












HCM Signalized Intersection Capacity Analysis

10: I-85 NB Ramps & Woodruff Road

5/27/2011

						
Movement	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations						
Volume (vph)	753	823	1359	1548	0	2021
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	6.5	6.5		6.5
Lane Util. Factor	0.97	1.00	0.95	1.00		0.95
Frt	1.00	0.85	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	3335	1538	3438	1538		3438
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	3335	1538	3438	1538		3438
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	837	914	1510	1720	0	2246
RTOR Reduction (vph)	0	158	0	632	0	0
Lane Group Flow (vph)	837	756	1510	1088	0	2246
Turn Type	Perm		Perm			
Protected Phases	3		2			2 4
Permitted Phases		3		2		
Actuated Green, G (s)	37.4	37.4	50.5	50.5		70.5
Effective Green, g (s)	37.4	37.4	50.5	50.5		63.5
Actuated g/C Ratio	0.31	0.31	0.42	0.42		0.53
Clearance Time (s)	5.6	5.6	6.5	6.5		
Vehicle Extension (s)	4.3	4.3	4.3	4.3		
Lane Grp Cap (vph)	1039	479	1447	647		1819
v/s Ratio Prot	0.25		0.44			c0.65
v/s Ratio Perm		c0.49		c0.71		
v/c Ratio	0.81	1.58	1.04	1.68		1.23
Uniform Delay, d1	38.0	41.3	34.8	34.8		28.2
Progression Factor	1.00	1.00	1.59	5.82		1.31
Incremental Delay, d2	5.0	270.5	22.0	307.4		108.7
Delay (s)	43.0	311.8	77.4	509.8		145.6
Level of Service	D	F	E	F		F
Approach Delay (s)	183.3		307.7			145.6
Approach LOS	F		F			F
Intersection Summary						
HCM Average Control Delay			227.2	HCM Level of Service		F
HCM Volume to Capacity ratio			1.58			
Actuated Cycle Length (s)			120.0	Sum of lost time (s)		18.6
Intersection Capacity Utilization			101.3%	ICU Level of Service		G
Analysis Period (min)			15			
c Critical Lane Group						