

Appendix C
Background Future Traffic Forecasts

												
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	173	15	165	153	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	188	16	179	166	32
Direction, Lane #	EB 1	WB 1	NB 1	SE 1	SE 2							
Volume Total (vph)	54	324	215	179	198							
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	-0.08							
Departure Headway (s)	6.1	5.1	5.6	6.4	5.8							
Degree Utilization, x	0.09	0.46	0.34	0.32	0.32							
Capacity (veh/h)	514	659	588	535	592							
Control Delay (s)	9.7	12.4	11.4	11.2	10.2							
Approach Delay (s)	9.7	12.4	11.4	10.7								
Approach LOS	A	B	B	B								
Intersection Summary												
Delay			11.4									
HCM Level of Service			B									
Intersection Capacity Utilization			50.2%			ICU Level of Service			A			
Analysis Period (min)			15									

												
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	219	6	278	160	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	238	7	302	174	10
Direction, Lane #	EB 1	WB 1	NB 1	SE 1	SE 2							
Volume Total (vph)	27	215	255	302	184							
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)	6.2	5.2	5.3	6.0	5.5							
Degree Utilization, x	0.05	0.31	0.38	0.51	0.28							
Capacity (veh/h)	497	632	643	580	636							
Control Delay (s)	9.6	10.6	11.6	13.8	9.4							
Approach Delay (s)	9.6	10.6	11.6	12.2								
Approach LOS	A	B	B	B								
Intersection Summary												
Delay			11.6									
HCM Level of Service			B									
Intersection Capacity Utilization			50.6%		ICU Level of Service					A		
Analysis Period (min)			15									

Background 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			1.48			1.00	1.00
Incremental Delay, d2		0.6			0.3			2.7			321.1	0.9
Delay (s)		7.4			6.7			49.8			358.1	29.6
Level of Service		A			A			D			F	C
Approach Delay (s)		7.4			6.7			49.8			317.3	
Approach LOS		A			A			D			F	

Intersection Summary

HCM Average Control Delay	211.8	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			

Background 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			1.47			1.00	1.00
Incremental Delay, d2		0.9			0.4			120.4			109.9	0.3
Delay (s)		8.2			6.9			174.6			146.9	28.1
Level of Service		A			A			F			F	C
Approach Delay (s)		8.2			6.9			174.6			129.7	
Approach LOS		A			A			F			F	

Intersection Summary

HCM Average Control Delay	123.6	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			

												
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										

												
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)	150	33	10	159	46	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	163	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			199		376	181
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			199		376	181
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)			1373		621	862

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	199	184	91
Volume Left	0	11	50
Volume Right	36	0	41
cSH	1700	1373	711
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
Analysis Period (min)		15	A

	→	↘	↙	←	↖	↗
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
Analysis Period (min)		15	A

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	YT			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	522	1362	64
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	103	103	567	1480	70
RTOR Reduction (vph)	36	0	0	0	3	0
Lane Group Flow (vph)	170	0	0	670	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				0.20		
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			

						
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	3489	
Flt Permitted	0.97			0.68	1.00	
Satd. Flow (perm)	1714			2391	3489	
Volume (vph)	172	106	65	791	1209	125
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	187	115	71	860	1314	136
RTOR Reduction (vph)	22	0	0	0	8	0
Lane Group Flow (vph)	280	0	0	931	1442	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			1996	1884	
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	18.0	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	110.1			0.8	3.0	
Delay (s)	153.1			5.9	21.1	
Level of Service	F			A	C	
Approach Delay (s)	153.1			5.9	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	87.2%	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)	228	0	0	197	1092	5
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	248	0	0	214	1187	5
RTOR Reduction (vph)	0	0	0	0	0	2
Lane Group Flow (vph)	248	0	0	214	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	c0.13			0.11	c0.67	
v/s Ratio Perm						0.00
v/c Ratio	0.42			0.36	1.12	0.00
Uniform Delay, d1	26.7			26.1	20.0	8.0
Progression Factor	1.49			1.00	2.30	2.64
Incremental Delay, d2	2.0			1.7	54.4	0.0
Delay (s)	41.8			27.8	100.3	21.1
Level of Service	D			C	F	C
Approach Delay (s)	41.8			27.8	100.0	
Approach LOS	D			C	F	

Intersection Summary			
HCM Average Control Delay	81.9	HCM Level of Service	F
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.2%	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)	262	0	0	199	511	5
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	285	0	0	216	555	5
RTOR Reduction (vph)	0	0	0	0	0	2
Lane Group Flow (vph)	285	0	0	216	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	c0.15			0.12	c0.31	
v/s Ratio Perm						0.00
v/c Ratio	0.48			0.36	0.52	0.00
Uniform Delay, d1	27.3			26.2	11.7	8.0
Progression Factor	1.62			1.00	2.54	2.70
Incremental Delay, d2	1.9			1.7	0.2	0.0
Delay (s)	46.3			27.9	29.8	21.6
Level of Service	D			C	C	C
Approach Delay (s)	46.3			27.9	29.7	
Approach LOS	D			C	C	

Intersection Summary			
HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

AM Peak Period
12/21/2005

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			

Background 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			1864	
Volume (vph)	0	0	0	0	0	0	0	855	103	386	891	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	929	112	420	968	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	1030	0	0	1429	0
Turn Type										Prot		
Protected Phases								2		1	12	
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			2201	
v/s Ratio Prot								0.30			c0.21	
v/s Ratio Perm											c0.37	
v/c Ratio								0.51			0.65	
Uniform Delay, d1								10.3			1.0	
Progression Factor								1.00			1.00	
Incremental Delay, d2								0.9			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		6.1						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		70.6%						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	591	1290	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	126	0	642	1402	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	2045	701	1402			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2045	701	1402			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	73	67	100			
cM capacity (veh/h)	49	381	483			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1	SB 2	
Volume Total	13	126	642	701	701	
Volume Left	13	0	0	0	0	
Volume Right	0	126	0	0	0	
cSH	49	381	1700	1700	1700	
Volume to Capacity	0.27	0.33	0.38	0.41	0.41	
Queue Length 95th (ft)	23	35	0	0	0	
Control Delay (s)	104.3	19.0	0.0	0.0	0.0	
Lane LOS	F	C				
Approach Delay (s)	27.0		0.0	0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			49.5%	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	1222	710	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	193	0	1328	772	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	2100	386	772			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2100	386	772			
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)	45	612	839			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1	SB 2	
Volume Total	48	193	1328	386	386	
Volume Left	48	0	0	0	0	
Volume Right	0	193	0	0	0	
cSH	45	612	1700	1700	1700	
Volume to Capacity	1.07	0.32	0.78	0.23	0.23	
Queue Length 95th (ft)	111	34	0	0	0	
Control Delay (s)	300.4	13.6	0.0	0.0	0.0	
Lane LOS	F	B				
Approach Delay (s)	70.4		0.0	0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			7.3			
Intersection Capacity Utilization			74.3%	ICU Level of Service		D
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
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	0.92		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	470	0	0	1170
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	241	511	0	0	1272
RTOR Reduction (vph)	51	0	0	0	0	0
Lane Group Flow (vph)	360	0	511	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		0.83			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	756	0	0	852
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	217	822	0	0	926
RTOR Reduction (vph)	51	0	0	0	0	0
Lane Group Flow (vph)	320	0	822	0	0	926
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			11.9
Progression Factor	1.00		0.76			1.00
Incremental Delay, d2	3.9		0.5			0.7
Delay (s)	30.8		9.3			12.7
Level of Service	C		A			B
Approach Delay (s)	30.8		9.3			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	50.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

												
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	90	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	98	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			159			415	403	128	441	418	177
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	192			159			415	403	128	441	418	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			1421			511	520	922	464	510	866
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	185	208	101	47								
Volume Left	26	15	24	11								
Volume Right	61	32	29	18								
cSH	1381	1421	593	593								
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	12.3	11.6								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.2	0.6	12.3	11.6								
Approach LOS			B	B								
Intersection Summary												
Average Delay			4.0									
Intersection Capacity Utilization			29.1%		ICU Level of Service					A		
Analysis Period (min)			15									

												
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	107	42	18	214	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	116	46	20	233	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)					305							
pX, platoon unblocked	0.96						0.96	0.96		0.96	0.96	0.96
vC, conflicting volume	312			162			520	510	139	533	493	272
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	284			162			500	490	139	514	472	243
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)	1229			1417			413	450	909	401	461	765
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	172	332	151	87								
Volume Left	10	20	74	23								
Volume Right	46	79	48	35								
cSH	1229	1417	509	524								
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	15.0	13.2								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.5	0.6	15.0	13.2								
Approach LOS			C	B								
Intersection Summary												
Average Delay			5.0									
Intersection Capacity Utilization			42.3%	ICU Level of Service					A			
Analysis Period (min)			15									

												
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		3502		1770	3524	
Flt Permitted		1.00			1.00	1.00		0.63		0.36	1.00	
Satd. Flow (perm)		3458			3539	1583		2222		667	3524	
Volume (vph)	0	551	99	0	863	150	68	358	8	259	1109	32
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	163	74	389	9	282	1205	35
RTOR Reduction (vph)	0	15	0	0	0	96	0	1	0	0	2	0
Lane Group Flow (vph)	0	692	0	0	938	67	0	471	0	282	1238	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		800		462	1797	
v/s Ratio Prot		0.20			c0.27					0.07	c0.35	
v/s Ratio Perm						0.04		0.21		0.24		
v/c Ratio		0.49			0.65	0.10		0.59		0.61	0.69	
Uniform Delay, d1		21.8			23.7	18.2		26.0		15.0	18.5	
Progression Factor		1.00			1.00	1.00		1.00		0.93	0.94	
Incremental Delay, d2		1.2			2.2	0.3		3.2		5.9	2.2	
Delay (s)		23.0			25.9	18.5		29.1		20.0	19.6	
Level of Service		C			C	B		C		B	B	
Approach Delay (s)		23.0			24.8			29.1			19.7	
Approach LOS		C			C			C			B	

Intersection Summary

HCM Average Control Delay	23.0	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	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

												
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	0.99	
Flt Protected		1.00			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		3471			3539	1583		3525		1770	3510	
Flt Permitted		1.00			1.00	1.00		0.88		0.10	1.00	
Satd. Flow (perm)		3471			3539	1583		3095		186	3510	
Volume (vph)	0	779	114	0	712	185	49	921	9	258	598	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	201	53	1001	10	280	650	38
RTOR Reduction (vph)	0	12	0	0	0	119	0	1	0	0	4	0
Lane Group Flow (vph)	0	959	0	0	774	82	0	1063	0	280	684	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		1114		269	1790	
v/s Ratio Prot		c0.28			0.22					c0.11	0.19	
v/s Ratio Perm						0.05		0.34		c0.42		
v/c Ratio		0.67			0.53	0.13		0.95		1.04	0.38	
Uniform Delay, d1		24.1			22.3	18.4		31.2		27.9	14.9	
Progression Factor		1.00			1.00	1.00		1.00		0.88	0.99	
Incremental Delay, d2		2.6			1.4	0.4		18.0		65.9	0.6	
Delay (s)		26.6			23.7	18.8		49.2		90.3	15.4	
Level of Service		C			C	B		D		F	B	
Approach Delay (s)		26.6			22.7			49.2			37.0	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	34.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

												
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	751	30	17	978	42	9	15	3	23	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	816	33	18	1063	46	10	16	3	25	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	1109			849			1342	2054	424	1618	2048	377
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1109			671			1241	2063	181	1560	2055	377
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			82	62	100	42	40	95
cM capacity (veh/h)	626			793			53	43	719	43	43	620
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	446	441	284	532	311	29	80					
Volume Left	38	0	18	0	0	10	25					
Volume Right	0	33	0	0	46	3	29					
cSH	626	1700	793	1700	1700	52	66					
Volume to Capacity	0.06	0.26	0.02	0.31	0.18	0.57	1.22					
Queue Length 95th (ft)	5	0	2	0	0	55	162					
Control Delay (s)	1.8	0.0	0.9	0.0	0.0	142.4	290.7					
Lane LOS	A		A			F	F					
Approach Delay (s)	0.9		0.2			142.4	290.7					
Approach LOS						F	F					

Intersection Summary

Average Delay	13.5						
Intersection Capacity Utilization	58.3%			ICU Level of Service		B	
Analysis Period (min)	15						

												
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	949	22	24	857	45	6	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	1032	24	26	932	49	7	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	980			1055			1615	2235	528	1698	2222	335
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	980			794			1508	2300	120	1615	2284	335
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 %	89			96			0	10	99	0	0	95
cM capacity (veh/h)	700			645			0	25	712	11	26	661
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	595	540	259	466	282	34	95					
Volume Left	79	0	26	0	0	7	30					
Volume Right	0	24	0	0	49	4	36					
cSH	700	1700	645	1700	1700	0	24					
Volume to Capacity	0.11	0.32	0.04	0.27	0.17	Err	3.89					
Queue Length 95th (ft)	10	0	3	0	0	Err	Err					
Control Delay (s)	3.0	0.0	1.5	0.0	0.0	Err	Err					
Lane LOS	A		A			F	F					
Approach Delay (s)	1.6		0.4			Err	Err					
Approach LOS						F	F					

Intersection Summary

Average Delay	Err						
Intersection Capacity Utilization	65.3%			ICU Level of Service		C	
Analysis Period (min)	15						

												
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	1.00			0.95			0.95	
Frt		0.97		1.00	0.95			0.99			0.99	
Flt Protected		0.98		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		1769		1770	1776			3503			3487	
Flt Permitted		0.87		0.57	1.00			0.78			0.93	
Satd. Flow (perm)		1561		1062	1776			2737			3238	
Volume (vph)	48	52	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)	52	57	36	30	53	24	43	438	20	36	1123	113
RTOR Reduction (vph)	0	11	0	0	16	0	0	3	0	0	7	0
Lane Group Flow (vph)	0	134	0	30	61	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	18.0			74.0			74.0	
Effective Green, g (s)		18.0		18.0	18.0			74.0			74.0	
Actuated g/C Ratio		0.18		0.18	0.18			0.74			0.74	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		281		191	320			2025			2396	
v/s Ratio Prot					0.03							
v/s Ratio Perm		c0.09		0.03				0.18			c0.39	
v/c Ratio		0.48		0.16	0.19			0.25			0.53	
Uniform Delay, d1		36.8		34.6	34.8			4.1			5.5	
Progression Factor		1.02		1.00	1.00			1.00			0.26	
Incremental Delay, d2		5.7		1.7	1.3			0.3			0.7	
Delay (s)		43.3		36.3	36.1			4.4			2.1	
Level of Service		D		D	D			A			A	
Approach Delay (s)		43.3			36.2			4.4			2.1	
Approach LOS		D			D			A			A	

Intersection Summary

HCM Average Control Delay	7.4	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	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

												
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	1.00			0.95			0.95	
Flt		0.96		1.00	0.96			1.00			0.98	
Flt Protected		0.99		0.95	1.00			0.99			1.00	
Satd. Flow (prot)		1764		1770	1786			3511			3469	
Flt Permitted		0.78		0.45	1.00			0.71			0.93	
Satd. Flow (perm)		1393		844	1786			2516			3237	
Volume (vph)	52	79	54	61	101	39	97	662	8	17	727	108
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)	57	86	59	66	110	42	105	720	9	18	790	117
RTOR Reduction (vph)	0	15	0	0	14	0	0	1	0	0	11	0
Lane Group Flow (vph)	0	187	0	66	138	0	0	833	0	0	914	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	18.0			74.0			74.0	
Effective Green, g (s)		18.0		18.0	18.0			74.0			74.0	
Actuated g/C Ratio		0.18		0.18	0.18			0.74			0.74	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		251		152	321			1862			2395	
v/s Ratio Prot					0.08							
v/s Ratio Perm		c0.13		0.08				c0.33			0.28	
v/c Ratio		0.75		0.43	0.43			0.45			0.38	
Uniform Delay, d1		38.8		36.5	36.4			5.1			4.7	
Progression Factor		0.99		1.00	1.00			1.00			0.37	
Incremental Delay, d2		18.1		8.8	4.2			0.8			0.4	
Delay (s)		56.7		45.3	40.6			5.8			2.1	
Level of Service		E		D	D			A			A	
Approach Delay (s)		56.7			42.0			5.8			2.1	
Approach LOS		E			D			A			A	

Intersection Summary

HCM Average Control Delay	12.6	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	76.8%	ICU Level of Service	D
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	373	6	0	1097
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	405	7	0	1192
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	1601	206			412	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1601	206			412	
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)	97	800			1143	

Direction, Lane #	WB 1	NB 1	NB 2
Volume Total	0	270	142
Volume Left	0	0	0
Volume Right	0	0	7
cSH	1700	1700	1700
Volume to Capacity	0.00	0.16	0.08
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	Err		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
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	516
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	1091	3	0	561
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	1654	547			1095	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1654	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)	89	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		Err	
Intersection Capacity Utilization		Err%	ICU Level of Service
Analysis Period (min)		15	H

Appendix D

Total Future Traffic Forecasts

												
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									

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 BG Conditions
 Project ID: 2799 Atlantic North
 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	14	98	438	79	105	25	158	17	18	9	3	2
% 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	73	536	230		182	31	15	
% 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	73	536	230		182	31	15	
Service Time	3.5	2.7	3.8		4.8	3.9	4.9	
Utilization, x	0.12	0.75	0.39		0.36	0.05	0.03	
Dep. headway, hd	5.78	5.03	6.11		7.14	6.19	7.25	
Capacity	323	706	480		432	281	265	
Delay	9.24	21.18	12.67		13.81	9.24	10.18	
LOS	A	C	B		B	A	B	
Approach:								
Delay		19.75		12.67		13.14		10.18
LOS		C		B		B		B
Intersection Delay	16.77		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 BG Conditions
 Project ID: 2799 Atlantic North
 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	1	105	260	101	171	20	354	14	30	28	10	4
% 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	64	341	324		399	41	46	
% 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	64	341	324		399	41	46	
Service Time	4.8	4.2	4.9		5.2	4.1	6.0	
Utilization, x	0.13	0.62	0.64		0.83	0.07	0.11	
Dep. headway, hd	7.12	6.51	7.17		7.45	6.38	8.34	
Capacity	314	532	485		475	291	296	
Delay	10.84	19.09	21.96		36.60	9.58	12.03	
LOS	B	C	C		E	A	B	
Approach:								
Delay		17.78		21.96		34.08		12.03
LOS		C		C		D		B
Intersection Delay	24.58		Intersection LOS C					

												
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		c0.15			0.10			0.14			c0.44	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										

												
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			↑↑	↑↑	
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			

Total Future Conditions
13: Florida Avenue & Sherman Street

PM Peak Period
12/21/2005

	↑	↗	↘	↓	↙	↖
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	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	0.92		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
Fr _t	0.92		1.00			1.00
Fl _t Protected	0.98		1.00			1.00
Satd. Flow (prot)	1681		3539			3539
Fl _t 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, d ₁	26.9		11.5			12.0
Progression Factor	1.00		0.75			1.00
Incremental Delay, d ₂	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						

Total Future Conditions
6: V Street & 8th Street

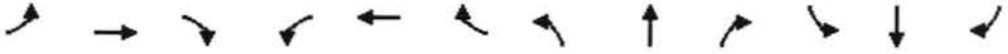
AM Peak Period
12/21/2005

												
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									

												
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	
Flt		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	
Frt		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%											
Analysis Period (min)	15											
	ICU Level of Service C											

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	49	16	54	14	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	53	17	59	15	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	109	15	15			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	109	15	15			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	99			
cM capacity (veh/h)	879	1064	1603			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	53	76	15			
Volume Left	0	17	0			
Volume Right	53	0	0			
cSH	1064	1603	1700			
Volume to Capacity	0.05	0.01	0.01			
Queue Length 95th (ft)	4	1	0			
Control Delay (s)	8.6	1.7	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.6	1.7	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		4.1				
Intersection Capacity Utilization		20.4%		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)	0	41	60	29	42	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	45	65	32	46	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	208	46	46			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	208	46	46			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	96			
cM capacity (veh/h)	748	1024	1562			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	45	97	46			
Volume Left	0	65	0			
Volume Right	45	0	0			
cSH	1024	1562	1700			
Volume to Capacity	0.04	0.04	0.03			
Queue Length 95th (ft)	3	3	0			
Control Delay (s)	8.7	5.1	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.7	5.1	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		4.7				
Intersection Capacity Utilization		21.5%	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		c0.09			0.06			0.18			c0.39	
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	
Flt		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			

Total Future Conditions
31: University Dorms & Sherman Street

AM Peak Period
12/21/2005

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	0	0	6	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	7	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	3	3			7	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3	3			7	
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)	1018	1079			1613	
Direction, Lane #	WB 1	NB 1	NB 2			
Volume Total	0	0	7			
Volume Left	0	0	0			
Volume Right	0	0	7			
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		6.7%		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	

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 North
 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 North
 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			