

Appendix D

Total Future Levels of Service

Total Future Conditions
1: I Street & 3rd Street

AM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Yield			Stop			Stop	
Volume (vph)	33	34	90	0	0	0	85	235	24	53	124	24
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)	36	37	98	0	0	0	92	255	26	58	135	26
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total (vph)	171	374	218									
Volume Left (vph)	36	92	58									
Volume Right (vph)	98	26	26									
Hadj (s)	-0.27	0.04	0.02									
Departure Headway (s)	5.0	4.7	4.8									
Degree Utilization, x	0.24	0.49	0.29									
Capacity (veh/h)	649	746	708									
Control Delay (s)	9.6	12.0	9.8									
Approach Delay (s)	9.6	12.0	9.8									
Approach LOS	A	B	A									
Intersection Summary												
Delay			10.8									
HCM Level of Service			B									
Intersection Capacity Utilization			39.9%	ICU Level of Service		A						
Analysis Period (min)			15									

Total Future Conditions
2: I Street & North Alley

AM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	100	5	0	0	0	0	1	1	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)	7	109	5	0	0	0	0	1	1	0	0	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			114			124	124	111	126	127	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			114			124	124	111	126	127	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1623			1475			847	763	942	843	760	1085
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total	121	2	0									
Volume Left	7	0	0									
Volume Right	5	1	0									
cSH	1623	843	1700									
Volume to Capacity	0.00	0.00	0.00									
Queue Length 95th (ft)	0	0	0									
Control Delay (s)	0.4	9.3	0.0									
Lane LOS	A	A	A									
Approach Delay (s)	0.4	9.3	0.0									
Approach LOS		A	A									
Intersection Summary												
Average Delay			0.6									
Intersection Capacity Utilization			15.9%	ICU Level of Service					A			
Analysis Period (min)			15									

Total Future Conditions
3: I Street & 4th Street

AM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	68	35	0	0	0	0	0	0	13	369	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	74	38	0	0	0	0	0	0	14	401	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)								450				
pX, platoon unblocked												
vC, conflicting volume	429	429	401	504	429	0	401			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	429	429	401	504	429	0	401			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	86	94	100	100	100	100			99		
cM capacity (veh/h)	532	514	649	398	514	1085	1158			1623		
Direction, Lane #	EB 1	SB 1										
Volume Total	112	415										
Volume Left	0	14										
Volume Right	38	0										
cSH	553	1623										
Volume to Capacity	0.20	0.01										
Queue Length 95th (ft)	19	1										
Control Delay (s)	13.2	0.3										
Lane LOS	B	A										
Approach Delay (s)	13.2	0.3										
Approach LOS	B											
Intersection Summary												
Average Delay			3.1									
Intersection Capacity Utilization			32.5%			ICU Level of Service				A		
Analysis Period (min)			15									

Total Future Conditions
4: East Alley & 4th Street

AM Peak Period
1/5/2006

												
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	2	1	0	0	0	0	0	0	409	1
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	2	1	0	0	0	0	0	0	445	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)								140				
pX, platoon unblocked												
vC, conflicting volume	445	445	445	447	446	0	446				0	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	445	445	445	447	446	0	446				0	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	100	100	100	100	100	100				100	
cM capacity (veh/h)	523	508	613	520	507	1085	1115				1623	
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	2	1	446									
Volume Left	0	1	0									
Volume Right	2	0	1									
cSH	613	520	1623									
Volume to Capacity	0.00	0.00	0.00									
Queue Length 95th (ft)	0	0	0									
Control Delay (s)	10.9	11.9	0.0									
Lane LOS	B	B										
Approach Delay (s)	10.9	11.9	0.0									
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.1									
Intersection Capacity Utilization			38.3%	ICU Level of Service		A						
Analysis Period (min)			15									

Total Future Conditions
5: H Street & 4th Street

AM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑						↑↓	
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	
Lane Util. Factor		0.91			0.91						1.00	
Frt		0.99			1.00						0.98	
Flt Protected		1.00			1.00						0.99	
Satd. Flow (prot)		5044			5081						1807	
Flt Permitted		1.00			0.92						0.99	
Satd. Flow (perm)		5044			4703						1807	
Volume (vph)	0	436	25	28	1798	0	0	0	0	61	282	69
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)	0	474	27	30	1954	0	0	0	0	66	307	75
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	495	0	0	1984	0	0	0	0	0	441	0
Turn Type				Perm						Perm		
Protected Phases		4			8						6	
Permitted Phases				8							6	
Actuated Green, G (s)		60.0			60.0						32.0	
Effective Green, g (s)		60.0			60.0						32.0	
Actuated g/C Ratio		0.60			0.60						0.32	
Clearance Time (s)		4.0			4.0						4.0	
Lane Grp Cap (vph)		3026			2822						578	
v/s Ratio Prot		0.10										
v/s Ratio Perm					c0.42						0.24	
v/c Ratio		0.16			0.70						0.76	
Uniform Delay, d1		8.9			13.8						30.6	
Progression Factor		0.72			1.00						1.00	
Incremental Delay, d2		0.1			1.5						9.2	
Delay (s)		6.5			15.3						39.8	
Level of Service		A			B						D	
Approach Delay (s)		6.5			15.3			0.0			39.8	
Approach LOS		A			B			A			D	
Intersection Summary												
HCM Average Control Delay		17.5			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.72										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		76.7%			ICU Level of Service			D				
Analysis Period (min)		15										

c Critical Lane Group

Total Future Conditions
7: H Street & 3rd Street

AM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Flt		0.99			0.99			0.98			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		4974			5011			1803			1750	
Flt Permitted		0.67			0.89			0.74			0.83	
Satd. Flow (perm)		3343			4466			1358			1469	
Volume (vph)	79	374	47	62	1640	160	68	134	31	55	99	91
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)	86	407	51	67	1783	174	74	146	34	60	108	99
RTOR Reduction (vph)	0	13	0	0	11	0	0	5	0	0	21	0
Lane Group Flow (vph)	0	531	0	0	2013	0	0	249	0	0	246	0
Turn Type	Prot			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)		67.0			55.0			25.0			25.0	
Effective Green, g (s)		67.0			55.0			25.0			25.0	
Actuated g/C Ratio		0.67			0.55			0.25			0.25	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		2370			2456			340			367	
v/s Ratio Prot		c0.02										
v/s Ratio Perm		0.13			c0.45			c0.18			0.17	
v/c Ratio		0.22			0.82			0.73			0.67	
Uniform Delay, d1		6.4			18.4			34.4			33.8	
Progression Factor		1.00			0.31			1.00			1.00	
Incremental Delay, d2		0.2			2.3			13.0			9.4	
Delay (s)		6.6			8.0			47.4			43.2	
Level of Service		A			A			D			D	
Approach Delay (s)		6.6			8.0			47.4			43.2	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay		14.1					HCM Level of Service		B			
HCM Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)		12.0			
Intersection Capacity Utilization		75.2%					ICU Level of Service		D			
Analysis Period (min)		15										

c Critical Lane Group

Total Future Conditions
8: West Alley & 3rd Street

AM Peak Period
1/5/2006

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	2	3	4	369	241	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	3	4	401	262	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				260		
pX, platoon unblocked	0.98					
vC, conflicting volume	672	262	263			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	665	262	263			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	414	776	1301			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	5	405	263			
Volume Left	2	4	0			
Volume Right	3	0	1			
cSH	575	1301	1700			
Volume to Capacity	0.01	0.00	0.15			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	11.3	0.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.3	0.1	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		0.2				
Intersection Capacity Utilization		32.6%		ICU Level of Service		A
Analysis Period (min)		15				

Total Future Conditions
9: Garage Entrance & 3rd Street

AM Peak Period
1/5/2006

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	54	30	313	58	26	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	59	33	340	63	28	207
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			320			
pX, platoon unblocked						
vC, conflicting volume	635	372			403	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	635	372			403	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	95			98	
cM capacity (veh/h)	432	674			1155	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	91	403	235			
Volume Left	59	0	28			
Volume Right	33	63	0			
cSH	495	1700	1155			
Volume to Capacity	0.18	0.24	0.02			
Queue Length 95th (ft)	17	0	2			
Control Delay (s)	13.9	0.0	1.2			
Lane LOS	B		A			
Approach Delay (s)	13.9	0.0	1.2			
Approach LOS	B					
Intersection Summary						
Average Delay		2.1				
Intersection Capacity Utilization		43.4%		ICU Level of Service		A
Analysis Period (min)		15				

Total Future Conditions
1: I Street & 3rd Street

PM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Yield			Stop			Stop	
Volume (vph)	61	84	125	0	0	0	88	186	30	47	190	32
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)	66	91	136	0	0	0	96	202	33	51	207	35
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total (vph)	293	330	292									
Volume Left (vph)	66	96	51									
Volume Right (vph)	136	33	35									
Hadj (s)	-0.20	0.03	0.00									
Departure Headway (s)	5.3	5.2	5.2									
Degree Utilization, x	0.43	0.48	0.42									
Capacity (veh/h)	632	653	654									
Control Delay (s)	12.3	12.9	12.0									
Approach Delay (s)	12.3	12.9	12.0									
Approach LOS	B	B	B									
Intersection Summary												
Delay			12.4									
HCM Level of Service			B									
Intersection Capacity Utilization			49.3%	ICU Level of Service						A		
Analysis Period (min)			15									

Total Future Conditions
2: I Street & North Alley

PM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	156	3	0	0	0	0	0	0	2	3	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	170	3	0	0	0	0	0	0	2	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)												
pX, platoon unblocked												
vC, conflicting volume	0			173			177	176	171	176	177	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			173			177	176	171	176	177	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1623			1404			781	717	873	786	715	1085
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total	175	0	5									
Volume Left	2	0	2									
Volume Right	3	0	0									
cSH	1623	1700	742									
Volume to Capacity	0.00	0.00	0.01									
Queue Length 95th (ft)	0	0	1									
Control Delay (s)	0.1	0.0	9.9									
Lane LOS	A	A	A									
Approach Delay (s)	0.1	0.0	9.9									
Approach LOS		A	A									
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization		18.5%		ICU Level of Service					A			
Analysis Period (min)		15										

Total Future Conditions
3: I Street & 4th Street

PM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	136	26	0	0	0	0	0	0	36	372	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	148	28	0	0	0	0	0	0	39	404	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)								450				
pX, platoon unblocked												
vC, conflicting volume	483	483	404	585	483	0	404			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	483	483	404	585	483	0	404			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	69	96	100	100	100	100			98		
cM capacity (veh/h)	485	472	646	301	472	1085	1154			1623		
Direction, Lane #	EB 1	SB 1										
Volume Total	176	443										
Volume Left	0	39										
Volume Right	28	0										
cSH	493	1623										
Volume to Capacity	0.36	0.02										
Queue Length 95th (ft)	40	2										
Control Delay (s)	16.3	0.9										
Lane LOS	C	A										
Approach Delay (s)	16.3	0.9										
Approach LOS	C											
Intersection Summary												
Average Delay		5.2										
Intersection Capacity Utilization		37.0%		ICU Level of Service						A		
Analysis Period (min)		15										

Total Future Conditions
4: East Alley & 4th Street

PM Peak Period
1/5/2006

												
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	1	3	0	0	0	0	0	1	386	1
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	1	3	0	0	0	0	0	1	420	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								140				
pX, platoon unblocked												
vC, conflicting volume	422	422	420	423	423	0	421			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	422	422	420	423	423	0	421			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	542	523	633	540	522	1085	1138			1623		
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	1	3	422									
Volume Left	0	3	1									
Volume Right	1	0	1									
cSH	633	540	1623									
Volume to Capacity	0.00	0.01	0.00									
Queue Length 95th (ft)	0	0	0									
Control Delay (s)	10.7	11.7	0.0									
Lane LOS	B	B	A									
Approach Delay (s)	10.7	11.7	0.0									
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.1									
Intersection Capacity Utilization		37.1%		ICU Level of Service					A			
Analysis Period (min)		15										

Total Future Conditions
5: H Street & 4th Street

PM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑						↑	
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	
Lane Util. Factor		0.91			0.91						1.00	
Frt		0.99			1.00						0.98	
Flt Protected		1.00			1.00						0.99	
Satd. Flow (prot)		5058			5075						1806	
Flt Permitted		1.00			0.82						0.99	
Satd. Flow (perm)		5058			4183						1806	
Volume (vph)	0	1492	56	27	608	0	0	0	0	78	251	61
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)	0	1622	61	29	661	0	0	0	0	85	273	66
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	1679	0	0	690	0	0	0	0	0	417	0
Turn Type	Perm						Perm					
Protected Phases	4			8			6					
Permitted Phases				8			6					
Actuated Green, G (s)	60.0			60.0			32.0					
Effective Green, g (s)	60.0			60.0			32.0					
Actuated g/C Ratio	0.60			0.60			0.32					
Clearance Time (s)	4.0			4.0			4.0					
Lane Grp Cap (vph)	3035			2510			578					
v/s Ratio Prot	c0.33											
v/s Ratio Perm				0.16			0.23					
v/c Ratio	0.55			0.27			0.72					
Uniform Delay, d1	12.0			9.6			30.1					
Progression Factor	0.52			1.00			1.00					
Incremental Delay, d2	0.4			0.3			7.6					
Delay (s)	6.6			9.9			37.7					
Level of Service	A			A			D					
Approach Delay (s)	6.6			9.9			0.0			37.7		
Approach LOS	A			A			A			D		
Intersection Summary												
HCM Average Control Delay	12.1			HCM Level of Service			B					
HCM Volume to Capacity ratio	0.61											
Actuated Cycle Length (s)	100.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	59.8%			ICU Level of Service			B					
Analysis Period (min)	15											

c Critical Lane Group

Total Future Conditions
7: H Street & 3rd Street

PM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Flt		0.99			0.98			0.98			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		5029			4971			1801			1761	
Flt Permitted		0.74			0.76			0.81			0.68	
Satd. Flow (perm)		3734			3808			1479			1213	
Volume (vph)	152	1366	67	42	537	86	44	122	33	149	130	103
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)	165	1485	73	46	584	93	48	133	36	162	141	112
RTOR Reduction (vph)	0	5	0	0	19	0	0	8	0	0	14	0
Lane Group Flow (vph)	0	1718	0	0	704	0	0	210	0	0	402	0
Turn Type	Prot			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)		67.0			55.0			25.0			25.0	
Effective Green, g (s)		67.0			55.0			25.0			25.0	
Actuated g/C Ratio		0.67			0.55			0.25			0.25	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		2605			2094			370			303	
v/s Ratio Prot		c0.05										
v/s Ratio Perm		c0.39			0.18			0.14			c0.33	
v/c Ratio		1.07dl			0.34			0.57			1.33	
Uniform Delay, d1		9.8			12.4			32.8			37.5	
Progression Factor		1.00			0.41			1.00			1.00	
Incremental Delay, d2		1.3			0.4			6.2			167.4	
Delay (s)		11.1			5.6			38.9			204.9	
Level of Service		B			A			D			F	
Approach Delay (s)		11.1			5.6			38.9			204.9	
Approach LOS		B			A			D			F	
Intersection Summary												
HCM Average Control Delay			37.9			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			89.7%			ICU Level of Service			E			
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

Total Future Conditions
8: West Alley & 3rd Street

PM Peak Period
1/5/2006

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	0	0	362	389	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	393	423	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				260		
pX, platoon unblocked	0.97					
vC, conflicting volume	816	423	423			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	810	423	423			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	337	631	1136			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	393	423			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1136	1700			
Volume to Capacity	0.00	0.00	0.25			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	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		23.8%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	127	55	243	119	53	263
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	138	60	264	129	58	286
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			320			
pX, platoon unblocked	0.98	0.98			0.98	
vC, conflicting volume	730	329			393	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	724	315			381	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	62	92			95	
cM capacity (veh/h)	365	711			1154	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	198	393	343			
Volume Left	138	0	58			
Volume Right	60	129	0			
cSH	428	1700	1154			
Volume to Capacity	0.46	0.23	0.05			
Queue Length 95th (ft)	60	0	4			
Control Delay (s)	20.4	0.0	1.8			
Lane LOS	C		A			
Approach Delay (s)	20.4	0.0	1.8			
Approach LOS	C					
Intersection Summary						
Average Delay		5.0				
Intersection Capacity Utilization		57.2%		ICU Level of Service	B	
Analysis Period (min)		15				

Total Future Conditions (opt)
7: H Street & 3rd Street

AM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Fr _t		0.99			0.99			0.98			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		4974			5011			1803			1750	
Flt Permitted		0.66			0.89			0.82			0.88	
Satd. Flow (perm)		3301			4463			1509			1562	
Volume (vph)	79	374	47	62	1640	160	68	134	31	55	99	91
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)	86	407	51	67	1783	174	74	146	34	60	108	99
RTOR Reduction (vph)	0	12	0	0	11	0	0	6	0	0	21	0
Lane Group Flow (vph)	0	532	0	0	2013	0	0	248	0	0	246	0
Turn Type	Prot			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)		57.0			45.0			35.0			35.0	
Effective Green, g (s)		57.0			45.0			35.0			35.0	
Actuated g/C Ratio		0.57			0.45			0.35			0.35	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		2015			2008			528			547	
v/s Ratio Prot		c0.02										
v/s Ratio Perm		0.13			c0.45			c0.16			0.16	
v/c Ratio		0.26			1.00			0.47			0.45	
Uniform Delay, d1		10.9			27.5			25.3			25.1	
Progression Factor		1.00			0.52			1.00			1.00	
Incremental Delay, d2		0.3			17.3			3.0			2.7	
Delay (s)		11.2			31.7			28.3			27.7	
Level of Service		B			C			C			C	
Approach Delay (s)		11.2			31.7			28.3			27.7	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM Average Control Delay		27.4			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.73										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		75.2%			ICU Level of Service			D				
Analysis Period (min)		15										

c Critical Lane Group

Total Future Conditions (opt)
7: H Street & 3rd Street

PM Peak Period
1/5/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑			↑	
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	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frt		0.99			0.98			0.98			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		5029			4971			1801			1761	
Flt Permitted		0.72			0.76			0.85			0.73	
Satd. Flow (perm)		3655			3789			1545			1309	
Volume (vph)	152	1366	67	42	537	86	44	122	33	149	130	103
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)	165	1485	73	46	584	93	48	133	36	162	141	112
RTOR Reduction (vph)	0	5	0	0	19	0	0	7	0	0	13	0
Lane Group Flow (vph)	0	1718	0	0	704	0	0	210	0	0	402	0
Turn Type	Prot			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)		57.0			45.0			35.0			35.0	
Effective Green, g (s)		57.0			45.0			35.0			35.0	
Actuated g/C Ratio		0.57			0.45			0.35			0.35	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		2193			1705			541			458	
v/s Ratio Prot		c0.06										
v/s Ratio Perm		c0.38			0.19			0.14			c0.31	
v/c Ratio		1.09dl			0.41			0.39			0.88	
Uniform Delay, d1		16.7			18.6			24.4			30.5	
Progression Factor		1.00			0.60			1.00			1.00	
Incremental Delay, d2		2.9			0.7			2.1			20.5	
Delay (s)		19.6			11.9			26.5			51.0	
Level of Service		B			B			C			D	
Approach Delay (s)		19.6			11.9			26.5			51.0	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM Average Control Delay		22.5			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		89.7%			ICU Level of Service			E				
Analysis Period (min)		15										
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												