

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	1209	622	261	2060	0	0	0	0	1187	0	727
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		0.95		1.00	1.00					1.00		0.85
Flt Protected		1.00		0.95	1.00					0.95		1.00
Satd. Flow (prot)		3263		1719	3438					3335		1538
Flt Permitted		1.00		0.07	1.00					0.95		1.00
Satd. Flow (perm)		3263		121	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	1343	691	290	2289	0	0	0	0	1319	0	808
RTOR Reduction (vph)	0	54	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	1980	0	290	2289	0	0	0	0	1319	0	805
Turn Type				pm+pt						Prot		custom
Protected Phases		2		1	6					4		
Permitted Phases				6								4
Actuated Green, G (s)		53.4		69.4	69.4					38.3		38.3
Effective Green, g (s)		53.4		69.4	69.4					38.3		38.3
Actuated g/C Ratio		0.44		0.58	0.58					0.32		0.32
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)		1452		195	1988					1064		491
v/s Ratio Prot		0.61		0.12	c0.67					0.40		
v/s Ratio Perm				c0.75								c0.52
v/c Ratio		1.36		1.49	1.15					1.24		1.64
Uniform Delay, d1		33.3		37.6	25.3					40.9		40.9
Progression Factor		1.08		1.61	0.55					1.02		1.02
Incremental Delay, d2		163.9		221.7	68.7					115.9		297.1
Delay (s)		200.0		282.2	82.6					157.8		338.9
Level of Service		F		F	F					F		F
Approach Delay (s)		200.0			105.0			0.0			226.6	
Approach LOS		F			F			A			F	
Intersection Summary												
HCM Average Control Delay			172.0			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.50									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				12.3		
Intersection Capacity Utilization			203.4%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												