


















# 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	1105	212	91	1642	0	0	0	0	1184	0	705
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		0.98		1.00	1.00					1.00		0.85
Flt Protected		1.00		0.95	1.00					0.95		1.00
Satd. Flow (prot)		3355		1719	3438					3335		1538
Flt Permitted		1.00		0.07	1.00					0.95		1.00
Satd. Flow (perm)		3355		133	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	1228	236	101	1824	0	0	0	0	1316	0	783
RTOR Reduction (vph)	0	13	0	0	0	0	0	0	0	0	0	4
Lane Group Flow (vph)	0	1451	0	101	1824	0	0	0	0	1316	0	779
Turn Type				pm+pt						Prot		custom
Protected Phases		2		1	6					4		
Permitted Phases				6								4
Actuated Green, G (s)		47.8		58.4	58.4					49.3		49.3
Effective Green, g (s)		47.8		58.4	58.4					49.3		49.3
Actuated g/C Ratio		0.40		0.49	0.49					0.41		0.41
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)		1336		118	1673					1370		632
v/s Ratio Prot		0.43		0.03	c0.53					0.39		
v/s Ratio Perm				0.39								c0.51
v/c Ratio		1.09		0.86	1.09					0.96		1.23
Uniform Delay, d1		36.1		28.0	30.8					34.4		35.4
Progression Factor		0.64		1.83	0.76					1.00		1.00
Incremental Delay, d2		44.1		6.0	41.8					16.0		118.4
Delay (s)		67.3		57.3	65.1					50.2		153.6
Level of Service		E		E	E					D		F
Approach Delay (s)		67.3			64.7			0.0			88.8	
Approach LOS		E			E			A			F	
<b>Intersection Summary</b>												
HCM Average Control Delay			74.6			HCM Level of Service				E		
HCM Volume to Capacity ratio			1.16									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.3			
Intersection Capacity Utilization			181.3%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												