




















HCM Signalized Intersection Capacity Analysis

2: I-385 NB Ramps & Roper Mountain Road

5/27/2011

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	1061	0	1506	265	1618	0	0	1551	462
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0	6.0	6.0	6.0			6.0	6.0
Lane Util. Factor				0.95	0.95	0.88	0.97	0.95			0.95	1.00
Frt				1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1633	1633	2707	3335	3438			3438	1538
Flt Permitted				0.95	0.95	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1633	1633	2707	3335	3438			3438	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	0	0	1179	0	1673	294	1798	0	0	1723	513
RTOR Reduction (vph)	0	0	0	0	0	10	0	0	0	0	0	224
Lane Group Flow (vph)	0	0	0	589	590	1663	294	1798	0	0	1723	289
Turn Type				Perm		Perm	Prot					Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8						6
Actuated Green, G (s)				36.0	36.0	36.0	7.0	52.0			39.0	39.0
Effective Green, g (s)				36.0	36.0	36.0	7.0	52.0			39.0	39.0
Actuated g/C Ratio				0.36	0.36	0.36	0.07	0.52			0.39	0.39
Clearance Time (s)				6.0	6.0	6.0	6.0	6.0			6.0	6.0
Vehicle Extension (s)				4.9	4.9	4.9	4.3	4.9			4.9	4.9
Lane Grp Cap (vph)				588	588	975	233	1788			1341	600
v/s Ratio Prot							0.09	c0.52			c0.50	
v/s Ratio Perm				0.36	0.36	c0.61						0.19
v/c Ratio				1.00	1.00	1.71	1.26	1.01			1.28	0.48
Uniform Delay, d1				32.0	32.0	32.0	46.5	24.0			30.5	22.9
Progression Factor				1.00	1.00	1.00	1.45	0.59			0.67	0.64
Incremental Delay, d2				37.5	38.0	321.8	121.1	7.8			128.7	0.3
Delay (s)				69.5	70.0	353.8	188.5	21.9			149.0	14.9
Level of Service				E	E	F	F	C			F	B
Approach Delay (s)		0.0			236.4			45.3			118.2	
Approach LOS		A			F			D			F	
Intersection Summary												
HCM Average Control Delay			143.9			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.49									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			146.5%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												