QEM Signalized Intersection Capacity Analysis
VA Drive & Foothill

10/24/2013

	500 South			Foothill			VA Drive			Capecchi		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations (#)	1	3	1	1	3	1	1	1	1	1	2	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor Flu	1.00	0.91	0.00	1.00	0.91	0.00	1.00	1.00	0.00	1.00	0.95	0.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Sat. Flow (prot)	0	4223	1408	0	4223	1408	1408	1408	1408	1408	2815	1408
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Sat. Flow (perm)	643	4223	1408	793	4223	1408	1095	1408	1408	1235	2815	1408
Volume (vph)	70	614	16	27	723	132	114	0	148	1078	0	280
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	667	17	29	786	143	124	0	161	1172	0	304
RTOR Reduction (vph)	0	0	9	0	0	72	0	0	81	0	0	152
Lane Group Flow (vph)	76	667	8	29	786	71	124	0	80	1172	0	152
Turn Type	Permitted		Permitted	Permitted		Permitted	Prot+perm		Permitted	Prot+perm		Permitted
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Display Green, G (s)	29.2	29.2	29.2	29.2	29.2	29.2	26.3	21.1	21.1	172.8	94.6	94.6
Effective Green, g (s)	31.0	31.0	31.0	31.0	31.0	31.0	27.2	22.0	22.0	174.2	96.0	96.0
Display g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.18	0.14	0.14	1.15	0.63	0.63
Clearance Time (s)	5.8	5.8	5.8	5.8	5.8	5.8	4.9	4.9	4.9	5.4	5.4	5.4
Lane Grp Cap (vph)	58	873	291	60	873	291	176	207	207	872	1802	901
v/s Ratio Prot	0.00	0.16		0.00	0.19		0.09	0.00		0.83	0.00	
v/s Ratio Perm	0.12		0.01	0.04		0.05	0.11		0.06	0.95		0.11
v/c Ratio	1.31	0.76	0.03	0.48	0.90	0.24	0.70	0.00	0.39	1.34	0.00	0.17
Uniform delay, d1 (s)	59.5	56.0	47.5	52.4	58.0	49.7	57.6	0.0	57.9	-12.1	0.0	10.9
Progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2 (s)	221.9	6.2	0.2	25.0	14.1	2.0	20.7	0.0	5.4	160.7	0.0	0.4
Delay (s)	281.4	62.2	47.6	77.4	72.1	51.7	78.3	0.0	63.3	148.6	0.0	11.3
Level of Service	F	E	D	E	E	D	E	N/A	E	F	N/A	B
Approach Delay (s)		83.8			69.2			69.8			120.3	
Approach LOS		F			E			E			F	

Intersection Summary			
HCM Average Control Delay	100.0	HCM Level of Service	F
HCM Volume to Capacity Ratio	0.96		
Actuated Cycle Length (s)	150.0	Sum of Lost Time (s)	12.0
Intersection Capacity Utilization	109.9%	ICU Level of Service	G