




















HCM Signalized Intersection Capacity Analysis

9: I-85 SB Ramps & Woodruff Road

5/27/2011

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	0	0	0	570	0	346	0	813	124	712	1261	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.0		5.0		6.3	6.3	6.5	6.1	
Lane Util. Factor				0.97		0.88		0.95	1.00	1.00	0.95	
Frt				1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected				0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)				3335		2707		3438	1538	1719	3438	
Flt Permitted				0.95		1.00		1.00	1.00	0.10	1.00	
Satd. Flow (perm)				3335		2707		3438	1538	186	3438	
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	0	0	633	0	384	0	903	138	791	1401	0
RTOR Reduction (vph)	0	0	0	0	0	120	0	0	96	0	0	0
Lane Group Flow (vph)	0	0	0	633	0	264	0	903	42	791	1401	0
Turn Type				custom		custom			Perm	pm+pt		
Protected Phases								2		1	6	
Permitted Phases				4		4			2	6		
Actuated Green, G (s)				22.0		22.0		32.2	32.2	86.9	86.9	
Effective Green, g (s)				22.0		22.0		32.2	32.2	86.9	86.9	
Actuated g/C Ratio				0.18		0.18		0.27	0.27	0.72	0.72	
Clearance Time (s)				5.0		5.0		6.3	6.3	6.5	6.1	
Vehicle Extension (s)				4.3		4.3		4.3	4.3	4.3	4.3	
Lane Grp Cap (vph)				611		496		923	413	748	2490	
v/s Ratio Prot								0.26		c0.42	0.41	
v/s Ratio Perm				c0.19		0.10			0.03	c0.34		
v/c Ratio				1.04		0.53		0.98	0.10	1.06	0.56	
Uniform Delay, d1				49.0		44.3		43.6	33.0	31.1	7.7	
Progression Factor				1.00		1.00		0.61	0.48	1.25	0.64	
Incremental Delay, d2				46.0		1.6		22.9	0.4	43.2	0.6	
Delay (s)				95.0		45.9		49.7	16.3	82.0	5.5	
Level of Service				F		D		D	B	F	A	
Approach Delay (s)		0.0			76.5			45.2			33.1	
Approach LOS		A			E			D			C	
Intersection Summary												
HCM Average Control Delay			46.5			HCM Level of Service			D			
HCM Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			11.5			
Intersection Capacity Utilization			94.4%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												