

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	1091	0	0	0	0	832	0	495
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		0.98		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		1538
Flt Permitted		1.00		0.13	1.00					0.95		1.00
Satd. Flow (perm)		3359		240	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	922	166	71	1212	0	0	0	0	924	0	550
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1077	0	71	1212	0	0	0	0	924	0	550
Turn Type				pm+pt						Prot		Free
Protected Phases		2		1	6					4		
Permitted Phases				6								Free
Actuated Green, G (s)		54.9		67.5	67.5					40.2		120.0
Effective Green, g (s)		54.9		67.5	67.5					40.2		120.0
Actuated g/C Ratio		0.46		0.56	0.56					0.34		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)		1537		209	1934					1117		1538
v/s Ratio Prot		c0.32		0.02	c0.35					c0.28		
v/s Ratio Perm				0.17								0.36
v/c Ratio		0.70		0.34	0.63					0.83		0.36
Uniform Delay, d1		26.0		16.5	17.7					36.7		0.0
Progression Factor		0.76		0.20	0.37					1.01		1.00
Incremental Delay, d2		2.2		0.5	0.5					5.5		0.7
Delay (s)		21.9		3.8	7.1					42.7		0.7
Level of Service		C		A	A					D		A
Approach Delay (s)		21.9			6.9			0.0			27.0	
Approach LOS		C			A			A			C	
Intersection Summary												
HCM Average Control Delay			18.9			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				18.9		
Intersection Capacity Utilization			114.8%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												