


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	830	149	64	1100	0	0	0	0	832	0	515
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		0.88
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)		3359		1719	3438					3335		2707
Flt Permitted		1.00		0.13	1.00					0.95		1.00
Satd. Flow (perm)		3359		231	3438					3335		2707
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	922	166	71	1222	0	0	0	0	924	0	572
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	0	57
Lane Group Flow (vph)	0	1076	0	71	1222	0	0	0	0	924	0	515
Turn Type				pm+pt						Prot		custom
Protected Phases		2		1	6					4		
Permitted Phases				6								4
Actuated Green, G (s)		53.6		65.9	65.9					41.8		41.8
Effective Green, g (s)		53.6		65.9	65.9					41.8		41.8
Actuated g/C Ratio		0.45		0.55	0.55					0.35		0.35
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)		1500		198	1888					1162		943
v/s Ratio Prot		c0.32		0.02	c0.36					c0.28		
v/s Ratio Perm				0.18								0.19
v/c Ratio		0.72		0.36	0.65					0.80		0.55
Uniform Delay, d1		27.0		17.4	18.9					35.2		31.5
Progression Factor		0.84		0.27	0.45					1.00		1.00
Incremental Delay, d2		2.6		0.6	0.6					4.2		0.9
Delay (s)		25.3		5.3	9.1					39.4		32.4
Level of Service		C		A	A					D		C
Approach Delay (s)		25.3			8.9			0.0			36.7	
Approach LOS		C			A			A			D	
Intersection Summary												
HCM Average Control Delay			24.2			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			18.9			
Intersection Capacity Utilization			115.3%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												