


# HCM Signalized Intersection Capacity Analysis

## 14: Woodruff Road & I-385 SB Ramps

6/1/2011

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑					↑↑		↑
Volume (vph)	0	889	438	183	1348	0	0	0	0	696	0	423
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		4.0
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)		3268		1719	3438					3335		1538
Flt Permitted		1.00		0.06	1.00					0.95		1.00
Satd. Flow (perm)		3268		112	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	988	487	203	1498	0	0	0	0	773	0	470
RTOR Reduction (vph)	0	50	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1425	0	203	1498	0	0	0	0	773	0	470
Turn Type				pm+pt						Prot		Free
Protected Phases		2		1	6					4		
Permitted Phases				6								Free
Actuated Green, G (s)		58.3		77.6	77.6					30.1		120.0
Effective Green, g (s)		58.3		77.6	77.6					30.1		120.0
Actuated g/C Ratio		0.49		0.65	0.65					0.25		1.00
Clearance Time (s)		6.6		6.6	6.6					5.7		
Vehicle Extension (s)		4.3		4.3	4.3					4.3		
Lane Grp Cap (vph)		1588		243	2223					837		1538
v/s Ratio Prot		c0.44		0.09	c0.44					c0.23		
v/s Ratio Perm				0.45								0.31
v/c Ratio		0.90		0.84	0.67					0.92		0.31
Uniform Delay, d1		28.1		35.5	13.3					43.8		0.0
Progression Factor		0.62		1.29	0.11					1.00		1.00
Incremental Delay, d2		5.6		2.6	0.2					15.9		0.5
Delay (s)		23.1		48.3	1.6					59.8		0.5
Level of Service		C		D	A					E		A
Approach Delay (s)		23.1			7.2			0.0			37.4	
Approach LOS		C			A			A			D	
<b>Intersection Summary</b>												
HCM Average Control Delay			21.0			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				18.9		
Intersection Capacity Utilization			110.9%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												