

Appendix G

Total Future Levels of Service

Total Future Conditions
2: Chapin Street & Public Alley

AM Peak Hour
5/5/2006

												
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	35	2	21	0	10	0	2	39	12	2	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	38	2	23	0	11	0	2	42	13	2	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	11			40			104	109	39	147	104	5
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	11			40			104	109	39	147	104	5
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			99			100	100	96	98	100	100
cM capacity (veh/h)	1608			1569			861	767	1032	775	771	1078
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	47	34	45	15								
Volume Left	7	23	0	13								
Volume Right	2	11	42	0								
cSH	1608	1569	1015	775								
Volume to Capacity	0.00	0.01	0.04	0.02								
Queue Length 95th (ft)	0	1	3	2								
Control Delay (s)	1.0	5.0	8.7	9.7								
Lane LOS	A	A	A	A								
Approach Delay (s)	1.0	5.0	8.7	9.7								
Approach LOS				A	A							
Intersection Summary												
Average Delay				5.4								
Intersection Capacity Utilization				20.2%	ICU Level of Service				A			
Analysis Period (min)				15								

Total Future Conditions
2: Chapin Street & Public Alley

PM Peak Hour
5/5/2006

												
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)	7	34	3	47	0	5	0	7	27	10	2	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)	8	37	3	51	0	5	0	8	29	11	2	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	5			40			160	161	39	192	160	3
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	5			40			160	161	39	192	160	3
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			97			100	99	97	98	100	100
cM capacity (veh/h)	1616			1569			781	704	1033	719	705	1081
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	48	57	37	13								
Volume Left	8	51	0	11								
Volume Right	3	5	29	0								
cSH	1616	1569	942	717								
Volume to Capacity	0.00	0.03	0.04	0.02								
Queue Length 95th (ft)	0	3	3	1								
Control Delay (s)	1.2	6.7	9.0	10.1								
Lane LOS	A	A	A	B								
Approach Delay (s)	1.2	6.7	9.0	10.1								
Approach LOS			A	B								
Intersection Summary												
Average Delay				5.8								
Intersection Capacity Utilization				23.6%	ICU Level of Service				A			
Analysis Period (min)				15								

Total Future Conditions
3: Chapin Street & 14th Street

AM Peak Hour
5/5/2006



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰			↱	↱	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	53	48	20	672	1010	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	58	52	22	730	1098	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				611		
pX, platoon unblocked	0.96					
vC, conflicting volume	1521	563	1126			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1499	563	1126			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	45	89	96			
cM capacity (veh/h)	104	470	616			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	110	265	487	732	394	
Volume Left	58	22	0	0	0	
Volume Right	52	0	0	0	28	
cSH	165	616	1700	1700	1700	
Volume to Capacity	0.66	0.04	0.29	0.43	0.23	
Queue Length 95th (ft)	96	3	0	0	0	
Control Delay (s)	61.7	1.3	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	61.7	0.5		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization		45.6%		ICU Level of Service	A	
Analysis Period (min)			15			

Total Future Conditions
3: Chapin Street & 14th Street

PM Peak Hour
5/5/2006



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑↑	↑↑	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	44	24	12	1097	740	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	26	13	1192	804	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				611		
pX, platoon unblocked	0.85					
vC, conflicting volume	1448	423	847			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1354	423	847			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	60	95	98			
cM capacity (veh/h)	118	579	786			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	74	411	795	536	311	
Volume Left	48	13	0	0	0	
Volume Right	26	0	0	0	42	
cSH	165	786	1700	1700	1700	
Volume to Capacity	0.45	0.02	0.47	0.32	0.18	
Queue Length 95th (ft)	52	1	0	0	0	
Control Delay (s)	43.6	0.5	0.0	0.0	0.0	
Lane LOS	E	A				
Approach Delay (s)	43.6	0.2		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization		49.3%		ICU Level of Service	A	
Analysis Period (min)			15			

Total Future Conditions
4: Belmont Street (east) & 14th Street

AM Peak Hour
5/5/2006

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	17	52	641	16	26	1031
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	57	697	17	28	1121
Pedestrians	114		12			14
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	10		1			1
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	371					
pX, platoon unblocked	0.93	0.93			0.93	
vC, conflicting volume	1448	485			828	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1408	375			743	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	89			96	
cM capacity (veh/h)	104	519			726	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	75	464	250	402	747	
Volume Left	18	0	0	28	0	
Volume Right	57	0	17	0	0	
cSH	262	1700	1700	726	1700	
Volume to Capacity	0.29	0.27	0.15	0.04	0.44	
Queue Length 95th (ft)	29	0	0	3	0	
Control Delay (s)	24.2	0.0	0.0	1.2	0.0	
Lane LOS	C			A		
Approach Delay (s)	24.2	0.0		0.4		
Approach LOS	C					
Intersection Summary						
Average Delay	1.2					
Intersection Capacity Utilization	62.1%		ICU Level of Service		B	
Analysis Period (min)	15					

Total Future Conditions
4: Belmont Street (east) & 14th Street

PM Peak Hour
5/5/2006



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑			↑↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	15	43	1066	12	39	726
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	47	1159	13	42	789
Pedestrians	114		12			14
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	10		1			1
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	371					
pX, platoon unblocked	0.84	0.84			0.84	
vC, conflicting volume	1771	714			1286	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1727	468			1149	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	89			91	
cM capacity (veh/h)	54	407			459	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	63	772	399	305	526	
Volume Left	16	0	0	42	0	
Volume Right	47	0	13	0	0	
cSH	152	1700	1700	459	1700	
Volume to Capacity	0.41	0.45	0.23	0.09	0.31	
Queue Length 95th (ft)	46	0	0	8	0	
Control Delay (s)	44.5	0.0	0.0	3.2	0.0	
Lane LOS	E			A		
Approach Delay (s)	44.5	0.0		1.2		
Approach LOS	E					
Intersection Summary						
Average Delay	1.8					
Intersection Capacity Utilization	63.5%		ICU Level of Service			B
Analysis Period (min)	15					

Total Future Conditions
5: Belmont Street (west) & 14th Street

AM Peak Hour
5/5/2006

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	21	67	31	635	1024	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	73	34	690	1113	27
Pedestrians	168			12	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	14			1	0	
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	191					
pX, platoon unblocked	0.92					
vC, conflicting volume	1713	750	1308			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1688	750	1308			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	63	76	93			
cM capacity (veh/h)	62	301	451			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	96	264	460	742	398	
Volume Left	23	34	0	0	0	
Volume Right	73	0	0	0	27	
cSH	156	451	1700	1700	1700	
Volume to Capacity	0.61	0.07	0.27	0.44	0.23	
Queue Length 95th (ft)	83	6	0	0	0	
Control Delay (s)	59.0	2.8	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	59.0	1.0		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay	3.3					
Intersection Capacity Utilization	55.7%		ICU Level of Service		B	
Analysis Period (min)	15					

Total Future Conditions
5: Belmont Street (west) & 14th Street

PM Peak Hour
5/5/2006

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	24	62	87	1038	699	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	67	95	1128	760	46
Pedestrians	168			12	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	14			1	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	191					
pX, platoon unblocked	0.83					
vC, conflicting volume	1710	583	973			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1649	583	973			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	51	83	84			
cM capacity (veh/h)	54	388	606			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	93	471	752	507	299	
Volume Left	26	95	0	0	0	
Volume Right	67	0	0	0	46	
cSH	141	606	1700	1700	1700	
Volume to Capacity	0.66	0.16	0.44	0.30	0.18	
Queue Length 95th (ft)	91	14	0	0	0	
Control Delay (s)	69.9	4.3	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	69.9	1.7		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			4.0			
Intersection Capacity Utilization	70.7%		ICU Level of Service		C	
Analysis Period (min)	15					

Total Future Conditions
6: Florida Avenue & 14th Street

AM Peak Hour
5/5/2006

												
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		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		1.00			0.98			0.99			0.99	
Flpb, ped/bikes		0.99			0.98			1.00			0.99	
Frt		1.00			0.97			0.99			0.98	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1801			1719			3491			3396	
Flt Permitted		0.70			0.88			0.90			0.76	
Satd. Flow (perm)		1277			1523			3153			2601	
Volume (vph)	65	117	5	81	199	93	17	514	23	122	857	113
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)	71	127	5	88	216	101	18	559	25	133	932	123
RTOR Reduction (vph)	0	1	0	0	12	0	0	3	0	0	9	0
Lane Group Flow (vph)	0	202	0	0	393	0	0	599	0	0	1179	0
Confl. Peds. (#/hr)	70		118	118		70	144		124	124		144
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		32.0			32.0			57.0			57.0	
Effective Green, g (s)		34.0			34.0			58.0			58.0	
Actuated g/C Ratio		0.34			0.34			0.58			0.58	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		434			518			1829			1509	
v/s Ratio Prot												
v/s Ratio Perm		0.16			0.26			0.19			0.45	
v/c Ratio		0.47			0.76			0.33			0.78	
Uniform Delay, d1		25.9			29.4			10.9			16.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.6			10.0			0.5			4.1	
Delay (s)		29.5			39.4			11.4			20.2	
Level of Service		C			D			B			C	
Approach Delay (s)		29.5			39.4			11.4			20.2	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM Average Control Delay		22.0					HCM Level of Service				C	
HCM Volume to Capacity ratio		0.77										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)			8.0		
Intersection Capacity Utilization		131.7%					ICU Level of Service			H		
Analysis Period (min)		15										
c Critical Lane Group												

Total Future Conditions
6: Florida Avenue & 14th Street

PM Peak Hour
5/5/2006

												
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		1.00			1.00			0.95			0.95	
Flpb, ped/bikes		1.00			0.97			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		1.00			0.96			0.99			0.99	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1794			1695			3472			3432	
Flt Permitted		0.66			0.76			0.90			0.69	
Satd. Flow (perm)		1197			1307			3143			2377	
Volume (vph)	148	258	15	80	136	108	30	869	57	79	625	60
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)	161	280	16	87	148	117	33	945	62	86	679	65
RTOR Reduction (vph)	0	1	0	0	18	0	0	5	0	0	6	0
Lane Group Flow (vph)	0	456	0	0	334	0	0	1035	0	0	824	0
Confl. Peds. (#/hr)	70		118	118		70	144		124	124		144
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		32.0			32.0			57.0			57.0	
Effective Green, g (s)		34.0			34.0			58.0			58.0	
Actuated g/C Ratio		0.34			0.34			0.58			0.58	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		407			444			1823			1379	
v/s Ratio Prot												
v/s Ratio Perm		c0.38			0.26			0.33			c0.35	
v/c Ratio		1.12			0.75			0.57			0.60	
Uniform Delay, d1		33.0			29.3			13.2			13.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		81.2			11.2			1.3			1.9	
Delay (s)		114.2			40.5			14.4			15.4	
Level of Service		F			D			B			B	
Approach Delay (s)		114.2			40.5			14.4			15.4	
Approach LOS		F			D			B			B	
Intersection Summary												
HCM Average Control Delay		35.2						HCM Level of Service			D	
HCM Volume to Capacity ratio		0.79										
Actuated Cycle Length (s)		100.0						Sum of lost time (s)			8.0	
Intersection Capacity Utilization		124.0%						ICU Level of Service			H	
Analysis Period (min)		15										
c Critical Lane Group												

Total Future Conditions (Improvements)
6: Florida Avenue & 14th Street

AM Peak Hour
5/5/2006

												
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		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		1.00			0.98			0.99			0.98	
Flpb, ped/bikes		0.99			0.98			1.00			0.99	
Frt		1.00			0.97			0.99			0.98	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1801			1718			3489			3389	
Flt Permitted		0.74			0.89			0.90			0.74	
Satd. Flow (perm)		1360			1543			3148			2538	
Volume (vph)	65	117	5	81	199	93	17	514	23	122	857	113
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)	71	127	5	88	216	101	18	559	25	133	932	123
RTOR Reduction (vph)	0	1	0	0	12	0	0	3	0	0	9	0
Lane Group Flow (vph)	0	202	0	0	393	0	0	599	0	0	1179	0
Confl. Peds. (#/hr)	70		118	118		70	144		124	124		144
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.0			38.0			51.0			51.0	
Effective Green, g (s)		40.0			40.0			52.0			52.0	
Actuated g/C Ratio		0.40			0.40			0.52			0.52	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		544			617			1637			1320	
v/s Ratio Prot												
v/s Ratio Perm		0.15			0.25			0.19			0.46	
v/c Ratio		0.37			0.64			0.37			0.89	
Uniform Delay, d1		21.1			24.2			14.2			21.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.9			5.0			0.6			9.5	
Delay (s)		23.1			29.1			14.9			31.1	
Level of Service		C			C			B			C	
Approach Delay (s)		23.1			29.1			14.9			31.1	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM Average Control Delay		26.0										
HCM Volume to Capacity ratio		0.78										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		121.7%										
Analysis Period (min)		15										
c Critical Lane Group												

Total Future Conditions (Improvements)
6: Florida Avenue & 14th Street

PM Peak Hour
5/5/2006

												
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		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.97			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		1.00			0.96			0.99			0.99	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1793			1694			3469			3428	
Flt Permitted		0.69			0.78			0.90			0.66	
Satd. Flow (perm)		1251			1340			3138			2286	
Volume (vph)	148	258	15	80	136	108	30	869	57	79	625	60
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)	161	280	16	87	148	117	33	945	62	86	679	65
RTOR Reduction (vph)	0	1	0	0	18	0	0	5	0	0	6	0
Lane Group Flow (vph)	0	456	0	0	334	0	0	1035	0	0	824	0
Confl. Peds. (#/hr)	70		118	118		70	144		124	124		144
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.0			38.0			51.0			51.0	
Effective Green, g (s)		40.0			40.0			52.0			52.0	
Actuated g/C Ratio		0.40			0.40			0.52			0.52	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Lane Grp Cap (vph)		500			536			1632			1189	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.25			0.33			c0.36	
v/c Ratio		0.91			0.62			0.63			0.69	
Uniform Delay, d1		28.3			24.0			17.2			18.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		23.4			5.4			1.9			3.3	
Delay (s)		51.7			29.4			19.1			21.3	
Level of Service		D			C			B			C	
Approach Delay (s)		51.7			29.4			19.1			21.3	
Approach LOS		D			C			B			C	
Intersection Summary												
HCM Average Control Delay		26.7										
HCM Volume to Capacity ratio		0.79										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		124.0%										
Analysis Period (min)		15										
c Critical Lane Group												

Total Future Conditions
7: Belmont Street (west) & Public Alley

AM Peak Hour
5/5/2006

												
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)	1	35	3	10	36	10	5	7	19	32	11	3
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)	1	38	3	11	39	11	5	8	21	35	12	3
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	50			41			117	114	40	133	110	45
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	50			41			117	114	40	133	110	45
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			99			99	99	98	96	98	100
cM capacity (veh/h)	1557			1568			841	771	1032	812	774	1025
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	42	61	34	50								
Volume Left	1	11	5	35								
Volume Right	3	11	21	3								
cSH	1557	1568	927	813								
Volume to Capacity	0.00	0.01	0.04	0.06								
Queue Length 95th (ft)	0	1	3	5								
Control Delay (s)	0.2	1.3	9.0	9.7								
Lane LOS	A	A	A	A								
Approach Delay (s)	0.2	1.3	9.0	9.7								
Approach LOS			A	A								
Intersection Summary												
Average Delay			4.7									
Intersection Capacity Utilization			22.6%				ICU Level of Service			A		
Analysis Period (min)			15									

Total Future Conditions
7: Belmont Street (west) & Public Alley

PM Peak Hour
5/5/2006

												
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	38	2	19	66	44	3	3	20	27	13	2
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	41	2	21	72	48	3	3	22	29	14	2
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	120			43			193	208	42	207	185	96
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	120			43			193	208	42	207	185	96
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			99			100	100	98	96	98	100
cM capacity (veh/h)	1468			1565			745	679	1028	724	699	961
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	46	140	28	46								
Volume Left	2	21	3	29								
Volume Right	2	48	22	2								
cSH	1468	1565	932	724								
Volume to Capacity	0.00	0.01	0.03	0.06								
Queue Length 95th (ft)	0	1	2	5								
Control Delay (s)	0.4	1.2	9.0	10.3								
Lane LOS	A	A	A	B								
Approach Delay (s)	0.4	1.2	9.0	10.3								
Approach LOS			A	B								
Intersection Summary												
Average Delay				3.5								
Intersection Capacity Utilization				28.9%	ICU Level of Service			A				
Analysis Period (min)				15								

Total Future Conditions
8: Belmont Street (west) & 15th Street

AM Peak Hour
5/5/2006



Movement	WBL	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑	↑			
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Volume (veh/h)	0	39	399	13	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	42	434	14	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	441	441			448	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	441	441			448	
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	93			100	
cM capacity (veh/h)	574	616			1112	
Direction, Lane #	WB 1	NB 1				
Volume Total	42	448				
Volume Left	0	0				
Volume Right	42	14				
cSH	616	1700				
Volume to Capacity	0.07	0.26				
Queue Length 95th (ft)	6	0				
Control Delay (s)	11.3	0.0				
Lane LOS	B					
Approach Delay (s)	11.3	0.0				
Approach LOS	B					
Intersection Summary						
Average Delay		1.0				
Intersection Capacity Utilization		26.2%		ICU Level of Service	A	
Analysis Period (min)		15				