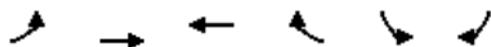


Appendix B

HCM Unsignalized Intersection Capacity Analysis

11: Valencia Road & Mountain Eagle

6/30/2011

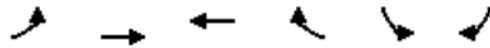


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Volume (veh/h)	2	271	100	13	53	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	295	109	14	58	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	123				415	116
vC1, stage 1 conf vol					116	
vC2, stage 2 conf vol					299	
vCu, unblocked vol	123				415	116
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				92	99
cM capacity (veh/h)	1458				709	934
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	297	123	63			
Volume Left	2	0	58			
Volume Right	0	14	5			
cSH	1458	1700	724			
Volume to Capacity	0.00	0.07	0.09			
Queue Length 95th (ft)	0	0	7			
Control Delay (s)	0.1	0.0	10.4			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	10.4			
Approach LOS			B			
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			25.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

13: Valencia Road & Eagles Talon PW

6/30/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	0	271	120	9	28	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	295	130	10	30	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh		2	2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	140				430	135
vC1, stage 1 conf vol					135	
vC2, stage 2 conf vol					295	
vCu, unblocked vol	140				430	135
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				96	100
cM capacity (veh/h)	1437				707	911

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	295	140	30
Volume Left	0	0	30
Volume Right	0	10	0
cSH	1437	1700	707
Volume to Capacity	0.00	0.08	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		24.3%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis

15: Valencia Road & Vahalla Road

6/30/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕	↗		↕	
Volume (veh/h)	0	324	0	0	148	0	0	4	0	0	18	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	352	0	0	161	0	0	4	0	0	20	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	161			352			523	513	352	515	513	161
vC1, stage 1 conf vol							352	352		161	161	
vC2, stage 2 conf vol							171	161		354	352	
vCu, unblocked vol	161			352			523	513	352	515	513	161
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	99	100	100	97	100
cM capacity (veh/h)	1412			1174			610	588	689	613	588	882

















Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	352	161	4	20
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	317	588
Volume to Capacity	0.21	0.09	0.01	0.03
Queue Length 95th (ft)	0	0	1	3
Control Delay (s)	0.0	0.0	16.5	11.3
Lane LOS			C	B
Approach Delay (s)	0.0	0.0	16.5	11.3
Approach LOS			C	B

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization	27.1%		ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis

18: Valencia Road & Iberia Road

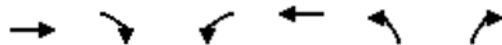
6/30/2011

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	358	3	12	129	15	16	71	6	57	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	389	3	13	140	16	17	77	7	62	1	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	157			392			573	578	391	615	571	148
vC1, stage 1 conf vol							395	395		174	174	
vC2, stage 2 conf vol							178	183		440	397	
vCu, unblocked vol	157			392			573	578	391	615	571	148
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	86	99	87	100	100
cM capacity (veh/h)	1417			1161			581	557	656	477	550	896
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	395	170	101	66								
Volume Left	2	13	17	62								
Volume Right	3	16	7	3								
cSH	1417	1161	566	489								
Volume to Capacity	0.00	0.01	0.18	0.14								
Queue Length 95th (ft)	0	1	16	12								
Control Delay (s)	0.1	0.7	12.7	13.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.1	0.7	12.7	13.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			3.2									
Intersection Capacity Utilization			36.2%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

21: Valencia Road & Victor Drive

6/30/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Volume (veh/h)	0	10	0	0	25	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	11	0	0	27	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			11		5	5
vC1, stage 1 conf vol					5	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			11		5	5
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1602		991	1075

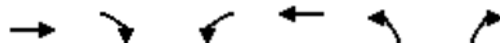
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	11	0	27
Volume Left	0	0	27
Volume Right	11	0	0
cSH	1700	1700	991
Volume to Capacity	0.01	0.00	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	8.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay		6.2	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

23: Valencia Road & Star Ridge Pl

6/30/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Volume (veh/h)	0	4	0	0	25	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	0	0	27	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			4		2	2
vC1, stage 1 conf vol					2	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			4		2	2
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1611		994	1079

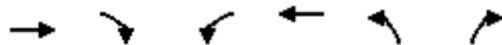
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	4	0	27
Volume Left	0	0	27
Volume Right	4	0	0
cSH	1700	1700	994
Volume to Capacity	0.00	0.00	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	8.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay		7.5	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

25: Valencia Road & Star Diamond PI

6/30/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↶	↻	
Volume (veh/h)	0	13	0	0	9	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	0	0	10	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			14		7	7
vC1, stage 1 conf vol					7	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			14		7	7
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1597		989	1072

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	14	0	10
Volume Left	0	0	10
Volume Right	14	0	0
cSH	1700	1700	989
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	8.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay		3.5	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

27: Valencia Road & Wade Road

6/30/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻		↻	↻			↻	↻		↻	
Volume (veh/h)	0	538	12	65	136	1	39	2	363	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	585	13	71	148	1	42	2	395	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage (veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	149			598			880	882	591	1277	888	148
vC1, stage 1 conf vol							591	591		290	290	
vC2, stage 2 conf vol							289	290		987	598	
vCu, unblocked vol	149			598			880	882	591	1277	888	148
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			93			90	100	22	100	100	100
cM capacity (veh/h)	1426			974			439	436	505	29	391	896

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	598	71	149	45	395	0
Volume Left	0	71	0	42	0	0
Volume Right	13	0	1	0	395	0
cSH	1700	974	1700	438	505	1700
Volume to Capacity	0.35	0.07	0.09	0.10	0.78	0.00
Queue Length 95th (ft)	0	6	0	8	177	0
Control Delay (s)	0.0	9.0	0.0	14.1	33.2	0.0
Lane LOS		A		B	D	A
Approach Delay (s)	0.0	2.9		31.2		0.0
Approach LOS				D		A

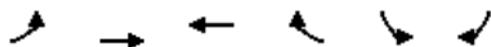
Intersection Summary

Average Delay	11.4
Intersection Capacity Utilization	58.2%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

29: Valencia Road & South Arrow

6/30/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Volume (veh/h)	0	0	0	0	3	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	3	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			1300			
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1617				1021	1082

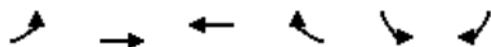
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	0	3
Volume Left	0	0	3
Volume Right	0	0	0
cSH	1700	1700	1021
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	8.5
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay		8.5	
Intersection Capacity Utilization		6.7%	ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

32: Valencia Road & Camino Verde

6/30/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	268	727	148	31	120	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	5.7	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	1759	1845	1495	1752	1568
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	1759	1845	1495	1752	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	291	790	161	34	130	55
RTOR Reduction (vph)	0	0	0	15	0	49
Lane Group Flow (vph)	291	790	161	19	130	6
Heavy Vehicles (%)	3%	8%	3%	8%	3%	3%
Turn Type	Prot			Prot		Perm
Protected Phases	5	2	6	6	4	
Permitted Phases						4
Actuated Green, G (s)	24.7	91.3	62.6	62.6	12.7	12.7
Effective Green, g (s)	24.7	91.3	62.6	62.6	12.7	12.7
Actuated g/C Ratio	0.21	0.79	0.54	0.54	0.11	0.11
Clearance Time (s)	4.0	5.7	5.7	5.7	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	1.0	1.0
Lane Grp Cap (vph)	376	1396	1004	814	193	173
v/s Ratio Prot	c0.17	c0.45	0.09	0.01	c0.07	
v/s Ratio Perm						0.00
v/c Ratio	0.77	0.57	0.16	0.02	0.67	0.04
Uniform Delay, d1	42.5	4.4	13.1	12.1	49.2	45.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	1.7	0.3	0.1	7.1	0.0
Delay (s)	52.1	6.1	13.4	12.1	56.2	45.7
Level of Service	D	A	B	B	E	D
Approach Delay (s)		18.5	13.2		53.1	
Approach LOS		B	B		D	

Intersection Summary

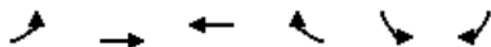
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

34: Valencia Road & Mardick Road

6/30/2011



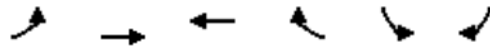
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↶		↶	
Volume (veh/h)	0	0	0	0	1	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1617				1021	1082

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	0	1
Volume Left	0	0	1
Volume Right	0	0	0
cSH	1700	1700	1021
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	8.5
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay		8.5	
Intersection Capacity Utilization		6.7%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis
 36: Valencia Road & Viviana Road

6/30/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↶		↷	
Volume (veh/h)	0	0	3	0	15	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	3	0	16	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3				3	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3				3	3
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	1612				1016	1078

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	3	16
Volume Left	0	0	16
Volume Right	0	0	0
cSH	1700	1700	1016
Volume to Capacity	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	8.6
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay		7.2	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

38: Valencia Road & Casino del Sol

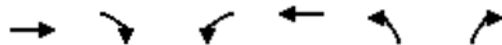
6/30/2011

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑	↖	↗
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						12
Median type	None		TWLTL			
Median storage (veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			0			0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0			0
tC, single (s)			4.2			7.0
tC, 2 stage (s)						
tF (s)			2.2			3.3
p0 queue free %			100			100
cM capacity (veh/h)			1614			1081
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						A
Approach Delay (s)	0.0				0.0	0.0
Approach LOS						A
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

40: Valencia Road & Ignacio Baumea

6/30/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑	↖	↗
Volume (veh/h)	758	19	54	251	13	41
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	824	21	59	273	14	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						10
Median type	TWLTL		TWLTL			
Median storage (veh)	2		2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			845		1078	412
vC1, stage 1 conf vol					824	
vC2, stage 2 conf vol					254	
vCu, unblocked vol			845		1078	412
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			92		96	92
cM capacity (veh/h)			781		362	586

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	412	412	21	150	182	59
Volume Left	0	0	0	59	0	14
Volume Right	0	0	21	0	0	45
cSH	1700	1700	1700	781	1700	772
Volume to Capacity	0.24	0.24	0.01	0.08	0.11	0.08
Queue Length 95th (ft)	0	0	0	6	0	6
Control Delay (s)	0.0	0.0	0.0	4.4	0.0	12.5
Lane LOS				A	B	
Approach Delay (s)	0.0			2.0		12.5
Approach LOS						B

Intersection Summary

Average Delay			1.1			
Intersection Capacity Utilization			42.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

44: Valencia Road & Mark Road

6/30/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	532	53	46	378	85	31	93	85	77	92	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		4.0	5.2		4.0	5.7		4.0	5.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.93		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3457		1752	3409		1752	1713		1752	1741	
Flt Permitted	0.44	1.00		0.39	1.00		0.56	1.00		0.47	1.00	
Satd. Flow (perm)	807	3457		720	3409		1039	1713		860	1741	
Peak-hour factor, 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)	85	578	58	50	411	92	34	101	92	84	100	60
RTOR Reduction (vph)	0	6	0	0	16	0	0	40	0	0	26	0
Lane Group Flow (vph)	85	630	0	50	487	0	34	153	0	84	135	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	55.2	50.6		52.4	49.2		16.3	12.5		18.3	13.5	
Effective Green, g (s)	55.2	50.6		52.4	49.2		16.3	12.5		18.3	13.5	
Actuated g/C Ratio	0.61	0.56		0.58	0.55		0.18	0.14		0.20	0.15	
Clearance Time (s)	4.0	5.2		4.0	5.2		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	1.0	3.0		1.0	3.0		1.0	1.0		1.0	1.0	
Lane Grp Cap (vph)	543	1944		456	1864		218	238		222	261	
v/s Ratio Prot	c0.01	c0.18		0.00	0.14		0.01	c0.09		c0.02	0.08	
v/s Ratio Perm	0.09			0.06			0.02			0.06		
v/c Ratio	0.16	0.32		0.11	0.26		0.16	0.64		0.38	0.52	
Uniform Delay, d1	7.1	10.5		8.1	10.8		32.6	36.6		33.9	35.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.4		0.0	0.1		0.1	4.4		0.4	0.7	
Delay (s)	7.2	11.0		8.2	10.9		32.7	41.1		34.3	36.0	
Level of Service	A	B		A	B		C	D		C	D	
Approach Delay (s)		10.5			10.6			39.8			35.4	
Approach LOS		B			B			D			D	

Intersection Summary

HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

11: Valencia Road & Mountain Eagle

6/30/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↘	
Volume (veh/h)	8	144	248	56	19	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	157	270	61	21	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	330				474	300
vC1, stage 1 conf vol					300	
vC2, stage 2 conf vol					174	
vCu, unblocked vol	330				474	300
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	100
cM capacity (veh/h)	1223				688	737

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	165	330	24
Volume Left	9	0	21
Volume Right	0	61	3
cSH	1223	1700	695
Volume to Capacity	0.01	0.19	0.03
Queue Length 95th (ft)	1	0	3
Control Delay (s)	0.5	0.0	10.4
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	10.4
Approach LOS			B

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization		26.5%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis

13: Valencia Road & Eagles Talon PW

6/30/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	0	0	0	9	28	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	10	30	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh		2	2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	10				5	5
vC1, stage 1 conf vol					5	
vC2, stage 2 conf vol					0	
vCu, unblocked vol	10				5	5
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1603				991	1075



















Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	10	30
Volume Left	0	0	30
Volume Right	0	10	0
cSH	1700	1700	991
Volume to Capacity	0.00	0.01	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	8.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay		6.6	
Intersection Capacity Utilization		13.3%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis

15: Valencia Road & Vahalla Road

6/30/2011

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	191	0	0	390	0	0	14	0	0	4	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	208	0	0	424	0	0	15	0	0	4	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									6			
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	424			208			634	632	208	639	632	424
vC1, stage 1 conf vol							208	208		424	424	
vC2, stage 2 conf vol							426	424		215	208	
vCu, unblocked vol	424			208			634	632	208	639	632	424
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	97	100	100	99	100
cM capacity (veh/h)	1130			1357			554	540	830	552	540	628
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	208	424	15	4								
Volume Left	0	0	0	0								
Volume Right	0	0	0	0								
cSH	1700	1700	465	540								
Volume to Capacity	0.12	0.25	0.03	0.01								
Queue Length 95th (ft)	0	0	3	1								
Control Delay (s)	0.0	0.0	13.0	11.7								
Lane LOS			B	B								
Approach Delay (s)	0.0	0.0	13.0	11.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			30.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

18: Valencia Road & Iberia Road

6/30/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻			↻			↕			↻	
Volume (veh/h)	3	228	1	30	386	49	2	3	18	28	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	248	1	33	420	53	2	3	20	30	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	473			249			768	793	248	788	767	446
vC1, stage 1 conf vol							255	255		511	511	
vC2, stage 2 conf vol							514	538		276	255	
vCu, unblocked vol	473			249			768	793	248	788	767	446
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	99	98	94	100	100
cM capacity (veh/h)	1084			1311			482	465	788	472	474	610

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	252	505	25	33
Volume Left	3	33	2	30
Volume Right	1	53	20	2
cSH	1084	1311	688	479
Volume to Capacity	0.00	0.02	0.04	0.07
Queue Length 95th (ft)	0	2	3	5
Control Delay (s)	0.1	0.8	10.4	13.1
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.8	10.4	13.1
Approach LOS			B	B

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis

21: Valencia Road & Victor Drive

6/30/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Volume (veh/h)	0	10	0	0	25	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	11	0	0	27	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			11		5	5
vC1, stage 1 conf vol					5	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			11		5	5
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1602		991	1075

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	11	0	27
Volume Left	0	0	27
Volume Right	11	0	0
cSH	1700	1700	991
Volume to Capacity	0.01	0.00	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	8.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay		6.2	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

23: Valencia Road & Star Ridge PI

6/30/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Volume (veh/h)	0	4	0	0	25	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	4	0	0	27	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage (veh)	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			4		2	2
vC1, stage 1 conf vol					2	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			4		2	2
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1611		994	1079

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	4	0	27
Volume Left	0	0	27
Volume Right	4	0	0
cSH	1700	1700	994
Volume to Capacity	0.00	0.00	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	8.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay		7.5	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

25: Valencia Road & Star Diamond PI

6/30/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	
Volume (veh/h)	0	13	0	0	9	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	0	0	10	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh	2			2		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			14		7	7
vC1, stage 1 conf vol					7	
vC2, stage 2 conf vol					0	
vCu, unblocked vol			14		7	7
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1597		989	1072

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	14	0	10
Volume Left	0	0	10
Volume Right	14	0	0
cSH	1700	1700	989
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	8.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay		3.5	
Intersection Capacity Utilization	13.3%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

27: Valencia Road & Wade Road

6/30/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻		↻	↻			↻	↻		↻	
Volume (veh/h)	0	284	16	473	524	1	15	0	140	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	309	17	514	570	1	16	0	152	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage (veh)		2										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	571			326			1915	1916	317	2068	1924	570
vC1, stage 1 conf vol							317	317		1598	1598	
vC2, stage 2 conf vol							1598	1599		470	326	
vCu, unblocked vol	571			326			1915	1916	317	2068	1924	570
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			58			78	100	79	100	100	100
cM capacity (veh/h)	997			1228			75	93	721	21	83	519

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	326	514	571	16	152	0
Volume Left	0	514	0	16	0	0
Volume Right	17	0	1	0	152	0
cSH	1700	1228	1700	75	721	1700
Volume to Capacity	0.19	0.42	0.34	0.22	0.21	0.00
Queue Length 95th (ft)	0	53	0	19	20	0
Control Delay (s)	0.0	10.0	0.0	65.6	11.3	0.0
Lane LOS		B		F	B	A
Approach Delay (s)	0.0	4.8		16.6		0.0
Approach LOS				C		A

Intersection Summary		
Average Delay		5.0
Intersection Capacity Utilization	55.5%	ICU Level of Service B
Analysis Period (min)		15

HCM Unsignalized Intersection Capacity Analysis
 29: Valencia Road & South Arrow

6/30/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	
Volume (veh/h)	0	0	0	0	3	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	3	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			1300			
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1617				1021	1082

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	0	3
Volume Left	0	0	3
Volume Right	0	0	0
cSH	1700	1700	1021
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	8.5
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay		8.5	
Intersection Capacity Utilization		6.7%	ICU Level of Service A
Analysis Period (min)		15	

HCM Signalized Intersection Capacity Analysis

32: Valencia Road & Camino Verde

6/30/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	79	281	554	143	82	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	5.7	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1752	1845	1845	1495	1752	1568
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1752	1845	1845	1495	1752	1568
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	305	602	155	89	299
RTOR Reduction (vph)	0	0	0	42	0	270
Lane Group Flow (vph)	86	305	602	113	89	29
Heavy Vehicles (%)	3%	3%	3%	8%	3%	3%
Turn Type	Prot			Prot		Perm
Protected Phases	5	2	6	6	4	
Permitted Phases						4
Actuated Green, G (s)	9.7	92.8	79.1	79.1	11.2	11.2
Effective Green, g (s)	9.7	92.8	79.1	79.1	11.2	11.2
Actuated g/C Ratio	0.08	0.81	0.69	0.69	0.10	0.10
Clearance Time (s)	4.0	5.7	5.7	5.7	5.3	5.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	1.0	1.0
Lane Grp Cap (vph)	148	1489	1269	1028	171	153
v/s Ratio Prot	c0.05	0.17	c0.33	0.08	c0.05	
v/s Ratio Perm						0.02
v/c Ratio	0.58	0.20	0.47	0.11	0.52	0.19
Uniform Delay, d1	50.7	2.6	8.3	6.1	49.3	47.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.7	0.3	1.3	0.2	1.3	0.2
Delay (s)	56.4	2.9	9.6	6.3	50.7	48.0
Level of Service	E	A	A	A	D	D
Approach Delay (s)		14.6	8.9		48.6	
Approach LOS		B	A		D	

Intersection Summary

HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

34: Valencia Road & Mardick Road

6/30/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	
Volume (veh/h)	0	0	0	0	1	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1617				1021	1082

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	0	1
Volume Left	0	0	1
Volume Right	0	0	0
cSH	1700	1700	1021
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	8.5
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay		8.5	
Intersection Capacity Utilization		6.7%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis
 36: Valencia Road & Viviana Road

6/30/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	0	0	3	0	15	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	3	0	16	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3				3	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3				3	3
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	1612				1016	1078

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	3	16
Volume Left	0	0	16
Volume Right	0	0	0
cSH	1700	1700	1016
Volume to Capacity	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	8.6
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay		7.2	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

38: Valencia Road & Casino del Sol

6/30/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗		↑↑	↖	↗
Volume (veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						12
Median type	None		TWLTL			
Median storage (veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol	0					
vC2, stage 2 conf vol	0					
vCu, unblocked vol			0		0	0
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)	5.9					
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1614		1020	1081
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						A
Approach Delay (s)	0.0				0.0	0.0
Approach LOS						A
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

40: Valencia Road & Ignacio Baumea

6/30/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑	↑
Volume (veh/h)	580	23	47	796	24	193
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	630	25	51	865	26	210
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						10
Median type	TWLTL		TWLTL			
Median storage (veh)	2		2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			655		1165	315
vC1, stage 1 conf vol					630	
vC2, stage 2 conf vol					535	
vCu, unblocked vol			655		1165	315
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			94		93	69
cM capacity (veh/h)			921		385	678

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	315	315	25	339	577	236
Volume Left	0	0	0	51	0	26
Volume Right	0	0	25	0	0	210
cSH	1700	1700	1700	921	1700	762
Volume to Capacity	0.19	0.19	0.01	0.06	0.34	0.31
Queue Length 95th (ft)	0	0	0	4	0	33
Control Delay (s)	0.0	0.0	0.0	1.9	0.0	12.9
Lane LOS				A	B	
Approach Delay (s)	0.0			0.7		12.9
Approach LOS						B

Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			52.7%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

44: Valencia Road & Mark Road

6/30/2011



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	493	23	65	743	93	35	37	33	58	53	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.2		4.0	5.2		4.0	5.7		4.0	5.7	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.93		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3481		1752	3446		1752	1714		1752	1696	
Flt Permitted	0.26	1.00		0.42	1.00		0.67	1.00		0.71	1.00	
Satd. Flow (perm)	483	3481		776	3446		1232	1714		1305	1696	
Peak-hour factor, 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)	62	536	25	71	808	101	38	40	36	63	58	67
RTOR Reduction (vph)	0	3	0	0	8	0	0	33	0	0	50	0
Lane Group Flow (vph)	62	558	0	71	901	0	38	43	0	63	75	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	55.8	51.6		56.0	51.7		11.0	8.0		19.4	12.2	
Effective Green, g (s)	55.8	51.6		56.0	51.7		11.0	8.0		19.4	12.2	
Actuated g/C Ratio	0.62	0.57		0.62	0.57		0.12	0.09		0.22	0.14	
Clearance Time (s)	4.0	5.2		4.0	5.2		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	1.0	3.0		1.0	3.0		1.0	1.0		1.0	1.0	
Lane Grp Cap (vph)	359	1996		529	1980		168	152		317	230	
v/s Ratio Prot	c0.01	0.16		0.01	c0.26		0.01	0.03		c0.02	c0.04	
v/s Ratio Perm	0.10			0.08			0.02			0.03		
v/c Ratio	0.17	0.28		0.13	0.46		0.23	0.28		0.20	0.33	
Uniform Delay, d1	7.2	9.8		6.7	11.0		35.9	38.3		29.1	35.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.0	0.2		0.3	0.4		0.1	0.3	
Delay (s)	7.3	10.1		6.8	11.2		36.1	38.7		29.2	35.5	
Level of Service	A	B		A	B		D	D		C	D	
Approach Delay (s)		9.8			10.9			37.8			33.4	
Approach LOS		A			B			D			C	

Intersection Summary

HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.7
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			