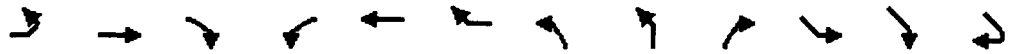


Appendix D
Total Future Levels of Service

Total Future Conditions
15: 10th Avenue & Florida Avenue

AM Peak Period
12/21/2005



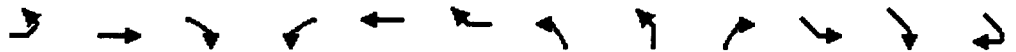
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER	SER2
Lane Configurations		↕			↕			↕		↕	↕	↕
Sign Control		Stop			Stop			Stop		Stop		
Volume (vph)	11	33	6	28	27	243	10	196	15	165	163	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	36	7	30	29	264	11	213	16	179	177	32

Direction, Lane #	EB 1	WB 1	NB 1	SE 1	SE 2
Volume Total (vph)	54	324	240	179	209
Volume Left (vph)	12	30	11	179	0
Volume Right (vph)	7	264	16	0	32
Hadj (s)	0.01	-0.44	0.00	0.53	-0.07
Departure Headway (s)	6.2	5.2	5.7	6.5	5.8
Degree Utilization, x	0.09	0.47	0.38	0.32	0.34
Capacity (veh/h)	499	645	587	530	586
Control Delay (s)	9.8	12.7	12.1	11.3	10.6
Approach Delay (s)	9.8	12.7	12.1	10.9	
Approach LOS	A	B	B	B	

Intersection Summary				
Delay	11.7			
HCM Level of Service	B			
Intersection Capacity Utilization	51.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Total Future Conditions
15: 10th Avenue & Florida Avenue

PM Peak Period
12/21/2005



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER	SER2
Lane Configurations		↔			↔			↔		↔	↔	↔
Sign Control		Stop			Stop			Stop		Stop		
Volume (vph)	13	10	2	1	13	184	10	239	6	278	186	9
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)	14	11	2	1	14	200	11	260	7	302	202	10

Direction, Lane #	EB 1	WB 1	NB 1	SE 1	SE 2
Volume Total (vph)	27	215	277	302	212
Volume Left (vph)	14	1	11	302	0
Volume Right (vph)	2	200	7	0	10
Hadj (s)	0.09	-0.52	0.03	0.53	0.00
Departure Headway (s)	6.4	5.3	5.4	6.1	5.5
Degree Utilization, x	0.05	0.32	0.41	0.51	0.33
Capacity (veh/h)	485	620	640	577	632
Control Delay (s)	9.7	10.8	12.1	14.0	10.0
Approach Delay (s)	9.7	10.8	12.1	12.3	
Approach LOS	A	B	B	B	

Intersection Summary				
Delay		11.9		
HCM Level of Service		B		
Intersection Capacity Utilization		51.7%	ICU Level of Service	A
Analysis Period (min)		15		

Total Future Conditions
12: Barry Place & Sherman Street

AM Peak Period
12/21/2005

												
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	4.0
Lane Util. Factor		1.00			1.00			0.95			0.95	1.00
Frt		1.00			0.97			0.98			1.00	0.85
Flt Protected		0.98			1.00			1.00			1.00	1.00
Satd. Flow (prot)		1823			1806			3482			3528	1583
Flt Permitted		0.80			0.99			0.81			0.81	1.00
Satd. Flow (perm)		1498			1790			2815			2852	1583
Volume (vph)	91	121	1	7	132	37	2	330	40	72	1089	165
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)	99	132	1	8	143	40	2	359	43	78	1184	179
RTOR Reduction (vph)	0	0	0	0	10	0	0	9	0	0	0	107
Lane Group Flow (vph)	0	232	0	0	181	0	0	395	0	0	1262	72
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		65.0			65.0			25.0			25.0	25.0
Effective Green, g (s)		66.0			66.0			26.0			26.0	26.0
Actuated g/C Ratio		0.66			0.66			0.26			0.26	0.26
Clearance Time (s)		5.0			5.0			5.0			5.0	5.0
Lane Grp Cap (vph)		989			1181			732			742	412
v/s Ratio Prot												
v/s Ratio Perm		0.15			0.10			0.14			0.44	0.05
v/c Ratio		0.23			0.15			0.54			1.70	0.18
Uniform Delay, d1		6.8			6.4			31.8			37.0	28.7
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		0.6			0.3			2.8			321.1	0.9
Delay (s)		7.4			6.7			34.7			358.1	29.6
Level of Service		A			A			C			F	C
Approach Delay (s)		7.4			6.7			34.7			317.3	
Approach LOS		A			A			C			F	

Intersection Summary			
HCM Average Control Delay	209.1	HCM Level of Service	F
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
12: Barry Place & Sherman Street

PM Peak Period
12/21/2005



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	4.0
Lane Util. Factor		1.00			1.00			0.95			0.95	1.00
Frt		1.00			0.96			1.00			1.00	0.85
Flt Protected		0.98			0.99			1.00			1.00	1.00
Satd. Flow (prot)		1822			1770			3524			3523	1583
Flt Permitted		0.80			0.94			0.95			0.52	1.00
Satd. Flow (perm)		1483			1677			3345			1853	1583
Volume (vph)	120	169	5	23	100	59	8	970	26	51	483	90
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)	130	184	5	25	109	64	9	1054	28	55	525	98
RTOR Reduction (vph)	0	1	0	0	1	0	0	1	0	0	0	73
Lane Group Flow (vph)	0	318	0	0	197	0	0	1090	0	0	580	25
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		65.0			65.0			25.0			25.0	25.0
Effective Green, g (s)		66.0			66.0			26.0			26.0	26.0
Actuated g/C Ratio		0.66			0.66			0.26			0.26	0.26
Clearance Time (s)		5.0			5.0			5.0			5.0	5.0
Lane Grp Cap. (vph)		979			1107			870			482	412
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.12			c0.33			0.31	0.02
v/c Ratio		0.33			0.18			1.25			1.20	0.06
Uniform Delay, d1		7.4			6.5			37.0			37.0	27.8
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		0.9			0.4			123.0			109.9	0.3
Delay (s)		8.2			6.9			160.0			146.9	28.1
Level of Service		A			A			F			F	C
Approach Delay (s)		8.2			6.9			160.0			129.7	
Approach LOS		A			A			F			F	

Intersection Summary

HCM Average Control Delay	116.6	HCM Level of Service	F
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
9: Barry Place & 9th Street

AM Peak Period
12/21/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	218	0	0	166	39	0	0	0	17	0	11
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)	16	237	0	0	180	42	0	0	0	18	0	12
Direction, Lane #	EB 1	WB 1	SB 1	SB 2								
Volume Total (vph)	253	223	18	12								
Volume Left (vph)	16	0	18	0								
Volume Right (vph)	0	42	0	12								
Hadj (s)	0.05	-0.08	0.53	-0.67								
Departure Headway (s)	4.3	4.2	6.1	4.9								
Degree Utilization, x	0.30	0.26	0.03	0.02								
Capacity (veh/h)	832	840	548	672								
Control Delay (s)	9.1	8.6	8.1	6.7								
Approach Delay (s)	9.1	8.6	7.5									
Approach LOS	A	A	A									
Intersection Summary												
Delay			8.8									
HCM Level of Service			A									
Intersection Capacity Utilization			33.8%		ICU Level of Service					A		
Analysis Period (min)			15									

Total Future Conditions
9: Barry Place & 9th Street

PM Peak Period
12/21/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	226	0	0	147	53	0	0	0	34	0	35
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)	22	246	0	0	160	58	0	0	0	37	0	38
Direction, Lane #	EB 1	WB 1	SB 1	SB 2								
Volume Total (vph)	267	217	37	38								
Volume Left (vph)	22	0	37	0								
Volume Right (vph)	0	58	0	38								
Hadj (s)	0.05	-0.12	0.53	-0.67								
Departure Headway (s)	4.4	4.3	6.1	4.9								
Degree Utilization, x	0.33	0.26	0.06	0.05								
Capacity (veh/h)	802	812	546	669								
Control Delay (s)	9.5	8.7	8.3	7.0								
Approach Delay (s)	9.5	8.7	7.6									
Approach LOS	A	A	A									
Intersection Summary												
Delay			9.0									
HCM Level of Service			A									
Intersection Capacity Utilization			37.3%		ICU Level of Service					A		
Analysis Period (min)			15									



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	152	33	10	159	46	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	165	36	11	173	50	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				282		
pX, platoon unblocked						
vC, conflicting volume			201		378	183
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			201		378	183
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		92	95
cM capacity (veh/h)			1371		619	859

Direction Lane #	EB 1	WB 1	NB 1
Volume Total	201	184	91
Volume Left	0	11	50
Volume Right	36	0	41
cSH	1700	1371	709
Volume to Capacity	0.12	0.01	0.13
Queue Length 95th (ft)	0	1	11
Control Delay (s)	0.0	0.5	10.8
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	10.8
Approach LOS			B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	193	67	13	177	23	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	210	73	14	192	25	92
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)				282		
pX, platoon unblocked						
vC, conflicting volume			283		467	246
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			283		467	246
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		95	88
cM capacity (veh/h)			1280		548	793

Direction Lane #	EB 1	WB 1	NB 1
Volume Total	283	207	117
Volume Left	0	14	25
Volume Right	73	0	92
cSH	1700	1280	724
Volume to Capacity	0.17	0.01	0.16
Queue Length 95th (ft)	0	1	14
Control Delay (s)	0.0	0.6	10.9
Lane LOS		A	B
Approach Delay (s)	0.0	0.6	10.9
Approach LOS			B

Intersection Summary			
Average Delay		2.3	
Intersection Capacity Utilization		33.2%	ICU Level of Service A
Analysis Period (min)		15	

Total Future Conditions
1: Barry Place & Georgia Avenue

AM Peak Period
12/21/2005



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4↑	4↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			0.95	0.95	
Frt	0.93			1.00	0.99	
Flt Protected	0.98			0.99	1.00	
Satd. Flow (prot)	1695			3512	3515	
Flt Permitted	0.98			0.56	1.00	
Satd. Flow (perm)	1695			1977	3515	
Volume (vph)	95	95	95	524	1362	64
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	103	103	570	1480	70
RTOR Reduction (vph)	36	0	0	0	3	0
Lane Group Flow (vph)	170	0	0	673	1547	0
Turn Type			D.P+P			
Protected Phases	4		3	2 3	2	
Permitted Phases			2			
Actuated Green, G (s)	14.0			74.0	54.0	
Effective Green, g (s)	14.0			74.0	54.0	
Actuated g/C Ratio	0.14			0.74	0.54	
Clearance Time (s)	4.0				4.0	
Lane Grp Cap (vph)	237			1770	1898	
v/s Ratio Prot	c0.10			c0.08	c0.44	
v/s Ratio Perm				0.21		
v/c Ratio	0.72			0.38	0.81	
Uniform Delay, d1	41.1			4.7	18.9	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	17.0			0.6	4.0	
Delay (s)	58.1			5.3	22.9	
Level of Service	E			A	C	
Approach Delay (s)	58.1			5.3	22.9	
Approach LOS	E			A	C	

Intersection Summary			
HCM Average Control Delay	21.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
1: Barry Place & Georgia Avenue

PM Peak Period
12/21/2005



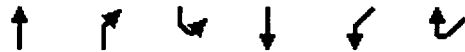
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑↑	↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	1.00			0.95	0.95	
Frt	0.95			1.00	0.99	
Flt Protected	0.97			1.00	1.00	
Satd. Flow (prot)	1714			3526	3490	
Flt Permitted	0.97			0.67	1.00	
Satd. Flow (perm)	1714			2389	3490	
Volume (vph)	172	106	65	793	1212	125
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	187	115	71	862	1317	136
RTOR Reduction (vph)	22	0	0	0	8	0
Lane Group Flow (vph)	280	0	0	933	1445	0
Turn Type		D.P+P				
Protected Phases	4		3	2 3	2	
Permitted Phases			2			
Actuated Green, G (s)	14.0			74.0	54.0	
Effective Green, g (s)	14.0			74.0	54.0	
Actuated g/C Ratio	0.14			0.74	0.54	
Clearance Time (s)	4.0				4.0	
Lane Grp Cap (vph)	240			1995	1885	
v/s Ratio Prot	c0.16			c0.09	c0.41	
v/s Ratio Perm				0.25		
v/c Ratio	1.17			0.47	0.77	
Uniform Delay, d1	43.0			5.2	18.1	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	110.1			0.8	3.0	
Delay (s)	153.1			6.0	21.1	
Level of Service	F			A	C	
Approach Delay (s)	153.1			6.0	21.1	
Approach LOS	F			A	C	

Intersection Summary			
HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑			↑	↘	↗
Ideal Flow (vphpl)	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	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	1863			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	1863			1863	1770	1583
Volume (vph)	251	0	0	207	1092	5
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	273	0	0	225	1187	5
RTOR Reduction (vph)	0	0	0	0	0	2
Lane Group Flow (vph)	273	0	0	225	1187	3
Turn Type					Perm	
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	32.0			32.0	60.0	60.0
Effective Green, g (s)	32.0			32.0	60.0	60.0
Actuated g/C Ratio	0.32			0.32	0.60	0.60
Clearance Time (s)	4.0			4.0	4.0	4.0
Lane Grp Cap (vph)	596			596	1062	950
v/s Ratio Prot	c0.15			0.12	c0.67	
v/s Ratio Perm						0.00
v/c Ratio	0.46			0.38	1.12	0.00
Uniform Delay, d1	27.1			26.3	20.0	8.0
Progression Factor	1.46			1.00	2.30	2.64
Incremental Delay, d2	2.4			1.8	54.4	0.0
Delay (s)	42.0			28.1	100.3	21.1
Level of Service	D			C	F	C
Approach Delay (s)	42.0			28.1	100.0	
Approach LOS	D			C	F	

Intersection Summary			
HCM Average Control Delay	81.1	HCM Level of Service	F
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑			↑	↘	↗
Ideal Flow (vphpl)	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	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	1863			1863	1770	1583
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	1863			1863	1770	1583
Volume (vph)	282	0	0	225	511	5
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	307	0	0	245	555	5
RTOR Reduction (vph)	0	0	0	0	0	2
Lane Group Flow (vph)	307	0	0	245	555	3
Turn Type					Perm	
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	32.0			32.0	60.0	60.0
Effective Green, g (s)	32.0			32.0	60.0	60.0
Actuated g/C Ratio	0.32			0.32	0.60	0.60
Clearance Time (s)	4.0			4.0	4.0	4.0
Lane Grp Cap (vph)	596			596	1062	950
v/s Ratio Prot	c0.16			0.13	c0.31	
v/s Ratio Perm						0.00
v/c Ratio	0.52			0.41	0.52	0.00
Uniform Delay, d1	27.7			26.6	11.7	8.0
Progression Factor	1.59			1.00	2.54	2.70
Incremental Delay, d2	2.2			2.1	0.2	0.0
Delay (s)	46.3			28.7	29.8	21.6
Level of Service	D			C	C	C
Approach Delay (s)	46.3			28.7	29.7	
Approach LOS	D			C	C	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
2: Bryant Street & Georgia Avenue

AM Peak Period
12/21/2005

												
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			0.95	
Frt								0.98			1.00	
Flt Protected								1.00			0.99	
Satd. Flow (prot)								3482			3505	
Flt Permitted								1.00			0.63	
Satd. Flow (perm)								3482			2236	
Volume (vph)	0	0	0	0	0	0	0	619	75	287	1170	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	0	0	0	673	82	312	1272	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	743	0	0	1584	0
Turn Type										Prot		
Protected Phases								2		1	1 2	
Permitted Phases												
Actuated Green, G (s)								46.0			72.0	
Effective Green, g (s)								46.0			72.0	
Actuated g/C Ratio								0.57			0.90	
Clearance Time (s)								4.0				
Lane Grp Cap (vph)								2002			2425	
v/s Ratio Prot								0.21			c0.21	
v/s Ratio Perm											c0.38	
v/c Ratio								0.37			0.65	
Uniform Delay, d1								9.2			1.0	
Progression Factor								1.00			1.00	
Incremental Delay, d2								0.5			1.4	
Delay (s)								9.7			2.4	
Level of Service								A			A	
Approach Delay (s)		0.0			0.0			9.7			2.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
2: Bryant Street & Georgia Avenue

PM Peak Period
12/21/2005

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			0.95	
Frt								0.98			1.00	
Flt Protected								1.00			0.99	
Satd. Flow (prot)								3482			3473	
Flt Permitted								1.00			0.53	
Satd. Flow (perm)								3482			1863	
Volume (vph)	0	0	0	0	0	0	0	857	103	386	896	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	0	0	0	932	112	420	974	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	1033	0	0	1435	0
Turn Type										Prot		
Protected Phases								2		1	1 2	
Permitted Phases												
Actuated Green, G (s)								46.0			72.0	
Effective Green, g (s)								46.0			72.0	
Actuated g/C Ratio								0.57			0.90	
Clearance Time (s)								4.0				
Lane Grp Cap (vph)								2002			2200	
v/s Ratio Prot								0.30			c0.21	
v/s Ratio Perm											c0.38	
v/c Ratio								0.52			0.65	
Uniform Delay, d1								10.3			1.0	
Progression Factor								1.00			1.00	
Incremental Delay, d2								1.0			1.5	
Delay (s)								11.2			2.5	
Level of Service								B			A	
Approach Delay (s)		0.0			0.0			11.2			2.5	
Approach LOS		A			A			B			A	

Intersection Summary

HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱		↑	↑↑	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	12	116	0	614	1300	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	126	0	667	1413	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)					318	
pX, platoon unblocked						
vC, conflicting volume	2080	707	1413			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2080	707	1413			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	72	67	100			
cM capacity (veh/h)	46	378	478			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1	SB 2
Volume Total	13	126	667	707	707
Volume Left	13	0	0	0	0
Volume Right	0	126	0	0	0
cSH	46	378	1700	1700	1700
Volume to Capacity	0.28	0.33	0.39	0.42	0.42
Queue Length 95th (ft)	24	36	0	0	0
Control Delay (s)	111.9	19.2	0.0	0.0	0.0
Lane LOS	F	C			
Approach Delay (s)	27.9		0.0	0.0	
Approach LOS	D				

Intersection Summary					
Average Delay		1.7			
Intersection Capacity Utilization		49.8%	ICU Level of Service	A	
Analysis Period (min)		15			

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	44	178	0	1242	736	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	193	0	1350	800	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)					318	
pX, platoon unblocked						
vC, conflicting volume	2150	400	800			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2150	400	800			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	68	100			
cM capacity (veh/h)	41	600	819			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1	SB 2	
Volume Total	48	193	1350	400	400	
Volume Left	48	0	0	0	0	
Volume Right	0	193	0	0	0	
cSH	41	600	1700	1700	1700	
Volume to Capacity	1.16	0.32	0.79	0.24	0.24	
Queue Length 95th (ft)	117	35	0	0	0	
Control Delay (s)	345.2	13.8	0.0	0.0	0.0	
Lane LOS	F	B				
Approach Delay (s)	79.5		0.0	0.0		
Approach LOS	F					

Intersection Summary						
Average Delay		8.0				
Intersection Capacity Utilization		75.4%	ICU Level of Service		D	
Analysis Period (min)		15				



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		0.95			0.95
Frt	0.92		1.00			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1681		3539			3539
Flt Permitted	0.98		1.00			1.00
Satd. Flow (perm)	1681		3539			3539
Volume (vph)	156	222	472	0	0	1170
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	241	513	0	0	1272
RTOR Reduction (vph)	51	0	0	0	0	0
Lane Group Flow (vph)	360	0	513	0	0	1272
Turn Type						
Protected Phases	3		2			2
Permitted Phases						
Actuated Green, G (s)	34.0		58.0			58.0
Effective Green, g (s)	34.0		58.0			58.0
Actuated g/C Ratio	0.34		0.58			0.58
Clearance Time (s)	4.0		4.0			4.0
Lane Grp Cap (vph)	572		2053			2053
v/s Ratio Prot	c0.21		0.14			c0.36
v/s Ratio Perm						
v/c Ratio	0.63		0.25			0.62
Uniform Delay, d1	27.7		10.3			13.8
Progression Factor	1.00		0.82			1.00
Incremental Delay, d2	5.2		0.3			1.4
Delay (s)	32.9		8.8			15.2
Level of Service	C		A			B
Approach Delay (s)	32.9		8.8			15.2
Approach LOS	C		A			B

Intersection Summary			
HCM Average Control Delay	17.0	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	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



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		0.95			0.95
Frt	0.92		1.00			1.00
Flt Protected	0.98		1.00			1.00
Satd. Flow (prot)	1681		3539			3539
Flt Permitted	0.98		1.00			1.00
Satd. Flow (perm)	1681		3539			3539
Volume (vph)	142	200	758	0	0	855
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	217	824	0	0	929
RTOR Reduction (vph)	51	0	0	0	0	0
Lane Group Flow (vph)	320	0	824	0	0	929
Turn Type						
Protected Phases	3		2			2
Permitted Phases						
Actuated Green, G (s)	34.0		58.0			58.0
Effective Green, g (s)	34.0		58.0			58.0
Actuated g/C Ratio	0.34		0.58			0.58
Clearance Time (s)	4.0		4.0			4.0
Lane Grp Cap (vph)	572		2053			2053
v/s Ratio Prot	c0.19		0.23			c0.26
v/s Ratio Perm						
v/c Ratio	0.56		0.40			0.45
Uniform Delay, d1	26.9		11.5			12.0
Progression Factor	1.00		0.75			1.00
Incremental Delay, d2	3.9		0.5			0.7
Delay (s)	30.8		9.2			12.7
Level of Service	C		A			B
Approach Delay (s)	30.8		9.2			12.7
Approach LOS	C		A			B

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCS2000: Unsignalized Intersections Release 4.1d

ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: CFP
 Agency/Co.: Wells & Associates, LLC
 Date Performed: 12/22/2005
 Analysis Time Period: AM Peak Period
 Intersection: Florida/9th/V Streets
 Jurisdiction: Washington DC
 Units: U. S. Customary
 Analysis Year: 2007 TF Conditions
 Project ID: 2799 Atlantic South
 East/West Street: 9th Street/V Street
 North/South Street: Florida/9th Street

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	24	98	438	79	104	23	158	23	18	13	25	25
% Thrus Left Lane			55						45			

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT	TR	LTR		LT	TR	LTR	
PHF	0.90	0.90	0.90		0.90	0.90	0.90	
Flow Rate	84	536	227		186	34	68	
% Heavy Veh	2	2	2		2	2	2	
No. Lanes		2		1		2		1
Opposing-Lanes		1		2		1		2
Conflicting-lanes		2		2		2		2
Geometry group		5		4b		5		4b
Duration, T	0.25 hrs.							

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	84	536	227		186	34	68	
Service Time	3.8	3.0	4.2		5.1	4.2	4.8	
Utilization, x	0.14	0.79	0.41		0.38	0.06	0.13	
Dep. headway, hd	6.11	5.31	6.46		7.39	6.49	7.15	
Capacity	334	669	477		436	284	318	
Delay	9.82	24.98	13.52		14.58	9.62	10.96	
LOS	A	C	B		B	A	B	
Approach:								
Delay		22.92		13.52		13.81		10.96
LOS		C		B		B		B
Intersection Delay	18.56		Intersection LOS C					

HCS2000: Unsignalized Intersections Release 4.1d

ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: CFP
 Agency/Co.: Wells & Associates, LLC
 Date Performed: 12/22/2005
 Analysis Time Period: PM Peak Period
 Intersection: Florida/9th/V Streets
 Jurisdiction: Washington DC
 Units: U. S. Customary
 Analysis Year: 2007 TF Conditions
 Project ID: 2799 Atlantic South
 East/West Street: 9th Street/V Street
 North/South Street: Florida/9th Street

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	27	105	260	101	176	20	354	42	30	32	27	22
% Thrus Left Lane			55						45			

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT	TR	LTR		LT	TR	LTR	
PHF	0.90	0.90	0.90		0.90	0.90	0.90	
Flow Rate	93	341	329		413	59	89	
% Heavy Veh	2	2	2		2	2	2	
No. Lanes		2		1		2		1
Opposing-Lanes		1		2		1		2
Conflicting-lanes		2		2		2		2
Geometry group		5		4b		5		4b
Duration, T	0.25 hrs.							

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	93	341	329		413	59	89	
Service Time	5.4	4.7	5.3		5.5	4.6	6.3	
Utilization, x	0.20	0.66	0.70		0.90	0.11	0.21	
Dep. headway, hd	7.73	6.96	7.64		7.81	6.93	8.57	
Capacity	343	498	455		456	309	339	
Delay	12.34	22.09	26.17		47.99	10.51	13.57	
LOS	B	C	D		E	B	B	
Approach:								
Delay		20.00	26.17		43.31		13.57	
LOS		C	D		E		B	
Intersection Delay	29.41		Intersection LOS D					

Total Future Conditions
6: V Street & 8th Street

AM Peak Period
12/21/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	24	94	56	14	148	29	22	44	27	10	16	17
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)	26	102	61	15	161	32	24	48	29	11	17	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)					311							
pX, platoon unblocked												
vC, conflicting volume	192			163			419	408	133	445	422	177
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	192			163			419	408	133	445	422	177
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			95	91	97	98	97	98
cM capacity (veh/h)	1381			1416			507	517	917	460	508	866
Direction Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	189	208	101	47								
Volume Left	26	15	24	11								
Volume Right	61	32	29	18								
cSH	1381	1416	589	590								
Volume to Capacity	0.02	0.01	0.17	0.08								
Queue Length 95th (ft)	1	1	15	6								
Control Delay (s)	1.2	0.6	12.4	11.6								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.2	0.6	12.4	11.6								
Approach LOS			B	B								
Intersection Summary												
Average Delay			4.0									
Intersection Capacity Utilization			29.2%		ICU Level of Service					A		
Analysis Period (min)			15									

Total Future Conditions
6: V Street & 8th Street

PM Peak Period
12/21/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕				↕			↕			↕	
Sign Control	Free				Free			Stop			Stop	
Grade	0%				0%			0%			0%	
Volume (veh/h)	9	111	42	18	220	73	68	27	44	21	27	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	121	46	20	239	79	74	29	48	23	29	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	310											
pX, platoon unblocked												
vC, conflicting volume	318			166			530	521	143	543	504	279
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	318			166			530	521	143	543	504	279
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			82	93	95	94	94	95
cM capacity (veh/h)	1242			1412			410	450	904	399	460	760

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	176	338	151	87
Volume Left	10	20	74	23
Volume Right	46	79	48	35
cSH	1242	1412	506	521
Volume to Capacity	0.01	0.01	0.30	0.17
Queue Length 95th (ft)	1	1	31	15
Control Delay (s)	0.5	0.6	15.1	13.3
Lane LOS	A	A	C	B
Approach Delay (s)	0.5	0.6	15.1	13.3
Approach LOS			C	B

Intersection Summary

Average Delay	4.9		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

Total Future Conditions
11: U Street & Florida Avenue

AM Peak Period
12/21/2005

												
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		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		0.95		1.00	0.95	
Frt		0.98			1.00	0.85		1.00		1.00	1.00	
Flt Protected		1.00			1.00	1.00		0.99		0.95	1.00	
Satd. Flow (prot)		3458			3539	1583		3501		1770	3524	
Flt Permitted		1.00			1.00	1.00		0.62		0.36	1.00	
Satd. Flow (perm)		3458			3539	1583		2178		664	3524	
Volume (vph)	0	551	99	0	863	153	71	358	8	270	1119	33
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	599	108	0	938	166	77	389	9	293	1216	36
RTOR Reduction (vph)	0	15	0	0	0	98	0	1	0	0	2	0
Lane Group Flow (vph)	0	692	0	0	938	68	0	474	0	293	1250	0
Turn Type						Perm	Perm			pm+pt		
Protected Phases		4			8			2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)		41.0			41.0	41.0		36.0		51.0	51.0	
Effective Green, g (s)		41.0			41.0	41.0		36.0		51.0	51.0	
Actuated g/C Ratio		0.41			0.41	0.41		0.36		0.51	0.51	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Grp Cap (vph)		1418			1451	649		784		460	1797	
v/s Ratio Prot		0.20			c0.27					0.07	c0.35	
v/s Ratio Perm						0.04		0.22		0.25		
v/c Ratio		0.49			0.65	0.10		0.60		0.64	0.70	
Uniform Delay, d1		21.8			23.7	18.2		26.2		15.2	18.6	
Progression Factor		1.00			1.00	1.00		1.00		0.60	0.64	
Incremental Delay, d2		1.2			2.2	0.3		3.4		3.5	1.2	
Delay (s)		23.0			25.9	18.5		29.6		12.6	13.1	
Level of Service		C			C	B		C		B	B	
Approach Delay (s)		23.0			24.8			29.6			13.0	
Approach LOS		C			C			C			B	

Intersection Summary

HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
11: U Street & Florida Avenue

PM Peak Period
12/21/2005

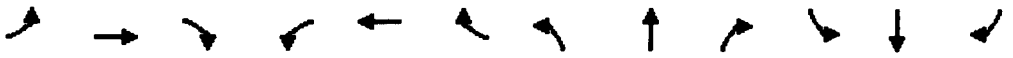
	↗	→	↘	↙	←	↖	↗	↑	↘	↙	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑↑		↑	↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		0.95		1.00	0.95	
Friction		0.98			1.00	0.85		1.00		1.00	0.99	
Flt Protected		1.00			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		3471			3539	1583		3524		1770	3510	
Flt Permitted		1.00			1.00	1.00		0.85		0.10	1.00	
Satd. Flow (perm)		3471			3539	1583		3013		186	3510	
Volume (vph)	0	779	114	0	712	201	60	922	9	268	605	35
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	847	124	0	774	218	65	1002	10	291	658	38
RTOR Reduction (vph)	0	12	0	0	0	129	0	1	0	0	4	0
Lane Group Flow (vph)	0	959	0	0	774	89	0	1076	0	291	692	0
Turn Type						Perm	Perm			pm+pt		
Protected Phases		4			8			2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)		41.0			41.0	41.0		36.0		51.0	51.0	
Effective Green, g (s)		41.0			41.0	41.0		36.0		51.0	51.0	
Actuated g/C Ratio		0.41			0.41	0.41		0.36		0.51	0.51	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Grp Cap (vph)		1423			1451	649		1085		269	1790	
v/s Ratio Prot		c0.28			0.22					c0.12	0.20	
v/s Ratio Perm						0.06		0.36		c0.43		
v/c Ratio		0.67			0.53	0.14		0.99		1.08	0.39	
Uniform Delay, d1		24.1			22.3	18.4		31.9		27.9	15.0	
Progression Factor		1.00			1.00	1.00		1.00		0.93	1.01	
Incremental Delay, d2		2.6			1.4	0.4		25.5		77.2	0.6	
Delay (s)		26.6			23.7	18.9		57.3		103.2	15.7	
Level of Service		C			C	B		E		F	B	
Approach Delay (s)		26.6			22.6			57.3			41.5	
Approach LOS		C			C			E			D	

Intersection Summary

HCM Average Control Delay	37.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
8: Florida Avenue & 8th Street

AM Peak Period
12/21/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕⇕⇕			⇕			⇕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	35	761	32	17	981	42	9	15	3	25	24	27
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)	38	827	35	18	1066	46	10	16	3	27	26	29
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None				None	
Median storage veh												
Upstream signal (ft)		301										
pX, platoon unblocked				0.87			0.87	0.87	0.87	0.87	0.87	
vC, conflicting volume	1112			862			1355	2070	431	1627	2064	378
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1112			686			1256	2080	188	1570	2074	378
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			98			81	61	100	36	38	95
cM capacity (veh/h)	624			783			50	42	712	42	42	619
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	452	448	285	533	312	29	83					
Volume Left	38	0	18	0	0	10	27					
Volume Right	0	35	0	0	46	3	29					
cSH	624	1700	783	1700	1700	50	63					
Volume to Capacity	0.06	0.26	0.02	0.31	0.18	0.59	1.31					
Queue Length 95th (ft)	5	0	2	0	0	57	173					
Control Delay (s)	1.8	0.0	0.9	0.0	0.0	150.8	327.6					
Lane LOS	A		A			F	F					
Approach Delay (s)	0.9		0.2			150.8	327.6					
Approach LOS						F	F					

Intersection Summary

Average Delay	15.2											
Intersection Capacity Utilization	58.9%					ICU Level of Service	B					
Analysis Period (min)	15											

Total Future Conditions
8: Florida Avenue & 8th Street

PM Peak Period
12/21/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔↔			↔			↔	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	73	951	24	24	970	44	9	21	4	28	26	33
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)	79	1034	26	26	1054	48	10	23	4	30	28	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		301										
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	1102			1060			1659	2360	530	1822	2349	375
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1102			800			1565	2459	124	1773	2445	375
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	87			96			0	0	99	0	0	94
cM capacity (veh/h)	629			641			0	20	708	0	20	622
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	596	543	290	527	311	37	95					
Volume Left	79	0	26	0	0	10	30					
Volume Right	0	26	0	0	48	4	36					
cSH	629	1700	641	1700	1700	0	0					
Volume to Capacity	0.13	0.32	0.04	0.31	0.18	Err	Err					
Queue Length 95th (ft)	11	0	3	0	0	Err	Err					
Control Delay (s)	3.4	0.0	1.5	0.0	0.0	Err	Err					
Lane LOS	A		A			F	F					
Approach Delay (s)	1.8		0.4			Err	Err					
Approach LOS						F	F					

Intersection Summary

Average Delay	Err						
Intersection Capacity Utilization	66.5%		ICU Level of Service		C		
Analysis Period (min)	15						

Total Future Conditions
17: V Street & Parcel A and D

AM Peak Period
12/21/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	117	4	4	174	9	8	0	11	36	0	25
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)	9	127	4	4	189	10	9	0	12	39	0	27
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)					431							
pX, platoon unblocked												
vC, conflicting volume	199			132			377	354	129	361	352	194
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	199			132			377	354	129	361	352	194
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			98	100	99	93	100	97
cM capacity (veh/h)	1373			1454			558	566	920	582	568	847
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	140	203	21	66								
Volume Left	9	4	9	39								
Volume Right	4	10	12	27								
cSH	1373	1454	723	668								
Volume to Capacity	0.01	0.00	0.03	0.10								
Queue Length 95th (ft)	0	0	2	8								
Control Delay (s)	0.5	0.2	10.1	11.0								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.5	0.2	10.1	11.0								
Approach LOS			B	B								

Intersection Summary

Average Delay	2.4		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		

Total Future Conditions
17: V Street & Parcel A and D

PM Peak Period
12/21/2005



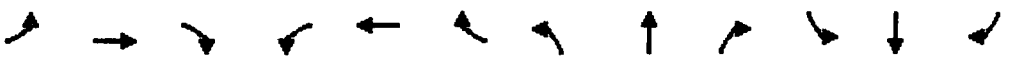
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	30	124	13	13	266	41	11	0	9	27	0	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	135	14	14	289	45	12	0	10	29	0	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)					430							
pX, platoon unblocked												
vC, conflicting volume	334			149			570	569	142	557	554	311
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	334			149			570	569	142	557	554	311
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			97	100	99	93	100	97
cM capacity (veh/h)	1226			1433			407	416	906	424	425	729

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	182	348	22	52
Volume Left	33	14	12	29
Volume Right	14	45	10	23
cSH	1226	1433	542	519
Volume to Capacity	0.03	0.01	0.04	0.10
Queue Length 95th (ft)	2	1	3	8
Control Delay (s)	1.6	0.4	11.9	12.7
Lane LOS	A	A	B	B
Approach Delay (s)	1.6	0.4	11.9	12.7
Approach LOS			B	B

Intersection Summary			
Average Delay		2.2	
Intersection Capacity Utilization		30.3%	ICU Level of Service A
Analysis Period (min)		15	

Total Future Conditions
5: V Street & Georgia Avenue

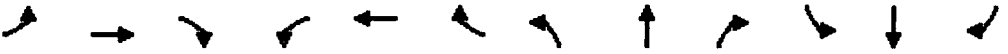
AM Peak Period
12/21/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.97			0.97			0.99			0.99	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1770			1781			3503			3487	
Flt Permitted		0.86			0.89			0.78			0.93	
Satd. Flow (perm)		1544			1615			2737			3238	
Volume (vph)	50	54	33	28	49	22	40	403	18	33	1033	104
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)	54	59	36	30	53	24	43	438	20	36	1123	113
RTOR Reduction (vph)	0	11	0	0	11	0	0	3	0	0	7	0
Lane Group Flow (vph)	0	138	0	0	96	0	0	498	0	0	1265	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.0			18.0			74.0			74.0	
Effective Green, g (s)		18.0			18.0			74.0			74.0	
Actuated g/C Ratio		0.18			0.18			0.74			0.74	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		278			291			2025			2396	
v/s Ratio Prot												
v/s Ratio Perm		0.09			0.06			0.18			0.39	
v/c Ratio		0.49			0.33			0.25			0.53	
Uniform Delay, d1		36.9			35.8			4.1			5.5	
Progression Factor		1.04			1.00			1.00			0.26	
Incremental Delay, d2		5.9			3.0			0.3			0.7	
Delay (s)		44.5			38.8			4.4			2.1	
Level of Service		D			D			A			A	
Approach Delay (s)		44.5			38.8			4.4			2.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Total Future Conditions
5: V Street & Georgia Avenue

PM Peak Period
12/21/2005

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.96			0.97			1.00			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1765			1788			3511			3467	
Flt Permitted		0.74			0.74			0.71			0.93	
Satd. Flow (perm)		1332			1335			2513			3235	
Volume (vph)	54	81	54	61	104	39	97	662	8	17	727	111
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)	59	88	59	66	113	42	105	720	9	18	790	121
RTOR Reduction (vph)	0	15	0	0	8	0	0	1	0	0	12	0
Lane Group Flow (vph)	0	191	0	0	213	0	0	833	0	0	917	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.0			18.0			74.0			74.0	
Effective Green, g (s)		18.0			18.0			74.0			74.0	
Actuated g/C Ratio		0.18			0.18			0.74			0.74	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		240			240			1860			2394	
v/s Ratio Prot												
v/s Ratio Perm		0.14			0.16			0.33			0.28	
v/c Ratio		0.80			0.89			0.45			0.38	
Uniform Delay, d1		39.2			40.0			5.1			4.7	
Progression Factor		0.94			1.00			1.00			0.37	
Incremental Delay, d2		23.3			34.9			0.8			0.4	
Delay (s)		60.3			74.9			5.8			2.1	
Level of Service		E			E			A			A	
Approach Delay (s)		60.3			74.9			5.8			2.1	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	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)					299	
pX, platoon unblocked						
vC, conflicting volume	0	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	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 %	100	100			100	
cM capacity (veh/h)	1023	1084			1622	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑			
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	1	1004	3	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	1091	3	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)						299
pX, platoon unblocked						
vC, conflicting volume	1093	547			1095	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1093	547			1095	
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	100			100	
cM capacity (veh/h)	209	481			633	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	1	728	367
Volume Left	0	0	0
Volume Right	1	0	3
cSH	481	1700	1700
Volume to Capacity	0.00	0.43	0.22
Queue Length 95th (ft)	0	0	0
Control Delay (s)	12.5	0.0	0.0
Lane LOS	B		
Approach Delay (s)	12.5	0.0	
Approach LOS	B		

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		37.8%	ICU Level of Service A
Analysis Period (min)		15	

Appendix E

Feasibility Analysis (Traffic Circle Analysis)