

HCM Signalized Intersection Capacity Analysis
1: New York Ave. & 16th Street

3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕↕			↕↕↕			↕			↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	10	10	10	13	13	13
Total Lost time (s)	3.0			3.0			3.0			3.0		
Lane Util. Factor	0.91			0.91			1.00			1.00		
Frpb, ped/bikes	1.00			1.00			1.00			1.00		
Flpb, ped/bikes	1.00			1.00			1.00			1.00		
Frt	1.00			1.00			0.92			0.97		
Flt Protected	1.00			1.00			0.98			0.98		
Satd. Flow (prot)	4910			4915			1568			1826		
Flt Permitted	0.94			0.84			0.87			0.93		
Satd. Flow (perm)	4614			4149			1394			1729		
Volume (vph)	1	3704	24	5	1951	0	39	0	56	3	3	2
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1	4116	27	6	2168	0	43	0	62	3	3	2
RTOR Reduction (vph)	0	1	0	0	0	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	4143	0	0	2174	0	0	104	0	0	6	0
Confl. Peds. (#/hr)	1		10	10		1						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			2			4			4		
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	97.6			97.6			11.4			11.4		
Effective Green, g (s)	99.6			99.6			14.4			14.4		
Actuated g/C Ratio	0.83			0.83			0.12			0.12		
Clearance Time (s)	5.0			5.0			6.0			6.0		
Vehicle Extension (s)	3.0			3.0			3.0			3.0		
Lane Grp Cap (vph)	3830			3444			167			207		
v/s Ratio Prot												
v/s Ratio Perm	c0.90			0.52			c0.07			0.00		
v/c Ratio	1.08			0.63			0.62			0.03		
Uniform Delay, d1	10.2			3.6			50.2			46.6		
Progression Factor	1.00			1.41			1.00			1.00		
Incremental Delay, d2	42.2			0.7			7.1			0.1		
Delay (s)	52.4			5.8			57.3			46.7		
Level of Service	D			A			E			D		
Approach Delay (s)	52.4			5.8			57.3			46.7		
Approach LOS	D			A			E			D		
Intersection Summary												
HCM Average Control Delay	36.8			HCM Level of Service			D					
HCM Volume to Capacity ratio	1.02											
Actuated Cycle Length (s)	120.0			Sum of lost time (s)			6.0					
Intersection Capacity Utilization	87.0%			ICU Level of Service			E					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
2: New York Ave. & Bladensburg Rd.

3011 Abdo New York Avenue
7/20/2006

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	10	11	11	11	11	11	10	10	10
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Util. Factor	0.97	0.91		0.97	0.91			0.91	0.91		0.91	0.91
Frt	1.00	0.99		1.00	1.00			0.99	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)	3204	4885		3204	4897			3259	1393		3164	1345
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)	3204	4885		3204	4897			3259	1393		3164	1345
Volume (vph)	317	3584	158	422	1672	44	0	575	473	0	563	228
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	352	3982	176	469	1858	49	0	639	526	0	626	253
RTOR Reduction (vph)	0	4	0	0	2	0	0	2	0	0	0	12
Lane Group Flow (vph)	352	4154	0	469	1905	0	0	662	501	0	626	241
Turn Type	Prot			Prot				pm+ov			pm+ov	
Protected Phases	5	2		1	6			4	1		8	5
Permitted Phases									4			8
Actuated Green, G (s)	12.0	70.0		13.0	71.0			19.0	32.0		19.0	31.0
Effective Green, g (s)	14.0	73.0		15.0	74.0			23.0	38.0		23.0	37.0
Actuated g/C Ratio	0.12	0.61		0.12	0.62			0.19	0.32		0.19	0.31
Clearance Time (s)	5.0	6.0		5.0	6.0			7.0	5.0		7.0	5.0
Lane Grp Cap (vph)	374	2972		401	3020			625	476		606	448
v/s Ratio Prot	0.11	0.85		0.15	0.39			0.20	0.13		0.20	0.06
v/s Ratio Perm									0.23			0.12
v/c Ratio	0.94	1.40		1.17	0.63			1.06	1.05		1.03	0.54
Uniform Delay, d1	52.6	23.5		52.5	14.4			48.5	41.0		48.5	34.4
Progression Factor	1.30	0.05		1.00	1.00			1.00	1.00		1.15	0.60
Incremental Delay, d2	5.7	179.2		99.9	1.0			52.5	55.8		44.0	4.3
Delay (s)	74.3	180.3		152.4	15.4			101.0	96.8		100.0	25.0
Level of Service	E	F		F	B			F	F		F	C
Approach Delay (s)		172.1			42.5			99.2			78.4	
Approach LOS		F			D			F			E	
Intersection Summary												
HCM Average Control Delay		118.9						HCM Level of Service		F		
HCM Volume to Capacity ratio		1.27										
Actuated Cycle Length (s)		120.0						Sum of lost time (s)		6.0		
Intersection Capacity Utilization		115.7%						ICU Level of Service		H		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
3: Mt. Olivet Rd. & West Virginia Ave.

3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔			↔↔			↔↔			↖	↔↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	3.0			3.0			3.0			3.0	3.0	
Lane Util. Factor	0.95			0.95			0.95			1.00	0.95	
Frpb, ped/bikes	1.00			0.99			1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00			1.00			1.00	1.00	
Frt	0.99			0.97			0.99			1.00	1.00	
Flt Protected	1.00			1.00			1.00			0.95	1.00	
Satd. Flow (prot)	3250			3114			3085			1486	3123	
Flt Permitted	0.68			0.81			0.58			0.17	1.00	
Satd. Flow (perm)	2213			2512			1792			272	3123	
Volume (vph)	94	905	60	15	532	135	43	705	69	298	274	8
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	104	1006	67	17	591	150	48	783	77	331	304	9
RTOR Reduction (vph)	0	4	0	0	22	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	1173	0	0	736	0	0	901	0	331	311	0
Confl. Peds. (#/hr)	34		45	45		34	2		7	7		2
Bus Blockages (#/hr)	0	0	0	0	10	10	0	0	0	0	0	0
Parking (#/hr)							0	0	0	0	0	0
Turn Type	Perm			Perm			Perm			custom		
Protected Phases	4			8			2			1	6.1	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0			37.0			39.0			51.0	53.0	
Effective Green, g (s)	39.0			39.0			41.0			52.0	55.0	
Actuated g/C Ratio	0.39			0.39			0.41			0.52	0.55	
Clearance Time (s)	5.0			5.0			5.0			2.0		
Lane Grp Cap (vph)	863			980			735			275	1718	
v/s Ratio Prot										c0.13	0.10	
v/s Ratio Perm	c0.53			0.29			c0.50			0.49		
v/c Ratio	1.36			0.75			1.23			1.20	0.18	
Uniform Delay, d1	30.5			26.3			29.5			18.2	11.2	
Progression Factor	1.00			1.00			1.00			1.00	1.00	
Incremental Delay, d2	169.0			5.3			113.5			120.9	0.2	
Delay (s)	199.5			31.6			143.0			139.2	11.5	
Level of Service	F			C			F			F	B	
Approach Delay (s)	199.5			31.6			143.0				77.1	
Approach LOS	F			C			F				E	

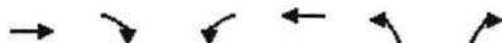
Intersection Summary

HCM Average Control Delay	125.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	124.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
4: Montana Ave. & 17th Street

3011 Abdo New York Avenue
7/20/2006



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↰	↰	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	398	38	85	462	12	56
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	442	42	94	513	13	62
Pedestrians					11	
Lane Width (ft)					10.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)				851		
pX, platoon unblocked						
vC, conflicting volume			495		1177	474
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			495		1177	474
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		93	89
cM capacity (veh/h)			1060		191	586
Direction Lane #	EB 1	WB 1	NB 1			
Volume Total	484	608	76			
Volume Left	0	94	13			
Volume Right	42	0	62			
cSH	1700	1060	429			
Volume to Capacity	0.28	0.09	0.18			
Queue Length 95th (ft)	0	7	16			
Control Delay (s)	0.0	2.3	15.2			
Lane LOS		A	C			
Approach Delay (s)	0.0	2.3	15.2			
Approach LOS			C			
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			66.5%	ICU Level of Service	C	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
5: Montana Ave. & Bladensburg Rd.

3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↰	↱		↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	11	11	11	11	11	11
Total Lost time (s)		3.0	3.0		3.0			3.0			3.0	
Lane Util. Factor		1.00	1.00		1.00			0.91			0.91	
Flpb, ped/bikes		1.00	1.00		1.00			1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00			1.00			1.00	
Frt		1.00	0.85		0.97			1.00			0.97	
Flt Protected		0.96	1.00		0.98			0.99			1.00	
Satd. Flow (prot)		1556	1378		1655			4821			4732	
Flt Permitted		0.74	1.00		0.86			0.65			0.91	
Satd. Flow (perm)		1197	1378		1452			3176			4305	
Volume (vph)	123	25	160	28	26	14	248	1007	12	12	742	221
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	137	28	178	31	29	16	276	1119	13	13	824	246
RTOR Reduction (vph)	0	0	121	0	10	0	0	1	0	0	53	0
Lane Group Flow (vph)	0	165	57	0	66	0	0	1407	0	0	1030	0
Confl. Peds. (#/hr)							1		2	2		1
Bus Blockages (#/hr)	0	0	0	0	0	0	0	6	6	0	0	0
Parking (#/hr)	0	0	0									
Turn Type	Perm		Perm	Perm			pm+pt			Perm		
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		29.0	29.0		29.0			59.0			36.0	
Effective Green, g (s)		32.0	32.0		32.0			62.0			39.0	
Actuated g/C Ratio		0.32	0.32		0.32			0.62			0.39	
Clearance Time (s)		6.0	6.0		6.0			6.0			6.0	
Lane Grp Cap (vph)		383	441		465			2298			1679	
v/s Ratio Prot								c0.12				
v/s Ratio Perm		c0.14	0.04		0.05			c0.26			0.24	
v/c Ratio		0.43	0.13		0.14			0.61			0.61	
Uniform Delay, d1		26.8	24.1		24.2			11.6			24.5	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		3.5	0.6		0.6			1.2			1.7	
Delay (s)		30.3	24.7		24.9			12.9			26.1	
Level of Service		C	C		C			B			C	
Approach Delay (s)		27.4			24.9			12.9			26.1	
Approach LOS		C			C			B			C	

Intersection Summary

HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	119.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Queens Chapel Rd. & Bladensburg Rd.

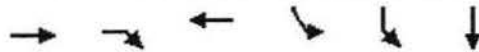
3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑↑↑	↑↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	10	10	10
Total Lost time (s)	3.0			3.0	3.0	
Lane Util. Factor	1.00			0.91	0.91	
Frt	0.93			1.00	0.99	
Flt Protected	0.97			0.99	1.00	
Satd. Flow (prot)	1641			4717	4691	
Flt Permitted	0.97			0.73	1.00	
Satd. Flow (perm)	1641			3453	4691	
Volume (vph)	132	124	105	750	734	62
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	147	138	117	833	816	69
RTOR Reduction (vph)	28	0	0	0	8	0
Lane Group Flow (vph)	257	0	0	950	877	0
Turn Type			pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases			2			
Actuated Green, G (s)	23.0			86.0	64.0	
Effective Green, g (s)	26.0			88.0	65.0	
Actuated g/C Ratio	0.22			0.73	0.54	
Clearance Time (s)	6.0			5.0	4.0	
Lane Grp Cap (vph)	356			2743	2541	
v/s Ratio Prot	c0.16			c0.06	0.19	
v/s Ratio Perm				c0.20		
v/c Ratio	0.72			0.35	0.35	
Uniform Delay, d1	43.6			5.7	15.5	
Progression Factor	1.00			0.06	1.00	
Incremental Delay, d2	12.0			0.1	0.4	
Delay (s)	55.6			0.4	15.9	
Level of Service	E			A	B	
Approach Delay (s)	55.6			0.4	15.9	
Approach LOS	E			A	B	
Intersection Summary						
HCM Average Control Delay		14.3		HCM Level of Service		B
HCM Volume to Capacity ratio		0.43				
Actuated Cycle Length (s)		120.0		Sum of lost time (s)		6.0
Intersection Capacity Utilization		57.1%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						



Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations	↑↑↑	↑↑↑				↑	
Sign Control	Free	Free		Yield			
Grade	0%	0%		0%			
Volume (veh/h)	0	4092	2091	0	0	32	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly flow rate (vph)	0	4547	2323	0	0	36	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None			
Median storage veh							
Upstream signal (ft)		746	106				
pX, platoon unblocked	0.78				0.30	0.78	
vC, conflicting volume	2323				3839	774	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2132				2484	144	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				100	95	
cM capacity (veh/h)	196				7	683	
Direction Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SW 1
Volume Total	1516	1516	1516	774	774	774	36
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	36
cSH	1700	1700	1700	1700	1700	1700	683
Volume to Capacity	0.89	0.89	0.89	0.46	0.46	0.46	0.05
Queue Length 95th (ft)	0	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.6
Lane LOS							B
Approach Delay (s)	0.0			0.0			10.6
Approach LOS							B
Intersection Summary							
Average Delay			0.1				
Intersection Capacity Utilization			82.4%		ICU Level of Service		E
Analysis Period (min)			15				



Movement	EBT	EBR	WBT	SBL2	SBL	SBT
Lane Configurations	↑↑↑		↑↑↑			↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	12
Total Lost time (s)	3.0		3.0			3.0
Lane Util. Factor	0.91		0.91			0.95
Frt	0.98		1.00			1.00
Flt Protected	1.00		1.00			0.97
Satd. Flow (prot)	4839		4916			3448
Flt Permitted	1.00		1.00			0.97
Satd. Flow (perm)	4839		4916			3448
Volume (vph)	3664	428	2091	189	189	340
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4071	476	2323	210	210	378
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	4547	0	2323	0	0	798
Turn Type			custom		custom	
Protected Phases	2		2 3			4
Permitted Phases				4	4	
Actuated Green, G (s)	70.0		89.0			20.0
Effective Green, g (s)	71.0		91.0			23.0
Actuated g/C Ratio	0.59		0.76			0.19
Clearance Time (s)	4.0					6.0
Lane Grp Cap (vph)	2863		3728			661
v/s Ratio Prot	c0.94		c0.47			
v/s Ratio Perm						0.23
v/c Ratio	1.59		0.62			1.24dl
Uniform Delay, d1	24.5		6.6			48.5
Progression Factor	0.68		0.60			1.00
Incremental Delay, d2	265.1		0.5			107.1
Delay (s)	281.7		4.5			155.6
Level of Service	F		A			F
Approach Delay (s)	281.7		4.5			155.6
Approach LOS	F		A			F

Intersection Summary			
HCM Average Control Delay	184.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
Analysis Period (min)	15		

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

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: West Virginia Ave. & Montana Ave.

3011 Abdo New York Avenue

7/20/2006



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR
Lane Configurations		↑↑						↑↑			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)		3.0						3.0			
Lane Util. Factor		0.95						0.97			
Frt		0.99						1.00			
Flt Protected		1.00						0.95			
Satd. Flow (prot)		3281						3204			
Flt Permitted		1.00						0.95			
Satd. Flow (perm)		3281						3204			
Volume (vph)	0	525	25	0	0	0	41	576	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	583	28	0	0	0	46	640	0	0	0
RTOR Reduction (vph)	0	3	0	0	0	0	0	4	0	0	0
Lane Group Flow (vph)	0	608	0	0	0	0	0	682	0	0	0
Turn Type							Split				
Protected Phases		6					5 8	5 8			
Permitted Phases											
Actuated Green, G (s)		32.0						78.0			
Effective Green, g (s)		34.0						80.0			
Actuated g/C Ratio		0.28						0.67			
Clearance Time (s)		5.0									
Lane Grp Cap (vph)		930						2136			
v/s Ratio Prot		c0.19						c0.21			
v/s Ratio Perm											
v/c Ratio		0.65						0.32			
Uniform Delay, d1		37.8						8.5			
Progression Factor		1.00						1.11			
Incremental Delay, d2		3.6						0.0			
Delay (s)		41.4						9.5			
Level of Service		D						A			
Approach Delay (s)		41.4			0.0			9.5		0.0	
Approach LOS		D			A			A		A	
Intersection Summary											
HCM Average Control Delay		24.5						HCM Level of Service		C	
HCM Volume to Capacity ratio		0.42									
Actuated Cycle Length (s)		120.0						Sum of lost time (s)		6.0	
Intersection Capacity Utilization		52.9%						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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	10	10	10	10
Total Lost time (s)	3.0	3.0						3.0				
Lane Util. Factor	0.95	0.95						0.95				
Frt	1.00	1.00						0.99				
Flt Protected	0.95	0.96						1.00				
Satd. Flow (prot)	1569	1589						3282				
Flt Permitted	0.95	0.96						1.00				
Satd. Flow (perm)	1569	1589						3282				
Volume (vph)	504	62	0	0	0	0	0	549	25	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	560	69	0	0	0	0	0	610	28	0	0	0
RTOR Reduction (vph)	5	5	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	302	317	0	0	0	0	0	636	0	0	0	0
Turn Type	Perm											
Protected Phases	6											
Permitted Phases	6											
Actuated Green, G (s)	88.0	88.0							20.0			
Effective Green, g (s)	89.0	89.0							25.0			
Actuated g/C Ratio	0.74	0.74							0.21			
Clearance Time (s)	4.0	4.0							8.0			
Lane Grp Cap (vph)	1164	1179							684			
v/s Ratio Prot	c0.19											
v/s Ratio Perm	0.19	0.20										
v/c Ratio	0.26	0.27										
Uniform Delay, d1	5.0	5.0							46.6			
Progression Factor	0.07	0.11										
Incremental Delay, d2	0.4	0.4							20.9			
Delay (s)	0.8	1.0							67.5			
Level of Service	A	A							E			
Approach Delay (s)	0.9		0.0				67.5		0.0			
Approach LOS	A		A				E		A			
Intersection Summary												
HCM Average Control Delay			34.4		HCM Level of Service			C				
HCM Volume to Capacity ratio			0.41									
Actuated Cycle Length (s)			120.0		Sum of lost time (s)			6.0				
Intersection Capacity Utilization			73.1%		ICU Level of Service			D				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
11: New York Ave. & Montana Ave.

3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑↑				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	10	10	10	10	10	10
Total Lost time (s)		3.0			3.0			3.0				
Lane Util. Factor		0.91			0.91			0.95				
Frt		1.00			1.00			1.00				
Flt Protected		1.00			1.00			0.98				
Satd. Flow (prot)		4916			4916			3238				
Flt Permitted		1.00			1.00			0.98				
Satd. Flow (perm)		4916			4916			3238				
Volume (vph)	0	3852	0	0	1664	0	427	626	0	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	4280	0	0	1849	0	474	696	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	4280	0	0	1849	0	0	1170	0	0	0	0
Turn Type							Split					
Protected Phases		2			2		4	4				
Permitted Phases												
Actuated Green, G (s)		68.0			68.0			41.0				
Effective Green, g (s)		70.0			70.0			44.0				
Actuated g/C Ratio		0.58			0.58			0.37				
Clearance Time (s)		5.0			5.0			6.0				
Lane Grp Cap (vph)		2868			2868			1187				
v/s Ratio Prot		c0.87			0.38			c0.36				
v/s Ratio Perm												
v/c Ratio		1.49			0.64			0.99				
Uniform Delay, d1		25.0			16.7			37.7				
Progression Factor		0.24			1.55			0.90				
Incremental Delay, d2		221.7			0.9			20.1				
Delay (s)		227.6			26.8			54.0				
Level of Service		F			C			D				
Approach Delay (s)		227.6			26.8			54.0			0.0	
Approach LOS		F			C			D			A	
Intersection Summary												
HCM Average Control Delay		148.9					HCM Level of Service		F			
HCM Volume to Capacity ratio		1.30										
Actuated Cycle Length (s)		120.0					Sum of lost time (s)		6.0			
Intersection Capacity Utilization		110.8%					ICU Level of Service		H			
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SER	NEL	NER
Lane Configurations		↑↑↑			↑↑↑					↑
Sign Control		Free			Free		Stop		Yield	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	3852	0	0	1664	208	0	0	0	87
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	4280	0	0	1849	231	0	0	0	97
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type							None	None		
Median storage (veh)										
Upstream signal (ft)	122									
pX, platoon unblocked				0.42		0.42		0.42	0.42	0.42
vC, conflicting volume	2080				4280	3488		6244	6360	1427
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	2080				6041	4159		10709	10983	0
tC, single (s)	4.1				4.1	7.5		6.5	6.5	6.9
tC, 2 stage (s)										
tF (s)	2.2				2.2	3.5		4.0	4.0	3.3
p0 queue free %	100				100	100		100	100	79
cM capacity (veh/h)	263				3	0		0	0	456
Direction Lane#										
	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NE 1			
Volume Total	1427	1427	1427	740	740	601	97			
Volume Left	0	0	0	0	0	0	0			
Volume Right	0	0	0	0	0	231	97			
cSH	1700	1700	1700	1700	1700	1700	456			
Volume to Capacity	0.84	0.84	0.84	0.44	0.44	0.35	0.21			
Queue Length 95th (ft)	0	0	0	0	0	0	20			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	15.0			
Lane LOS							B			
Approach Delay (s)	0.0			0.0			15.0			
Approach LOS							B			
Intersection Summary										
Average Delay	0.2									
Intersection Capacity Utilization	86.5%			ICU Level of Service				E		
Analysis Period (min)	15									

HCM Unsignalized Intersection Capacity Analysis
13: Frontage Road & West Site Driveway

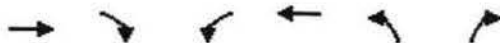
3011 Abdo New York Avenue
7/20/2006



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩					↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	18	146	0	0	0	108
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	20	162	0	0	0	120
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			182		101	101
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			182		101	101
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			1393		897	954
Direction Lane #	EB 1	NB 1				
Volume Total	182	120				
Volume Left	0	0				
Volume Right	162	120				
cSH	1700	954				
Volume to Capacity	0.11	0.13				
Queue Length 95th (ft)	0	11				
Control Delay (s)	0.0	9.3				
Lane LOS		A				
Approach Delay (s)	0.0	9.3				
Approach LOS		A				
Intersection Summary						
Average Delay		3.7				
Intersection Capacity Utilization		23.3%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
14: Frontage Road & East Site Driveway

3011 Abdo New York Avenue
7/20/2006



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩					↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	108	18	0	0	0	22
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	120	20	0	0	0	24
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			140		130	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			140		130	130
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	97
cM capacity (veh/h)			1443		864	920
Direction Lane #	EB 1	NB 1				
Volume Total	140	24				
Volume Left	0	0				
Volume Right	20	24				
cSH	1700	920				
Volume to Capacity	0.08	0.03				
Queue Length 95th (ft)	0	2				
Control Delay (s)	0.0	9.0				
Lane LOS		A				
Approach Delay (s)	0.0	9.0				
Approach LOS		A				
Intersection Summary						
Average Delay		1.3				
Intersection Capacity Utilization		16.8%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
15: Montana Ave. & North Site Driveway

3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	15	586	482	47	28	92
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	651	536	52	31	102
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)			1101			
pX, platoon unblocked						
vC, conflicting volume	588				1246	294
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	588				1246	294
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				81	85
cM capacity (veh/h)	983				163	702
Direction-Lane #	EB-1	WB-1	WB-2	SB-1		
Volume Total	668	357	231	133		
Volume Left	17	0	0	31		
Volume Right	0	0	52	102		
cSH	983	1700	1700	396		
Volume to Capacity	0.02	0.21	0.14	0.34		
Queue Length 95th (ft)	1	0	0	36		
Control Delay (s)	0.5	0.0	0.0	18.6		
Lane LOS	A			C		
Approach Delay (s)	0.5	0.0		18.6		
Approach LOS				C		
Intersection Summary						
Average Delay		2.0				
Intersection Capacity Utilization		56.8%		ICU Level of Service		B
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
16: Montana Ave. & Middle Site Driveway

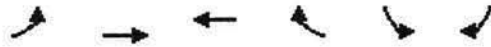
3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	614	489	108	41	40
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	682	543	120	46	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)			1026			
pX, platoon unblocked						
vC, conflicting volume	663				1286	332
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	663				1286	332
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				71	93
cM capacity (veh/h)	921				156	664
Direction Lane #	EB 1	WB 1	WB 2	SB 1		
Volume Total	682	362	301	90		
Volume Left	0	0	0	46		
Volume Right	0	0	120	44		
cSH	921	1700	1700	251		
Volume to Capacity	0.00	0.21	0.18	0.36		
Queue Length 95th (ft)	0	0	0	39		
Control Delay (s)	0.0	0.0	0.0	27.1		
Lane LOS				D		
Approach Delay (s)	0.0	0.0		27.1		
Approach LOS				D		
Intersection Summary						
Average Delay		1.7				
Intersection Capacity Utilization		43.7%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
17: Montana Ave. & Emergency Access

3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	224	430	447	16	8	150
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	249	478	497	18	9	167
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)			951			
pX, platoon unblocked						
vC, conflicting volume	514				1481	257
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	514				1481	257
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	76				90	78
cM capacity (veh/h)	1047				88	742
Direction Lane #	EB 1	WB 1	WB 2	SB 1		
Volume Total	727	331	183	176		
Volume Left	249	0	0	9		
Volume Right	0	0	18	167		
cSH	1047	1700	1700	540		
Volume to Capacity	0.24	0.19	0.11	0.33		
Queue Length 95th (ft)	23	0	0	35		
Control Delay (s)	5.3	0.0	0.0	14.8		
Lane LOS	A			B		
Approach Delay (s)	5.3	0.0		14.8		
Approach LOS				B		
Intersection Summary						
Average Delay		4.6				
Intersection Capacity Utilization		67.6%		ICU Level of Service	C	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
18: Montana Ave. & South Site Driveway

3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑	↱	↰	↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	216	238	479	32	69	93
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	240	264	532	36	77	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)			329			
pX, platoon unblocked						
vC, conflicting volume	568				1277	532
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	568				1277	532
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	76				45	81
cM capacity (veh/h)	1004				140	547
Direction Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	240	264	532	36	77	103
Volume Left	240	0	0	0	77	0
Volume Right	0	0	0	36	0	103
cSH	1004	1700	1700	1700	140	547
Volume to Capacity	0.24	0.16	0.31	0.02	0.55	0.19
Queue Length 95th (ft)	23	0	0	0	68	17
Control Delay (s)	9.7	0.0	0.0	0.0	58.2	13.1
Lane LOS	A				F	B
Approach Delay (s)	4.6		0.0		32.3	
Approach LOS					D	
Intersection Summary						
Average Delay		6.5				
Intersection Capacity Utilization		51.0%			ICU Level of Service	A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
19: Site Driveway & Bladensburg Rd.

3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations		↗		↑↑↑	↑↑↗		
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Volume (veh/h)	0	8	0	1039	903	248	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly flow rate (vph)	0	9	0	1154	1003	276	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)				884	560		
pX, platoon unblocked	0.95	0.94	0.94				
vC, conflicting volume	1526	472	1279				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1375	323	1178				
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	99	100				
cM capacity (veh/h)	130	635	556				
Direction Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	9	385	385	385	401	401	476
Volume Left	0	0	0	0	0	0	0
Volume Right	9	0	0	0	0	0	276
cSH	635	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.23	0.23	0.23	0.24	0.24	0.28
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	10.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.8	0.0			0.0		
Approach LOS	B						
Intersection Summary							
Average Delay	0.0						
Intersection Capacity Utilization	33.0%			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)	4010	0	0	1899	0	130	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly flow rate (vph)	4456	0	0	2110	0	144	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type							
Median storage veh							
Upstream signal (ft)	1228			300			
pX, platoon unblocked			0.44		0.57	0.44	
vC, conflicting volume			4456		5159	1485	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			6273		4879	0	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)							
tF (s)			2.2		3.5	3.3	
p0 queue free %			100		100	70	
cM capacity (veh/h)			2		0	482	
Direction Lane #							
Volume Total	1485	1485	1485	703	703	703	144
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	144
cSH	1700	1700	1700	1700	1700	1700	482
Volume to Capacity	0.87	0.87	0.87	0.41	0.41	0.41	0.30
Queue Length 95th (ft)	0	0	0	0	0	0	31
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	15.6
Lane LOS							C
Approach Delay (s)	0.0			0.0			15.6
Approach LOS							C
Intersection Summary							
Average Delay			0.3				
Intersection Capacity Utilization			92.2%		ICU Level of Service		F
Analysis Period (min)			15				

HCM Unsignalized Intersection Capacity Analysis
22: Montana Ave. &

3011 Abdo New York Avenue
7/20/2006



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations	↰	↰			↑			↑	↱		
Sign Control		Yield			Free			Free		Yield	
Grade		0%			0%			0%		0%	
Volume (veh/h)	12	0	0	0	0	0	0	706	32	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	13	0	0	0	0	0	0	784	36	0	0
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)											
Percent Blockage											
Right turn flare (veh)											
Median type		None								None	
Median storage veh											
Upstream signal (ft)					121						
pX, platoon unblocked											
vC, conflicting volume	392	820	0	820			0			802	802
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	392	820	0	820			0			802	802
tC, single (s)	7.5	6.5	6.9	4.1			4.1			7.5	6.5
tC, 2 stage (s)											
tF (s)	3.5	4.0	3.3	2.2			2.2			3.5	4.0
p0 queue free %	98	100	100	100			100			100	100
cM capacity (veh/h)	542	308	1084	805			1622			275	316
Direction, Lane #	WB 1	WB 2	SB 1	SB 2							
Volume Total	7	7	523	297							
Volume Left	7	7	0	0							
Volume Right	0	0	0	36							
cSH	542	542	1700	1700							
Volume to Capacity	0.01	0.01	0.31	0.17							
Queue Length 95th (ft)	1	1	0	0							
Control Delay (s)	11.7	11.7	0.0	0.0							
Lane LOS	B	B									
Approach Delay (s)	11.7		0.0								
Approach LOS	B										
Intersection Summary											
Average Delay			0.2								
Intersection Capacity Utilization			30.5%			ICU Level of Service				A	
Analysis Period (min)			15								



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations					↑		↗			
Sign Control		Yield			Yield		Free		Free	
Grade		0%			0%		0%		0%	
Volume (veh/h)	0	0	0	0	12	196	626	0	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	0	13	218	696	0	0	0
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type		None			None					
Median storage (veh)										
Upstream signal (ft)							115			
pX, platoon unblocked										
vC, conflicting volume	572	696	0	696	696	348			696	
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	572	696	0	696	696	348			696	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9			4.1	
tC, 2 stage (s)										
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3			2.2	
p0 queue free %	100	100	100	100	96	66			100	
cM capacity (veh/h)	260	364	1084	328	364	648			896	
Direction, Lane #	WB 1	NB 1	NB 2							
Volume Total	231	232	464							
Volume Left	0	0	0							
Volume Right	218	0	0							
cSH	620	1622	1700							
Volume to Capacity	0.37	0.00	0.27							
Queue Length 95th (ft)	43	0	0							
Control Delay (s)	14.2	0.0	0.0							
Lane LOS	B									
Approach Delay (s)	14.2	0.0								
Approach LOS	B									
Intersection Summary										
Average Delay		3.5								
Intersection Capacity Utilization		37.3%							A	
Analysis Period (min)		15								



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑	↑		↑
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	307	462	32	0	49
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	341	513	36	0	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)			100			
pX, platoon unblocked						
vC, conflicting volume	549				684	513
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	549				684	513
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	89
cM capacity (veh/h)	1017				382	506
Direction Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	171	171	513	36	54	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	36	54	
cSH	1700	1700	1700	1700	506	
Volume to Capacity	0.10	0.10	0.30	0.02	0.11	
Queue Length 95th (ft)	0	0	0	0	9	
Control Delay (s)	0.0	0.0	0.0	0.0	13.0	
Lane LOS					B	
Approach Delay (s)	0.0		0.0		13.0	
Approach LOS					B	
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			34.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
25: South RIRO & Bladensburg Rd.

3011 Abdo New York Avenue
7/20/2006



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑↑	↑↑↑	↙
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	28	0	1038	872	32
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	31	0	1153	969	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	100					
pX, platoon unblocked	0.86					
vC, conflicting volume	1371	341	1004			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1116	341	1004			
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	95	100			
cM capacity (veh/h)	174	655	685			

Direction Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	31	384	384	384	388	388	229
Volume Left	0	0	0	0	0	0	0
Volume Right	31	0	0	0	0	0	36
cSH	655	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.05	0.23	0.23	0.23	0.23	0.23	0.13
Queue Length 95th (ft)	4	0	0	0	0	0	0
Control Delay (s)	10.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.8	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		