

Appendix F

Total Future Intersection Levels of Service

Total Future Conditions
1: Washington Circle & 23rd Street

AM Peak Hour
5/21/06



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑				↑↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0				4.0
Lane Util. Factor	0.86	0.86				0.76
Frb, ped/bikes	0.99	0.84				1.00
Flpb, ped/bikes	1.00	1.00				1.00
Frt	0.99	0.85				0.85
Flt Protected	1.00	1.00				1.00
Satd. Flow (prot)	4203	1029				3249
Flt Permitted	1.00	1.00				1.00
Satd. Flow (perm)	4203	1029				3249
Volume (vph)	1925	699	0	0	0	639
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2092	760	0	0	0	695
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2304	548	0	0	0	695
Confl. Peds. (#/hr)		504	504		165	
Turn Type		Perm				custom
Protected Phases	1 2 3					
Permitted Phases		1 2 3				12
Actuated Green, G (s)	100.0	100.0				74.0
Effective Green, g (s)	100.0	100.0				74.0
Actuated g/C Ratio	1.00	1.00				0.74
Clearance Time (s)						4.0
Lane Grp Cap (vph)	4203	1029				2404
v/s Ratio Prot	c0.55					
v/s Ratio Perm		0.53				0.21
v/c Ratio	0.55	0.53				0.29
Uniform Delay, d1	0.0	0.0				4.3
Progression Factor	1.00	1.00				1.64
Incremental Delay, d2	0.3	1.1				0.3
Delay (s)	0.3	1.1				7.3
Level of Service	A	A				A
Approach Delay (s)	0.4			0.0	7.3	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
 2: Washington Circle & New Hampshire Avenue

AM Peak Hour
 5/21/06



Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations			↑↑↑	↑		↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0		4.0
Lane Util. Factor			0.94	1.00		1.00
Frbp, ped/bikes			1.00	1.00		0.89
Flpb, ped/bikes			1.00	1.00		1.00
Frt			1.00	0.85		0.86
Flt Protected			0.95	1.00		1.00
Satd. Flow (prot)			4491	1425		1138
Flt Permitted			0.95	1.00		1.00
Satd. Flow (perm)			4491	1425		1138
Volume (vph)	0	0	2409	117	0	216
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	2618	127	0	235
RTOR Reduction (vph)	0	0	123	27	0	0
Lane Group Flow (vph)	0	0	2496	100	0	235
Confl. Peds. (#/hr)	241	231	165	241	231	165
Parking (#/hr)						3

Turn Type			custom			
Protected Phases			4 7	8 10		
Permitted Phases						10
Actuated Green, G (s)			65.0	79.0		40.0
Effective Green, g (s)			65.0	79.0		48.0
Actuated g/C Ratio			0.65	0.79		0.48
Clearance Time (s)						12.0
Lane Grp Cap (vph)			2919	1126		546
v/s Ratio Prot			c0.56	0.07		
v/s Ratio Perm						c0.21
v/c Ratio			0.85	0.09		0.43
Uniform Delay, d1			13.8	2.4		17.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			3.5	0.2		2.5
Delay (s)			17.2	2.5		19.5
Level of Service			B	A		B
Approach Delay (s)	0.0		16.6		19.5	
Approach LOS	A		B		B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
3: K Street EB & Washington Circle

AM Peak Hour
5/21/06



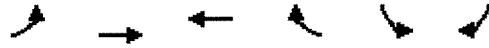
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑↑			↑↑↑	
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	730	0	0	1796	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	793	0	0	1952	0
Pedestrians	112			231		
Lane Width (ft)	12.0			0.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	9			0		
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				141		
pX, platoon unblocked						
vC, conflicting volume	2064	994	2064			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2064	994	2064			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	0	100			
cM capacity (veh/h)	43	221	242			

Direction, Lane #	EB 1	EB 2	SB 1	SB 2	SB 3
Volume Total	397	397	651	651	651
Volume Left	0	0	0	0	0
Volume Right	397	397	0	0	0
cSH	221	221	1700	1700	1700
Volume to Capacity	1.79	1.79	0.38	0.38	0.38
Queue Length 95th (ft)	685	685	0	0	0
Control Delay (s)	412.4	412.4	0.0	0.0	0.0
Lane LOS	F	F			
Approach Delay (s)	412.4		0.0		
Approach LOS	F				

Intersection Summary		
Average Delay		119.2
Intersection Capacity Utilization	81.7%	ICU Level of Service D
Analysis Period (min)		15

Total Future Conditions
5: Washington Circle & 23rd Street

AM Peak Hour
5/21/06

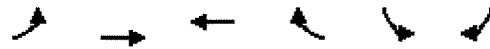


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0
Lane Util. Factor			0.86			0.76
Frbp, ped/bikes			1.00			0.99
Flpb, ped/bikes			1.00			1.00
Frt			1.00			0.85
Flt Protected			1.00			1.00
Satd. Flow (prot)			5767			3206
Flt Permitted			1.00			1.00
Satd. Flow (perm)			5767			3206
Volume (vph)	0	0	598	0	0	774
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	650	0	0	841
RTOR Reduction (vph)	0	0	0	0	0	191
Lane Group Flow (vph)	0	0	650	0	0	650
Confl. Peds. (#/hr)	131			131	151	3
Turn Type						custom
Protected Phases			10 11			
Permitted Phases						1 3
Actuated Green, G (s)			100.0			75.0
Effective Green, g (s)			100.0			75.0
Actuated g/C Ratio			1.00			0.75
Clearance Time (s)						
Lane Grp Cap (vph)			5767			2405
v/s Ratio Prot			c0.11			
v/s Ratio Perm						c0.20
v/c Ratio			0.11			0.27
Uniform Delay, d1			0.0			3.9
Progression Factor			1.00			1.00
Incremental Delay, d2			0.0			0.3
Delay (s)			0.0			4.2
Level of Service			A			A
Approach Delay (s)		0.0	0.0		4.2	
Approach LOS		A	A		A	

Intersection Summary			
HCM Average Control Delay	2.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
6: Washington Circle & New Hampshire Avenue

AM Peak Hour
5/21/06



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑↑↑	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0		
Lane Util. Factor			0.86	0.86		
Frbp, ped/bikes			0.94	1.00		
Flpb, ped/bikes			1.00	1.00		
Frt			0.93	0.85		
Flt Protected			1.00	1.00		
Satd. Flow (prot)			3772	1226		
Flt Permitted			1.00	1.00		
Satd. Flow (perm)			3772	1226		
Volume (vph)	0	0	598	1038	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	650	1128	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1214	564	0	0
Confl. Peds. (#/hr)	297			297	2	326
Turn Type			custom			
Protected Phases			7 9	4 6		
Permitted Phases						
Actuated Green, G (s)			71.0	75.0		
Effective Green, g (s)			71.0	75.0		
Actuated g/C Ratio			0.71	0.75		
Clearance Time (s)						
Lane Grp Cap (vph)			2678	920		
v/s Ratio Prot			c0.32	c0.46		
v/s Ratio Perm						
v/c Ratio			0.45	0.61		
Uniform Delay, d1			6.2	5.8		
Progression Factor			1.33	0.56		
Incremental Delay, d2			0.5	3.0		
Delay (s)			8.8	6.2		
Level of Service			A	A		
Approach Delay (s)		0.0	8.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
7: K Street WB & Washington Circle

AM Peak Hour
5/21/06



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗↗	↑↑↑			
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	310	1325	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	337	1440	0	0	0
Pedestrians	123		31			51
Lane Width (ft)	12.0		12.0			0.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	10		3			0
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						144
pX, platoon unblocked						
vC, conflicting volume	1594	534			1563	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1594	534			1563	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	23			100	
cM capacity (veh/h)	85	440			376	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4
Volume Total	168	168	360	360	360	360
Volume Left	0	0	0	0	0	0
Volume Right	168	168	0	0	0	0
cSH	440	440	1700	1700	1700	1700
Volume to Capacity	0.38	0.38	0.21	0.21	0.21	0.21
Queue Length 95th (ft)	44	44	0	0	0	0
Control Delay (s)	18.2	18.2	0.0	0.0	0.0	0.0
Lane LOS	C	C				
Approach Delay (s)	18.2		0.0			
Approach LOS	C					

Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			44.1%		ICU Level of Service	A
Analysis Period (min)			15			

Total Future Conditions
9: I Street & 23rd Street

AM Peak Hour
5/21/06



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↙		↑↑↑			↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		0.91			0.95
Frbp, ped/bikes	0.87		0.93			1.00
Flpb, ped/bikes	0.62		1.00			0.98
Frt	0.97		0.95			1.00
Flt Protected	0.96		1.00			0.98
Satd. Flow (prot)	744		4077			2903
Flt Permitted	0.96		1.00			0.52
Satd. Flow (perm)	744		4077			1544
Volume (vph)	68	21	681	300	235	417
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	23	740	326	255	453
RTOR Reduction (vph)	12	0	79	0	0	0
Lane Group Flow (vph)	85	0	987	0	0	708
Confl. Peds. (#/hr)	1177	1700		253	253	
Parking (#/hr)	3	3			3	3
Turn Type					Perm	
Protected Phases			2			6
Permitted Phases	8				6	
Actuated Green, G (s)	27.0		63.0			63.0
Effective Green, g (s)	28.0		64.0			64.0
Actuated g/C Ratio	0.28		0.64			0.64
Clearance Time (s)	5.0		5.0			5.0
Lane Grp Cap (vph)	208		2609			988
v/s Ratio Prot			0.24			
v/s Ratio Perm	c0.11					c0.46
v/c Ratio	0.41		0.38			1.21dl
Uniform Delay, d1	29.3		8.5			12.0
Progression Factor	1.00		0.77			0.94
Incremental Delay, d2	5.9		0.4			3.8
Delay (s)	35.2		7.0			15.1
Level of Service	D		A			B
Approach Delay (s)	35.2		7.0			15.1
Approach LOS	D		A			B

Intersection Summary

HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Total Future Conditions
11: Virginia Avenue (EB) & 23rd Street

AM Peak Hour
5/21/06



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						0.95	1.00		0.95	
Frbp, ped/bikes		0.90						1.00	0.56		1.00	
Flpb, ped/bikes		1.00						1.00	1.00		1.00	
Frt		0.93						1.00	0.85		1.00	
Flt Protected		0.99						1.00	1.00		0.99	
Satd. Flow (prot)		1386						3185	796		2973	
Flt Permitted		0.99						1.00	1.00		0.67	
Satd. Flow (perm)		1386						3185	796		2005	
Volume (vph)	30	53	99	0	0	0	0	1296	35	50	441	0
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)	33	58	108	0	0	0	0	1409	38	54	479	0
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	16	0	0	0
Lane Group Flow (vph)	0	165	0	0	0	0	0	1409	22	0	533	0
Confl. Peds. (#/hr)			188	188			404		447	447		404
Parking (#/hr)											3	3
Turn Type	custom						Perm		Perm			
Protected Phases	4	4						2			6	
Permitted Phases	4								2	6		
Actuated Green, G (s)		32.0						52.0	52.0		56.0	
Effective Green, g (s)		34.0						58.0	58.0		58.0	
Actuated g/C Ratio		0.34						0.58	0.58		0.58	
Clearance Time (s)		6.0						10.0	10.0		6.0	
Lane Grp Cap (vph)		471						1847	462		1163	
v/s Ratio Prot		c0.12						c0.44				
v/s Ratio Perm									0.03		0.27	
v/c Ratio		0.35						0.76	0.05		0.46	
Uniform Delay, d1		24.7						15.8	9.1		12.0	
Progression Factor		1.00						1.00	1.00		0.17	
Incremental Delay, d2		2.0						3.0	0.2		1.2	
Delay (s)		26.8						18.9	9.3		3.2	
Level of Service		C						B	A		A	
Approach Delay (s)		26.8			0.0			18.6			3.2	
Approach LOS		C			A			B			A	
Intersection Summary												
HCM Average Control Delay		15.6									B	
HCM Volume to Capacity ratio		0.61										
Actuated Cycle Length (s)		100.0							8.0			
Intersection Capacity Utilization		123.3%									H	
Analysis Period (min)		15										
c Critical Lane Group												

Total Future Conditions
13: K Street EB & 22nd Street

AM Peak Hour
5/21/06



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				
Lane Util. Factor		0.95						0.91				
Frbp, ped/bikes		1.00						1.00				
Flpb, ped/bikes		1.00						1.00				
Frt		1.00						1.00				
Flt Protected		1.00						1.00				
Satd. Flow (prot)		3179						4563				
Flt Permitted		1.00						1.00				
Satd. Flow (perm)		3179						4563				
Volume (vph)	11	433	0	0	0	0	0	780	12	0	0	0
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)	12	471	0	0	0	0	0	848	13	0	0	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	481	0	0	0	0	0	859	0	0	0	0
Confl. Peds. (#/hr)	50		50	50			50	248		50	50	248
Turn Type	Perm											
Protected Phases		4 6										5
Permitted Phases	4 6											
Actuated Green, G (s)		52.0						40.0				
Effective Green, g (s)		52.0						40.0				
Actuated g/C Ratio		0.52						0.40				
Clearance Time (s)								4.0				
Lane Grp Cap (vph)		1653						1825				
v/s Ratio Prot								c0.19				
v/s Ratio Perm		0.15										
v/c Ratio		0.29						0.47				
Uniform Delay, d1		13.6						22.2				
Progression Factor		0.14						0.22				
Incremental Delay, d2		0.4						0.6				
Delay (s)		2.3						5.6				
Level of Service		A						A				
Approach Delay (s)		2.3			0.0			5.6			0.0	
Approach LOS		A			A			A			A	

Intersection Summary

HCM Average Control Delay	4.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
14: Pennsylvania Avenue & 22nd Street

















AM Peak Hour
5/21/06



Movement	EBL	EBT	WBR	WBR2	NBL	NBT	NBR
Lane Configurations		↑↑↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0			4.0	
Lane Util. Factor		0.91	0.76			0.91	
Frbp, ped/bikes		1.00	1.00			0.99	
Flpb, ped/bikes		1.00	1.00			1.00	
Frt		1.00	0.85			0.97	
Flt Protected		1.00	1.00			1.00	
Satd. Flow (prot)		4576	3124			4407	
Flt Permitted		1.00	1.00			1.00	
Satd. Flow (perm)		4576	3124			4407	
Volume (vph)	2	1154	291	188	69	601	134
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	1254	316	204	75	653	146
RTOR Reduction (vph)	0	0	116	0	0	30	0
Lane Group Flow (vph)	0	1256	404	0	0	844	0
Confl. Peds. (#/hr)	34		16	34	16		21
Parking (#/hr)			3	3			
Turn Type	custom				Perm		
Protected Phases	9	7 9	7			8	
Permitted Phases	7				8		
Actuated Green, G (s)		64.0	32.0			24.0	
Effective Green, g (s)		62.0	32.0			26.0	
Actuated g/C Ratio		0.62	0.32			0.26	
Clearance Time (s)			4.0			6.0	
Lane Grp Cap (vph)		3020	1000			1146	
v/s Ratio Prot		0.12	0.13				
v/s Ratio Perm		0.15				0.19	
v/c Ratio		0.42	0.40			0.74	
Uniform Delay, d1		9.7	26.6			33.9	
Progression Factor		0.18	1.00			1.00	
Incremental Delay, d2		0.4	1.2			4.2	
Delay (s)		2.1	27.8			38.1	
Level of Service		A	C			D	
Approach Delay (s)		2.1				38.1	
Approach LOS		A				D	
Intersection Summary							
HCM Average Control Delay			19.0		HCM Level of Service		B
HCM Volume to Capacity ratio			0.51				
Actuated Cycle Length (s)			100.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization			79.3%		ICU Level of Service		D
Analysis Period (min)			15				
c Critical Lane Group							

Total Future Conditions
15: I Street & 22nd Street

AM Peak Hour
5/21/06

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	446	142	0	0	33	30	31	501	120	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)	485	154	0	0	36	33	34	545	130	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total (vph)	639	68	306	403
Volume Left (vph)	485	0	34	0
Volume Right (vph)	0	33	0	130
Hadj (s)	0.19	-0.25	0.09	-0.19
Departure Headway (s)	5.9	6.4	6.6	6.3
Degree Utilization, x	1.05	0.12	0.56	0.71
Capacity (veh/h)	599	540	541	558
Control Delay (s)	73.6	10.3	16.5	22.0
Approach Delay (s)	73.6	10.3	19.6	
Approach LOS	F	B	C	

Intersection Summary			
Delay		43.5	
HCM Level of Service		E	
Intersection Capacity Utilization		73.9%	ICU Level of Service D
Analysis Period (min)		15	

Total Future Conditions
17: K Street WB & 24th Street

AM Peak Hour
5/21/06



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					0.95			0.95			1.00	
Frbp, ped/bikes					1.00			1.00			0.98	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.99			1.00			0.97	
Flt Protected					1.00			1.00			1.00	
Satd. Flow (prot)					2968			3183			1602	
Flt Permitted					1.00			0.95			1.00	
Satd. Flow (perm)					2968			3038			1602	
Volume (vph)	0	0	0	0	215	15	3	469	0	0	156	38
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	0	0	0	234	16	3	510	0	0	170	41
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	245	0	0	513	0	0	203	0
Confl. Peds. (#/hr)	31					31	100					100
Parking (#/hr)					3	3						
Turn Type				Perm			Perm					
Protected Phases					9 11			10			10	
Permitted Phases				9 11			10					
Actuated Green, G (s)					57.0			35.0			35.0	
Effective Green, g (s)					57.0			35.0			35.0	
Actuated g/C Ratio					0.57			0.35			0.35	
Clearance Time (s)								4.0			4.0	
Lane Grp Cap (vph)					1692			1063			561	
v/s Ratio Prot					c0.08						0.13	
v/s Ratio Perm								c0.17				
v/c Ratio					0.14			0.48			0.36	
Uniform Delay, d1					10.1			25.4			24.2	
Progression Factor					0.15			0.62			0.24	
Incremental Delay, d2					0.2			1.1			0.2	
Delay (s)					1.7			17.0			5.9	
Level of Service					A			B			A	
Approach Delay (s)		0.0			1.7			17.0			5.9	
Approach LOS		A			A			B			A	

Intersection Summary

HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
18: K Street EB & 24th Street

AM Peak Hour
5/21/06



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		0.95						1.00			1.00	
Frbp, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.97			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		2943						1609			1650	
Flt Permitted		0.99						1.00			0.75	
Satd. Flow (perm)		2943						1609			1252	
Volume (vph)	185	605	34	0	0	0	0	287	84	41	115	0
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)	201	658	37	0	0	0	0	312	91	45	125	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	10	0	0	0	0
Lane Group Flow (vph)	0	893	0	0	0	0	0	393	0	0	170	0
Confl. Peds. (#/hr)			40	40					40	40		
Parking (#/hr)	3	3	3									
Turn Type	Perm						D.P+P					
Protected Phases		3 7						2		1	1 2	
Permitted Phases	3 7									2		
Actuated Green, G (s)		48.0						35.0			39.0	
Effective Green, g (s)		48.0						35.0			40.0	
Actuated g/C Ratio		0.48						0.35			0.40	
Clearance Time (s)								4.0				
Lane Grp Cap (vph)		1413						563			521	
v/s Ratio Prot								c0.24			c0.02	
v/s Ratio Perm		0.30									0.11	
v/c Ratio		0.63						0.70			0.33	
Uniform Delay, d1		19.4						27.9			20.7	
Progression Factor		1.00						1.00			0.06	
Incremental Delay, d2		2.2						7.0			1.6	
Delay (s)		21.6						35.0			2.7	
Level of Service		C						C			A	
Approach Delay (s)		21.6			0.0			35.0			2.7	
Approach LOS		C			A			C			A	

Intersection Summary

HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
19: H Street & 23rd Street

AM Peak Hour
5/21/06



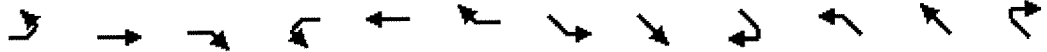
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.91			0.95	
Frb, ped/bikes		0.99			0.99			0.96			0.98	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.96			0.97			0.98			0.99	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1569			1579			4309			3043	
Flt Permitted		0.98			0.92			0.93			0.69	
Satd. Flow (perm)		1541			1477			3997			2110	
Volume (vph)	18	125	64	12	27	10	19	968	163	61	367	40
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)	20	136	70	13	29	11	21	1052	177	66	399	43
RTOR Reduction (vph)	0	16	0	0	8	0	0	23	0	0	7	0
Lane Group Flow (vph)	0	210	0	0	45	0	0	1227	0	0	501	0
Confl. Peds. (#/hr)	57		37	37		57	286		286	286		286
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		31.0			31.0			61.0			61.0	
Effective Green, g (s)		31.0			31.0			61.0			61.0	
Actuated g/C Ratio		0.31			0.31			0.61			0.61	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		478			458			2438			1287	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.03			c0.31			0.24	
v/c Ratio		0.44			0.10			0.50			0.39	
Uniform Delay, d1		27.6			24.6			11.0			10.0	
Progression Factor		1.00			1.00			0.05			1.26	
Incremental Delay, d2		2.9			0.4			0.2			0.6	
Delay (s)		30.5			25.0			0.8			13.2	
Level of Service		C			C			A			B	
Approach Delay (s)		30.5			25.0			0.8			13.2	
Approach LOS		C			C			A			B	

Intersection Summary

HCM Average Control Delay	7.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
20: K Street WB & Pennsylvania Avenue

AM Peak Hour
5/21/06



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
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				
Lane Util. Factor					0.95			0.91				
Frbp, ped/bikes					1.00			1.00				
Flpb, ped/bikes					1.00			1.00				
Frt					1.00			1.00				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					3185			4577				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					3185			4577				
Volume (vph)	0	0	0	0	230	0	0	1270	0	0	0	0
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	0	0	0	250	0	0	1380	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	250	0	0	1380			0	0
Confl. Peds. (#/hr)									138	138		
Turn Type												
Protected Phases					2			1	3			
Permitted Phases												
Actuated Green, G (s)					43.0			49.0				
Effective Green, g (s)					43.0			49.0				
Actuated g/C Ratio					0.43			0.49				
Clearance Time (s)					4.0							
Lane Grp Cap (vph)					1370			2243				
v/s Ratio Prot					c0.08			c0.30				
v/s Ratio Perm												
v/c Ratio					0.18			0.62				
Uniform Delay, d1					17.6			18.6				
Progression Factor					0.90			0.05				
Incremental Delay, d2					0.3			0.1				
Delay (s)					16.2			1.0				
Level of Service					B			A				
Approach Delay (s)		0.0			16.2			1.0			0.0	
Approach LOS		A			B			A			A	

Intersection Summary

HCM Average Control Delay	3.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
21: Square 54 Driveway & 22nd Street

AM Peak Hour
5/21/06



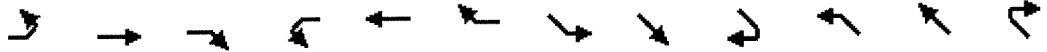
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗			↕↕↕		
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	125	0	348	657	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	136	0	378	714	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)					304	
pX, platoon unblocked						
vC, conflicting volume	995	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	995	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	27	100	77			
cM capacity (veh/h)	185	1084	1622			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3
Volume Total	68	68	521	286	286
Volume Left	68	68	378	0	0
Volume Right	0	0	0	0	0
cSH	185	185	1622	1700	1700
Volume to Capacity	0.37	0.37	0.23	0.17	0.17
Queue Length 95th (ft)	39	39	23	0	0
Control Delay (s)	35.3	35.3	6.3	0.0	0.0
Lane LOS	E	E	A		
Approach Delay (s)	35.3		3.0		
Approach LOS	E				

Intersection Summary					
Average Delay			6.6		
Intersection Capacity Utilization			32.6%		ICU Level of Service A
Analysis Period (min)			15		

Total Future Conditions
25: K Street EB & Pennsylvania Avenue

AM Peak Hour
5/21/06



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
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	
Lane Util. Factor		0.95									0.91	
Frbp, ped/bikes		1.00									1.00	
Flpb, ped/bikes		1.00									1.00	
Frt		1.00									1.00	
Flt Protected		1.00									1.00	
Satd. Flow (prot)		3185									4577	
Flt Permitted		1.00									1.00	
Satd. Flow (perm)		3185									4577	
Volume (vph)	0	443	0	0	0	0	0	0	0	0	360	0
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	482	0	0	0	0	0	0	0	0	391	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	482	0	0	0	0	0	0	0	0	391	0
Confl. Peds. (#/hr)	363					363				21	21	
Turn Type												
Protected Phases		10									11	
Permitted Phases												
Actuated Green, G (s)		38.0									53.0	
Effective Green, g (s)		39.0									53.0	
Actuated g/C Ratio		0.39									0.53	
Clearance Time (s)		5.0									4.0	
Lane Grp Cap (vph)		1242									2426	
v/s Ratio Prot		c0.15									c0.09	
v/s Ratio Perm												
v/c Ratio		0.39									0.16	
Uniform Delay, d1		21.9									12.1	
Progression Factor		0.63									0.38	
Incremental Delay, d2		0.8									0.1	
Delay (s)		14.7									4.7	
Level of Service		B									A	
Approach Delay (s)		14.7			0.0			0.0			4.7	
Approach LOS		B			A			A			A	

Intersection Summary

HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
1: Washington Circle & 23rd Street

PM Peak Hour
5/21/06



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑				↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0				4.0
Lane Util. Factor	0.86	0.86				0.88
Frbp, ped/bikes	0.96	0.89				1.00
Flpb, ped/bikes	1.00	1.00				1.00
Frt	0.95	0.85				0.85
Flt Protected	1.00	1.00				1.00
Satd. Flow (prot)	3929	1094				2364
Flt Permitted	1.00	1.00				1.00
Satd. Flow (perm)	3929	1094				2364
Volume (vph)	1050	1202	0	0	0	450
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1141	1307	0	0	0	489
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1794	654	0	0	0	489
Confl. Peds. (#/hr)		324	324		125	
Parking (#/hr)						3
Turn Type		Perm				custom
Protected Phases	1 2 3					
Permitted Phases		1 2 3				12
Actuated Green, G (s)	100.0	100.0				74.0
Effective Green, g (s)	100.0	100.0				74.0
Actuated g/C Ratio	1.00	1.00				0.74
Clearance Time (s)						4.0
Lane Grp Cap (vph)	3929	1094				1749
v/s Ratio Prot	0.46					
v/s Ratio Perm		c0.60				0.21
v/c Ratio	0.46	0.60				0.28
Uniform Delay, d1	0.0	0.0				4.3
Progression Factor	1.00	1.00				0.53
Incremental Delay, d2	0.3	1.9				0.4
Delay (s)	0.3	1.9				2.7
Level of Service	A	A				A
Approach Delay (s)	0.7			0.0	2.7	
Approach LOS	A			A	A	

Intersection Summary

HCM Average Control Delay	1.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
 2: Washington Circle & New Hampshire Avenue

PM Peak Hour
 5/21/06



Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations			↑↑↑	↑		↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0		4.0
Lane Util. Factor			0.94	1.00		1.00
Frbp, ped/bikes			1.00	1.00		0.92
Flpb, ped/bikes			1.00	1.00		1.00
Frt			1.00	0.85		0.86
Flt Protected			0.95	1.00		1.00
Satd. Flow (prot)			4491	1425		1185
Flt Permitted			0.95	1.00		1.00
Satd. Flow (perm)			4491	1425		1185
Volume (vph)	0	0	2079	389	0	174
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	2260	423	0	189
RTOR Reduction (vph)	0	0	298	89	0	0
Lane Group Flow (vph)	0	0	1962	334	0	189
Confl. Peds. (#/hr)	184	113	125	184	113	125
Parking (#/hr)						3
Turn Type			custom			
Protected Phases			4 7	8 10		
Permitted Phases						10
Actuated Green, G (s)			73.0	79.0		49.0
Effective Green, g (s)			73.0	79.0		57.0
Actuated g/C Ratio			0.73	0.79		0.57
Clearance Time (s)						12.0
Lane Grp Cap (vph)			3278	1126		675
v/s Ratio Prot			c0.44	c0.23		
v/s Ratio Perm						0.16
v/c Ratio			0.60	0.30		0.28
Uniform Delay, d1			6.5	2.9		11.0
Progression Factor			1.00	1.00		1.00
Incremental Delay, d2			0.8	0.7		1.0
Delay (s)			7.3	3.6		12.0
Level of Service			A	A		B
Approach Delay (s)	0.0		6.7		12.0	
Approach LOS	A		A		B	

Intersection Summary

HCM Average Control Delay	7.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			