


HCM Signalized Intersection Capacity Analysis

14: Woodruff Road & I-385 SB Ramps

5/27/2011

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑					↑↑		↑
Volume (vph)	0	1105	212	91	1660	0	0	0	0	1184	0	735
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6		6.6	6.6					5.7		5.7
Lane Util. Factor		0.95		1.00	0.95					0.97		1.00
Frt		0.98		1.00	1.00					1.00		0.85
Flt Protected		1.00		0.95	1.00					0.95		1.00
Satd. Flow (prot)		3355		1719	3438					3335		1538
Flt Permitted		1.00		0.07	1.00					0.95		1.00
Satd. Flow (perm)		3355		136	3438					3335		1538
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1228	236	101	1844	0	0	0	0	1316	0	817
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	1451	0	101	1844	0	0	0	0	1316	0	814
Turn Type				pm+pt						Prot		custom
Protected Phases		2		1	6					4		
Permitted Phases				6								4
Actuated Green, G (s)		46.8		57.4	57.4					50.3		50.3
Effective Green, g (s)		46.8		57.4	57.4					50.3		50.3
Actuated g/C Ratio		0.39		0.48	0.48					0.42		0.42
Clearance Time (s)		6.6		6.6	6.6					5.7		5.7
Vehicle Extension (s)		4.3		4.3	4.3					4.3		4.3
Lane Grp Cap (vph)		1308		118	1645					1398		645
v/s Ratio Prot		0.43		0.03	c0.54					0.39		
v/s Ratio Perm				0.38								c0.53
v/c Ratio		1.11		0.86	1.12					0.94		1.26
Uniform Delay, d1		36.6		28.1	31.3					33.4		34.9
Progression Factor		1.11		1.75	0.92					1.00		1.00
Incremental Delay, d2		53.7		6.0	55.3					12.8		130.2
Delay (s)		94.4		55.3	84.0					46.3		165.0
Level of Service		F		E	F					D		F
Approach Delay (s)		94.4			82.5			0.0			91.7	
Approach LOS		F			F			A			F	
Intersection Summary												
HCM Average Control Delay			89.2			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.19									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.3			
Intersection Capacity Utilization			184.1%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												