

Appendix D

Background Future Levels of Service

Capitol Place
1: Massachusetts Ave. & 2nd Street

Background Total Future
AM Peak Hour

												
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)		3.0			3.0			3.0			3.0	3.0
Lane Util. Factor		0.95			0.95			1.00			1.00	1.00
Frpb, ped/bikes		0.99			0.99			1.00			1.00	0.78
Flpb, ped/bikes		1.00			1.00			0.92			1.00	1.00
Frft		0.97			1.00			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.97			1.00	1.00
Satd. Flow (prot)		3364			3484			1659			1858	1241
Flt Permitted		0.52			0.95			0.69			0.99	1.00
Satd. Flow (perm)		1768			3320			1172			1845	1241
Volume (vph)	97	239	69	6	1125	25	136	95	5	5	171	237
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	108	266	77	7	1250	28	151	106	6	6	190	263
RTOR Reduction (vph)	0	17	0	0	1	0	0	1	0	0	0	138
Lane Group Flow (vph)	0	434	0	0	1284	0	0	262	0	0	196	125
Confl. Peds. (#/hr)	225		18	18		225	111		29	29		111
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		51.0			36.0			39.0			39.0	39.0
Effective Green, g (s)		52.0			37.0			42.0			42.0	42.0
Actuated g/C Ratio		0.52			0.37			0.42			0.42	0.42
Clearance Time (s)		5.0			4.0			6.0			6.0	6.0
Lane Grp Cap (vph)		1111			1228			492			775	521
v/s Ratio Prot		c0.05										
v/s Ratio Perm		0.16			c0.39			c0.22			0.11	0.10
v/c Ratio		0.39			1.05			0.53			0.25	0.24
Uniform Delay, d1		14.5			31.5			21.7			18.8	18.7
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		1.0			38.4			4.1			0.8	1.1
Delay (s)		15.5			69.9			25.8			19.6	19.8
Level of Service		B			E			C			B	B
Approach Delay (s)		15.5			69.9			25.8			19.7	
Approach LOS		B			E			C			B	
Intersection Summary												
HCM Average Control Delay		45.8										
HCM Volume to Capacity ratio		0.70										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		85.6%										
Analysis Period (min)		15										
c Critical Lane Group												

Capitol Place
1: Massachusetts Ave. & 2nd Street

Background Total Future
AM Peak Hour

												
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)		3.0			3.0			3.0			3.0	3.0
Lane Util. Factor		0.95			0.95			1.00			1.00	1.00
Frpb, ped/bikes		0.99			0.99			1.00			1.00	0.78
Flpb, ped/bikes		1.00			1.00			0.92			1.00	1.00
Frt		0.97			1.00			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.97			1.00	1.00
Satd. Flow (prot)		3364			3484			1663			1858	1241
Flt Permitted		0.54			0.95			0.65			0.99	1.00
Satd. Flow (perm)		1847			3320			1107			1844	1241
Volume (vph)	97	239	69	6	1125	25	136	95	5	5	171	237
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	108	266	77	7	1250	28	151	106	6	6	190	263
RTOR Reduction (vph)	0	17	0	0	2	0	0	1	0	0	0	97
Lane Group Flow (vph)	0	434	0	0	1283	0	0	262	0	0	196	166
Confl. Peds. (#/hr)	225		18	18		225	111		29	29		111
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		57.0			45.0			33.0			33.0	33.0
Effective Green, g (s)		58.0			46.0			36.0			36.0	36.0
Actuated g/C Ratio		0.58			0.46			0.36			0.36	0.36
Clearance Time (s)		5.0			4.0			6.0			6.0	6.0
Lane Grp Cap (vph)		1208			1527			399			664	447
v/s Ratio Prot		c0.03										
v/s Ratio Perm		0.18			c0.39			c0.24			0.11	0.13
v/c Ratio		0.36			0.84			0.66			0.30	0.37
Uniform Delay, d1		11.1			23.8			26.8			22.9	23.6
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		0.8			5.7			8.2			1.1	2.4
Delay (s)		12.0			29.5			35.1			24.0	26.0
Level of Service		B			C			D			C	C
Approach Delay (s)		12.0			29.5			35.1			25.2	
Approach LOS		B			C			D			C	
Intersection Summary												
HCM Average Control Delay		26.1			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.70										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		85.6%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

Capitol Place
2: G Street & 2nd Street

Background Total Future
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	67	163	214	0	0	168
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	74	181	238	0	0	187
Pedestrians	90		45			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	7		4			0
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	1316					
pX, platoon unblocked						
vC, conflicting volume	559	333			328	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	559	333			328	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	72			100	
cM capacity (veh/h)	436	653			1139	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	256	238	187			
Volume Left	74	0	0			
Volume Right	181	0	0			
cSH	570	1700	1700			
Volume to Capacity	0.45	0.14	0.11			
Queue Length 95th (ft)	58	0	0			
Control Delay (s)	16.3	0.0	0.0			
Lane LOS	C					
Approach Delay (s)	16.3	0.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay	6.1					
Intersection Capacity Utilization	34.0%		ICU Level of Service		A	
Analysis Period (min)	15					

Capitol Place
3: I Street & 2nd Street

Background Total Future
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	2	2	4	38	13	65	20	261	48	27	171	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	2	4	42	14	72	22	290	53	30	190	9
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	9	129	366	229								
Volume Left (vph)	2	42	22	30								
Volume Right (vph)	4	72	53	9								
Hadj (s)	-0.22	-0.24	-0.04	0.04								
Departure Headway (s)	5.3	5.0	4.5	4.7								
Degree Utilization, x	0.01	0.18	0.46	0.30								
Capacity (veh/h)	584	640	776	728								
Control Delay (s)	8.3	9.1	11.2	9.7								
Approach Delay (s)	8.3	9.1	11.2	9.7								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay				10.4								
HCM Level of Service				B								
Intersection Capacity Utilization				39.4%	ICU Level of Service	A						
Analysis Period (min)				15								

Capitol Place
4: K Street & 2nd Street

Background Total Future
AM Peak Hour

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)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.97			1.00			1.00			0.96	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3291			3493			1840			1765	
Flt Permitted		0.95			0.94			0.86			0.97	
Satd. Flow (perm)		3124			3275			1607			1710	
Volume (vph)	2	150	35	37	981	24	94	349	4	9	92	49
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	167	39	41	1090	27	104	388	4	10	102	54
RTOR Reduction (vph)	0	14	0	0	2	0	0	0	0	0	18	0
Lane Group Flow (vph)	0	194	0	0	1156	0	0	496	0	0	149	0
Confl. Peds. (#/hr)	25		68	68		25	3		6	6		3
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		62.0			62.0			28.0			28.0	
Effective Green, g (s)		64.0			64.0			30.0			30.0	
Actuated g/C Ratio		0.64			0.64			0.30			0.30	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		1999			2096			482			513	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.35			c0.31			0.09	
v/c Ratio		0.10			0.55			1.03			0.29	
Uniform Delay, d1		6.9			10.0			35.0			26.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			1.1			48.6			1.4	
Delay (s)		7.0			11.1			83.6			28.3	
Level of Service		A			B			F			C	
Approach Delay (s)		7.0			11.1			83.6			28.3	
Approach LOS		A			B			F			C	
Intersection Summary												
HCM Average Control Delay		29.8										
HCM Volume to Capacity ratio		0.70										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		92.8%										
Analysis Period (min)		15										
c Critical Lane Group												

Capitol Place
4: K Street & 2nd Street

Background Total Future
AM Peak Hour

												
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)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.97			1.00			1.00			0.96	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3291			3493			1840			1765	
Flt Permitted		0.95			0.94			0.89			0.97	
Satd. Flow (perm)		3123			3275			1663			1715	
Volume (vph)	2	150	35	37	981	24	94	349	4	9	92	49
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	167	39	41	1090	27	104	388	4	10	102	54
RTOR Reduction (vph)	0	17	0	0	2	0	0	0	0	0	18	0
Lane Group Flow (vph)	0	191	0	0	1156	0	0	496	0	0	148	0
Confl. Peds. (#/hr)	25		68	68		25	3		6	6		3
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		8		8		2		2		6	
Permitted Phases	4		8		8		2		2		6	
Actuated Green, G (s)	55.0		55.0		55.0		35.0		35.0		35.0	
Effective Green, g (s)	57.0		57.0		57.0		37.0		37.0		37.0	
Actuated g/C Ratio	0.57		0.57		0.57		0.37		0.37		0.37	
Clearance Time (s)	5.0		5.0		5.0		5.0		5.0		5.0	
Lane Grp Cap (vph)	1780		1867		1867		615		615		635	
v/s Ratio Prot												
v/s Ratio Perm	0.06		c0.35		c0.35		c0.30		c0.30		0.09	
v/c Ratio	0.11		0.62		0.62		0.81		0.81		0.23	
Uniform Delay, d1	9.8		14.3		14.3		28.3		28.3		21.7	
Progression Factor	1.00		1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2	0.1		1.6		1.6		10.8		10.8		0.9	
Delay (s)	10.0		15.8		15.8		39.1		39.1		22.6	
Level of Service	A		B		B		D		D		C	
Approach Delay (s)	10.0		15.8		15.8		39.1		39.1		22.6	
Approach LOS	A		B		B		D		D		C	
Intersection Summary												
HCM Average Control Delay			21.5		HCM Level of Service			C				
HCM Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)			6.0				
Intersection Capacity Utilization			92.8%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												

Capitol Place
5: G Street & 3rd Street

Background Total Future
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	27	132	85	39	117	0	0	129	62
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	30	147	94	43	130	0	0	143	69
Direction, Lane #	WB 1	NB 1	SB 1									
Volume Total (vph)	271	173	212									
Volume Left (vph)	30	43	0									
Volume Right (vph)	94	0	69									
Hadj (s)	-0.15	0.08	-0.16									
Departure Headway (s)	4.7	4.9	4.7									
Degree Utilization, x	0.35	0.24	0.27									
Capacity (veh/h)	721	686	726									
Control Delay (s)	10.2	9.5	9.4									
Approach Delay (s)	10.2	9.5	9.4									
Approach LOS	B	A	A									
Intersection Summary												
Delay			9.8									
HCM Level of Service			A									
Intersection Capacity Utilization		54.9%		ICU Level of Service		A						
Analysis Period (min)			15									

Capitol Place
6: H Street & 3rd Street

Background Total Future
AM Peak Hour

												
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)	3.0			3.0			3.0			3.0		
Lane Util. Factor	0.91			0.91			1.00			1.00		
Frpb, ped/bikes	0.99			0.99			0.99			0.98		
Flpb, ped/bikes	1.00			1.00			1.00			1.00		
Frt	0.98			0.99			0.99			0.95		
Flt Protected	0.99			1.00			0.99			0.99		
Satd. Flow (prot)	4951			4959			1797			1703		
Flt Permitted	0.70			0.91			0.70			0.76		
Satd. Flow (perm)	3464			4511			1273			1312		
Volume (vph)	61	387	51	43	1676	182	60	133	20	68	98	99
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	68	430	57	48	1862	202	67	148	22	76	109	110
RTOR Reduction (vph)	0	14	0	0	13	0	0	4	0	0	21	0
Lane Group Flow (vph)	0	541	0	0	2099	0	0	233	0	0	274	0
Confl. Peds. (#/hr)	25		10	10		25	23		24	24		23
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	69.0			59.0			19.0			19.0		
Effective Green, g (s)	72.0			62.0			22.0			22.0		
Actuated g/C Ratio	0.72			0.62			0.22			0.22		
Clearance Time (s)	6.0			6.0			6.0			6.0		
Lane Grp Cap (vph)	2598			2797			280			289		
v/s Ratio Prot	c0.01											
v/s Ratio Perm	0.14			c0.47			0.18			c0.21		
v/c Ratio	0.21			0.75			0.83			0.95		
Uniform Delay, d1	4.6			13.5			37.2			38.4		
Progression Factor	1.00			1.00			1.00			1.00		
Incremental Delay, d2	0.2			1.9			24.2			41.1		
Delay (s)	4.8			15.4			61.4			79.6		
Level of Service	A			B			E			E		
Approach Delay (s)	4.8			15.4			61.4			79.6		
Approach LOS	A			B			E			E		
Intersection Summary												
HCM Average Control Delay	22.9			HCM Level of Service			C					
HCM Volume to Capacity ratio	0.76											
Actuated Cycle Length (s)	100.0			Sum of lost time (s)			9.0					
Intersection Capacity Utilization	80.9%			ICU Level of Service			D					
Analysis Period (min)	15											
c Critical Lane Group												

Capitol Place
6: H Street & 3rd Street

Background Total Future
AM Peak Hour

												
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)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Flt		0.98			0.99			0.99			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		4951			4959			1796			1702	
Flt Permitted		0.69			0.91			0.78			0.82	
Satd. Flow (perm)		3429			4510			1416			1417	
Volume (vph)	61	387	51	43	1676	182	60	133	20	68	98	99
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	68	430	57	48	1862	202	67	148	22	76	109	110
RTOR Reduction (vph)	0	14	0	0	13	0	0	4	0	0	21	0
Lane Group Flow (vph)	0	541	0	0	2099	0	0	233	0	0	274	0
Confl. Peds. (#/hr)	25		10	10		25	23		24	24		23
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		62.0			54.0			26.0			26.0	
Effective Green, g (s)		65.0			57.0			29.0			29.0	
Actuated g/C Ratio		0.65			0.57			0.29			0.29	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Lane Grp Cap (vph)		2305			2571			411			411	
v/s Ratio Prot		c0.01										
v/s Ratio Perm		0.14			c0.47			0.16			c0.19	
v/c Ratio		0.23			0.82			0.57			0.67	
Uniform Delay, d1		7.2			17.3			30.2			31.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			3.0			5.6			8.3	
Delay (s)		7.5			20.3			35.8			39.5	
Level of Service		A			C			D			D	
Approach Delay (s)		7.5			20.3			35.8			39.5	
Approach LOS		A			C			D			D	
Intersection Summary												
HCM Average Control Delay		21.0			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		80.9%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

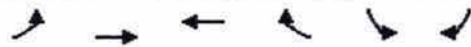
Capitol Place
7: I Street & 3rd Street

Background Total Future
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	22	35	66	0	0	0	60	239	21	13	157	18
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	24	39	73	0	0	0	67	266	23	14	174	20
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total (vph)	137	356	209									
Volume Left (vph)	24	67	14									
Volume Right (vph)	73	23	20									
Hadj (s)	-0.25	0.03	-0.01									
Departure Headway (s)	4.9	4.5	4.7									
Degree Utilization, x	0.19	0.45	0.27									
Capacity (veh/h)	658	769	736									
Control Delay (s)	9.1	11.2	9.4									
Approach Delay (s)	9.1	11.2	9.4									
Approach LOS	A	B	A									
Intersection Summary												
Delay			10.2									
HCM Level of Service			B									
Intersection Capacity Utilization		53.4%		ICU Level of Service		A						
Analysis Period (min)			15									

Capitol Place
8: G Street & Alley

Background Total Future
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↩			↩
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	230	5	0	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	256	6	0	3
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	261				258	258
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	261				258	258
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)	1303				730	780
Direction, Lane #	WB 1	SB 1				
Volume Total	261	3				
Volume Left	0	0				
Volume Right	6	3				
cSH	1700	780				
Volume to Capacity	0.15	0.00				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	9.6				
Lane LOS		A				
Approach Delay (s)	0.0	9.6				
Approach LOS		A				
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		22.4%		ICU Level of Service		A
Analysis Period (min)		15				

Capitol Place
9: Driveway & 2nd Street

Background Total Future
AM Peak Hour

												
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)	5	0	10	2	0	1	46	322	8	3	159	42
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	0	11	2	0	1	51	358	9	3	177	47
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	672	676	200	682	694	362	223			367		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	672	676	200	682	694	362	223			367		
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 %	98	100	99	99	100	100	96			100		
cM capacity (veh/h)	357	360	841	348	351	683	1345			1192		
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total	17	1	2	418	227							
Volume Left	6	1	1	51	3							
Volume Right	11	0	1	9	47							
cSH	580	348	493	1345	1192							
Volume to Capacity	0.03	0.00	0.00	0.04	0.00							
Queue Length 95th (ft)	2	0	0	3	0							
Control Delay (s)	11.4	15.4	12.3	1.3	0.1							
Lane LOS	B	C	B	A	A							
Approach Delay (s)	11.4	13.7		1.3	0.1							
Approach LOS	B	B										
Intersection Summary												
Average Delay				1.2								
Intersection Capacity Utilization				46.6%	ICU Level of Service			A				
Analysis Period (min)				15								

Capitol Place
1: Massachusetts Ave. & 2nd Street

Background Total Future
PM Peak Hour

												
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)		3.0			3.0			3.0			3.0	3.0
Lane Util. Factor		0.95			0.95			1.00			1.00	1.00
Frpb, ped/bikes		0.99			0.96			1.00			1.00	0.78
Flpb, ped/bikes		0.97			1.00			0.93			1.00	1.00
Frt		0.99			0.99			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.98			0.99	1.00
Satd. Flow (prot)		3346			3376			1698			1846	1241
Flt Permitted		0.71			0.95			0.80			0.96	1.00
Satd. Flow (perm)		2407			3208			1381			1779	1241
Volume (vph)	158	711	91	3	379	27	88	104	3	18	145	279
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	176	790	101	3	421	30	98	116	3	20	161	310
RTOR Reduction (vph)	0	8	0	0	5	0	0	1	0	0	0	158
Lane Group Flow (vph)	0	1059	0	0	449	0	0	216	0	0	181	152
Confl. Peds. (#/hr)	225		18	18		225	111		29	29		111
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		51.0			36.0			39.0			39.0	39.0
Effective Green, g (s)		52.0			37.0			42.0			42.0	42.0
Actuated g/C Ratio		0.52			0.37			0.42			0.42	0.42
Clearance Time (s)		5.0			4.0			6.0			6.0	6.0
Lane Grp Cap (vph)		1364			1187			580			747	521
v/s Ratio Prot		c0.09										
v/s Ratio Perm		c0.31			0.14			c0.16			0.10	0.12
v/c Ratio		0.78			0.38			0.37			0.24	0.29
Uniform Delay, d1		19.3			23.1			19.9			18.7	19.2
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		4.4			0.9			1.8			0.8	1.4
Delay (s)		23.7			24.0			21.8			19.5	20.6
Level of Service		C			C			C			B	C
Approach Delay (s)		23.7			24.0			21.8			20.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay		22.8			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		80.6%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

Capitol Place
1: Massachusetts Ave. & 2nd Street

Background Total Future
PM Peak Hour

												
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)		3.0			3.0			3.0			3.0	3.0
Lane Util. Factor		0.95			0.95			1.00			1.00	1.00
Frpb, ped/bikes		0.99			0.96			1.00			1.00	0.78
Flpb, ped/bikes		0.97			1.00			0.94			1.00	1.00
Frt		0.99			0.99			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.98			0.99	1.00
Satd. Flow (prot)		3336			3376			1702			1847	1241
Flt Permitted		0.74			0.95			0.76			0.96	1.00
Satd. Flow (perm)		2493			3209			1328			1776	1241
Volume (vph)	158	711	91	3	379	27	88	104	3	18	145	279
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	176	790	101	3	421	30	98	116	3	20	161	310
RTOR Reduction (vph)	0	8	0	0	5	0	0	1	0	0	0	149
Lane Group Flow (vph)	0	1059	0	0	449	0	0	216	0	0	181	162
Confl. Peds. (#/hr)	225		18	18		225	111		29	29		111
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		59.0			47.0			31.0			31.0	31.0
Effective Green, g (s)		60.0			48.0			34.0			34.0	34.0
Actuated g/C Ratio		0.60			0.48			0.34			0.34	0.34
Clearance Time (s)		5.0			4.0			6.0			6.0	6.0
Lane Grp Cap (vph)		1572			1540			452			604	422
v/s Ratio Prot		c0.06										
v/s Ratio Perm		c0.34			0.14			c0.16			0.10	0.13
v/c Ratio		0.67			0.29			0.48			0.30	0.38
Uniform Delay, d1		13.4			15.7			26.0			24.3	25.0
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		2.3			0.5			3.6			1.3	2.6
Delay (s)		15.8			16.2			29.6			25.5	27.7
Level of Service		B			B			C			C	C
Approach Delay (s)		15.8			16.2			29.6			26.9	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM Average Control Delay		19.6			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.60										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		80.6%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

Capitol Place
2: G Street & 2nd Street

Background Total Future
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	51	33	294	0	0	225
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	57	37	327	0	0	250
Pedestrians	90		45			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	7		4			0
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	1316					
pX, platoon unblocked						
vC, conflicting volume	712	422			417	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	712	422			417	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	94			100	
cM capacity (veh/h)	355	582			1057	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	93	327	250			
Volume Left	57	0	0			
Volume Right	37	0	0			
cSH	420	1700	1700			
Volume to Capacity	0.22	0.19	0.15			
Queue Length 95th (ft)	21	0	0			
Control Delay (s)	16.0	0.0	0.0			
Lane LOS	C					
Approach Delay (s)	16.0	0.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			28.5%	ICU Level of Service	A	
Analysis Period (min)			15			

Capitol Place
3: I Street & 2nd Street

Background Total Future
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	8	13	8	24	0	22	0	270	97	90	140	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	9	14	9	27	0	24	0	300	108	100	156	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	32	51	408	258								
Volume Left (vph)	9	27	0	100								
Volume Right (vph)	9	24	108	2								
Hadj (s)	-0.08	-0.15	-0.12	0.11								
Departure Headway (s)	5.4	5.3	4.3	4.7								
Degree Utilization, x	0.05	0.08	0.49	0.33								
Capacity (veh/h)	579	596	817	742								
Control Delay (s)	8.7	8.7	11.3	10.0								
Approach Delay (s)	8.7	8.7	11.3	10.0								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay				10.6								
HCM Level of Service				B								
Intersection Capacity Utilization				52.9%	ICU Level of Service	A						
Analysis Period (min)				15								

Capitol Place
4: K Street & 2nd Street

Background Total Future
PM Peak Hour

												
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)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3433			3498			1809			1808	
Flt Permitted		0.95			0.88			0.86			0.88	
Satd. Flow (perm)		3254			3104			1583			1616	
Volume (vph)	15	758	63	17	241	6	106	232	32	22	75	14
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	17	842	70	19	268	7	118	258	36	24	83	16
RTOR Reduction (vph)	0	6	0	0	2	0	0	4	0	0	6	0
Lane Group Flow (vph)	0	923	0	0	292	0	0	409	0	0	117	0
Confl. Peds. (#/hr)	25		68	68		25	3		6	6		3
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		63.0			63.0			29.0			29.0	
Effective Green, g (s)		64.0			64.0			30.0			30.0	
Actuated g/C Ratio		0.64			0.64			0.30			0.30	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		2083			1987			475			485	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.09			c0.26			0.07	
v/c Ratio		0.44			0.15			0.86			0.24	
Uniform Delay, d1		9.0			7.2			33.0			26.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.2			18.1			1.2	
Delay (s)		9.7			7.3			51.1			27.6	
Level of Service		A			A			D			C	
Approach Delay (s)		9.7			7.3			51.1			27.6	
Approach LOS		A			A			D			C	
Intersection Summary												
HCM Average Control Delay		20.3			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		67.5%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

Capitol Place
4: K Street & 2nd Street

Background Total Future
PM Peak Hour

												
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)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3433			3499			1809			1808	
Flt Permitted		0.95			0.88			0.88			0.90	
Satd. Flow (perm)		3253			3096			1611			1649	
Volume (vph)	15	758	63	17	241	6	106	232	32	22	75	14
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	17	842	70	19	268	7	118	258	36	24	83	16
RTOR Reduction (vph)	0	6	0	0	2	0	0	3	0	0	6	0
Lane Group Flow (vph)	0	923	0	0	292	0	0	409	0	0	117	0
Confl. Peds. (#/hr)	25		68	68		25	3		6	6		3
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	4			8			2			6		
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	55.0			55.0			35.0			35.0		
Effective Green, g (s)	57.0			57.0			37.0			37.0		
Actuated g/C Ratio	0.57			0.57			0.37			0.37		
Clearance Time (s)	5.0			5.0			5.0			5.0		
Lane Grp Cap (vph)	1854			1765			596			610		
v/s Ratio Prot												
v/s Ratio Perm	c0.28			0.09			c0.25			0.07		
v/c Ratio	0.50			0.17			0.69			0.19		
Uniform Delay, d1	12.9			10.2			26.6			21.4		
Progression Factor	1.00			1.00			1.00			1.00		
Incremental Delay, d2	1.0			0.2			6.3			0.7		
Delay (s)	13.9			10.4			32.9			22.1		
Level of Service	B			B			C			C		
Approach Delay (s)	13.9			10.4			32.9			22.1		
Approach LOS	B			B			C			C		
Intersection Summary												
HCM Average Control Delay			18.3			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			6.0			
Intersection Capacity Utilization			67.5%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Capitol Place
5: G Street & 3rd Street

Background Total Future
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	0	0	0	13	20	37	9	137	0	0	187	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	14	22	41	10	152	0	0	208	44
Direction, Lane #	WB 1	NB 1	SB 1									
Volume Total (vph)	78	162	252									
Volume Left (vph)	14	10	0									
Volume Right (vph)	41	0	44									
Hadj (s)	-0.25	0.05	-0.07									
Departure Headway (s)	4.6	4.4	4.2									
Degree Utilization, x	0.10	0.20	0.29									
Capacity (veh/h)	720	793	830									
Control Delay (s)	8.1	8.5	8.9									
Approach Delay (s)	8.1	8.5	8.9									
Approach LOS	A	A	A									
Intersection Summary												
Delay	8.6											
HCM Level of Service	A											
Intersection Capacity Utilization	33.8%			ICU Level of Service			A					
Analysis Period (min)	15											

Capitol Place
6: H Street & 3rd Street

Background Total Future
PM Peak Hour

												
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)	3.0			3.0			3.0			3.0		
Lane Util. Factor	0.91			0.91			1.00			1.00		
Frpb, ped/bikes	1.00			0.99			0.99			0.98		
Flpb, ped/bikes	1.00			1.00			1.00			0.99		
Frt	0.99			0.98			0.98			0.96		
Flt Protected	1.00			1.00			0.99			0.98		
Satd. Flow (prot)	5005			4884			1778			1708		
Flt Permitted	0.76			0.80			0.77			0.68		
Satd. Flow (perm)	3842			3939			1383			1180		
Volume (vph)	147	1494	88	27	516	98	43	96	30	160	125	123
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	163	1660	98	30	573	109	48	107	33	178	139	137
RTOR Reduction (vph)	0	6	0	0	26	0	0	8	0	0	16	0
Lane Group Flow (vph)	0	1915	0	0	686	0	0	180	0	0	438	0
Confl. Peds. (#/hr)	25		10	10		25	23		24	24		23
Turn Type	pm+pt		Perm		Perm		Perm		Perm		Perm	
Protected Phases	7	4			8				2		6	
Permitted Phases	4			8				2				6
Actuated Green, G (s)	69.0				59.0				19.0		19.0	
Effective Green, g (s)	72.0				62.0				22.0		22.0	
Actuated g/C Ratio	0.72				0.62				0.22		0.22	
Clearance Time (s)	6.0				6.0				6.0		6.0	
Lane Grp Cap (vph)	2848				2442				304		260	
v/s Ratio Prot	c0.05											
v/s Ratio Perm	c0.44				0.17				0.13		c0.37	
v/c Ratio	0.67				0.28				0.59		1.69	
Uniform Delay, d1	7.6				8.7				35.0		39.0	
Progression Factor	1.00				1.00				1.00		1.00	
Incremental Delay, d2	1.3				0.3				8.2		324.9	
Delay (s)	8.9				9.0				43.2		363.9	
Level of Service	A				A				D		F	
Approach Delay (s)	8.9				9.0				43.2		363.9	
Approach LOS	A				A				D		F	
Intersection Summary												
HCM Average Control Delay	60.1			HCM Level of Service			E					
HCM Volume to Capacity ratio	0.91											
Actuated Cycle Length (s)	100.0			Sum of lost time (s)			6.0					
Intersection Capacity Utilization	94.7%			ICU Level of Service			F					
Analysis Period (min)	15											
c Critical Lane Group												

Capitol Place
6: H Street & 3rd Street

Background Total Future
PM Peak Hour

												
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)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			0.98	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.99			0.98			0.98			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		5006			4885			1778			1706	
Flt Permitted		0.74			0.80			0.82			0.76	
Satd. Flow (perm)		3732			3913			1484			1322	
Volume (vph)	147	1494	88	27	516	98	43	96	30	160	125	123
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	163	1660	98	30	573	109	48	107	33	178	139	137
RTOR Reduction (vph)	0	6	0	0	26	0	0	7	0	0	16	0
Lane Group Flow (vph)	0	1915	0	0	686	0	0	181	0	0	439	0
Confl. Peds. (#/hr)	25		10	10		25	23		24	24		23
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		53.0			43.0			35.0			35.0	
Effective Green, g (s)		56.0			46.0			38.0			38.0	
Actuated g/C Ratio		0.56			0.46			0.38			0.38	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Lane Grp Cap (vph)		2179			1800			564			502	
v/s Ratio Prot		c0.06										
v/s Ratio Perm		c0.43			0.18			0.12			c0.33	
v/c Ratio		0.88			0.38			0.32			0.87	
Uniform Delay, d1		19.1			17.7			21.9			28.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		5.5			0.6			1.5			18.7	
Delay (s)		24.5			18.3			23.4			47.4	
Level of Service		C			B			C			D	
Approach Delay (s)		24.5			18.3			23.4			47.4	
Approach LOS		C			B			C			D	
Intersection Summary												
HCM Average Control Delay			26.3		HCM Level of Service					C		
HCM Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)					6.0		
Intersection Capacity Utilization			94.7%		ICU Level of Service					F		
Analysis Period (min)			15									
c Critical Lane Group												

Capitol Place
7: I Street & 3rd Street

Background Total Future
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕						↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	27	61	84	0	0	0	55	207	26	16	229	21
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	30	68	93	0	0	0	61	230	29	18	254	23
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total (vph)	191	320	296									
Volume Left (vph)	30	61	18									
Volume Right (vph)	93	29	23									
Hadj (s)	-0.23	0.02	0.00									
Departure Headway (s)	5.1	4.8	4.8									
Degree Utilization, x	0.27	0.43	0.40									
Capacity (veh/h)	637	718	712									
Control Delay (s)	10.0	11.4	11.0									
Approach Delay (s)	10.0	11.4	11.0									
Approach LOS	B	B	B									
Intersection Summary												
Delay			10.9									
HCM Level of Service			B									
Intersection Capacity Utilization			55.5%	ICU Level of Service	B							
Analysis Period (min)			15									

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	76	1	0	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	84	1	0	10
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	86				85	85
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	86				85	85
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	99
cM capacity (veh/h)	1511				916	974
Direction, Lane #	WB 1	SB 1				
Volume Total	86	10				
Volume Left	0	0				
Volume Right	1	10				
cSH	1700	974				
Volume to Capacity	0.05	0.01				
Queue Length 95th (ft)	0	1				
Control Delay (s)	0.0	8.7				
Lane LOS		A				
Approach Delay (s)	0.0	8.7				
Approach LOS		A				
Intersection Summary						
Average Delay		0.9				
Intersection Capacity Utilization		14.1%		ICU Level of Service		A
Analysis Period (min)		15				

Capitol Place
9: Driveway & 2nd Street

Background Total Future
PM Peak Hour

												
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)	40	0	53	12	0	9	9	301	0	0	159	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	44	0	59	13	0	10	10	334	0	0	177	7
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	544	534	180	593	538	334	183			334		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	544	534	180	593	538	334	183			334		
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 %	90	100	93	97	100	99	99			100		
cM capacity (veh/h)	441	449	863	386	447	707	1392			1225		
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total	103	9	14	344	183							
Volume Left	44	9	4	10	0							
Volume Right	59	0	10	0	7							
cSH	611	386	563	1392	1225							
Volume to Capacity	0.17	0.02	0.03	0.01	0.00							
Queue Length 95th (ft)	15	2	2	1	0							
Control Delay (s)	12.1	14.5	11.6	0.3	0.0							
Lane LOS	B	B	B	A								
Approach Delay (s)	12.1	12.7		0.3	0.0							
Approach LOS	B	B										
Intersection Summary												
Average Delay			2.5									
Intersection Capacity Utilization		41.9%		ICU Level of Service						A		
Analysis Period (min)		15										

Appendix E

Total Future Levels of Service

Capitol Place
1: Massachusetts Ave. & 2nd Street

Total Future
AM Peak Hour

												
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)		3.0			3.0			3.0			3.0	3.0
Lane Util. Factor		0.95			0.95			1.00			1.00	1.00
Frpb, ped/bikes		0.99			0.99			1.00			1.00	0.78
Flpb, ped/bikes		1.00			1.00			0.92			1.00	1.00
Frt		0.97			1.00			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.97			1.00	1.00
Satd. Flow (prot)		3364			3484			1664			1859	1241
Flt Permitted		0.54			0.95			0.64			0.99	1.00
Satd. Flow (perm)		1842			3320			1101			1844	1241
Volume (vph)	98	239	69	6	1125	25	136	95	5	5	174	252
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	109	266	77	7	1250	28	151	106	6	6	193	280
RTOR Reduction (vph)	0	17	0	0	2	0	0	1	0	0	0	97
Lane Group Flow (vph)	0	435	0	0	1283	0	0	262	0	0	199	183
Confl. Peds. (#/hr)	225		18	18		225	111		29	29		111
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		57.0			45.0			33.0			33.0	33.0
Effective Green, g (s)		58.0			46.0			36.0			36.0	36.0
Actuated g/C Ratio		0.58			0.46			0.36			0.36	0.36
Clearance Time (s)		5.0			4.0			6.0			6.0	6.0
Lane Grp Cap (vph)		1205			1527			396			664	447
v/s Ratio Prot		c0.03										
v/s Ratio Perm		0.18			c0.39			c0.24			0.11	0.15
v/c Ratio		0.36			0.84			0.66			0.30	0.41
Uniform Delay, d1		11.2			23.8			26.9			23.0	24.0
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		0.8			5.7			8.5			1.2	2.8
Delay (s)		12.0			29.5			35.3			24.1	26.8
Level of Service		B			C			D			C	C
Approach Delay (s)		12.0			29.5			35.3			25.7	
Approach LOS		B			C			D			C	
Intersection Summary												
HCM Average Control Delay		26.2			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.70										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		85.6%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

Capitol Place
2: G Street & 2nd Street

Total Future
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	67	169	215	0	0	186
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	74	188	239	0	0	207
Pedestrians	90		45			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	7		4			0
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	1316					
pX, platoon unblocked						
vC, conflicting volume	581	334			329	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	581	334			329	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	71			100	
cM capacity (veh/h)	424	652			1138	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	262	239	207			
Volume Left	74	0	0			
Volume Right	188	0	0			
cSH	566	1700	1700			
Volume to Capacity	0.46	0.14	0.12			
Queue Length 95th (ft)	61	0	0			
Control Delay (s)	16.7	0.0	0.0			
Lane LOS	C					
Approach Delay (s)	16.7	0.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay	6.2					
Intersection Capacity Utilization	34.4%		ICU Level of Service		A	
Analysis Period (min)	15					

Capitol Place
3: I Street & 2nd Street

Total Future
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	2	2	4	38	13	65	20	282	64	27	176	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	2	4	42	14	72	22	313	71	30	196	9
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	9	129	407	234								
Volume Left (vph)	2	42	22	30								
Volume Right (vph)	4	72	71	9								
Hadj (s)	-0.22	-0.24	-0.06	0.04								
Departure Headway (s)	5.4	5.1	4.5	4.8								
Degree Utilization, x	0.01	0.18	0.51	0.31								
Capacity (veh/h)	566	624	778	719								
Control Delay (s)	8.5	9.3	12.0	9.9								
Approach Delay (s)	8.5	9.3	12.0	9.9								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay				10.9								
HCM Level of Service				B								
Intersection Capacity Utilization				41.6%	ICU Level of Service	A						
Analysis Period (min)				15								

Capitol Place
4: K Street & 2nd Street

Total Future
AM Peak Hour

												
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)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frbp, ped/bikes		0.95			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.97			1.00			1.00			0.96	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		3266			3493			1837			1765	
Flt Permitted		0.95			0.94			0.87			0.97	
Satd. Flow (perm)		3101			3274			1613			1713	
Volume (vph)	2	150	40	37	981	24	112	352	4	9	92	49
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2	167	44	41	1090	27	124	391	4	10	102	54
RTOR Reduction (vph)	0	19	0	0	2	0	0	0	0	0	18	0
Lane Group Flow (vph)	0	194	0	0	1156	0	0	519	0	0	148	0
Confl. Peds. (#/hr)	25		68	68		25	3		6	6		3
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	4			8			2			6		
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	55.0			55.0			35.0			35.0		
Effective Green, g (s)	57.0			57.0			37.0			37.0		
Actuated g/C Ratio	0.57			0.57			0.37			0.37		
Clearance Time (s)	5.0			5.0			5.0			5.0		
Lane Grp Cap (vph)	1768			1866			597			634		
v/s Ratio Prot												
v/s Ratio Perm	0.06			c0.35			c0.32			0.09		
v/c Ratio	0.11			0.62			0.87			0.23		
Uniform Delay, d1	9.9			14.3			29.3			21.7		
Progression Factor	1.00			1.00			1.00			1.00		
Incremental Delay, d2	0.1			1.6			15.8			0.9		
Delay (s)	10.0			15.9			45.1			22.6		
Level of Service	A			B			D			C		
Approach Delay (s)	10.0			15.9			45.1			22.6		
Approach LOS	A			B			D			C		
Intersection Summary												
HCM Average Control Delay	23.2			HCM Level of Service			C					
HCM Volume to Capacity ratio	0.72											
Actuated Cycle Length (s)	100.0			Sum of lost time (s)			6.0					
Intersection Capacity Utilization	94.0%			ICU Level of Service			F					
Analysis Period (min)	15											
c Critical Lane Group												

Capitol Place
5: G Street & 3rd Street

Total Future
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	27	132	85	40	117	0	0	129	68
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	30	147	94	44	130	0	0	143	76
Direction, Lane #	WB 1	NB 1	SB 1									
Volume Total (vph)	271	174	219									
Volume Left (vph)	30	44	0									
Volume Right (vph)	94	0	76									
Hadj (s)	-0.15	0.08	-0.17									
Departure Headway (s)	4.7	4.9	4.6									
Degree Utilization, x	0.35	0.24	0.28									
Capacity (veh/h)	718	685	727									
Control Delay (s)	10.2	9.5	9.5									
Approach Delay (s)	10.2	9.5	9.5									
Approach LOS	B	A	A									
Intersection Summary												
Delay			9.8									
HCM Level of Service			A									
Intersection Capacity Utilization		55.1%		ICU Level of Service					B			
Analysis Period (min)		15										

Capitol Place
6: H Street & 3rd Street

Total Future
AM Peak Hour

												
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)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.98	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.98			0.99			0.99			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		4946			4959			1796			1698	
Flt Permitted		0.69			0.91			0.77			0.82	
Satd. Flow (perm)		3426			4496			1407			1418	
Volume (vph)	61	387	54	46	1676	182	60	133	20	68	98	104
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	68	430	60	51	1862	202	67	148	22	76	109	116
RTOR Reduction (vph)	0	15	0	0	13	0	0	4	0	0	23	0
Lane Group Flow (vph)	0	543	0	0	2102	0	0	233	0	0	278	0
Confl. Peds. (#/hr)	25		10	10		25	23		24	24		23
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		62.0			54.0			26.0			26.0	
Effective Green, g (s)		65.0			57.0			29.0			29.0	
Actuated g/C Ratio		0.65			0.57			0.29			0.29	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Lane Grp Cap (vph)		2303			2563			408			411	
v/s Ratio Prot		c0.01										
v/s Ratio Perm		0.14			c0.47			0.17			c0.20	
v/c Ratio		0.24			0.82			0.57			0.68	
Uniform Delay, d1		7.2			17.4			30.2			31.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			3.1			5.7			8.7	
Delay (s)		7.5			20.4			35.9			40.0	
Level of Service		A			C			D			D	
Approach Delay (s)		7.5			20.4			35.9			40.0	
Approach LOS		A			C			D			D	
Intersection Summary												
HCM Average Control Delay	21.2			HCM Level of Service				C				
HCM Volume to Capacity ratio	0.74											
Actuated Cycle Length (s)	100.0			Sum of lost time (s)				9.0				
Intersection Capacity Utilization	81.3%			ICU Level of Service				D				
Analysis Period (min)	15											
c Critical Lane Group												

Capitol Place
7: I Street & 3rd Street

Total Future
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	22	46	71	0	0	0	60	239	21	13	157	18
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	24	51	79	0	0	0	67	266	23	14	174	20
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total (vph)	154	356	209									
Volume Left (vph)	24	67	14									
Volume Right (vph)	79	23	20									
Hadj (s)	-0.24	0.03	-0.01									
Departure Headway (s)	5.0	4.6	4.7									
Degree Utilization, x	0.21	0.45	0.27									
Capacity (veh/h)	657	759	725									
Control Delay (s)	9.3	11.4	9.5									
Approach Delay (s)	9.3	11.4	9.5									
Approach LOS	A	B	A									
Intersection Summary												
Delay	10.4											
HCM Level of Service	B											
Intersection Capacity Utilization	54.3%			ICU Level of Service			A					
Analysis Period (min)	15											

Capitol Place
8: G Street & Alley

Total Future
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↔			↔
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	236	5	0	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	262	6	0	3
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	268				265	265
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	268				265	265
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)	1296				724	774
Direction, Lane #	WB 1	SB 1				
Volume Total	268	3				
Volume Left	0	0				
Volume Right	6	3				
cSH	1700	774				
Volume to Capacity	0.16	0.00				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	9.7				
Lane LOS		A				
Approach Delay (s)	0.0	9.7				
Approach LOS		A				
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		22.7%		ICU Level of Service		A
Analysis Period (min)		15				

Capitol Place
9: Site Driveway & 2nd Street

Total Future
AM Peak Hour

												
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)	5	0	10	20	0	38	46	322	15	8	159	42
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	0	11	22	0	42	51	358	17	9	177	47
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	728	694	200	697	709	366	223				374	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	728	694	200	697	709	366	223				374	
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 %	98	100	99	93	100	94	96				99	
cM capacity (veh/h)	307	350	841	339	343	679	1345				1184	
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total	17	15	50	426	232							
Volume Left	6	15	7	51	9							
Volume Right	11	0	42	17	47							
cSH	532	339	590	1345	1184							
Volume to Capacity	0.03	0.04	0.08	0.04	0.01							
Queue Length 95th (ft)	2	3	7	3	1							
Control Delay (s)	12.0	16.1	11.7	1.3	0.4							
Lane LOS	B	C	B	A	A							
Approach Delay (s)	12.0	12.7		1.3	0.4							
Approach LOS	B	B										
Intersection Summary												
Average Delay	2.2											
Intersection Capacity Utilization	47.3%			ICU Level of Service					A			
Analysis Period (min)	15											

Capitol Place
1: Massachusetts Ave. & 2nd Street

Total Future
PM Peak Hour

												
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)		3.0			3.0			3.0			3.0	3.0
Lane Util. Factor		0.95			0.95			1.00			1.00	1.00
Frpb, ped/bikes		0.99			0.96			1.00			1.00	0.78
Flpb, ped/bikes		0.97			1.00			0.94			1.00	1.00
Frft		0.99			0.99			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.98			0.99	1.00
Satd. Flow (prot)		3332			3376			1707			1847	1241
Flt Permitted		0.73			0.95			0.76			0.96	1.00
Satd. Flow (perm)		2458			3209			1330			1777	1241
Volume (vph)	167	711	91	3	379	27	88	109	3	18	148	287
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	186	790	101	3	421	30	98	121	3	20	164	319
RTOR Reduction (vph)	0	8	0	0	5	0	0	1	0	0	0	149
Lane Group Flow (vph)	0	1069	0	0	449	0	0	221	0	0	184	171
Confl. Peds. (#/hr)	225		18	18		225	111		29	29		111
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		59.0			47.0			31.0			31.0	31.0
Effective Green, g (s)		60.0			48.0			34.0			34.0	34.0
Actuated g/C Ratio		0.60			0.48			0.34			0.34	0.34
Clearance Time (s)		5.0			4.0			6.0			6.0	6.0
Lane Grp Cap (vph)		1553			1540			452			604	422
v/s Ratio Prot		c0.06										
v/s Ratio Perm		c0.35			0.14			c0.17			0.10	0.14
v/c Ratio		0.69			0.29			0.49			0.30	0.40
Uniform Delay, d1		13.6			15.7			26.1			24.3	25.2
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		2.5			0.5			3.8			1.3	2.9
Delay (s)		16.1			16.2			29.9			25.6	28.1
Level of Service		B			B			C			C	C
Approach Delay (s)		16.1			16.2			29.9			27.2	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM Average Control Delay		20.0										
HCM Volume to Capacity ratio		0.61										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		80.9%										
Analysis Period (min)		15										
c Critical Lane Group												

Capitol Place
2: G Street & 2nd Street

Total Future
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑			↑
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	51	57	308	0	0	236
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	57	63	342	0	0	262
Pedestrians	90		45			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	7		4			0
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)	1316					
pX, platoon unblocked						
vC, conflicting volume	739	437			432	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	739	437			432	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	89			100	
cM capacity (veh/h)	342	570			1043	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	120	342	262			
Volume Left	57	0	0			
Volume Right	63	0	0			
cSH	434	1700	1700			
Volume to Capacity	0.28	0.20	0.15			
Queue Length 95th (ft)	28	0	0			
Control Delay (s)	16.4	0.0	0.0			
Lane LOS	C					
Approach Delay (s)	16.4	0.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization	30.5%		ICU Level of Service		A	
Analysis Period (min)	15					

Capitol Place
3: I Street & 2nd Street

Total Future
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Volume (vph)	8	13	8	24	0	22	0	285	121	90	162	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	9	14	9	27	0	24	0	317	134	100	180	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	32	51	451	282								
Volume Left (vph)	9	27	0	100								
Volume Right (vph)	9	24	134	2								
Hadj (s)	-0.08	-0.15	-0.14	0.10								
Departure Headway (s)	5.6	5.4	4.3	4.7								
Degree Utilization, x	0.05	0.08	0.54	0.37								
Capacity (veh/h)	558	573	815	735								
Control Delay (s)	8.8	8.9	12.3	10.5								
Approach Delay (s)	8.8	8.9	12.3	10.5								
Approach LOS	A	A	B	B								
Intersection Summary												
Delay				11.3								
HCM Level of Service				B								
Intersection Capacity Utilization				56.0%	ICU Level of Service	B						
Analysis Period (min)				15								

Capitol Place
4: K Street & 2nd Street

Total Future
PM Peak Hour

												
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)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.99			0.98	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		3407			3500			1806			1810	
Flt Permitted		0.95			0.88			0.85			0.90	
Satd. Flow (perm)		3229			3091			1554			1653	
Volume (vph)	15	758	81	17	241	6	128	227	32	22	79	14
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	17	842	90	19	268	7	142	252	36	24	88	16
RTOR Reduction (vph)	0	8	0	0	2	0	0	3	0	0	5	0
Lane Group Flow (vph)	0	941	0	0	292	0	0	427	0	0	123	0
Confl. Peds. (#/hr)	25		68	68		25	3		6	6		3
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		55.0			55.0			35.0			35.0	
Effective Green, g (s)		57.0			57.0			37.0			37.0	
Actuated g/C Ratio		0.57			0.57			0.37			0.37	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Lane Grp Cap (vph)		1841			1762			575			612	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.09			c0.27			0.07	
v/c Ratio		0.51			0.17			0.74			0.20	
Uniform Delay, d1		13.0			10.2			27.4			21.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.0			0.2			8.4			0.7	
Delay (s)		14.1			10.4			35.8			22.2	
Level of Service		B			B			D			C	
Approach Delay (s)		14.1			10.4			35.8			22.2	
Approach LOS		B			B			D			C	
Intersection Summary												
HCM Average Control Delay		19.2					HCM Level of Service				B	
HCM Volume to Capacity ratio		0.60										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)			6.0		
Intersection Capacity Utilization		69.2%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

Capitol Place
5: G Street & 3rd Street

Total Future
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	0	0	13	20	37	11	137	0	0	187	62
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	14	22	41	12	152	0	0	208	69
Direction, Lane #	WB 1	NB 1	SB 1									
Volume Total (vph)	78	164	277									
Volume Left (vph)	14	12	0									
Volume Right (vph)	41	0	69									
Hadj (s)	-0.25	0.05	-0.12									
Departure Headway (s)	4.6	4.4	4.2									
Degree Utilization, x	0.10	0.20	0.32									
Capacity (veh/h)	710	787	839									
Control Delay (s)	8.1	8.5	9.1									
Approach Delay (s)	8.1	8.5	9.1									
Approach LOS	A	A	A									
Intersection Summary												
Delay			8.8									
HCM Level of Service			A									
Intersection Capacity Utilization		35.5%		ICU Level of Service		A						
Analysis Period (min)			15									

Capitol Place
6: H Street & 3rd Street

Total Future
PM Peak Hour

												
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)	3.0			3.0			3.0			3.0		
Lane Util. Factor	0.91			0.91			1.00			1.00		
Frpb, ped/bikes	1.00			0.99			0.99			0.98		
Flpb, ped/bikes	1.00			1.00			1.00			0.99		
Frt	0.99			0.98			0.98			0.96		
Flt Protected	1.00			1.00			0.99			0.98		
Satd. Flow (prot)	5000			4884			1778			1702		
Flt Permitted	0.74			0.76			0.82			0.76		
Satd. Flow (perm)	3718			3709			1477			1326		
Volume (vph)	147	1494	100	37	516	98	43	96	30	160	125	132
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	163	1660	111	41	573	109	48	107	33	178	139	147
RTOR Reduction (vph)	0	7	0	0	25	0	0	7	0	0	17	0
Lane Group Flow (vph)	0	1927	0	0	698	0	0	181	0	0	447	0
Confl. Peds. (#/hr)	25		10	10		25	23		24	24		23
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	53.0			43.0			35.0			35.0		
Effective Green, g (s)	56.0			46.0			38.0			38.0		
Actuated g/C Ratio	0.56			0.46			0.38			0.38		
Clearance Time (s)	6.0			6.0			6.0			6.0		
Lane Grp Cap (vph)	2172			1706			561			504		
v/s Ratio Prot	c0.06											
v/s Ratio Perm	c0.43			0.19			0.12			c0.34		
v/c Ratio	0.89			0.41			0.32			0.89		
Uniform Delay, d1	19.2			18.0			21.9			29.0		
Progression Factor	1.00			1.00			1.00			1.00		
Incremental Delay, d2	5.9			0.7			1.5			20.1		
Delay (s)	25.1			18.7			23.4			49.1		
Level of Service	C			B			C			D		
Approach Delay (s)	25.1			18.7			23.4			49.1		
Approach LOS	C			B			C			D		
Intersection Summary												
HCM Average Control Delay	27.0			HCM Level of Service			C					
HCM Volume to Capacity ratio	0.89											
Actuated Cycle Length (s)	100.0			Sum of lost time (s)			6.0					
Intersection Capacity Utilization	95.5%			ICU Level of Service			F					
Analysis Period (min)	15											
c Critical Lane Group												

Capitol Place
7: I Street & 3rd Street

Total Future
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	27	76	93	0	0	0	55	207	26	16	229	21
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	30	84	103	0	0	0	61	230	29	18	254	23
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total (vph)	218	320	296									
Volume Left (vph)	30	61	18									
Volume Right (vph)	103	29	23									
Hadj (s)	-0.22	0.02	0.00									
Departure Headway (s)	5.2	4.9	4.9									
Degree Utilization, x	0.31	0.44	0.40									
Capacity (veh/h)	637	703	697									
Control Delay (s)	10.5	11.6	11.2									
Approach Delay (s)	10.5	11.6	11.2									
Approach LOS	B	B	B									
Intersection Summary												
Delay			11.2									
HCM Level of Service			B									
Intersection Capacity Utilization			56.8%				ICU Level of Service			B		
Analysis Period (min)			15									

Capitol Place
8: G Street & Alley

Total Future
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶			↷
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	0	100	1	0	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	111	1	0	10
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	112				112	112
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	112				112	112
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	99
cM capacity (veh/h)	1477				885	941
Direction, Lane #	WB 1	SB 1				
Volume Total	112	10				
Volume Left	0	0				
Volume Right	1	10				
cSH	1700	941				
Volume to Capacity	0.07	0.01				
Queue Length 95th (ft)	0	1				
Control Delay (s)	0.0	8.9				
Lane LOS		A				
Approach Delay (s)	0.0	8.9				
Approach LOS		A				
Intersection Summary						
Average Delay		0.7				
Intersection Capacity Utilization		15.3%		ICU Level of Service		A
Analysis Period (min)		15				

Capitol Place
9: Site Driveway & 2nd Street

Total Future
PM Peak Hour

												
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)	40	0	53	23	0	48	9	301	38	22	159	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	44	0	59	26	0	53	10	334	42	24	177	7
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	658	626	180	663	608	356	183			377		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	658	626	180	663	608	356	183			377		
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 %	87	100	93	93	100	92	99			98		
cM capacity (veh/h)	341	390	863	342	399	688	1392			1182		
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total	103	17	62	387	208							
Volume Left	44	17	9	10	24							
Volume Right	59	0	53	42	7							
cSH	520	342	604	1392	1182							
Volume to Capacity	0.20	0.05	0.10	0.01	0.02							
Queue Length 95th (ft)	18	4	9	1	2							
Control Delay (s)	13.6	16.1	11.6	0.3	1.1							
Lane LOS	B	C	B	A	A							
Approach Delay (s)	13.6	12.6		0.3	1.1							
Approach LOS	B	B										
Intersection Summary												
Average Delay	3.5											
Intersection Capacity Utilization	38.6%			ICU Level of Service			A					
Analysis Period (min)	15											