft)		620			1001			569			457	
Turn Bay Length (ft)	280		500	550		600	350			300		200
Base Capacity (vph)	308	2416	934	498	1866	1030	160	637	609	208	686	1583
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	1.22	0.76	0.22	0.84	1.28	0.49	0.95	1.03	0.55	1.18	1.31	0.31

## 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

1: S Military Trail & SR 869/SW 10th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	345	1700	190	385	2205	460	140	605	305	225	825	455
Future Volume (vph)	345	1700	190	385	2205	460	140	605	305	225	825	455
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	2.0
Lane Util. Factor	0.97	0.91	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	5085	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	5085	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)	375	1848	207	418	2397	500	152	658	332	245	897	495
RTOR Reduction (vph)	0	0	71	0	0	61	0	0	91	0	0	0
Lane Group Flow (vph)	375	1848	136	418	2397	439	152	658	241	245	897	495
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Free
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases			6			2			4			Free
Actuated Green, G (s)	11.5	69.3	74.3	19.3	77.1	84.2	5.0	25.0	44.3	7.1	27.1	150.0
Effective Green, g (s)	13.5	71.3	78.3	21.3	79.1	88.2	7.0	27.0	48.3	9.1	29.1	150.0
Actuated g/C Ratio	0.09	0.48	0.52	0.14	0.53	0.59	0.05	0.18	0.32	0.06	0.19	1.00
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	
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	
Lane Grp Cap (vph)	308	2417	826	487	1866	993	160	637	509	208	686	1583
v/s Ratio Prot	c0.11	0.36	0.01	0.12	c0.68	0.03	0.04	c0.19	0.07	0.07	c0.25	
v/s Ratio Perm			0.08			0.25			0.09			0.31
v/c Ratio	1.22	0.76	0.16	0.86	1.28	0.44	0.95	1.03	0.47	1.18	1.31	0.31
Uniform Delay, d1	68.2	32.4	18.8	62.9	35.5	17.2	71.3	61.5	40.7	70.5	60.5	0.0
Progression Factor	1.00	1.00	1.00	0.85	0.93	0.73	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	123.8	2.4	0.0	10.0	131.0	0.1	55.2	44.4	0.3	118.7	148.8	0.5
Delay (s)	192.0	34.8	18.8	63.1	163.9	12.7	126.5	105.9	40.9	189.1	209.2	0.5
Level of Service	F	C	B	E	F	B	F	F	D	F	F	A
Approach Delay (s)		57.7			128.4			89.8			143.1	
Approach LOS		E			F			F			F	









## Intersection Summary

HCM 2000 Control Delay	105.9	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)	21.3
Intersection Capacity Utilization	115.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

# Queues

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

								
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	76	2277	71	109	2598	87	516	717
v/c Ratio	0.07	0.67	0.07	0.14	0.69	0.09	0.63	0.86
Control Delay	19.9	4.1	0.6	22.8	11.7	2.7	24.5	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	4.1	0.6	22.8	11.7	2.7	24.5	31.7
Queue Length 50th (ft)	19	105	0	24	306	11	72	113
Queue Length 95th (ft)	m24	m165	m6	m33	m343	m19	114	155
Internal Link Dist (ft)	900				925			
Turn Bay Length (ft)	460		400		750		500	
Base Capacity (vph)	1257	3457	1099	772	3754	928	821	997
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.66	0.06	0.14	0.69	0.09	0.63	0.72






























## Intersection Summary

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)	70	2095	65	100	2390	80	0	0	475	0	0	660
Future Volume (vph)	70	2095	65	100	2390	80	0	0	475	0	0	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0			6.0			6.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.86	1.00			0.76			0.76
Frt	1.00	1.00	0.85	1.00	1.00	0.85			0.85			0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (prot)	3367	5085	1583	3433	6408	1524			3610			2630
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (perm)	3367	5085	1583	3433	6408	1524			3610			2630
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)	76	2277	71	109	2598	87	0	0	516	0	0	717
RTOR Reduction (vph)	0	0	24	0	0	36	0	0	105	0	0	94
Lane Group Flow (vph)	76	2277	47	109	2598	51	0	0	411	0	0	623
Heavy Vehicles (%)	4%	2%	2%	2%	2%	6%	2%	2%	2%	18%	2%	40%
Turn Type	Prot	NA	Perm	Prot	NA	Perm			Over			Over
Protected Phases	1	6		5	2				5			1
Permitted Phases			6			2						
Actuated Green, G (s)	21.1	48.1	48.1	14.9	41.9	41.9			14.9			21.1
Effective Green, g (s)	23.1	50.1	50.1	16.9	43.9	43.9			14.9			21.1
Actuated g/C Ratio	0.31	0.67	0.67	0.23	0.59	0.59			0.20			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	3.0	2.5	3.0	3.0			2.5			1.5
Lane Grp Cap (vph)	1037	3396	1057	773	3750	892			717			739
v/s Ratio Prot	0.02	c0.45		0.03	c0.41				0.11			c0.24
v/s Ratio Perm			0.03			0.03						
v/c Ratio	0.07	0.67	0.04	0.14	0.69	0.06			0.57			0.84
Uniform Delay, d1	18.4	7.5	4.3	23.2	10.8	6.7			27.2			25.4
Progression Factor	1.16	0.46	0.68	0.95	0.96	1.54			1.00			1.00
Incremental Delay, d2	0.0	0.3	0.0	0.0	0.7	0.1			0.9			8.3
Delay (s)	21.2	3.7	2.9	22.1	11.1	10.4			28.1			33.7
Level of Service	C	A	A	C	B	B			C			C
Approach Delay (s)		4.3			11.5			28.1			33.7	
Approach LOS		A			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			12.6				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			75.0				Sum of lost time (s)		10.0			
Intersection Capacity Utilization			59.9%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

2020PM Build 1\_SW 10th Street.syn

# Queues

3: SR 869/SW 10th Street & I-95 SB Off-Ramp













	→	↘	↙	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	2092	679	605	1674	232	1084
v/c Ratio	1.09	0.43	0.57	0.56	0.19	1.10
Control Delay	86.9	0.6	48.1	9.7	34.2	105.4
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	86.9	0.6	48.1	9.9	34.2	105.4
Queue Length 50th (ft)	~572	0	0	201	80	~681
Queue Length 95th (ft)	#621	0	0	220	114	#831
Internal Link Dist (ft)	925			635		
Turn Bay Length (ft)		500	305		500	500
Base Capacity (vph)	1921	1583	1061	2986	1212	984
Starvation Cap Reductn	0	0	0	465	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.43	0.57	0.66	0.19	1.10

## 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

3: SR 869/SW 10th Street & I-95 SB Off-Ramp

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗	↘↗	↑↑↑					↘↗		↗
Traffic Volume (vph)	0	1925	645	575	1540	0	0	0	0	220	0	1030
Future Volume (vph)	0	1925	645	575	1540	0	0	0	0	220	0	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	2.0	4.0	4.5					4.4		4.4
Lane Util. Factor		0.81	1.00	0.97	0.91					0.97		0.88
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)		7544	1583	3433	5085					3433		2787
Flt Permitted		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (perm)		7544	1583	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	2092	679	605	1674	0	0	0	0	232	0	1084
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2092	679	605	1674	0	0	0	0	232	0	1084
Turn Type		NA	Free	Prot	NA					Prot		Perm
Protected Phases		6		5 4	2 4					3		
Permitted Phases			Free									3
Actuated Green, G (s)		36.2	150.0	44.4	86.1					51.0		51.0
Effective Green, g (s)		38.2	150.0	42.0	83.7					53.0		53.0
Actuated g/C Ratio		0.25	1.00	0.28	0.56					0.35		0.35
Clearance Time (s)		6.0								6.4		6.4
Vehicle Extension (s)		3.0								2.0		2.0
Lane Grp Cap (vph)		1921	1583	961	2837					1212		984
v/s Ratio Prot		c0.28		c0.18	c0.33					0.07		
v/s Ratio Perm			0.43									c0.39
v/c Ratio		1.09	0.43	0.63	0.59					0.19		1.10
Uniform Delay, d1		55.9	0.0	47.2	21.8					33.6		48.5
Progression Factor		0.74	1.00	1.05	0.47					1.00		1.00
Incremental Delay, d2		47.4	0.6	1.2	0.3					0.0		60.7
Delay (s)		88.8	0.6	50.9	10.6					33.7		109.2
Level of Service		F	A	D	B					C		F
Approach Delay (s)		67.2			21.3			0.0			95.9	
Approach LOS		E			C			A			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			56.7			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				16.8		
Intersection Capacity Utilization			73.2%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

# Queues

4: I-95 NB On/Off-Ramp & SR 869/SW 10th Street













	→	↘	←	↙	↖	↗
Lane Group	EBT	EBR	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	1397	905	1560	316	716	653
v/c Ratio	0.43	0.32	0.28	0.20	0.72	0.90
Control Delay	1.2	3.5	3.0	0.2	60.7	75.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.2	3.5	3.0	0.2	60.7	75.5
Queue Length 50th (ft)	4	61	42	0	234	276
Queue Length 95th (ft)	m4	m30	53	m0	283	#366
Internal Link Dist (ft)	635		630			
Turn Bay Length (ft)		700			410	430
Base Capacity (vph)	3240	2787	5587	1583	998	722
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.32	0.28	0.20	0.72	0.90

## 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













4: I-95 NB On/Off-Ramp & SR 869/SW 10th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗↗		↑↑↑↑	↗	↗↗↗		↗↗↗			
Traffic Volume (vph)	0	1285	860	0	1435	300	680	0	620	0	0	0
Future Volume (vph)	0	1285	860	0	1435	300	680	0	620	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	2.0		4.5	2.0	4.4		4.4			
Lane Util. Factor		0.91	0.88		0.81	1.00	0.94		0.76			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	2787		7544	1583	4990		3610			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	2787		7544	1583	4990		3610			
Peak-hour factor, PHF	0.92	0.92	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1397	905	0	1560	316	716	0	653	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1397	905	0	1560	316	716	0	653	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Prot			
Protected Phases		6 3			2 3		4		4			
Permitted Phases			Free			Free						
Actuated Green, G (s)		93.2	150.0		109.2	150.0	28.0		28.0			
Effective Green, g (s)		95.2	150.0		111.2	150.0	30.0		30.0			
Actuated g/C Ratio		0.63	1.00		0.74	1.00	0.20		0.20			
Clearance Time (s)							6.4		6.4			
Vehicle Extension (s)							3.5		3.5			
Lane Grp Cap (vph)		3227	2787		5592	1583	998		722			
v/s Ratio Prot		c0.27			0.21		0.14		c0.18			
v/s Ratio Perm			c0.32			0.20						
v/c Ratio		0.43	0.32		0.28	0.20	0.72		0.90			
Uniform Delay, d1		13.8	0.0		6.3	0.0	56.0		58.6			
Progression Factor		0.08	1.00		0.46	1.00	1.00		1.00			
Incremental Delay, d2		0.0	0.1		0.0	0.2	2.6		15.0			
Delay (s)		1.1	0.1		2.9	0.2	58.6		73.6			
Level of Service		A	A		A	A	E		E			
Approach Delay (s)		0.7			2.5			65.8			0.0	
Approach LOS		A			A			E			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.3				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			150.0				Sum of lost time (s)		18.8			
Intersection Capacity Utilization			55.2%				ICU Level of Service		B			
Analysis Period (min)			15									

c Critical Lane Group

# Queues

## 5: Research Park Boulevard/SW Natura Boulevard & SR 869/SW 10th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	277	1554	239	207	1250	120	266	98	120	239	245	370
v/c Ratio	0.70	0.81	0.32	0.69	0.71	0.17	0.88	0.25	0.26	0.56	0.84	0.72
Control Delay	43.5	14.0	2.1	46.2	23.9	0.6	54.7	32.5	1.4	24.2	56.8	14.9
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	43.5	14.0	2.1	46.2	23.9	0.6	54.7	32.5	1.4	24.2	56.8	14.9
Queue Length 50th (ft)	60	269	20	48	183	0	93	22	0	82	111	21
Queue Length 95th (ft)	m78	267	m26	#93	232	2	#190	45	0	141	#225	#108
Internal Link Dist (ft)		630			1233			1112			1327	
Turn Bay Length (ft)	200		370	200		200	260		260	170		170
Base Capacity (vph)	393	1908	743	302	1772	691	301	400	462	451	305	526
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	0.70	0.81	0.32	0.69	0.71	0.17	0.88	0.24	0.26	0.53	0.80	0.70

### 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

5: Research Park Boulevard/SW Natura Boulevard & SR 869/SW 10th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (vph)	255	1430	220	190	1150	110	245	90	110	220	225	340
Future Volume (vph)	255	1430	220	190	1150	110	245	90	110	220	225	340
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	0.61	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1130	3539	1583	709	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	1554	239	207	1250	120	266	98	120	239	245	370
RTOR Reduction (vph)	0	0	153	0	0	80	0	0	109	0	0	264
Lane Group Flow (vph)	277	1554	86	207	1250	40	266	98	11	239	245	106
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)	6.6	25.0	25.0	4.6	23.0	23.0	15.3	7.0	7.0	26.9	12.9	12.9
Effective Green, g (s)	8.6	27.0	27.0	6.6	25.0	25.0	15.3	7.0	7.0	26.9	12.9	12.9
Actuated g/C Ratio	0.11	0.36	0.36	0.09	0.33	0.33	0.20	0.09	0.09	0.36	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)	393	1830	569	302	1695	527	301	330	147	455	320	272
v/s Ratio Prot	0.08	c0.31		0.06	c0.25		c0.10	0.03		0.10	c0.13	
v/s Ratio Perm			0.05			0.03	0.08		0.01	0.09		0.07
v/c Ratio	0.70	0.85	0.15	0.69	0.74	0.08	0.88	0.30	0.08	0.53	0.77	0.39
Uniform Delay, d1	32.0	22.1	16.2	33.2	22.1	17.1	28.1	31.7	31.0	18.1	29.6	27.6
Progression Factor	1.09	0.50	0.61	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	4.3	0.5	5.1	2.9	0.3	24.3	0.2	0.1	0.5	9.4	0.3
Delay (s)	38.7	15.4	10.4	38.3	25.0	17.4	52.4	31.9	31.1	18.6	39.1	27.9
Level of Service	D	B	B	D	C	B	D	C	C	B	D	C
Approach Delay (s)		18.0			26.2			43.0			28.5	
Approach LOS		B			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			24.8	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			75.0	Sum of lost time (s)				20.2				
Intersection Capacity Utilization			75.3%	ICU Level of Service				D				
Analysis Period (min)			15									

c Critical Lane Group

# Queues

1: NW 5th Terr & Sample Road

	→	↙	←	↘	↗
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2544	261	2288	114	120
v/c Ratio	0.58	1.04	0.58	0.63	0.45
Control Delay	16.9	119.3	2.1	66.6	13.7
Queue Delay	0.0	20.3	0.1	0.0	0.0
Total Delay	16.9	139.7	2.3	66.6	13.7
Queue Length 50th (ft)	290	~191	48	86	0
Queue Length 95th (ft)	355	#380	30	142	54
Internal Link Dist (ft)	575		175	531	
Turn Bay Length (ft)					
Base Capacity (vph)	4365	250	3929	545	571
Starvation Cap Reductn	0	24	541	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	1.15	0.68	0.21	0.21

## 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

1: NW 5th Terr & Sample Road

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	>		>	>	>	>
Traffic Volume (vph)	2260	80	240	2105	105	110
Future Volume (vph)	2260	80	240	2105	105	110
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)	7505		1770	5085	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	7505		1770	5085	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2457	87	261	2288	114	120
RTOR Reduction (vph)	3	0	0	0	0	108
Lane Group Flow (vph)	2541	0	261	2288	114	12
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	2 3		1	1 2 3	4	
Permitted Phases					4	4
Actuated Green, G (s)	67.7		15.0	90.7	12.3	12.3
Effective Green, g (s)	69.7		17.0	92.7	12.3	12.3
Actuated g/C Ratio	0.58		0.14	0.77	0.10	0.10
Clearance Time (s)			8.0		9.0	9.0
Vehicle Extension (s)			1.5		2.0	2.0
Lane Grp Cap (vph)	4359		250	3928	181	162
v/s Ratio Prot	c0.34		c0.15	c0.45	c0.06	
v/s Ratio Perm						0.01
v/c Ratio	0.58		1.04	0.58	0.63	0.08
Uniform Delay, d1	15.9		51.5	5.6	51.7	48.7
Progression Factor	1.00		1.14	0.27	1.00	1.00
Incremental Delay, d2	0.1		63.7	0.1	4.9	0.1
Delay (s)	16.1		122.2	1.6	56.5	48.8
Level of Service	B		F	A	E	D
Approach Delay (s)	16.1			14.0	52.6	
Approach LOS	B			B	D	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			16.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	27.0
Intersection Capacity Utilization			63.9%		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)	179	2397	2391	272	185	158
v/c Ratio	1.10	0.48	0.59	0.25	0.53	0.52
Control Delay	134.3	2.0	10.6	0.9	55.9	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	134.3	2.0	10.6	0.9	55.9	13.8
Queue Length 50th (ft)	~158	23	283	1	71	0
Queue Length 95th (ft)	#309	35	382	m6	104	61
Internal Link Dist (ft)		175	1004		271	
Turn Bay Length (ft)				450		
Base Capacity (vph)	162	4952	4044	1099	1058	597
Starvation Cap Reductn	0	589	0	0	0	0
Spillback Cap Reductn	0	0	156	0	0	57
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.10	0.55	0.61	0.25	0.17	0.29

## 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

2: Sample Road & NW 5th Ave

							
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		  	  			 	
Traffic Volume (vph)	165	2205	2200	250	170	145	
Future Volume (vph)	165	2205	2200	250	170	145	
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)	179	2397	2391	272	185	158	
RTOR Reduction (vph)	0	0	0	100	0	142	
Lane Group Flow (vph)	179	2397	2391	172	185	16	
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)	9.0	90.7	73.7	73.7	12.3	12.3	
Effective Green, g (s)	11.0	92.7	75.7	75.7	12.3	12.3	
Actuated g/C Ratio	0.09	0.77	0.63	0.63	0.10	0.10	
Clearance Time (s)	8.0				9.0	9.0	
Vehicle Extension (s)	1.5				2.0	2.0	
Lane Grp Cap (vph)	162	4950	4042	998	351	162	
v/s Ratio Prot	c0.10	0.37	c0.37		c0.05		
v/s Ratio Perm				0.11		0.01	
v/c Ratio	1.10	0.48	0.59	0.17	0.53	0.10	
Uniform Delay, d1	54.5	5.0	13.0	9.2	51.1	48.8	
Progression Factor	0.72	0.32	0.75	0.40	1.00	1.00	
Incremental Delay, d2	95.4	0.0	0.1	0.0	0.7	0.1	
Delay (s)	134.4	1.6	9.9	3.7	51.8	48.9	
Level of Service	F	A	A	A	D	D	
Approach Delay (s)		10.9	9.3		50.5		
Approach LOS		B	A		D		
<b>Intersection Summary</b>							
HCM 2000 Control Delay			12.5		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			63.5%		ICU Level of Service	B	
Analysis Period (min)			15				

c Critical Lane Group

# Queues












	→	↘	←	↙	↘
Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	1908	653	1957	484	684
v/c Ratio	0.54	0.41	0.69	0.54	0.94
Control Delay	6.4	1.5	8.8	21.7	45.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	1.5	8.8	21.7	45.7
Queue Length 50th (ft)	102	6	123	77	137
Queue Length 95th (ft)	187	37	167	118	#243
Internal Link Dist (ft)	1004		259		
Turn Bay Length (ft)		250			
Base Capacity (vph)	3556	1583	2822	898	729
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	0.41	0.69	0.54	0.94

## Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

3: Sample Road & I-95 SB RAMP

											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑↑	↗		↑↑↑		↘		↗		
Traffic Volume (vph)	0	1755	620	0	1800	0	460	0	650	0	0
Future Volume (vph)	0	1755	620	0	1800	0	460	0	650	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	1908	653	0	1957	0	484	0	684	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1908	653	0	1957	0	484	0	684	0	0
Turn Type		NA	Free		NA		Prot		Prot		
Protected Phases		6			2		3		3		
Permitted Phases			Free								
Actuated Green, G (s)		31.3	60.0		31.3		13.7		13.7		
Effective Green, g (s)		33.3	60.0		33.3		15.7		15.7		
Actuated g/C Ratio		0.55	1.00		0.55		0.26		0.26		
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)		3556	1583		2822		898		729		
v/s Ratio Prot		0.30			c0.38		0.14		c0.25		
v/s Ratio Perm			0.41								
v/c Ratio		0.54	0.41		0.69		0.54		0.94		
Uniform Delay, d1		8.5	0.0		9.7		19.0		21.7		
Progression Factor		0.69	1.00		0.79		1.00		1.00		
Incremental Delay, d2		0.5	0.7		1.1		0.5		19.6		
Delay (s)		6.4	0.7		8.7		19.5		41.2		
Level of Service		A	A		A		B		D		
Approach Delay (s)		4.9			8.7			32.2		0.0	
Approach LOS		A			A			C		A	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			11.8				HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio			0.77								
Actuated Cycle Length (s)			60.0				Sum of lost time (s)		11.0		
Intersection Capacity Utilization			66.7%				ICU Level of Service		C		
Analysis Period (min)			15								

c Critical Lane Group

# Queues













	→	←	↖	↗	
Lane Group	EBT	WBT	WBR	NBL2	NBR
Lane Group Flow (vph)	1723	1717	358	1074	579
v/c Ratio	0.65	0.65	0.23	0.80	0.53
Control Delay	16.5	11.6	0.2	37.4	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	11.6	0.2	37.4	29.6
Queue Length 50th (ft)	352	139	0	372	192
Queue Length 95th (ft)	358	m147	m0	416	230
Internal Link Dist (ft)	270	1155			
Turn Bay Length (ft)			250		
Base Capacity (vph)	2638	2638	1583	1530	1242
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	0.65	0.65	0.23	0.70	0.47

## Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis











4: I-95 NB RAMP & Sample Road

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER	
Lane Configurations		↑↑↑			↑↑↑	↑	↑↑		↑↑			
Traffic Volume (vph)	0	1585	0	0	1580	340	1020	0	550	0	0	
Future Volume (vph)	0	1585	0	0	1580	340	1020	0	550	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	1723	0	0	1717	358	1074	0	579	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	1723	0	0	1717	358	1074	0	579	0	0	
Turn Type		NA			NA	Free	Prot		Prot			
Protected Phases		6			2		4		4			
Permitted Phases						Free						
Actuated Green, G (s)		60.3			60.3	120.0	44.7		44.7			
Effective Green, g (s)		62.3			62.3	120.0	46.7		46.7			
Actuated g/C Ratio		0.52			0.52	1.00	0.39		0.39			
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)		2639			2639	1583	1336		1084			
v/s Ratio Prot		c0.34			0.34		c0.31		0.21			
v/s Ratio Perm						0.23						
v/c Ratio		0.65			0.65	0.23	0.80		0.53			
Uniform Delay, d1		21.0			20.9	0.0	32.6		28.3			
Progression Factor		0.70			0.49	1.00	1.00		1.00			
Incremental Delay, d2		1.1			0.8	0.2	3.5		0.4			
Delay (s)		15.8			11.1	0.2	36.1		28.7			
Level of Service		B			B	A	D		C			
Approach Delay (s)		15.8			9.2			33.5		0.0		
Approach LOS		B			A			C		A		
<b>Intersection Summary</b>												
HCM 2000 Control Delay			18.6								HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			120.0								Sum of lost time (s)	11.0
Intersection Capacity Utilization			59.0%								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)	467	1854	98	1604	228	326	98	71	255	375
v/c Ratio	0.92	0.76	0.75	0.78	0.99	0.77	0.19	0.40	0.71	0.78
Control Delay	71.4	25.8	88.0	34.4	94.3	56.0	0.8	35.6	55.5	29.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.4	25.8	88.0	34.4	94.3	56.0	0.8	35.6	55.5	29.8
Queue Length 50th (ft)	197	258	76	386	141	243	0	40	186	118
Queue Length 95th (ft)	#290	420	#165	#537	#248	321	0	68	254	217
Internal Link Dist (ft)		1155		834		912			742	
Turn Bay Length (ft)	550		490		250		225	200		
Base Capacity (vph)	510	2436	131	2068	231	522	600	180	492	578
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	0.92	0.76	0.75	0.78	0.99	0.62	0.16	0.39	0.52	0.65























## Intersection Summary

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














# HCM Signalized Intersection Capacity Analysis

5: NE 3rd Ave & Sample Road

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	430	1525	180	90	1365	110	210	300	90	65	235	345
Future Volume (vph)	430	1525	180	90	1365	110	210	300	90	65	235	345
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	4956		1752	4979		1752	1845	1568	1752	1845	1568
Flt Permitted	0.95	1.00		0.95	1.00		0.32	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)	3400	4956		1752	4979		594	1845	1568	553	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)	467	1658	196	98	1484	120	228	326	98	71	255	375
RTOR Reduction (vph)	0	11	0	0	7	0	0	0	76	0	0	173
Lane Group Flow (vph)	467	1843	0	98	1597	0	228	326	22	71	255	202
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)	16.0	55.6		6.9	46.5		34.5	27.5	27.5	28.5	24.5	24.5
Effective Green, g (s)	18.0	57.6		8.9	48.5		34.5	27.5	27.5	28.5	24.5	24.5
Actuated g/C Ratio	0.15	0.48		0.07	0.40		0.29	0.23	0.23	0.24	0.20	0.20
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)	510	2378		129	2012		238	422	359	171	376	320
v/s Ratio Prot	c0.14	c0.37		0.06	0.32		c0.06	0.18		0.01	0.14	
v/s Ratio Perm							c0.22		0.01	0.08		0.13
v/c Ratio	0.92	0.78		0.76	0.79		0.96	0.77	0.06	0.42	0.68	0.63
Uniform Delay, d1	50.3	25.8		54.5	31.4		41.7	43.3	36.2	36.9	44.1	43.6
Progression Factor	1.02	0.92		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.6	2.0		20.1	3.3		45.8	7.8	0.0	0.6	3.8	2.8
Delay (s)	68.6	25.7		74.6	34.7		87.6	51.1	36.2	37.5	47.9	46.4
Level of Service	E	C		E	C		F	D	D	D	D	D
Approach Delay (s)		34.4			37.0			61.6			46.0	
Approach LOS		C			D			E			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			40.0				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			22.0		
Intersection Capacity Utilization			83.4%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

1: SW 12th Avenue & Hillsboro Blvd






























											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	315	2435	370	1641	505	109	152	261	27	27	27
v/c Ratio	0.97	0.77	1.02	0.59	0.46	0.30	0.77	0.49	0.36	0.35	0.07
Control Delay	113.8	27.5	121.7	21.1	6.4	75.1	102.4	16.2	95.6	95.0	0.4
Queue Delay	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.8	27.5	121.7	21.5	6.6	75.1	102.4	16.2	95.6	95.0	0.4
Queue Length 50th (ft)	375	724	~236	317	103	62	178	52	33	33	0
Queue Length 95th (ft)	#583	914	#353	354	118	93	255	140	72	72	1
Internal Link Dist (ft)		580		548			436			396	
Turn Bay Length (ft)	450		375		350	225		250	200		
Base Capacity (vph)	325	3147	364	2789	1230	610	331	528	252	257	385
Starvation Cap Reductn	0	0	0	497	190	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	0.97	0.77	1.02	0.72	0.49	0.18	0.46	0.49	0.11	0.11	0.07

## 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

1: SW 12th Avenue & Hillsboro Blvd












												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  		 			 		
Traffic Volume (vph)	290	2050	190	340	1510	465	100	140	240	40	10	25
Future Volume (vph)	290	2050	190	340	1510	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
Flt	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	5020		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	5020		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	2228	207	370	1641	505	109	152	261	43	11	27
RTOR Reduction (vph)	0	4	0	0	0	100	0	0	165	0	0	21
Lane Group Flow (vph)	315	2431	0	370	1641	405	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)	31.1	110.7		17.1	96.7	104.8	19.1	19.1	36.2	8.1	8.1	39.2
Effective Green, g (s)	33.1	112.7		19.1	98.7	108.8	19.1	19.1	36.2	8.1	8.1	39.2
Actuated g/C Ratio	0.18	0.63		0.11	0.55	0.60	0.11	0.11	0.20	0.04	0.04	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)	325	3143		364	2788	956	364	197	318	75	77	344
v/s Ratio Prot	c0.18	c0.48		0.11	0.32	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	0.97	0.77		1.02	0.59	0.42	0.30	0.77	0.30	0.36	0.35	0.02
Uniform Delay, d1	72.9	24.4		80.5	27.1	18.9	74.3	78.3	61.2	83.4	83.4	55.3
Progression Factor	1.00	1.00		0.98	0.73	0.63	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	40.9	1.9		46.4	0.7	0.1	0.2	15.5	0.2	1.1	1.0	0.0
Delay (s)	113.9	26.3		125.2	20.4	12.1	74.4	93.9	61.4	84.5	84.4	55.3
Level of Service	F	C		F	C	B	E	F	E	F	F	E
Approach Delay (s)		36.3			34.2			73.6			74.7	
Approach LOS		D			C			E			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			39.3				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			180.0				Sum of lost time (s)			23.0		
Intersection Capacity Utilization			83.4%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

	→	↘	←	↙	↵
Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	1565	937	1625	642	863
v/c Ratio	0.31	0.59	0.62	0.84	0.71
Control Delay	0.1	5.2	29.2	54.8	44.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	0.1	5.2	29.2	54.8	44.6
Queue Length 50th (ft)	0	116	369	668	471
Queue Length 95th (ft)	0	239	429	719	473
Internal Link Dist (ft)	548		319		
Turn Bay Length (ft)	150				
Base Capacity (vph)	5085	1583	2622	919	1447
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	0.31	0.59	0.62	0.70	0.60
<b>Intersection Summary</b>					

# HCM Signalized Intersection Capacity Analysis

2: Hillsboro Bvd & I-95 SB RAMP

											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑↑	↑		↑↑↑		↑		↑↑		
Traffic Volume (vph)	0	1440	890	0	1495	0	610	0	820	0	0
Future Volume (vph)	0	1440	890	0	1495	0	610	0	820	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		
Flt		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	1565	937	0	1625	0	642	0	863	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1565	937	0	1625	0	642	0	863	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		90.8		76.2		76.2		
Effective Green, g (s)		180.0	180.0		92.8		78.2		78.2		
Actuated g/C Ratio		1.00	1.00		0.52		0.43		0.43		
Clearance Time (s)					6.5		6.5		6.5		
Vehicle Extension (s)					3.0		2.5		2.5		
Lane Grp Cap (vph)		5085	1583		2621		768		1210		
v/s Ratio Prot		0.31			0.32		c0.36		0.31		
v/s Ratio Perm			c0.59								
v/c Ratio		0.31	0.59		0.62		0.84		0.71		
Uniform Delay, d1		0.0	0.0		31.0		45.2		41.7		
Progression Factor		1.00	1.00		0.86		1.00		1.00		
Incremental Delay, d2		0.1	1.1		1.0		7.7		1.9		
Delay (s)		0.1	1.1		27.8		52.9		43.6		
Level of Service		A	A		C		D		D		
Approach Delay (s)		0.5			27.8			47.6		0.0	
Approach LOS		A			C			D		A	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			20.9				HCM 2000 Level of Service		C		
HCM 2000 Volume to Capacity ratio			0.72								
Actuated Cycle Length (s)			180.0				Sum of lost time (s)		9.0		
Intersection Capacity Utilization			65.1%				ICU Level of Service		C		
Analysis Period (min)			15								
! Phase conflict between lane groups.											
c Critical Lane Group											

# Queues













	→	←	↖	↗	
Lane Group	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	1511	1734	880	707	842
v/c Ratio	0.55	0.63	0.56	0.37	0.77
Control Delay	14.4	9.8	1.8	20.1	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	9.8	1.8	20.1	28.0
Queue Length 50th (ft)	289	222	31	97	215
Queue Length 95th (ft)	255	m256	m0	121	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	0.55	0.63	0.56	0.34	0.70

## Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis












3: I-95 NB Ramp & Hillsboro Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑	↑	↑↑↑		↑↑			
Traffic Volume (vph)	0	1390	0	0	1595	810	650	0	800	0	0	0
Future Volume (vph)	0	1390	0	0	1595	810	650	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	1511	0	0	1734	880	707	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	1511	0	0	1734	880	707	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		0.30			c0.34		0.14		c0.29			
v/s Ratio Perm						0.56						
v/c Ratio		0.55			0.63	0.56	0.37		0.76			
Uniform Delay, d1		13.3			14.2	0.0	19.9		24.2			
Progression Factor		0.99			0.64	1.00	1.00		1.00			
Incremental Delay, d2		0.7			0.3	0.4	0.1		3.3			
Delay (s)		13.9			9.4	0.4	20.1		27.5			
Level of Service		B			A	A	C		C			
Approach Delay (s)		13.9			6.4			24.1			0.0	
Approach LOS		B			A			C			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.2			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			61.9%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

2040AM Build 1\_Hillsboro Blvd.syn

# Queues

4: SW Natura Boulevard/Fairway Drive & Hillsboro Blvd

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	342	1908	130	87	2141	484	92	174	43	5	92
v/c Ratio	1.07	0.56	0.12	0.64	0.75	2.04	0.39	0.49	0.52	0.08	0.42
Control Delay	130.5	14.4	1.6	101.4	31.9	514.9	78.5	13.8	90.8	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
Total Delay	130.5	14.4	1.6	101.4	31.9	514.9	78.5	13.8	90.8	87.0	5.7
Queue Length 50th (ft)	~450	339	4	101	684	~829	103	0	44	6	0
Queue Length 95th (ft)	#667	428	m23	167	739	#1063	169	79	85	22	0
Internal Link Dist (ft)		660			631		513			403	
Turn Bay Length (ft)	300		150	100		125					340
Base Capacity (vph)	320	3393	1099	160	2846	237	548	588	82	393	470
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.56	0.12	0.54	0.75	2.04	0.17	0.30	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 Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	315	1755	120	80	1875	95	445	85	160	40	5	85
Future Volume (vph)	315	1755	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		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5049		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.41	1.00	1.00	0.70	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5049		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	1908	130	87	2038	103	484	92	174	43	5	92
RTOR Reduction (vph)	0	0	44	0	2	0	0	0	152	0	0	88
Lane Group Flow (vph)	342	1908	86	87	2139	0	484	92	22	43	5	4
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6				4		4	8		8
Actuated Green, G (s)	30.6	117.0	117.0	11.8	98.2		32.2	23.0	23.0	10.4	7.2	7.2
Effective Green, g (s)	32.6	119.0	119.0	13.8	100.2		32.2	23.0	23.0	10.4	7.2	7.2
Actuated g/C Ratio	0.18	0.66	0.66	0.08	0.56		0.18	0.13	0.13	0.06	0.04	0.04
Clearance Time (s)	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		1.5	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	320	3361	1046	135	2810		243	238	202	83	74	63
v/s Ratio Prot	c0.19	0.38		0.05	c0.42		c0.21	0.05		0.01	0.00	
v/s Ratio Perm			0.05				c0.15		0.01	0.02		0.00
v/c Ratio	1.07	0.57	0.08	0.64	0.76		1.99	0.39	0.11	0.52	0.07	0.06
Uniform Delay, d1	73.7	16.5	10.9	80.7	30.7		71.7	72.0	69.4	81.9	83.2	83.1
Progression Factor	0.99	0.85	0.90	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	64.7	0.6	0.1	7.7	2.0		460.7	0.4	0.1	2.3	0.1	0.1
Delay (s)	137.4	14.6	10.0	88.4	32.7		532.4	72.4	69.5	84.2	83.3	83.3
Level of Service	F	B	A	F	C		F	E	E	F	F	F
Approach Delay (s)		32.0			34.9			368.6			83.6	
Approach LOS		C			C			F			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			80.4			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			180.0			Sum of lost time (s)			21.0			
Intersection Capacity Utilization			99.6%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

1: S Military Trail & SR 869/SW 10th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	364	2598	174	364	1696	375	207	929	701	522	658	315
v/c Ratio	1.17	1.22	0.20	0.87	1.07	0.38	0.77	1.27	1.15	1.28	0.75	0.20
Control Delay	165.6	143.7	5.5	96.1	75.7	7.7	91.2	181.2	114.6	195.4	61.9	0.3
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	165.6	143.7	5.5	96.1	75.7	7.7	91.2	181.2	114.6	195.4	61.9	0.3
Queue Length 50th (ft)	~232	~1217	18	206	~1027	91	111	~642	~556	~354	337	0
Queue Length 95th (ft)	#342	#1295	58	#286	#1168	149	#169	#780	#810	#474	413	0
Internal Link Dist (ft)		620			1001			569			457	
Turn Bay Length (ft)	280		500	550		600	350			300		200
Base Capacity (vph)	311	2129	893	418	1592	996	270	732	607	409	876	1583
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	1.17	1.22	0.19	0.87	1.07	0.38	0.77	1.27	1.15	1.28	0.75	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.

# HCM Signalized Intersection Capacity Analysis

1: S Military Trail & SR 869/SW 10th Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	335	2390	160	335	1560	345	190	855	645	480	605	290
Future Volume (vph)	335	2390	160	335	1560	345	190	855	645	480	605	290
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	2.0
Lane Util. Factor	0.97	0.91	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	5085	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	5085	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)	364	2598	174	364	1696	375	207	929	701	522	658	315
RTOR Reduction (vph)	0	0	69	0	0	59	0	0	84	0	0	0
Lane Group Flow (vph)	364	2598	105	364	1696	316	207	929	617	522	658	315
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Free
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases			6			2			4			Free
Actuated Green, G (s)	12.5	65.0	75.5	17.5	70.0	87.1	10.5	31.1	48.6	17.1	37.7	160.0
Effective Green, g (s)	14.5	67.0	79.5	19.5	72.0	91.1	12.5	33.1	52.6	19.1	39.7	160.0
Actuated g/C Ratio	0.09	0.42	0.50	0.12	0.45	0.57	0.08	0.21	0.33	0.12	0.25	1.00
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	
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	
Lane Grp Cap (vph)	311	2129	786	418	1592	959	268	732	520	409	878	1583
v/s Ratio Prot	0.11	c0.51	0.01	0.11	c0.48	0.04	0.06	c0.26	0.14	c0.15	0.19	
v/s Ratio Perm			0.06			0.16			0.25			0.20
v/c Ratio	1.17	1.22	0.13	0.87	1.07	0.33	0.77	1.27	1.19	1.28	0.75	0.20
Uniform Delay, d1	72.8	46.5	21.7	69.0	44.0	18.3	72.4	63.5	53.7	70.5	55.6	0.0
Progression Factor	1.00	1.00	1.00	1.12	0.80	0.66	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	105.6	103.6	0.0	15.7	41.2	0.1	11.8	131.8	102.1	142.1	3.5	0.3
Delay (s)	178.3	150.1	21.7	92.9	76.5	12.1	84.2	195.2	155.8	212.6	59.1	0.3
Level of Service	F	F	C	F	E	B	F	F	F	F	E	A
Approach Delay (s)		146.3			69.0			167.7			100.3	
Approach LOS		F			E			F			F	









## Intersection Summary

HCM 2000 Control Delay	121.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	21.3
Intersection Capacity Utilization	112.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

# Queues

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































								
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	332	2940	549	440	2283	370	158	152
v/c Ratio	0.64	0.82	0.48	0.67	0.48	0.32	0.23	0.34
Control Delay	37.8	6.5	4.0	35.1	5.6	4.0	9.9	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	6.5	4.0	35.1	5.6	4.0	9.9	11.7
Queue Length 50th (ft)	122	272	98	120	236	90	6	5
Queue Length 95th (ft)	m99	m209	m80	m138	m213	m92	27	27
Internal Link Dist (ft)		900			925			
Turn Bay Length (ft)	460		400	750		500	120	
Base Capacity (vph)	547	3605	1139	686	4786	1156	733	467
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.82	0.48	0.64	0.48	0.32	0.22	0.33

## Intersection Summary

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)	305	2705	505	405	2100	340	0	0	145	0	0	140
Future Volume (vph)	305	2705	505	405	2100	340	0	0	145	0	0	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0			6.0			6.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.86	1.00			0.76			0.76
Frt	1.00	1.00	0.85	1.00	1.00	0.85			0.85			0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (prot)	3367	5085	1583	3433	6408	1524			3610			2630
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (perm)	3367	5085	1583	3433	6408	1524			3610			2630
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)	332	2940	549	440	2283	370	0	0	158	0	0	152
RTOR Reduction (vph)	0	0	17	0	0	18	0	0	103	0	0	107
Lane Group Flow (vph)	332	2940	532	440	2283	352	0	0	55	0	0	45
Heavy Vehicles (%)	4%	2%	2%	2%	2%	6%	2%	2%	2%	18%	2%	40%
Turn Type	Prot	NA	Perm	Prot	NA	Perm			Over			Over
Protected Phases	1	6		5	2				5			1
Permitted Phases			6			2						
Actuated Green, G (s)	10.2	54.7	54.7	13.3	57.8	57.8			13.3			10.2
Effective Green, g (s)	12.2	56.7	56.7	15.3	59.8	59.8			13.3			10.2
Actuated g/C Ratio	0.15	0.71	0.71	0.19	0.75	0.75			0.17			0.13
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	3.0	2.5	3.0	3.0			2.5			1.5
Lane Grp Cap (vph)	513	3603	1121	656	4789	1139			600			335
v/s Ratio Prot	0.10	c0.58		c0.13	0.36				0.02			0.02
v/s Ratio Perm			0.34			0.23						
v/c Ratio	0.65	0.82	0.47	0.67	0.48	0.31			0.09			0.13
Uniform Delay, d1	31.9	8.0	5.1	30.0	4.0	3.3			28.2			31.0
Progression Factor	1.17	0.76	0.83	1.06	1.33	1.28			1.00			1.00
Incremental Delay, d2	0.2	0.1	0.0	1.4	0.2	0.4			0.0			0.1
Delay (s)	37.6	6.3	4.3	33.3	5.5	4.7			28.3			31.0
Level of Service	D	A	A	C	A	A			C			C
Approach Delay (s)		8.7			9.3			28.3			31.0	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.9				HCM 2000 Level of Service		A			
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)		10.0			
Intersection Capacity Utilization			70.5%				ICU Level of Service		C			
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

3: SR 869/SW 10th Street & I-95 SB Off-Ramp













	→	↘	↙	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	2321	753	879	2016	453	1042
v/c Ratio	1.08	0.48	0.97	0.66	0.38	1.08
Control Delay	89.2	0.6	58.0	9.4	40.4	100.4
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	89.2	0.6	58.0	9.7	40.4	100.4
Queue Length 50th (ft)	~676	0	284	319	184	~686
Queue Length 95th (ft)	#718	0	m#424	m275	234	#838
Internal Link Dist (ft)	925			635		
Turn Bay Length (ft)		500	305		500	500
Base Capacity (vph)	2150	1583	909	3035	1192	968
Starvation Cap Reductn	0	0	0	372	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.48	0.97	0.76	0.38	1.08

## 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

3: SR 869/SW 10th Street & I-95 SB Off-Ramp

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗	↘↗	↑↑↑					↘↗		↗
Traffic Volume (vph)	0	2135	715	835	1855	0	0	0	0	430	0	990
Future Volume (vph)	0	2135	715	835	1855	0	0	0	0	430	0	990
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	2.0	4.0	4.5					4.4		4.4
Lane Util. Factor		0.81	1.00	0.97	0.91					0.97		0.88
Flt		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)		7544	1583	3433	5085					3433		2787
Flt Permitted		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (perm)		7544	1583	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	2321	753	879	2016	0	0	0	0	453	0	1042
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2321	753	879	2016	0	0	0	0	453	0	1042
Turn Type		NA	Free	Prot	NA					Prot		Perm
Protected Phases		6		5 4	2 4					3		
Permitted Phases			Free									3
Actuated Green, G (s)		43.6	160.0	38.0	93.5					53.6		53.6
Effective Green, g (s)		45.6	160.0	42.0	91.1					55.6		55.6
Actuated g/C Ratio		0.29	1.00	0.26	0.57					0.35		0.35
Clearance Time (s)		6.0								6.4		6.4
Vehicle Extension (s)		3.0								2.0		2.0
Lane Grp Cap (vph)		2150	1583	901	2895					1192		968
v/s Ratio Prot		c0.31		c0.26	0.40					0.13		
v/s Ratio Perm			0.48									c0.37
v/c Ratio		1.08	0.48	0.98	0.70					0.38		1.08
Uniform Delay, d1		57.2	0.0	58.5	24.6					39.2		52.2
Progression Factor		0.89	1.00	0.96	0.39					1.00		1.00
Incremental Delay, d2		41.6	0.6	21.8	0.7					0.1		51.8
Delay (s)		92.4	0.6	77.9	10.2					39.3		104.0
Level of Service		F	A	E	B					D		F
Approach Delay (s)		69.9			30.7			0.0			84.4	
Approach LOS		E			C			A				F
<b>Intersection Summary</b>												
HCM 2000 Control Delay			57.6			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				16.8		
Intersection Capacity Utilization			77.9%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

# Queues

	→	↘	←	↙	↖	↗
Lane Group	EBT	EBR	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	1299	1442	2000	305	895	495
v/c Ratio	0.40	0.52	0.35	0.19	0.96	0.73
Control Delay	4.6	11.1	3.2	0.2	84.5	68.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.6	11.1	3.2	0.2	84.5	68.5
Queue Length 50th (ft)	118	526	53	0	333	216
Queue Length 95th (ft)	m112	m489	80	m0	#420	272
Internal Link Dist (ft)	635		630			
Turn Bay Length (ft)		700			410	430
Base Capacity (vph)	3228	2787	5709	1583	935	676
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.52	0.35	0.19	0.96	0.73













## 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













4: I-95 NB On/Off-Ramp & SR 869/SW 10th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗↗		↑↑↑↑	↗	↗↗↗		↗↗↗			
Traffic Volume (vph)	0	1195	1370	0	1840	290	850	0	470	0	0	0
Future Volume (vph)	0	1195	1370	0	1840	290	850	0	470	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	2.0		4.5	2.0	4.4		4.4			
Lane Util. Factor		0.91	0.88		0.81	1.00	0.94		0.76			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	2787		7544	1583	4990		3610			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	2787		7544	1583	4990		3610			
Peak-hour factor, PHF	0.92	0.92	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1299	1442	0	2000	305	895	0	495	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1299	1442	0	2000	305	895	0	495	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Prot			
Protected Phases		6 3			2 3		4		4			
Permitted Phases			Free			Free						
Actuated Green, G (s)		97.2	160.0		119.2	160.0	28.0		28.0			
Effective Green, g (s)		101.2	160.0		121.2	160.0	30.0		30.0			
Actuated g/C Ratio		0.63	1.00		0.76	1.00	0.19		0.19			
Clearance Time (s)							6.4		6.4			
Vehicle Extension (s)							3.5		3.5			
Lane Grp Cap (vph)		3216	2787		5714	1583	935		676			
v/s Ratio Prot		0.26			0.27		c0.18		0.14			
v/s Ratio Perm			c0.52			0.19						
v/c Ratio		0.40	0.52		0.35	0.19	0.96		0.73			
Uniform Delay, d1		14.5	0.0		6.4	0.0	64.4		61.2			
Progression Factor		0.56	1.00		0.48	1.00	1.00		1.00			
Incremental Delay, d2		0.0	0.2		0.0	0.2	19.8		4.2			
Delay (s)		8.2	0.2		3.1	0.2	84.1		65.5			
Level of Service		A	A		A	A	F		E			
Approach Delay (s)		4.0			2.7			77.5			0.0	
Approach LOS		A			A			E			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			19.4				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)		18.8			
Intersection Capacity Utilization			53.4%				ICU Level of Service		A			
Analysis Period (min)			15									

c Critical Lane Group

# Queues

## 5: Research Park Boulevard/SW Natura Boulevard & SR 869/SW 10th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	272	1234	304	168	1685	92	239	163	163	250	201	391
v/c Ratio	0.74	0.59	0.36	0.48	0.81	0.12	0.84	0.39	0.36	0.73	0.77	0.82
Control Delay	49.4	20.2	6.1	38.9	25.2	0.3	51.6	35.3	2.3	36.8	53.2	24.1
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	49.4	20.2	6.1	38.9	25.2	0.3	51.6	35.3	2.3	36.8	53.2	24.1
Queue Length 50th (ft)	79	182	39	41	271	0	94	40	0	98	97	42
Queue Length 95th (ft)	112	191	60	71	334	0	#161	69	0	#177	#188	#178
Internal Link Dist (ft)		630			1233			1112			1327	
Turn Bay Length (ft)	200		370	200		200	260		260	170		170
Base Capacity (vph)	369	2106	834	356	2074	765	284	451	462	349	286	496
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	0.74	0.59	0.36	0.47	0.81	0.12	0.84	0.36	0.35	0.72	0.70	0.79

### Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

5: Research Park Boulevard/SW Natura Boulevard & SR 869/SW 10th Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1135	280	155	1550	85	220	150	150	230	185	360
Future Volume (vph)	250	1135	280	155	1550	85	220	150	150	230	185	360
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	0.56	1.00	1.00	0.54	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1047	3539	1583	1005	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)	272	1234	304	168	1685	92	239	163	163	250	201	391
RTOR Reduction (vph)	0	0	178	0	0	55	0	0	144	0	0	257
Lane Group Flow (vph)	272	1234	126	168	1685	37	239	163	19	250	201	134
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)	6.6	31.1	31.1	6.1	30.6	30.6	16.7	9.4	9.4	20.5	11.3	11.3
Effective Green, g (s)	8.6	33.1	33.1	8.1	32.6	32.6	16.7	9.4	9.4	20.5	11.3	11.3
Actuated g/C Ratio	0.11	0.41	0.41	0.10	0.41	0.41	0.21	0.12	0.12	0.26	0.14	0.14
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)	369	2103	654	347	2072	645	284	415	186	345	263	223
v/s Ratio Prot	0.08	c0.24		0.05	c0.33		0.08	0.05		c0.08	c0.11	
v/s Ratio Perm			0.08			0.02	0.10		0.01	0.10		0.08
v/c Ratio	0.74	0.59	0.19	0.48	0.81	0.06	0.84	0.39	0.10	0.72	0.76	0.60
Uniform Delay, d1	34.6	18.2	14.9	34.0	21.0	14.4	29.4	32.7	31.5	25.9	33.1	32.2
Progression Factor	1.10	1.04	3.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.8	1.1	0.6	0.4	3.6	0.2	18.9	0.2	0.1	6.3	11.2	3.1
Delay (s)	43.9	19.9	49.9	34.4	24.6	14.6	48.3	32.9	31.6	32.2	44.3	35.4
Level of Service	D	B	D	C	C	B	D	C	C	C	D	D
Approach Delay (s)		28.5			25.0			39.1			36.6	
Approach LOS		C			C			D			D	

Intersection Summary		
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.81	
Actuated Cycle Length (s)	80.0	Sum of lost time (s) 20.2
Intersection Capacity Utilization	77.6%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group

# Queues

1: NW 5th Terr & Sample Road

	→	↖	←	↙	↗
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2554	174	2011	158	207
v/c Ratio	0.60	0.79	0.53	0.69	0.54
Control Delay	17.9	78.8	2.1	64.9	11.3
Queue Delay	0.0	1.5	0.1	0.0	0.0
Total Delay	17.9	80.3	2.1	64.9	11.3
Queue Length 50th (ft)	298	104	37	119	0
Queue Length 95th (ft)	377	#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	0.60	0.29	0.33

## Intersection Summary

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

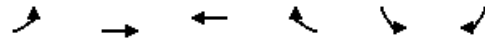
# HCM Signalized Intersection Capacity Analysis

1: NW 5th Terr & Sample Road

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	>		>	>	>	>
Traffic Volume (vph)	2235	115	160	1850	145	190
Future Volume (vph)	2235	115	160	1850	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)	2429	125	174	2011	158	207
RTOR Reduction (vph)	5	0	0	0	0	180
Lane Group Flow (vph)	2549	0	174	2011	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	0.40	c0.09	
v/s Ratio Perm						0.02
v/c Ratio	0.60		0.79	0.53	0.69	0.13
Uniform Delay, d1	16.8		51.0	6.4	50.0	46.3
Progression Factor	1.00		1.11	0.23	1.00	1.00
Incremental Delay, d2	0.2		14.0	0.1	7.1	0.1
Delay (s)	16.9		70.6	1.5	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	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			15.1		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	2533	2005	92	272	179
v/c Ratio	0.78	0.53	0.50	0.09	0.61	0.53
Control Delay	70.9	2.7	11.1	1.4	54.8	16.1
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	70.9	2.7	11.1	1.4	54.8	16.1
Queue Length 50th (ft)	80	29	233	1	104	17
Queue Length 95th (ft)	m#174	46	298	m6	140	82
Internal Link Dist (ft)		175	1004		271	
Turn Bay Length (ft)				450		
Base Capacity (vph)	132	4778	3977	1017	1058	594
Starvation Cap Reductn	0	476	0	0	0	0
Spillback Cap Reductn	0	0	40	0	0	5
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.59	0.51	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.

# HCM Signalized Intersection Capacity Analysis

2: Sample Road & NW 5th Ave

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		  	  		 	 
Traffic Volume (vph)	95	2330	1845	85	250	165
Future Volume (vph)	95	2330	1845	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	2533	2005	92	272	179
RTOR Reduction (vph)	0	0	0	35	0	134
Lane Group Flow (vph)	103	2533	2005	57	272	45
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	c0.40	0.31		c0.08	
v/s Ratio Perm				0.04		0.03
v/c Ratio	0.78	0.53	0.50	0.06	0.61	0.22
Uniform Delay, d1	54.5	6.4	12.6	8.9	49.4	46.8
Progression Factor	0.71	0.34	0.82	0.55	1.00	1.00
Incremental Delay, d2	19.9	0.0	0.0	0.0	1.8	0.2
Delay (s)	58.5	2.2	10.3	4.9	51.2	47.0
Level of Service	E	A	B	A	D	D
Approach Delay (s)		4.4	10.1		49.5	
Approach LOS		A	B		D	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			10.6		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			56.6%		ICU Level of Service	B
Analysis Period (min)			15			

c Critical Lane Group

# Queues

	→	↘	←	↙	↵
Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	1717	1053	1500	526	579
v/c Ratio	0.48	0.67	0.53	0.59	0.80
Control Delay	6.3	10.1	7.9	22.5	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.3	10.1	7.9	22.5	30.9
Queue Length 50th (ft)	86	344	146	84	109
Queue Length 95th (ft)	159	456	168	127	#189
Internal Link Dist (ft)	1004		259		
Turn Bay Length (ft)		250			
Base Capacity (vph)	3567	1583	2830	909	738
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	0.48	0.67	0.53	0.58	0.78












## Intersection Summary

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



# HCM Signalized Intersection Capacity Analysis

3: Sample Road & I-95 SB RAMP

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	
Lane Configurations		↑↑↑	↗		↑↑↑		↘↘		↗↗			
Traffic Volume (vph)	0	1580	1000	0	1380	0	500	0	550	0	0	
Future Volume (vph)	0	1580	1000	0	1380	0	500	0	550	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			
Flt		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	1717	1053	0	1500	0	526	0	579	0	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	1717	1053	0	1500	0	526	0	579	0	0	
Turn Type		NA	Free		NA		Prot		Prot			
Protected Phases		6			2		3		3			
Permitted Phases			Free									
Actuated Green, G (s)		31.4	60.0		31.4		13.6		13.6			
Effective Green, g (s)		33.4	60.0		33.4		15.6		15.6			
Actuated g/C Ratio		0.56	1.00		0.56		0.26		0.26			
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)		3567	1583		2830		892		724			
v/s Ratio Prot		0.27			0.29		0.15		0.21			
v/s Ratio Perm			c0.67									
v/c Ratio		0.48	0.67		0.53		0.59		0.80			
Uniform Delay, d1		8.1	0.0		8.4		19.4		20.7			
Progression Factor		0.72	1.00		0.88		1.00		1.00			
Incremental Delay, d2		0.4	2.0		0.5		0.8		6.0			
Delay (s)		6.2	2.0		7.9		20.2		26.7			
Level of Service		A	A		A		C		C			
Approach Delay (s)		4.6			7.9			23.6		0.0		
Approach LOS		A			A			C		A		
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.4								HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.81									
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

# Queues













	→	←	↖	↗	
Lane Group	EBT	WBT	WBR	NBL2	NBR
Lane Group Flow (vph)	1293	1957	600	579	442
v/c Ratio	0.45	0.68	0.38	0.68	0.64
Control Delay	6.8	7.3	0.2	25.0	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.8	7.3	0.2	25.0	24.9
Queue Length 50th (ft)	111	172	0	95	79
Queue Length 95th (ft)	97	m160	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	0.45	0.68	0.38	0.65	0.61

## Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis











4: I-95 NB RAMP & Sample Road

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER	
Lane Configurations		↑↑↑			↑↑↑	↑	↑↑		↑↑			
Traffic Volume (vph)	0	1190	0	0	1800	570	550	0	420	0	0	
Future Volume (vph)	0	1190	0	0	1800	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	1293	0	0	1957	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	1293	0	0	1957	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		0.45			0.68	0.38	0.68		0.64			
Uniform Delay, d1		7.4			9.0	0.0	20.5		20.2			
Progression Factor		0.84			0.75	1.00	1.00		1.00			
Incremental Delay, d2		0.4			0.3	0.2	2.1		1.8			
Delay (s)		6.7			7.1	0.2	22.6		22.1			
Level of Service		A			A	A	C		C			
Approach Delay (s)		6.7			5.5			22.4		0.0		
Approach LOS		A			A			C		A		
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.3			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			60.0			Sum of lost time (s)			11.0			
Intersection Capacity Utilization			58.4%			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	1326	60	1847	250	228	82	109	223	571
v/c Ratio	1.00	0.60	0.48	1.00	0.73	0.45	0.15	0.32	0.44	1.04
Control Delay	87.3	20.6	66.9	60.1	46.2	39.3	0.6	28.7	39.2	80.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.3	20.6	66.9	60.1	46.2	39.3	0.6	28.7	39.2	80.7
Queue Length 50th (ft)	168	252	45	~524	140	146	0	56	143	~381
Queue Length 95th (ft)	#281	307	91	#645	#224	225	0	98	219	#604
Internal Link Dist (ft)		1155		834		912			742	
Turn Bay Length (ft)	550		490		250		225	200		
Base Capacity (vph)	425	2194	131	1838	341	509	544	338	507	548
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	0.60	0.46	1.00	0.73	0.45	0.15	0.32	0.44	1.04

## 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

5: NE 3rd Ave & Sample Road

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 			 	 	
Traffic Volume (vph)	390	1075	145	55	1615	85	230	210	75	100	205	525
Future Volume (vph)	390	1075	145	55	1615	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	4946		1752	4998		1752	1845	1568	1752	1845	1568
Flt Permitted	0.95	1.00		0.95	1.00		0.50	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	3400	4946		1752	4998		921	1845	1568	913	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	1168	158	60	1755	92	250	228	82	109	223	571
RTOR Reduction (vph)	0	14	0	0	4	0	0	0	59	0	0	117
Lane Group Flow (vph)	424	1312	0	60	1843	0	250	228	23	109	223	454
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		39.1	33.1	33.1	38.9	33.0	33.0
Effective Green, g (s)	15.0	51.5		7.5	44.0		39.1	33.1	33.1	38.9	33.0	33.0
Actuated g/C Ratio	0.12	0.43		0.06	0.37		0.33	0.28	0.28	0.32	0.28	0.28
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	2122		109	1832		341	508	432	337	507	431
v/s Ratio Prot	c0.12	0.27		0.03	c0.37		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	0.62		0.55	1.01		0.73	0.45	0.05	0.32	0.44	1.05
Uniform Delay, d1	52.5	26.6		54.6	38.0		36.0	35.9	31.9	29.4	35.9	43.5
Progression Factor	0.87	0.75		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	40.2	1.2		3.4	22.4		6.9	0.2	0.0	0.2	0.2	57.8
Delay (s)	86.0	21.2		58.0	60.4		42.9	36.1	31.9	29.6	36.1	101.3
Level of Service	F	C		E	E		D	D	C	C	D	F
Approach Delay (s)		36.9			60.3			38.5			76.5	
Approach LOS		D			E			D			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			52.8				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			92.5%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

1: SW 12th Avenue & Hillsboro Blvd





























											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	2316	299	2397	65	250	11	402	274	281	359
v/c Ratio	0.56	0.92	1.29	0.91	0.05	0.70	0.06	1.07	0.91	0.91	0.86
Control Delay	88.5	40.4	207.2	20.4	0.1	70.9	55.1	108.2	88.6	89.3	47.4
Queue Delay	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.5	40.4	207.2	22.2	0.1	70.9	55.1	108.2	88.6	89.3	47.4
Queue Length 50th (ft)	44	718	~181	215	0	115	9	~347	255	263	174
Queue Length 95th (ft)	#98	#897	m#253	#900	m0	157	29	#516	#415	#425	#333
Internal Link Dist (ft)		580		548			436			396	
Turn Bay Length (ft)	450		375		350	225		250	200		
Base Capacity (vph)	88	2511	232	2623	1213	784	425	376	324	330	417
Starvation Cap Reductn	0	0	0	116	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	0.92	1.29	0.96	0.05	0.32	0.03	1.07	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 Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 		 			 		
Traffic Volume (vph)	45	1985	145	275	2205	60	230	10	370	420	90	330
Future Volume (vph)	45	1985	145	275	2205	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
Flt	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	5033		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	5033		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	2158	158	299	2397	65	250	11	402	457	98	359
RTOR Reduction (vph)	0	5	0	0	0	19	0	0	62	0	0	82
Lane Group Flow (vph)	49	2311	0	299	2397	46	250	11	340	274	281	277
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	67.7		7.5	70.2	95.4	14.6	14.6	22.1	25.2	25.2	30.2
Effective Green, g (s)	7.0	69.7		9.5	72.2	99.4	14.6	14.6	22.1	25.2	25.2	30.2
Actuated g/C Ratio	0.05	0.50		0.07	0.52	0.71	0.10	0.10	0.16	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	2505		232	2622	1123	358	194	249	302	308	341
v/s Ratio Prot	0.03	0.46		c0.09	c0.47	0.01	0.07	0.01	c0.07	0.16	c0.16	0.03
v/s Ratio Perm						0.02			0.14			0.15
v/c Ratio	0.56	0.92		1.29	0.91	0.04	0.70	0.06	1.36	0.91	0.91	0.81
Uniform Delay, d1	65.0	32.6		65.2	31.1	6.1	60.6	56.5	58.9	56.3	56.3	52.2
Progression Factor	1.00	1.00		1.22	0.48	0.04	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	7.1		149.6	4.3	0.0	4.7	0.0	187.5	28.4	29.3	13.1
Delay (s)	69.3	39.8		228.9	19.1	0.3	65.3	56.5	246.5	84.7	85.6	65.3
Level of Service	E	D		F	B	A	E	E	F	F	F	E
Approach Delay (s)		40.4			41.4			175.0			77.4	
Approach LOS		D			D			F			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			59.2	HCM 2000 Level of Service				E				
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			140.0	Sum of lost time (s)				23.0				
Intersection Capacity Utilization			92.7%	ICU Level of Service				F				
Analysis Period (min)			15									
c Critical Lane Group												

## Queues

2: Hillsboro Blvd & I-95 SB RAMP

	→	↘	←	↙	↘
Lane Group	EBT	EBR	WBT	SBL2	SBR
Lane Group Flow (vph)	2114	874	2098	695	642
v/c Ratio	0.42	0.55	0.82	0.90	0.53
Control Delay	0.1	0.9	29.7	52.5	30.3
Queue Delay	0.0	0.0	0.7	0.0	0.0
Total Delay	0.1	0.9	30.4	52.5	30.3
Queue Length 50th (ft)	0	0	592	562	232
Queue Length 95th (ft)	m0	m0	661	733	286
Internal Link Dist (ft)	548		319		
Turn Bay Length (ft)		150			
Base Capacity (vph)	5085	1583	2544	828	1303
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	175	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.55	0.89	0.84	0.49














### Intersection Summary

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



# HCM Signalized Intersection Capacity Analysis

2: Hillsboro Blvd & I-95 SB RAMP

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR		
Lane Configurations		↑↑↑	↑		↑↑↑		↑		↑↑				
Traffic Volume (vph)	0	1945	830	0	1930	0	660	0	610	0	0		
Future Volume (vph)	0	1945	830	0	1930	0	660	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	2114	874	0	2098	0	695	0	642	0	0		
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0		
Lane Group Flow (vph)	0	2114	874	0	2098	0	695	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		68.0		59.0		59.0				
Effective Green, g (s)		140.0	140.0		70.0		61.0		61.0				
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		2542		771		1214				
v/s Ratio Prot		0.42			c0.41		c0.39		0.23				
v/s Ratio Perm			0.55										
v/c Ratio		0.42	0.55		0.83		0.90		0.53				
Uniform Delay, d1		0.0	0.0		29.8		36.7		29.0				
Progression Factor		1.00	1.00		0.89		1.00		1.00				
Incremental Delay, d2		0.1	0.5		2.4		13.7		0.3				
Delay (s)		0.1	0.5		28.8		50.4		29.3				
Level of Service		A	A		C		D		C				
Approach Delay (s)		0.2			28.8			40.3		0.0			
Approach LOS		A			C			D		A			
<b>Intersection Summary</b>													
HCM 2000 Control Delay			17.9				HCM 2000 Level of Service		B				
HCM 2000 Volume to Capacity ratio			0.86										
Actuated Cycle Length (s)			140.0				Sum of lost time (s)		9.0				
Intersection Capacity Utilization			66.1%				ICU Level of Service		C				
Analysis Period (min)			15										
! Phase conflict between lane groups.													
c Critical Lane Group													

# Queues













	→	←	↖	↗	
Lane Group	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	2038	2315	804	750	789
v/c Ratio	0.70	0.80	0.51	0.45	0.81
Control Delay	13.5	12.3	0.8	19.1	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	12.3	0.8	19.1	27.8
Queue Length 50th (ft)	249	283	0	87	159
Queue Length 95th (ft)	273	m319	m0	118	#240
Internal Link Dist (ft)	286	371			
Turn Bay Length (ft)			250	350	350
Base Capacity (vph)	2908	2908	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	0.80	0.51	0.44	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.

# HCM Signalized Intersection Capacity Analysis












3: I-95 NB Ramp & Hillsboro Blvd

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑			↑↑↑	↑	↑↑↑		↑↑				
Traffic Volume (vph)	0	1875	0	0	2130	740	690	0	750	0	0	0	
Future Volume (vph)	0	1875	0	0	2130	740	690	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	750	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	750	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)		38.0			38.0	70.0	21.5		21.5				
Effective Green, g (s)		40.0			40.0	70.0	23.5		23.5				
Actuated g/C Ratio		0.57			0.57	1.00	0.34		0.34				
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)		2905			2905	1568	1675		935				
v/s Ratio Prot		0.40			c0.46		0.15		c0.27				
v/s Ratio Perm						0.51							
v/c Ratio		0.70			0.80	0.51	0.45		0.80				
Uniform Delay, d1		10.7			11.8	0.0	18.2		21.2				
Progression Factor		1.12			0.92	1.00	1.00		1.00				
Incremental Delay, d2		1.3			1.2	0.6	0.2		5.1				
Delay (s)		13.3			12.1	0.6	18.4		26.3				
Level of Service		B			B	A	B		C				
Approach Delay (s)		13.3			9.1			22.4			0.0		
Approach LOS		B			A			C			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			13.4									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													

2040PM Build 1\_Hillsboro Blvd.syn

# Queues

4: SW Natura Boulevard/Fairway Drive & Hillsboro Blvd




























											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	2413	337	152	2505	315	11	141	136	54	337
v/c Ratio	0.92	0.86	0.36	1.00	0.86	1.08	0.03	0.37	0.43	0.16	0.88
Control Delay	116.0	24.1	8.7	135.8	30.2	125.0	43.4	9.7	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
Total Delay	116.0	24.1	8.7	135.8	30.2	125.0	43.4	9.7	46.2	46.5	57.8
Queue Length 50th (ft)	91	560	95	141	676	~286	8	2	100	42	197
Queue Length 95th (ft)	m#162	#919	m180	#290	#954	#351	25	56	144	75	291
Internal Link Dist (ft)		660			631		513			403	
Turn Bay Length (ft)	300		150	100		125					340
Base Capacity (vph)	112	2799	928	152	2910	291	492	520	313	505	520
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.86	0.36	1.00	0.86	1.08	0.02	0.27	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 Blvd

												
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		6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5074		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.72	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5074		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	1	0	0	0	115	0	0	103
Lane Group Flow (vph)	103	2413	280	152	2504	0	315	11	26	136	54	234
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6				4		4	8		8
Actuated Green, G (s)	6.9	75.1	75.1	10.1	78.3		28.8	23.8	23.8	30.8	24.8	24.8
Effective Green, g (s)	8.9	77.1	77.1	12.1	80.3		28.8	23.8	23.8	30.8	24.8	24.8
Actuated g/C Ratio	0.06	0.55	0.55	0.09	0.57		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		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	3.0	3.0	1.5	3.0		1.5	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	112	2800	871	152	2910		291	316	269	313	330	280
v/s Ratio Prot	0.06	0.47		c0.09	c0.49		c0.04	0.01		0.02	0.03	
v/s Ratio Perm			0.18				c0.18		0.02	0.08		0.15
v/c Ratio	0.92	0.86	0.32	1.00	0.86		1.08	0.03	0.10	0.43	0.16	0.84
Uniform Delay, d1	65.2	26.9	17.2	64.0	25.1		54.9	48.5	49.0	46.6	48.8	55.6
Progression Factor	1.01	0.74	0.66	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	46.0	2.6	0.7	73.0	3.6		76.5	0.0	0.1	0.4	0.1	18.3
Delay (s)	111.6	22.6	12.0	136.9	28.7		131.4	48.5	49.1	46.9	48.9	73.9
Level of Service	F	C	B	F	C		F	D	D	D	D	E
Approach Delay (s)		24.6			34.9			104.6			64.4	
Approach LOS		C			C			F			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			37.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			21.0			
Intersection Capacity Utilization			93.6%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

1: S Military Trail & SR 869/SW 10th Street































												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	397	1924	212	473	2571	554	223	717	391	272	967	538
v/c Ratio	1.28	0.83	0.23	0.87	1.38	0.57	1.14	1.08	0.65	1.26	1.41	0.34
Control Delay	201.6	41.8	3.9	67.9	205.2	10.0	171.6	117.2	29.6	205.0	236.9	0.6
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	201.6	41.8	3.9	67.9	205.2	10.0	171.6	117.2	29.6	205.0	236.9	0.6
Queue Length 50th (ft)	~269	641	11	254	~1887	173	~140	~438	218	~182	~710	0
Queue Length 95th (ft)	#381	705	52	#335	#2001	228	#232	#570	315	#282	#850	0
Internal Link Dist (ft)		620			1001			569			457	
Turn Bay Length (ft)	280		500	550		600	350			300		200
Base Capacity (vph)	311	2327	941	555	1857	970	195	665	605	216	687	1583
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	1.28	0.83	0.23	0.85	1.38	0.57	1.14	1.08	0.65	1.26	1.41	0.34

## 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

1: S Military Trail & SR 869/SW 10th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 			 			 	 	
Traffic Volume (vph)	365	1770	195	435	2365	510	205	660	360	250	890	495
Future Volume (vph)	365	1770	195	435	2365	510	205	660	360	250	890	495
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	2.0
Lane Util. Factor	0.97	0.91	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	5085	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	5085	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)	397	1924	212	473	2571	554	223	717	391	272	967	538
RTOR Reduction (vph)	0	0	92	0	0	57	0	0	48	0	0	0
Lane Group Flow (vph)	397	1924	120	473	2571	497	223	717	343	272	967	538
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Free
Protected Phases	1	6	7	5	2	3	7	4	5	3	8	
Permitted Phases			6			2			4			Free
Actuated Green, G (s)	12.5	71.2	78.3	23.3	82.0	90.1	7.1	28.1	51.4	8.1	29.1	160.0
Effective Green, g (s)	14.5	73.2	82.3	25.3	84.0	94.1	9.1	30.1	55.4	10.1	31.1	160.0
Actuated g/C Ratio	0.09	0.46	0.51	0.16	0.52	0.59	0.06	0.19	0.35	0.06	0.19	1.00
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	
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	
Lane Grp Cap (vph)	311	2326	814	542	1857	931	195	665	548	216	687	1583
v/s Ratio Prot	c0.12	0.38	0.01	0.14	c0.73	0.03	0.06	c0.20	0.10	0.08	c0.27	
v/s Ratio Perm			0.07			0.28			0.12			0.34
v/c Ratio	1.28	0.83	0.15	0.87	1.38	0.53	1.14	1.08	0.63	1.26	1.41	0.34
Uniform Delay, d1	72.8	37.9	20.4	65.8	38.0	19.8	75.5	65.0	43.6	75.0	64.5	0.0
Progression Factor	1.00	1.00	1.00	0.86	0.91	0.74	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	147.0	3.5	0.0	9.2	175.1	0.2	108.4	57.9	1.6	148.5	192.0	0.6
Delay (s)	219.8	41.4	20.4	65.5	209.7	14.9	183.9	122.8	45.2	223.4	256.5	0.6
Level of Service	F	D	C	E	F	B	F	F	D	F	F	A
Approach Delay (s)		67.6			160.7			110.3			174.0	
Approach LOS		E			F			F			F	









## Intersection Summary

HCM 2000 Control Delay	130.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	21.3
Intersection Capacity Utilization	124.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

# Queues

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

								
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	82	2429	76	152	2815	125	598	783
v/c Ratio	0.07	0.73	0.07	0.18	0.77	0.14	0.68	0.89
Control Delay	20.2	6.3	0.8	23.7	14.7	2.7	27.4	35.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	6.3	0.8	23.7	14.7	2.7	27.4	35.1
Queue Length 50th (ft)	18	116	0	39	436	15	96	136
Queue Length 95th (ft)	m23	m196	m3	m47	m411	m21	142	189
Internal Link Dist (ft)	900		925					
Turn Bay Length (ft)	460		400	750	500		120	
Base Capacity (vph)	1262	3368	1074	827	3668	925	875	1000
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.72	0.07	0.18	0.77	0.14	0.68	0.78































## Intersection Summary

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)	75	2235	70	140	2590	115	0	0	550	0	0	720
Future Volume (vph)	75	2235	70	140	2590	115	0	0	550	0	0	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0			6.0			6.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.86	1.00			0.76			0.76
Frt	1.00	1.00	0.85	1.00	1.00	0.85			0.85			0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (prot)	3367	5085	1583	3433	6408	1524			3610			2630
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00			1.00			1.00
Satd. Flow (perm)	3367	5085	1583	3433	6408	1524			3610			2630
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	2429	76	152	2815	125	0	0	598	0	0	783
RTOR Reduction (vph)	0	0	26	0	0	53	0	0	96	0	0	86
Lane Group Flow (vph)	82	2429	50	152	2815	72	0	0	502	0	0	697
Heavy Vehicles (%)	4%	2%	2%	2%	2%	6%	2%	2%	2%	18%	2%	40%
Turn Type	Prot	NA	Perm	Prot	NA	Perm			Over			Over
Protected Phases	1	6		5	2				5			1
Permitted Phases			6			2						
Actuated Green, G (s)	24.2	50.7	50.7	17.3	43.8	43.8			17.3			24.2
Effective Green, g (s)	26.2	52.7	52.7	19.3	45.8	45.8			17.3			24.2
Actuated g/C Ratio	0.33	0.66	0.66	0.24	0.57	0.57			0.22			0.30
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	3.0	2.5	3.0	3.0			2.5			1.5
Lane Grp Cap (vph)	1102	3349	1042	828	3668	872			780			795
v/s Ratio Prot	0.02	0.48		0.04	c0.44				0.14			c0.27
v/s Ratio Perm			0.03			0.05						
v/c Ratio	0.07	0.73	0.05	0.18	0.77	0.08			0.64			0.88
Uniform Delay, d1	18.5	8.9	4.8	24.1	13.0	7.7			28.5			26.5
Progression Factor	1.15	0.62	0.76	0.97	1.02	1.78			1.00			1.00
Incremental Delay, d2	0.0	0.4	0.0	0.0	0.8	0.1			1.6			10.4
Delay (s)	21.4	6.0	3.7	23.3	14.1	13.7			30.2			36.9
Level of Service	C	A	A	C	B	B			C			D
Approach Delay (s)		6.4			14.5			30.2			36.9	
Approach LOS		A			B			C			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			15.3				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)		10.0			
Intersection Capacity Utilization			64.3%				ICU Level of Service		C			
Analysis Period (min)			15									
c Critical Lane Group												

# Queues

3: SR 869/SW 10th Street & I-95 SB Off-Ramp













	→	↘	↙	←	↘	↙
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	2245	758	884	1799	326	1253
v/c Ratio	1.14	0.48	0.89	0.62	0.26	1.21
Control Delay	110.9	0.7	60.6	11.0	35.5	145.4
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	110.9	0.7	60.6	11.3	35.5	145.4
Queue Length 50th (ft)	~669	0	0	224	121	~903
Queue Length 95th (ft)	#730	0	m0	m232	161	#1055
Internal Link Dist (ft)	925			635		
Turn Bay Length (ft)		500	305		500	500
Base Capacity (vph)	1961	1583	995	2907	1278	1038
Starvation Cap Reductn	0	0	0	487	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.48	0.89	0.74	0.26	1.21

## 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

3: SR 869/SW 10th Street & I-95 SB Off-Ramp

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗	↘↗	↑↑↑					↘↗		↗
Traffic Volume (vph)	0	2065	720	840	1655	0	0	0	0	310	0	1190
Future Volume (vph)	0	2065	720	840	1655	0	0	0	0	310	0	1190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	2.0	4.0	4.5					4.4		4.4
Lane Util. Factor		0.81	1.00	0.97	0.91					0.97		0.88
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)		7544	1583	3433	5085					3433		2787
Flt Permitted		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (perm)		7544	1583	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	2245	758	884	1799	0	0	0	0	326	0	1253
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2245	758	884	1799	0	0	0	0	326	0	1253
Turn Type		NA	Free	Prot	NA					Prot		Perm
Protected Phases		6		5 4	2 4					3		
Permitted Phases			Free									3
Actuated Green, G (s)		39.6	160.0	44.4	89.5					57.6		57.6
Effective Green, g (s)		41.6	160.0	42.0	87.1					59.6		59.6
Actuated g/C Ratio		0.26	1.00	0.26	0.54					0.37		0.37
Clearance Time (s)		6.0								6.4		6.4
Vehicle Extension (s)		3.0								2.0		2.0
Lane Grp Cap (vph)		1961	1583	901	2768					1278		1038
v/s Ratio Prot		c0.30		c0.26	0.35					0.09		
v/s Ratio Perm			0.48									c0.45
v/c Ratio		1.14	0.48	0.98	0.65					0.26		1.21
Uniform Delay, d1		59.2	0.0	58.6	25.7					34.8		50.2
Progression Factor		0.76	1.00	0.93	0.44					1.00		1.00
Incremental Delay, d2		69.8	0.7	22.8	0.5					0.0		102.4
Delay (s)		114.9	0.7	77.2	11.9					34.8		152.6
Level of Service		F	A	E	B					C		F
Approach Delay (s)		86.1			33.4			0.0			128.3	
Approach LOS		F			C			A			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			75.8			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				16.8		
Intersection Capacity Utilization			81.0%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

# Queues













						
Lane Group	EBT	EBR	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	1495	1053	1723	337	958	716
v/c Ratio	0.45	0.38	0.30	0.21	1.02	1.06
Control Delay	1.3	5.9	2.7	0.2	98.4	111.7
Queue Delay	0.7	0.0	0.0	0.0	0.0	0.0
Total Delay	2.0	5.9	2.7	0.2	98.4	111.7
Queue Length 50th (ft)	5	138	50	0	~376	~358
Queue Length 95th (ft)	m5	m68	m57	m0	#470	#470
Internal Link Dist (ft)	635		630			
Turn Bay Length (ft)		700			410	430
Base Capacity (vph)	3356	2787	5709	1583	935	676
Starvation Cap Reductn	1358	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.38	0.30	0.21	1.02	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.
- m Volume for 95th percentile queue is metered by upstream signal.

# HCM Signalized Intersection Capacity Analysis













4: I-95 NB On/Off-Ramp & SR 869/SW 10th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗↗		↑↑↑↑	↗	↗↗↗		↗↗↗			
Traffic Volume (vph)	0	1375	1000	0	1585	320	910	0	680	0	0	0
Future Volume (vph)	0	1375	1000	0	1585	320	910	0	680	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	2.0		4.5	2.0	4.4		4.4			
Lane Util. Factor		0.91	0.88		0.81	1.00	0.94		0.76			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	2787		7544	1583	4990		3610			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	2787		7544	1583	4990		3610			
Peak-hour factor, PHF	0.92	0.92	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	0	1495	1053	0	1723	337	958	0	716	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1495	1053	0	1723	337	958	0	716	0	0	0
Turn Type		NA	Free		NA	Free	Prot		Prot			
Protected Phases		6 3			2 3		4		4			
Permitted Phases			Free			Free						
Actuated Green, G (s)		103.2	160.0		119.2	160.0	28.0		28.0			
Effective Green, g (s)		105.2	160.0		121.2	160.0	30.0		30.0			
Actuated g/C Ratio		0.66	1.00		0.76	1.00	0.19		0.19			
Clearance Time (s)							6.4		6.4			
Vehicle Extension (s)							3.5		3.5			
Lane Grp Cap (vph)		3343	2787		5714	1583	935		676			
v/s Ratio Prot		c0.29			0.23		0.19		c0.20			
v/s Ratio Perm			c0.38			0.21						
v/c Ratio		0.45	0.38		0.30	0.21	1.02		1.06			
Uniform Delay, d1		13.3	0.0		6.1	0.0	65.0		65.0			
Progression Factor		0.10	1.00		0.43	1.00	1.00		1.00			
Incremental Delay, d2		0.0	0.0		0.0	0.2	35.8		51.3			
Delay (s)		1.3	0.0		2.6	0.2	100.8		116.3			
Level of Service		A	A		A	A	F		F			
Approach Delay (s)		0.8			2.2			107.5			0.0	
Approach LOS		A			A			F			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.7				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)		18.8			
Intersection Capacity Utilization			56.9%				ICU Level of Service		B			
Analysis Period (min)			15									

c Critical Lane Group

# Queues

## 5: Research Park Boulevard/SW Natura Boulevard & SR 869/SW 10th Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	266	1712	255	239	1348	125	304	147	136	261	310	418
v/c Ratio	0.71	0.94	0.35	0.84	0.80	0.19	0.94	0.26	0.27	0.57	0.93	0.79
Control Delay	44.6	26.7	2.9	63.5	28.9	1.2	62.7	32.4	1.3	23.6	69.9	22.3
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	44.6	26.7	2.9	63.5	28.9	1.2	62.7	32.4	1.3	23.6	69.9	22.3
Queue Length 50th (ft)	74	415	38	61	222	0	111	34	0	93	154	53
Queue Length 95th (ft)	m86	m395	m43	#123	277	7	#272	64	0	154	#304	#198
Internal Link Dist (ft)		630			1233			1112			1327	
Turn Bay Length (ft)	200		370	200		200	260		260	170		170
Base Capacity (vph)	373	1812	728	283	1679	657	322	555	500	531	333	528
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	0.71	0.94	0.35	0.84	0.80	0.19	0.94	0.26	0.27	0.49	0.93	0.79

### 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

5: Research Park Boulevard/SW Natura Boulevard & SR 869/SW 10th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (vph)	245	1575	235	220	1240	115	280	135	125	240	285	385
Future Volume (vph)	245	1575	235	220	1240	115	280	135	125	240	285	385
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	0.32	1.00	1.00	0.58	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	591	3539	1583	1081	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)	266	1712	255	239	1348	125	304	147	136	261	310	418
RTOR Reduction (vph)	0	0	164	0	0	84	0	0	115	0	0	246
Lane Group Flow (vph)	266	1712	91	239	1348	41	304	147	21	261	310	172
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)	6.7	26.5	26.5	4.6	24.4	24.4	23.0	12.6	12.6	26.4	14.3	14.3
Effective Green, g (s)	8.7	28.5	28.5	6.6	26.4	26.4	23.0	12.6	12.6	26.4	14.3	14.3
Actuated g/C Ratio	0.11	0.36	0.36	0.08	0.33	0.33	0.29	0.16	0.16	0.33	0.18	0.18
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)	373	1811	563	283	1678	522	323	557	249	460	333	282
v/s Ratio Prot	0.08	c0.34		0.07	c0.27		c0.12	0.04		0.09	c0.17	
v/s Ratio Perm			0.06			0.03	0.15		0.01	0.10		0.11
v/c Ratio	0.71	0.95	0.16	0.84	0.80	0.08	0.94	0.26	0.09	0.57	0.93	0.61
Uniform Delay, d1	34.4	25.0	17.6	36.2	24.4	18.4	25.6	29.6	28.8	21.1	32.4	30.3
Progression Factor	1.04	0.66	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	9.5	0.5	19.3	4.2	0.3	34.5	0.1	0.1	1.0	31.6	2.7
Delay (s)	39.9	26.1	17.7	55.5	28.6	18.7	60.1	29.7	28.8	22.0	63.9	33.0
Level of Service	D	C	B	E	C	B	E	C	C	C	E	C
Approach Delay (s)		26.8			31.6			45.3			39.8	
Approach LOS		C			C			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			32.6	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			80.0	Sum of lost time (s)				20.2				
Intersection Capacity Utilization			84.1%	ICU Level of Service				E				
Analysis Period (min)			15									

c Critical Lane Group

# Queues

1: NW 5th Terr & Sample Road

	→	↙	←	↘	↗
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2777	272	2571	125	130
v/c Ratio	0.65	0.95	0.65	0.67	0.46
Control Delay	20.2	96.2	2.7	72.8	13.6
Queue Delay	0.0	43.4	0.3	0.0	0.0
Total Delay	20.3	139.6	3.0	72.8	13.6
Queue Length 50th (ft)	374	198	65	103	0
Queue Length 95th (ft)	448	#397	45	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	57	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	0.77	0.25	0.24

## Intersection Summary

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



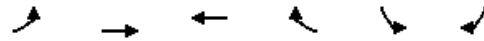
# HCM Signalized Intersection Capacity Analysis

1: NW 5th Terr & Sample Road

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑↑		↘	↑↑↑	↘	↗
Traffic Volume (vph)	2460	95	250	2365	115	120
Future Volume (vph)	2460	95	250	2365	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)	2674	103	272	2571	125	130
RTOR Reduction (vph)	3	0	0	0	0	116
Lane Group Flow (vph)	2774	0	272	2571	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	0.37		c0.15	c0.51	c0.07	
v/s Ratio Perm						0.01
v/c Ratio	0.65		0.95	0.65	0.67	0.08
Uniform Delay, d1	18.9		54.0	6.4	56.0	52.5
Progression Factor	1.00		1.12	0.30	1.00	1.00
Incremental Delay, d2	0.3		34.2	0.2	7.3	0.1
Delay (s)	19.2		94.8	2.1	63.3	52.6
Level of Service	B		F	A	E	D
Approach Delay (s)	19.2			11.0	57.8	
Approach LOS	B			B	E	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			16.9		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.77			
Actuated Cycle Length (s)			130.0		Sum of lost time (s)	27.0
Intersection Capacity Utilization			67.5%		ICU Level of Service	C
Analysis Period (min)			15			

c Critical Lane Group

# Queues















Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	196	2609	2674	315	207	168
v/c Ratio	1.03	0.52	0.67	0.28	0.57	0.53
Control Delay	106.8	2.2	13.6	1.1	61.0	13.6
Queue Delay	0.0	0.1	0.1	0.0	0.0	0.1
Total Delay	106.8	2.3	13.6	1.1	61.0	13.8
Queue Length 50th (ft)	~177	25	375	1	87	0
Queue Length 95th (ft)	#335	38	470	m11	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	192	0	0	61
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.61	0.70	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.

# HCM Signalized Intersection Capacity Analysis

2: Sample Road & NW 5th Ave

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	180	2400	2460	290	190	155
Future Volume (vph)	180	2400	2460	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	2609	2674	315	207	168
RTOR Reduction (vph)	0	0	0	118	0	150
Lane Group Flow (vph)	196	2609	2674	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	0.41	c0.42		c0.06	
v/s Ratio Perm				0.12		0.01
v/c Ratio	1.03	0.52	0.67	0.20	0.57	0.11
Uniform Delay, d1	58.0	5.3	15.7	10.4	55.4	52.6
Progression Factor	0.68	0.33	0.80	0.61	1.00	1.00
Incremental Delay, d2	66.0	0.0	0.2	0.0	1.4	0.1
Delay (s)	105.3	1.8	12.8	6.3	56.7	52.7
Level of Service	F	A	B	A	E	D
Approach Delay (s)		9.0	12.1		54.9	
Approach LOS		A	B		D	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			13.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.74			
Actuated Cycle Length (s)			130.0		Sum of lost time (s)	27.0
Intersection Capacity Utilization			68.5%		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)	2054	737	2174	589	789
v/c Ratio	0.62	0.47	0.83	0.55	0.90
Control Delay	11.0	2.3	14.1	20.7	37.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	2.3	14.1	20.7	37.3
Queue Length 50th (ft)	204	21	230	97	167
Queue Length 95th (ft)	304	60	291	143	#279
Internal Link Dist (ft)	1004		259		
Turn Bay Length (ft)		250			
Base Capacity (vph)	3308	1583	2625	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	0.62	0.47	0.83	0.54	0.90

## Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

3: Sample Road & I-95 SB RAMP

											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑↑	↑		↑↑↑		↑↑		↑↑		
Traffic Volume (vph)	0	1890	700	0	2000	0	560	0	750	0	0
Future Volume (vph)	0	1890	700	0	2000	0	560	0	750	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		
Flt		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	2054	737	0	2174	0	589	0	789	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2054	737	0	2174	0	589	0	789	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			c0.43		0.17		c0.28		
v/s Ratio Perm			0.47								
v/c Ratio		0.62	0.47		0.83		0.55		0.90		
Uniform Delay, d1		11.2	0.0		13.3		18.5		21.4		
Progression Factor		0.90	1.00		0.89		1.00		1.00		
Incremental Delay, d2		0.8	0.9		2.1		0.5		12.5		
Delay (s)		10.9	0.9		13.9		18.9		33.8		
Level of Service		B	A		B		B		C		
Approach Delay (s)		8.2			13.9			27.5		0.0	
Approach LOS		A			B			C		A	
<b>Intersection Summary</b>											
HCM 2000 Control Delay			14.4				HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio			0.86								
Actuated Cycle Length (s)			65.0				Sum of lost time (s)		11.0		
Intersection Capacity Utilization			74.0%				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)	1880	1891	453	1200	705
v/c Ratio	0.74	0.75	0.29	0.84	0.61
Control Delay	19.1	15.1	0.2	40.0	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	15.1	0.2	40.0	31.7
Queue Length 50th (ft)	391	170	0	453	255
Queue Length 95th (ft)	411	m213	m0	522	311
Internal Link Dist (ft)	270	1155			
Turn Bay Length (ft)			250		
Base Capacity (vph)	2537	2537	1583	1544	1254
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	0.74	0.75	0.29	0.78	0.56

## Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis











4: I-95 NB RAMP & Sample Road

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER	
Lane Configurations		↑↑↑			↑↑↑	↑	↑↑		↑↑			
Traffic Volume (vph)	0	1730	0	0	1740	430	1140	0	670	0	0	
Future Volume (vph)	0	1730	0	0	1740	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	1880	0	0	1891	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	1880	0	0	1891	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)		62.9			62.9	130.0	52.1		52.1			
Effective Green, g (s)		64.9			64.9	130.0	54.1		54.1			
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)		2538			2538	1583	1428		1159			
v/s Ratio Prot		0.37			c0.37		c0.35		0.25			
v/s Ratio Perm						0.29						
v/c Ratio		0.74			0.75	0.29	0.84		0.61			
Uniform Delay, d1		25.9			26.0	0.0	34.1		29.7			
Progression Factor		0.65			0.53	1.00	1.00		1.00			
Incremental Delay, d2		1.0			0.9	0.2	4.6		0.8			
Delay (s)		17.9			14.6	0.2	38.6		30.4			
Level of Service		B			B	A	D		C			
Approach Delay (s)		17.9			11.8			35.6		0.0		
Approach LOS		B			B			D		A		
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.0								HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			130.0								Sum of lost time (s)	11.0
Intersection Capacity Utilization			66.0%								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	2098	114	1820	261	337	120	87	266	418
v/c Ratio	0.97	0.84	0.93	0.88	1.09	0.82	0.24	0.51	0.76	0.89
Control Delay	83.2	28.7	125.3	41.7	120.8	64.3	1.1	42.8	63.2	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.2	28.7	125.3	41.7	120.8	64.3	1.1	42.8	63.2	47.0
Queue Length 50th (ft)	234	368	97	510	~197	272	0	53	214	184
Queue Length 95th (ft)	#343	#602	#217	#690	#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	2491	122	2073	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	0.84	0.93	0.88	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.



# HCM Signalized Intersection Capacity Analysis

5: NE 3rd Ave & Sample Road

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	470	1715	215	105	1545	130	240	310	110	80	245	385
Future Volume (vph)	470	1715	215	105	1545	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	5000		1770	5026		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	5000		1770	5026		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	1864	234	114	1679	141	261	337	120	87	266	418
RTOR Reduction (vph)	0	11	0	0	6	0	0	0	94	0	0	170
Lane Group Flow (vph)	511	2087	0	114	1814	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	2480		122	2068		240	409	348	170	351	298
v/s Ratio Prot	c0.15	c0.42		0.06	0.36		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	0.84		0.93	0.88		1.09	0.82	0.08	0.51	0.76	0.83
Uniform Delay, d1	54.7	28.3		60.2	35.2		43.3	48.3	40.2	40.9	49.9	50.8
Progression Factor	1.05	0.88		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.0	2.7		60.3	5.6		83.4	12.1	0.0	1.1	8.1	17.1
Delay (s)	82.4	27.7		120.6	40.8		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)		38.4			45.5			81.1			61.5	
Approach LOS		D			D			F			E	

## Intersection Summary

HCM 2000 Control Delay	48.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group