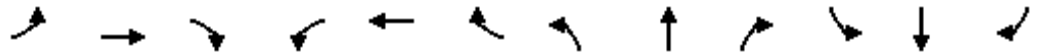


## **Appendix L: Traffic Data Modeling Output**



HCM Unsignalized Intersection Capacity Analysis  
 1: SR 120 EB Ramps & Yosemite Ave

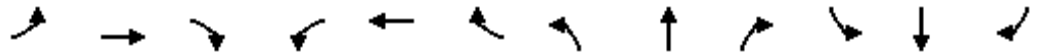
12/21/2010



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	81	2	6	0	0	0	0	15	2	48	12	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)	88	2	7	0	0	0	0	16	2	52	13	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	135	136	13	142	135	17	13			18		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	135	136	13	142	135	17	13			18		
tC, single (s)	7.2	6.6	6.3	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.5	4.0	3.3	2.2			2.3		
p0 queue free %	89	100	99	100	100	100	100			97		
cM capacity (veh/h)	797	715	1044	799	731	1061	1605			1548		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>									
Volume Total	97	18	65									
Volume Left	88	0	52									
Volume Right	7	2	0									
cSH	808	1700	1548									
Volume to Capacity	0.12	0.01	0.03									
Queue Length 95th (ft)	10	0	3									
Control Delay (s)	10.1	0.0	6.0									
Lane LOS	B		A									
Approach Delay (s)	10.1	0.0	6.0									
Approach LOS	B											
<b>Intersection Summary</b>												
Average Delay			7.6									
Intersection Capacity Utilization			21.6%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 2: SR 120 WB Ramps & Yosemite Ave

12/21/2010



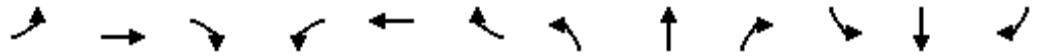
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	10	2	114	12	84	0	0	50	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	11	2	124	13	91	0	0	54	122
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	358	233	115	233	293	91	176			91		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	358	233	115	233	293	91	176			91		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.3			2.2		
p0 queue free %	100	100	100	98	100	87	99			100		
cM capacity (veh/h)	514	661	937	700	599	945	1353			1504		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	137	104	176
Volume Left	11	13	0
Volume Right	124	0	122
cSH	911	1353	1700
Volume to Capacity	0.15	0.01	0.10
Queue Length 95th (ft)	13	1	0
Control Delay (s)	9.6	1.0	0.0
Lane LOS	A	A	
Approach Delay (s)	9.6	1.0	0.0
Approach LOS	A		

Intersection Summary		
Average Delay		3.4
Intersection Capacity Utilization	28.9%	ICU Level of Service
Analysis Period (min)		15
		A

HCM Unsignalized Intersection Capacity Analysis  
 1: SR 120 EB Ramps & Yosemite Ave

12/21/2010



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	184	2	8	0	0	0	0	15	14	103	6	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)	200	2	9	0	0	0	0	16	15	112	7	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	254	262	7	264	254	24	7			32		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	254	262	7	264	254	24	7			32		
tC, single (s)	7.2	6.6	6.3	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.5	4.0	3.3	2.2			2.3		
p0 queue free %	69	100	99	100	100	100	100			93		
cM capacity (veh/h)	644	584	1053	643	602	1053	1614			1531		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	211	32	118
Volume Left	200	0	112
Volume Right	9	15	0
cSH	654	1700	1531
Volume to Capacity	0.32	0.02	0.07
Queue Length 95th (ft)	35	0	6
Control Delay (s)	13.1	0.0	7.2
Lane LOS	B		A
Approach Delay (s)	13.1	0.0	7.2
Approach LOS	B		

Intersection Summary			
Average Delay		10.0	
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis  
 2: SR 120 WB Ramps & Yosemite Ave

12/21/2010



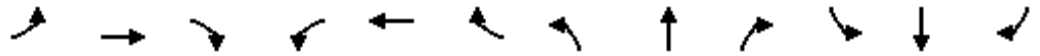
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Volume (veh/h)	0	0	0	8	2	58	16	183	0	0	101	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	9	2	63	17	199	0	0	110	141
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	478	414	180	414	485	199	251			199		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	478	414	180	414	485	199	251			199		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.3			2.2		
p0 queue free %	100	100	100	98	100	92	99			100		
cM capacity (veh/h)	453	521	862	529	464	822	1269			1373		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	74	216	251
Volume Left	9	17	0
Volume Right	63	0	141
cSH	756	1269	1700
Volume to Capacity	0.10	0.01	0.15
Queue Length 95th (ft)	8	1	0
Control Delay (s)	10.3	0.7	0.0
Lane LOS	B	A	
Approach Delay (s)	10.3	0.7	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		1.7	
Intersection Capacity Utilization	33.7%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis  
 1: SR 120 EB Ramps & Yosemite Ave

12/21/2010



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	121	2	6	0	0	0	0	15	2	48	12	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)	132	2	7	0	0	0	0	16	2	52	13	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	135	136	13	142	135	17	13			18		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	135	136	13	142	135	17	13			18		
tC, single (s)	7.2	6.6	6.3	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.5	4.0	3.3	2.2			2.3		
p0 queue free %	84	100	99	100	100	100	100			97		
cM capacity (veh/h)	797	715	1044	799	731	1061	1605			1548		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>									
Volume Total	140	18	65									
Volume Left	132	0	52									
Volume Right	7	2	0									
cSH	805	1700	1548									
Volume to Capacity	0.17	0.01	0.03									
Queue Length 95th (ft)	16	0	3									
Control Delay (s)	10.4	0.0	6.0									
Lane LOS	B		A									
Approach Delay (s)	10.4	0.0	6.0									
Approach LOS	B											
<b>Intersection Summary</b>												
Average Delay			8.3									
Intersection Capacity Utilization			23.8%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 2: SR 120 WB Ramps & Yosemite Ave

12/21/2010



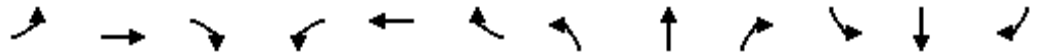
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	10	2	114	12	124	0	0	50	301
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	11	2	124	13	135	0	0	54	327
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	504	379	218	379	542	135	382			135		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	504	379	218	379	542	135	382			135		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.3			2.2		
p0 queue free %	100	100	100	98	99	86	99			100		
cM capacity (veh/h)	407	547	822	560	431	893	1134			1450		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	137	148	382
Volume Left	11	13	0
Volume Right	124	0	327
cSH	839	1134	1700
Volume to Capacity	0.16	0.01	0.22
Queue Length 95th (ft)	15	1	0
Control Delay (s)	10.1	0.8	0.0
Lane LOS	B	A	
Approach Delay (s)	10.1	0.8	0.0
Approach LOS	B		

Intersection Summary		
Average Delay		2.3
Intersection Capacity Utilization	35.6%	ICU Level of Service A
Analysis Period (min)		15

HCM Unsignalized Intersection Capacity Analysis  
 1: SR 120 EB Ramps & Yosemite Ave

12/21/2010



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	325	2	8	0	0	0	0	15	14	103	6	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)	353	2	9	0	0	0	0	16	15	112	7	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	254	262	7	264	254	24	7			32		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	254	262	7	264	254	24	7			32		
tC, single (s)	7.2	6.6	6.3	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.5	4.0	3.3	2.2			2.3		
p0 queue free %	45	100	99	100	100	100	100			93		
cM capacity (veh/h)	644	584	1053	643	602	1053	1614			1531		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>									
Volume Total	364	32	118									
Volume Left	353	0	112									
Volume Right	9	15	0									
cSH	650	1700	1531									
Volume to Capacity	0.56	0.02	0.07									
Queue Length 95th (ft)	87	0	6									
Control Delay (s)	17.4	0.0	7.2									
Lane LOS	C		A									
Approach Delay (s)	17.4	0.0	7.2									
Approach LOS	C											
<b>Intersection Summary</b>												
Average Delay			13.9									
Intersection Capacity Utilization			38.0%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 2: SR 120 WB Ramps & Yosemite Ave

12/21/2010



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	8	2	58	16	324	0	0	101	249
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	0	0	9	2	63	17	352	0	0	110	271
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	696	632	245	632	767	352	380			352		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	696	632	245	632	767	352	380			352		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.3			2.2		
p0 queue free %	100	100	100	98	99	91	98			100		
cM capacity (veh/h)	317	391	794	377	318	674	1136			1207		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	74	370	380
Volume Left	9	17	0
Volume Right	63	0	271
cSH	599	1136	1700
Volume to Capacity	0.12	0.02	0.22
Queue Length 95th (ft)	10	1	0
Control Delay (s)	11.9	0.5	0.0
Lane LOS	B	A	
Approach Delay (s)	11.9	0.5	0.0
Approach LOS	B		

Intersection Summary		
Average Delay		1.3
Intersection Capacity Utilization	40.9%	ICU Level of Service A
Analysis Period (min)		15