

## APPENDIX J – RESULTS OF SCREENING OF GEOMETRIC AND OPERATIONAL IMPROVEMENTS

### Synchro HCM Reports

- AM Peak Hour – Existing Conditions
- PM Peak Hour – Existing Conditions
- AM Peak Hour – Mitigation Alternatives
- PM Peak Hour – Mitigation Alternatives

HCM Signalized Intersection Capacity Analysis  
3121: Fairfax County Parkway & Huntsman Blvd

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	40	40	180	20	170	20	1710	150	110	2795	20
Future Volume (vph)	80	40	40	180	20	170	20	1710	150	110	2795	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			0%			1%				-1%
Total Lost time (s)	7.0	7.0		6.5	6.5	6.5	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1734	1689		1681	1701	1583	1761	3522	1575	1778	3557	1591
Flt Permitted	0.95	1.00		0.95	0.96	1.00	0.03	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1734	1689		1681	1701	1583	51	3522	1575	153	3557	1591
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	40	40	180	20	170	20	1710	150	110	2795	20
RTOR Reduction (vph)	0	17	0	0	0	48	0	0	46	0	0	6
Lane Group Flow (vph)	80	63	0	99	101	122	20	1710	104	110	2795	14
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	3		4	4	4	5	2		1	6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	12.4	12.4		16.1	16.1	31.5	149.3	145.1	145.1	158.7	149.8	149.8
Effective Green, g (s)	12.4	12.4		16.1	16.1	31.5	149.3	145.1	145.1	158.7	149.8	149.8
Actuated g/C Ratio	0.06	0.06		0.08	0.08	0.15	0.71	0.69	0.69	0.76	0.71	0.71
Clearance Time (s)	7.0	7.0		6.5	6.5		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	102	99		128	130	237	70	2433	1088	184	2537	1134
v/s Ratio Prot	c0.05	0.04		0.06	c0.06	c0.08	0.01	0.49		0.03	c0.79	
v/s Ratio Perm							0.20		0.07	0.43		0.01
v/c Ratio	0.78	0.64		0.77	0.78	0.51	0.29	0.70	0.10	0.60	1.10	0.01
Uniform Delay, d1	97.5	96.6		95.2	95.2	82.2	56.8	19.5	10.7	22.8	30.1	8.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.78	0.78	1.00
Incremental Delay, d2	31.6	12.7		24.7	24.7	1.9	2.2	1.7	0.2	1.4	47.7	0.0
Delay (s)	129.1	109.3		119.8	119.9	84.1	59.0	21.2	10.9	41.9	71.2	8.7
Level of Service	F	F		F	F	F	E	C	B	D	E	A
Approach Delay (s)		119.2			103.4			20.8			69.6	
Approach LOS		F			F			C			E	

Intersection Summary		
HCM 2000 Control Delay	56.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.06	E
Actuated Cycle Length (s)	210.0	Sum of lost time (s)
Intersection Capacity Utilization	112.4%	27.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		H

HCM Signalized Intersection Capacity Analysis  
3721: Fairfax County Parkway & Burke Lake Rd

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	110	320	100	40	90	140	50	2095	0	140	2425	70
Future Volume (vph)	110	320	100	40	90	140	50	2095	0	140	2425	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			0%			2%			0%	
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.5		7.0	7.5	7.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1734	3468	1552	1770	3539	1583	1752	3504		1770	3539	1583
Flt Permitted	0.50	1.00	1.00	0.35	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	913	3468	1552	648	3539	1583	1752	3504		1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	110	320	100	40	90	140	50	2095	0	140	2425	70
RTOR Reduction (vph)	0	0	78	0	0	50	0	0	0	0	0	23
Lane Group Flow (vph)	110	320	22	40	90	90	50	2095	0	140	2425	47
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8	8 5	7	4	1	5	2		1	6	
Permitted Phases	8			4		4			2			6
Actuated Green, G (s)	37.0	22.4	38.4	24.4	16.1	36.3	9.0	130.6		20.2	141.8	141.8
Effective Green, g (s)	37.0	22.4	38.4	24.4	16.1	36.3	9.0	130.6		20.2	141.8	141.8
Actuated g/C Ratio	0.18	0.11	0.18	0.12	0.08	0.17	0.04	0.62		0.10	0.68	0.68
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.5		7.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	217	369	283	119	271	326	75	2179		170	2389	1068
v/s Ratio Prot	c0.04	c0.09	0.01	0.01	0.03	0.03	0.03	0.60		c0.08	c0.69	
v/s Ratio Perm	0.05			0.03		0.03						0.03
v/c Ratio	0.51	0.87	0.08	0.34	0.33	0.28	0.67	0.96		0.82	1.02	0.04
Uniform Delay, d1	76.2	92.3	71.1	84.0	91.9	75.5	99.0	37.3		93.2	34.1	11.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.24	0.52		0.96	0.90	2.40
Incremental Delay, d2	1.9	18.8	0.1	1.7	0.7	0.5	14.4	9.3		17.0	18.0	0.0
Delay (s)	78.0	111.1	71.2	85.7	92.6	75.9	137.6	28.7		106.1	48.6	27.5
Level of Service	E	F	E	F	F	E	F	C		F	D	C
Approach Delay (s)		96.7			82.9			31.3			51.1	
Approach LOS		F			F			C			D	

Intersection Summary

HCM 2000 Control Delay	49.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	28.5
Intersection Capacity Utilization	108.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
5321: Fairfax County Parkway & Rt 50 EB Off-Ramp

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖							↑↑↑	↗		↑↑↑	
Traffic Volume (vph)	70	0	0	0	0	0	0	3185	90	0	1675	0
Future Volume (vph)	70	0	0	0	0	0	0	3185	90	0	1675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	7.5							6.0	6.0		6.5	
Lane Util. Factor	1.00							0.86	1.00		0.91	
Frt	1.00							1.00	0.85		1.00	
Flt Protected	0.95							1.00	1.00		1.00	
Satd. Flow (prot)	2006							6408	1583		5085	
Flt Permitted	0.95							1.00	1.00		1.00	
Satd. Flow (perm)	2006							6408	1583		5085	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	0	0	0	0	0	0	3185	90	0	1675	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	18	0	0	0
Lane Group Flow (vph)	70	0	0	0	0	0	0	3185	72	0	1675	0
Turn Type	Prot							NA	Perm		NA	
Protected Phases	4							2			6	
Permitted Phases									2			
Actuated Green, G (s)	7.2							84.3	84.3		83.8	
Effective Green, g (s)	7.2							84.3	84.3		83.8	
Actuated g/C Ratio	0.07							0.80	0.80		0.80	
Clearance Time (s)	7.5							6.0	6.0		6.5	
Vehicle Extension (s)	2.0							4.0	4.0		4.0	
Lane Grp Cap (vph)	137							5144	1270		4058	
v/s Ratio Prot	c0.03							c0.50			0.33	
v/s Ratio Perm									0.05			
v/c Ratio	0.51							0.62	0.06		0.41	
Uniform Delay, d1	47.2							4.1	2.1		3.2	
Progression Factor	1.00							1.00	1.00		1.06	
Incremental Delay, d2	1.3							0.6	0.1		0.3	
Delay (s)	48.5							4.6	2.2		3.6	
Level of Service	D							A	A		A	
Approach Delay (s)		48.5			0.0			4.6			3.6	
Approach LOS		D			A			A			A	

Intersection Summary

HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 5322: Fairfax County Parkway & Rt 50 WB Off-Ramp



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↶		↑↑↑			↑↑↑
Traffic Volume (vph)	60	0	2625	0	0	2055
Future Volume (vph)	60	0	2625	0	0	2055
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5		6.5			6.0
Lane Util. Factor	0.97		0.91			0.91
Frt	1.00		1.00			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	3433		5085			5085
Flt Permitted	0.95		1.00			1.00
Satd. Flow (perm)	3433		5085			5085
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	0	2625	0	0	2055
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	60	0	2625	0	0	2055
Turn Type	Prot		NA			NA
Protected Phases	4		2			6
Permitted Phases						
Actuated Green, G (s)	5.4		85.6			86.1
Effective Green, g (s)	5.4		85.6			86.1
Actuated g/C Ratio	0.05		0.82			0.82
Clearance Time (s)	7.5		6.5			6.0
Vehicle Extension (s)	2.0		4.0			4.0
Lane Grp Cap (vph)	176		4145			4169
v/s Ratio Prot	c0.02		c0.52			0.40
v/s Ratio Perm						
v/c Ratio	0.34		0.63			0.49
Uniform Delay, d1	48.1		3.7			2.9
Progression Factor	1.00		0.15			2.12
Incremental Delay, d2	0.4		0.6			0.4
Delay (s)	48.5		1.1			6.4
Level of Service	D		A			A
Approach Delay (s)	48.5		1.1			6.4
Approach LOS	D		A			A






























Intersection Summary

HCM 2000 Control Delay	4.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
5421: Fairfax County Parkway & Rugby Rd

Fairfax County Parkway Study  
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  			  	
Traffic Volume (vph)	230	140	90	250	140	90	10	2220	790	150	1725	60
Future Volume (vph)	230	140	90	250	140	90	10	2220	790	150	1725	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	5.5	5.5	7.5	6.5	8.0	9.0	6.5	7.5	8.0	6.0	7.5
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	1770	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1863	1583	1770	5085	1583	1770	5085	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	230	140	90	250	140	90	10	2220	790	150	1725	60
RTOR Reduction (vph)	0	0	81	0	0	44	0	0	93	0	0	16
Lane Group Flow (vph)	230	140	9	250	140	46	10	2220	697	150	1725	44
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4	5	1	6	7	5	2	3
Permitted Phases			8			4			6			2
Actuated Green, G (s)	14.5	20.9	20.9	18.2	23.6	47.8	4.0	119.2	137.4	24.2	138.9	153.4
Effective Green, g (s)	14.5	20.9	20.9	18.2	23.6	47.8	4.0	119.2	137.4	24.2	138.9	153.4
Actuated g/C Ratio	0.07	0.10	0.10	0.09	0.11	0.23	0.02	0.57	0.65	0.12	0.66	0.73
Clearance Time (s)	7.5	5.5	5.5	7.5	6.5	8.0	9.0	6.5	7.5	8.0	6.0	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	122	185	157	297	209	360	33	2886	1035	203	3363	1156
v/s Ratio Prot	c0.13	c0.08		0.07	c0.08	0.01	0.01	c0.44	0.06	c0.08	0.34	0.00
v/s Ratio Perm			0.01			0.01			0.38			0.03
v/c Ratio	1.89	0.76	0.06	0.84	0.67	0.13	0.30	0.77	0.67	0.74	0.51	0.04
Uniform Delay, d1	97.8	92.1	85.6	94.5	89.5	64.5	101.6	34.8	22.4	89.8	18.2	7.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.12	0.91	0.83	1.18	0.77	0.11
Incremental Delay, d2	427.6	16.1	0.2	18.9	7.9	0.3	9.1	1.8	1.5	12.2	0.4	0.0
Delay (s)	525.4	108.2	85.8	113.4	97.4	64.9	122.9	33.5	20.1	118.1	14.5	0.9
Level of Service	F	F	F	F	F	E	F	C	C	F	B	A
Approach Delay (s)		312.4			99.6			30.3			22.1	
Approach LOS		F			F			C			C	

Intersection Summary

HCM 2000 Control Delay	55.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 5531: Fairfax County Parkway & Old Plains Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Volume (veh/h)	0	50	0	2545	1880	20
Future Volume (Veh/h)	0	50	0	2545	1880	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	50	0	2545	1880	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3152	940	1900			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3152	940	1900			
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	81	100			
cM capacity (veh/h)	8	265	310			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	50	1272	1272	940	940	20
Volume Left	0	0	0	0	0	0
Volume Right	50	0	0	0	0	20
cSH	265	1700	1700	1700	1700	1700
Volume to Capacity	0.19	0.75	0.75	0.55	0.55	0.01
Queue Length 95th (ft)	17	0	0	0	0	0
Control Delay (s)	21.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	21.7	0.0		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay	0.2					
Intersection Capacity Utilization	73.7%			ICU Level of Service		D
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis  
5821: Fairfax County Parkway & Franklin Farm Rd

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	210	330	40	270	40	355	2330	50	20	1400	180
Future Volume (vph)	170	210	330	40	270	40	355	2330	50	20	1400	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0		9.5	6.5	8.0	8.0	6.5	8.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3471		3433	3539	1583	1770	3539	1583
Flt Permitted	0.20	1.00	1.00	0.53	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	370	1863	1583	981	3471		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	170	210	330	40	270	40	355	2330	50	20	1400	180
RTOR Reduction (vph)	0	0	152	0	5	0	0	0	16	0	0	41
Lane Group Flow (vph)	170	210	178	40	305	0	355	2330	34	20	1400	139
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases	8		8	4					6			2
Actuated Green, G (s)	48.8	33.1	33.1	28.8	21.1		21.3	133.5	141.2	5.2	115.9	135.6
Effective Green, g (s)	48.8	33.1	33.1	28.8	21.1		21.3	133.5	141.2	5.2	115.9	135.6
Actuated g/C Ratio	0.23	0.16	0.16	0.14	0.10		0.10	0.64	0.67	0.02	0.55	0.65
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0		9.5	6.5	8.0	8.0	6.5	8.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	217	293	249	163	348		348	2249	1064	43	1953	1022
v/s Ratio Prot	c0.07	c0.11		0.01	0.09		c0.10	c0.66	0.00	0.01	0.40	0.01
v/s Ratio Perm	c0.11		0.11	0.02					0.02			0.07
v/c Ratio	0.78	0.72	0.72	0.25	0.88		1.02	1.04	0.03	0.47	0.72	0.14
Uniform Delay, d1	69.5	84.0	84.0	80.0	93.2		94.3	38.2	11.5	101.0	34.9	14.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.79	1.10	1.00	1.38	0.40	0.07
Incremental Delay, d2	16.7	8.1	9.4	0.8	20.9		30.9	21.2	0.0	5.2	1.5	0.0
Delay (s)	86.2	92.1	93.4	80.8	114.1		105.7	63.4	11.5	145.1	15.3	1.1
Level of Service	F	F	F	F	F		F	E	B	F	B	A
Approach Delay (s)		91.3			110.3			67.9			15.3	
Approach LOS		F			F			E			B	

Intersection Summary

HCM 2000 Control Delay	58.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis  
5921: Fairfax County Parkway & West Ox Rd

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	230	310	40	290	90	560	1930	50	50	1245	260
Future Volume (vph)	170	230	310	40	290	90	560	1930	50	50	1245	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	9.5	6.5	6.5	8.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.12	1.00	1.00	0.52	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	219	1863	1583	975	1863	1583	3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	170	230	310	40	290	90	560	1930	50	50	1245	260
RTOR Reduction (vph)	0	0	243	0	0	75	0	0	22	0	0	0
Lane Group Flow (vph)	170	230	67	40	290	15	560	1930	28	50	1245	260
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Free
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4			6			Free
Actuated Green, G (s)	61.1	45.3	45.3	42.1	34.3	34.3	35.0	117.9	117.9	8.5	90.4	210.0
Effective Green, g (s)	61.1	45.3	45.3	42.1	34.3	34.3	35.0	117.9	117.9	8.5	90.4	210.0
Actuated g/C Ratio	0.29	0.22	0.22	0.20	0.16	0.16	0.17	0.56	0.56	0.04	0.43	1.00
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	9.5	6.5	6.5	8.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	202	401	341	224	304	258	572	1986	888	71	1523	1583
v/s Ratio Prot	c0.08	0.12		0.01	c0.16		c0.16	c0.55		0.03	0.35	
v/s Ratio Perm	0.17		0.04	0.03		0.01			0.02			0.16
v/c Ratio	0.84	0.57	0.20	0.18	0.95	0.06	0.98	0.97	0.03	0.70	0.82	0.16
Uniform Delay, d1	61.6	73.7	67.4	68.7	87.1	74.2	87.1	44.4	20.6	99.5	52.5	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.07	0.65	1.00	1.09	0.78	1.00
Incremental Delay, d2	25.8	2.0	0.3	0.4	39.1	0.1	14.3	5.6	0.0	21.8	3.9	0.2
Delay (s)	87.5	75.7	67.7	69.1	126.2	74.3	107.7	34.4	20.6	130.0	45.1	0.2
Level of Service	F	E	E	E	F	E	F	C	C	F	D	A
Approach Delay (s)		75.0			109.6			50.3			40.3	
Approach LOS		E			F			D			D	





























Intersection Summary

HCM 2000 Control Delay	55.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
6021: Fairfax County Parkway & Fox Mill Rd

Fairfax County Parkway Study  
Existing Conditions

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 			 		
Traffic Volume (vph)	100	350	230	110	390	190	220	1840	130	170	1220	40	
Future Volume (vph)	100	350	230	110	390	190	220	1840	130	170	1220	40	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	8.5	8.5	10.0	8.5	8.5	9.0	10.0	6.5	8.5	9.0	6.5	8.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583	
Flt Permitted	0.20	1.00	1.00	0.26	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	372	3539	1583	480	3539	1583	1770	3539	1583	1770	3539	1583	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	100	350	230	110	390	190	220	1840	130	170	1220	40	
RTOR Reduction (vph)	0	0	55	0	0	90	0	0	27	0	0	16	
Lane Group Flow (vph)	100	350	175	110	390	100	220	1840	103	170	1220	24	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3	
Permitted Phases	8		8	4		4			6			2	
Actuated Green, G (s)	38.3	24.4	52.8	38.9	24.7	43.6	28.4	120.0	134.2	18.9	109.5	123.4	
Effective Green, g (s)	38.3	24.4	52.8	38.9	24.7	43.6	28.4	120.0	134.2	18.9	109.5	123.4	
Actuated g/C Ratio	0.18	0.12	0.25	0.19	0.12	0.21	0.14	0.57	0.64	0.09	0.52	0.59	
Clearance Time (s)	8.5	8.5	10.0	8.5	8.5	9.0	10.0	6.5	8.5	9.0	6.5	8.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	160	411	398	176	416	328	239	2022	1011	159	1845	930	
v/s Ratio Prot	0.04	0.10	0.06	c0.04	c0.11	0.03	c0.12	c0.52	0.01	0.10	0.34	0.00	
v/s Ratio Perm	0.07		0.05	0.07		0.04			0.06			0.01	
v/c Ratio	0.62	0.85	0.44	0.62	0.94	0.30	0.92	0.91	0.10	1.07	0.66	0.03	
Uniform Delay, d1	75.0	91.0	66.1	74.8	91.9	70.4	89.7	40.2	14.6	95.5	36.7	18.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.35	0.41	0.07	0.78	1.09	1.00	
Incremental Delay, d2	7.4	15.5	0.8	6.8	28.6	0.5	19.7	3.3	0.0	79.6	1.3	0.0	
Delay (s)	82.4	106.5	66.9	81.5	120.5	70.9	141.1	19.9	1.0	154.5	41.4	18.1	
Level of Service	F	F	E	F	F	E	F	B	A	F	D	B	
Approach Delay (s)		89.6			100.6			31.0			54.2		
Approach LOS		F			F			C			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			55.2									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.93										
Actuated Cycle Length (s)			210.0									Sum of lost time (s)	33.5
Intersection Capacity Utilization			106.0%									ICU Level of Service	G
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
6121: Fairfax County Parkway & Sunrise Valley Dr

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↖	↕↕	↗	↔↔	↑↑	↗	↔↔	↑↑	↗
Traffic Volume (vph)	400	560	40	70	300	230	150	1495	470	570	1320	665
Future Volume (vph)	400	560	40	70	300	230	150	1495	470	570	1320	665
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	9.5	9.5	9.5	10.0	10.0	10.0	9.0	6.5	6.5	9.0	6.5	6.5
Lane Util. Factor	0.97	0.95	1.00	0.91	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1610	3386	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1610	3386	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	400	560	40	70	300	230	150	1495	470	570	1320	665
RTOR Reduction (vph)	0	0	33	0	0	175	0	0	155	0	0	266
Lane Group Flow (vph)	400	560	7	63	307	55	150	1495	315	570	1320	399
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			2
Actuated Green, G (s)	34.8	34.8	34.8	19.2	19.2	19.2	13.4	88.0	88.0	33.0	107.6	107.6
Effective Green, g (s)	34.8	34.8	34.8	19.2	19.2	19.2	13.4	88.0	88.0	33.0	107.6	107.6
Actuated g/C Ratio	0.17	0.17	0.17	0.09	0.09	0.09	0.06	0.42	0.42	0.16	0.51	0.51
Clearance Time (s)	9.5	9.5	9.5	10.0	10.0	10.0	9.0	6.5	6.5	9.0	6.5	6.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	568	586	262	147	309	144	219	1483	663	539	1813	811
v/s Ratio Prot	0.12	c0.16		0.04	c0.09		0.04	c0.42		c0.17	0.37	
v/s Ratio Perm			0.00			0.03			0.20			0.25
v/c Ratio	0.70	0.96	0.03	0.43	0.99	0.38	0.68	1.01	0.48	1.06	0.73	0.49
Uniform Delay, d1	82.7	86.8	73.4	90.2	95.3	89.8	96.2	61.0	44.3	88.5	39.8	33.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.11	0.64	0.52	1.06	1.06	1.58
Incremental Delay, d2	3.2	26.1	0.0	0.7	49.1	0.6	3.5	18.5	1.2	48.7	1.8	1.5
Delay (s)	86.0	112.9	73.4	90.9	144.5	90.4	110.4	57.8	24.2	142.8	44.2	54.1
Level of Service	F	F	E	F	F	F	F	E	C	F	D	D
Approach Delay (s)		100.6			118.1			54.0			68.8	
Approach LOS		F			F			D			E	

Intersection Summary

HCM 2000 Control Delay	73.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	35.0
Intersection Capacity Utilization	110.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
6221: Fairfax County Parkway & Dulles Toll Rd EB Off-Ramp

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	745	0	320	0	0	0	0	1695	420	800	2230	0
Future Volume (vph)	745	0	320	0	0	0	0	1695	420	800	2230	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	9.0	9.0	9.0					6.0	4.0	7.5	6.0	
Lane Util. Factor	0.95	0.91	0.95					0.91	1.00	0.97	0.91	
Frt	1.00	0.99	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1601	1504					5085	1583	3433	5085	
Flt Permitted	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1601	1504					5085	1583	3433	5085	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	745	0	320	0	0	0	0	1695	420	800	2230	0
RTOR Reduction (vph)	0	83	83	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	387	307	205	0	0	0	0	1695	420	800	2230	0
Turn Type	Split	NA	Perm					NA	Free	Prot	NA	
Protected Phases	3	3						6		5	2	
Permitted Phases			3						Free			
Actuated Green, G (s)	25.0	25.0	25.0					35.5	105.0	22.0	65.0	
Effective Green, g (s)	25.0	25.0	25.0					35.5	105.0	22.0	65.0	
Actuated g/C Ratio	0.24	0.24	0.24					0.34	1.00	0.21	0.62	
Clearance Time (s)	9.0	9.0	9.0					6.0		7.5	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					2.0		2.0	2.0	
Lane Grp Cap (vph)	400	381	358					1719	1583	719	3147	
v/s Ratio Prot	c0.23	0.19						c0.33		c0.23	0.44	
v/s Ratio Perm			0.14						0.27			
v/c Ratio	0.97	0.81	0.57					0.99	0.27	1.11	0.71	
Uniform Delay, d1	39.6	37.7	35.3					34.5	0.0	41.5	13.6	
Progression Factor	1.00	1.00	1.00					1.92	1.00	1.53	0.74	
Incremental Delay, d2	36.1	11.7	2.2					10.6	0.2	52.8	0.5	
Delay (s)	75.7	49.5	37.5					76.9	0.2	116.4	10.5	
Level of Service	E	D	D					E	A	F	B	
Approach Delay (s)		55.8			0.0			61.7			38.5	
Approach LOS		E			A			E			D	

Intersection Summary

HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
7021: Fairfax County Parkway & Wiehle Ave

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↗	↘	↙	↗	↘	↙	↗	↘	↙	↗	↘
Traffic Volume (vph)	30	450	480	60	150	100	110	390	60	320	2095	40
Future Volume (vph)	30	450	480	60	150	100	110	390	60	320	2095	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	6.5	10.0	6.5	7.0	11.0	10.0	6.5	6.5	11.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	450	480	60	150	100	110	390	60	320	2095	40
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	47	0	0	19
Lane Group Flow (vph)	30	450	480	60	150	100	110	390	13	320	2095	21
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	7.6	33.9	49.8	11.9	37.2	110.7	15.9	40.2	40.2	73.5	98.8	98.8
Effective Green, g (s)	7.6	33.9	49.8	11.9	37.2	110.7	15.9	40.2	40.2	73.5	98.8	98.8
Actuated g/C Ratio	0.04	0.18	0.26	0.06	0.20	0.58	0.08	0.21	0.21	0.39	0.52	0.52
Clearance Time (s)	7.0	6.5	10.0	6.5	7.0	11.0	10.0	6.5	6.5	11.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	70	631	414	110	692	922	148	748	334	684	1840	823
v/s Ratio Prot	0.02	0.13	c0.10	c0.03	c0.04	0.04	0.06	0.11		0.18	c0.59	
v/s Ratio Perm			0.21			0.02			0.01			0.01
v/c Ratio	0.43	0.71	1.16	0.55	0.22	0.11	0.74	0.52	0.04	0.47	1.14	0.03
Uniform Delay, d1	89.1	73.5	70.1	86.4	64.2	17.7	85.1	66.4	59.5	43.6	45.6	22.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.22	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	3.8	95.5	5.4	0.2	0.1	17.9	2.6	0.2	2.3	69.6	0.1
Delay (s)	93.3	77.3	165.6	91.9	64.3	17.7	86.5	83.4	59.7	45.9	115.2	22.2
Level of Service	F	E	F	F	E	B	F	F	E	D	F	C
Approach Delay (s)		121.9			54.6			81.5			104.6	
Approach LOS		F			D			F			F	

Intersection Summary

HCM 2000 Control Delay	101.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	190.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	111.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

# Fairfax County Parkway Study

7521: Bonniemill Ln/Spring Village Dr/Bonnie & Franconia Springfield Pkwy

Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	80	3355	30	60	860	130	50	10	190	80	10	50
Future Volume (vph)	80	3355	30	60	860	130	50	10	190	80	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	11	12	12
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1577	1770	5085	1577	1770	1863	1583	1711	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00
Satd. Flow (perm)	1770	5085	1577	1770	5085	1577	1399	1863	1583	1352	1863	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	3355	30	60	860	130	50	10	190	80	10	50
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	62	0	0	45
Lane Group Flow (vph)	80	3355	30	60	860	101	50	10	128	80	10	5
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases			2			6	4		4	8		8
Actuated Green, G (s)	16.8	235.3	235.3	13.2	231.7	231.7	28.5	28.5	28.5	28.5	28.5	28.5
Effective Green, g (s)	16.8	235.3	235.3	13.2	231.7	231.7	28.5	28.5	28.5	28.5	28.5	28.5
Actuated g/C Ratio	0.06	0.79	0.79	0.04	0.78	0.78	0.10	0.10	0.10	0.10	0.10	0.10
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	99	4015	1245	78	3953	1226	133	178	151	129	178	151
v/s Ratio Prot	c0.05	c0.66		0.03	0.17			0.01			0.01	
v/s Ratio Perm			0.02			0.06	0.04		c0.08	0.06		0.00
v/c Ratio	0.81	0.84	0.02	0.77	0.22	0.08	0.38	0.06	0.85	0.62	0.06	0.03
Uniform Delay, d1	139.0	19.4	6.7	140.9	8.9	7.9	126.4	122.5	132.6	129.5	122.5	122.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	34.9	1.7	0.0	32.7	0.0	0.0	1.8	0.1	32.9	8.9	0.1	0.1
Delay (s)	173.9	21.1	6.7	173.6	8.9	7.9	128.2	122.7	165.4	138.5	122.7	122.3
Level of Service	F	C	A	F	A	A	F	F	F	F	F	F
Approach Delay (s)		24.5			18.2			156.3			131.6	
Approach LOS		C			B			F			F	

## Intersection Summary

HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	298.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	98.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
8121: Beulah Street & Franconia Springfield Pkwy

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↗	↕	↖	↖↗	↕	↖	↖↗	↕	↖
Traffic Volume (vph)	600	800	425	90	900	170	720	615	110	110	295	300
Future Volume (vph)	600	800	425	90	900	170	720	615	110	110	295	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%				0%
Total Lost time (s)	7.0	8.0	8.0	7.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3416	3522	1575	1770	3539	1577	3433	3539	1577	3433	3539	1577
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3416	3522	1575	1770	3539	1577	3433	3539	1577	3433	3539	1577
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	600	800	425	90	900	170	720	615	110	110	295	300
RTOR Reduction (vph)	0	0	238	0	0	113	0	0	84	0	0	237
Lane Group Flow (vph)	600	800	187	90	900	57	720	615	26	110	295	63
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	1	0	0	1
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	29.8	69.7	69.7	13.3	53.2	53.2	34.0	37.4	37.4	10.6	14.0	14.0
Effective Green, g (s)	29.8	69.7	69.7	13.3	53.2	53.2	34.0	37.4	37.4	10.6	14.0	14.0
Actuated g/C Ratio	0.19	0.44	0.44	0.08	0.33	0.33	0.21	0.23	0.23	0.07	0.09	0.09
Clearance Time (s)	7.0	8.0	8.0	7.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	4.0	2.0	2.0	3.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	636	1534	686	147	1176	524	729	827	368	227	309	137
v/s Ratio Prot	c0.18	0.23		0.05	c0.25		c0.21	0.17		0.03	c0.08	
v/s Ratio Perm			0.12			0.04			0.02			0.04
v/c Ratio	0.94	0.52	0.27	0.61	0.77	0.11	0.99	0.74	0.07	0.48	0.95	0.46
Uniform Delay, d1	64.3	33.0	28.9	70.9	47.8	37.0	62.8	56.9	47.8	72.1	72.7	69.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	22.8	1.3	1.0	7.3	4.8	0.4	29.9	3.6	0.1	1.6	38.9	2.4
Delay (s)	87.1	34.2	29.9	78.2	52.6	37.4	92.7	60.5	47.8	73.7	111.5	71.8
Level of Service	F	C	C	E	D	D	F	E	D	E	F	E
Approach Delay (s)		50.6			52.3			75.6			88.7	
Approach LOS		D			D			E			F	

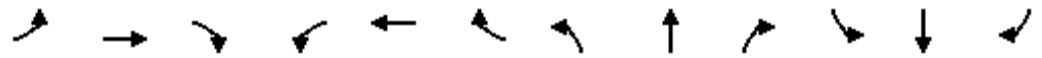
Intersection Summary

HCM 2000 Control Delay	63.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 3121: Fairfax County Parkway & Huntsman Blvd

Fairfax County Parkway Study  
 Existing Conditions



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	70	40	20	235	40	250	20	2575	110	170	1535	50
Future Volume (vph)	70	40	20	235	40	250	20	2575	110	170	1535	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			0%			1%				-1%
Total Lost time (s)	7.0	7.0		6.5	6.5	6.5	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1734	1734		1681	1709	1583	1761	3522	1575	1778	3557	1591
Flt Permitted	0.95	1.00		0.95	0.97	1.00	0.13	1.00	1.00	0.02	1.00	1.00
Satd. Flow (perm)	1734	1734		1681	1709	1583	240	3522	1575	47	3557	1591
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	40	20	235	40	250	20	2575	110	170	1535	50
RTOR Reduction (vph)	0	8	0	0	0	39	0	0	40	0	0	15
Lane Group Flow (vph)	70	52	0	136	139	211	20	2575	70	170	1535	35
Turn Type	Split	NA		Split	NA	pt+ov	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	3		4	4	4	5	2		1	6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	11.7	11.7		26.1	26.1	54.2	158.7	153.1	153.1	181.7	169.1	169.1
Effective Green, g (s)	11.7	11.7		26.1	26.1	54.2	158.7	153.1	153.1	181.7	169.1	169.1
Actuated g/C Ratio	0.05	0.05		0.11	0.11	0.23	0.66	0.64	0.64	0.76	0.70	0.70
Clearance Time (s)	7.0	7.0		6.5	6.5		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	84	84		182	185	357	194	2246	1004	191	2506	1120
v/s Ratio Prot	c0.04	0.03		0.08	c0.08	0.13	0.00	c0.73		c0.08	0.43	
v/s Ratio Perm							0.07		0.04	0.60		0.02
v/c Ratio	0.83	0.62		0.75	0.75	0.59	0.10	1.15	0.07	0.89	0.61	0.03
Uniform Delay, d1	113.2	112.0		103.8	103.8	83.0	16.6	43.5	16.5	95.0	18.4	10.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.84	1.36	10.31
Incremental Delay, d2	47.7	13.5		15.4	15.7	2.6	0.2	71.7	0.1	32.0	0.9	0.0
Delay (s)	160.9	125.5		119.1	119.5	85.6	16.8	115.1	16.6	111.6	26.1	110.5
Level of Service	F	F		F	F	F	B	F	B	F	C	F
Approach Delay (s)		144.6			103.3			110.4			36.8	
Approach LOS		F			F			F			D	

Intersection Summary		
HCM 2000 Control Delay	85.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.05	F
Actuated Cycle Length (s)	240.0	Sum of lost time (s)
Intersection Capacity Utilization	111.9%	ICU Level of Service
Analysis Period (min)	15	H
c Critical Lane Group		



HCM Signalized Intersection Capacity Analysis  
3721: Fairfax County Parkway & Burke Lake Rd

Fairfax County Parkway Study  
Existing Conditions

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	50	120	40	70	355	205	120	2420	30	160	1825	80	
Future Volume (vph)	50	120	40	70	355	205	120	2420	30	160	1825	80	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		4%			0%			2%			0%		
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.5	7.5	7.0	7.5	7.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1734	3468	1552	1770	3539	1583	1752	3504	1567	1770	3539	1583	
Flt Permitted	0.19	1.00	1.00	0.57	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	344	3468	1552	1053	3539	1583	1752	3504	1567	1770	3539	1583	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	50	120	40	70	355	205	120	2420	30	160	1825	80	
RTOR Reduction (vph)	0	0	32	0	0	42	0	0	11	0	0	28	
Lane Group Flow (vph)	50	120	8	70	355	163	120	2420	19	160	1825	52	
Turn Type	pm+pt	NA	pt+ov	pm+pt	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	3	8	8 5	7	4	1	5	2		1	6		
Permitted Phases	8			4		4			2			6	
Actuated Green, G (s)	31.5	21.2	48.8	37.5	24.2	47.6	20.6	153.6	153.6	23.4	156.4	156.4	
Effective Green, g (s)	31.5	21.2	48.8	37.5	24.2	47.6	20.6	153.6	153.6	23.4	156.4	156.4	
Actuated g/C Ratio	0.13	0.09	0.20	0.16	0.10	0.20	0.09	0.64	0.64	0.10	0.65	0.65	
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.5	7.5	7.0	7.5	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	104	306	315	204	356	360	150	2242	1002	172	2306	1031	
v/s Ratio Prot	c0.02	0.03	0.01	0.02	c0.10	0.04	0.07	c0.69		c0.09	c0.52		
v/s Ratio Perm	0.04			0.03		0.06			0.01			0.03	
v/c Ratio	0.48	0.39	0.03	0.34	1.00	0.45	0.80	1.08	0.02	0.93	0.79	0.05	
Uniform Delay, d1	93.7	103.3	76.6	89.0	107.9	84.7	107.7	43.2	15.7	107.5	30.1	15.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.23	0.43	1.00	1.08	0.83	0.40	
Incremental Delay, d2	3.5	0.8	0.0	1.0	46.6	0.9	13.8	40.4	0.0	40.9	2.2	0.1	
Delay (s)	97.2	104.1	76.6	90.0	154.5	85.7	146.2	59.1	15.8	157.1	27.1	6.1	
Level of Service	F	F	E	F	F	F	F	E	B	F	C	A	
Approach Delay (s)		97.3			124.9			62.7			36.4		
Approach LOS		F			F			E			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			61.2									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.02										
Actuated Cycle Length (s)			240.0									Sum of lost time (s)	28.5
Intersection Capacity Utilization			113.5%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis  
 5321: Fairfax County Parkway & Rt 50 EB Off-Ramp

Fairfax County Parkway Study  
 Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘							↑↑↑	↘		↑↑↑	
Traffic Volume (vph)	40	0	0	0	0	0	0	2410	90	0	2990	0
Future Volume (vph)	40	0	0	0	0	0	0	2410	90	0	2990	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	7.5							6.0	6.0		6.5	
Lane Util. Factor	1.00							0.86	1.00		0.91	
Frt	1.00							1.00	0.85		1.00	
Flt Protected	0.95							1.00	1.00		1.00	
Satd. Flow (prot)	2006							6408	1583		5085	
Flt Permitted	0.95							1.00	1.00		1.00	
Satd. Flow (perm)	2006							6408	1583		5085	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	0	0	0	0	0	0	2410	90	0	2990	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	15	0	0	0
Lane Group Flow (vph)	40	0	0	0	0	0	0	2410	75	0	2990	0
Turn Type	Prot							NA	Perm		NA	
Protected Phases	4							2			6	
Permitted Phases									2			
Actuated Green, G (s)	4.7							91.8	91.8		91.3	
Effective Green, g (s)	4.7							91.8	91.8		91.3	
Actuated g/C Ratio	0.04							0.83	0.83		0.83	
Clearance Time (s)	7.5							6.0	6.0		6.5	
Vehicle Extension (s)	2.0							4.0	4.0		4.0	
Lane Grp Cap (vph)	85							5347	1321		4220	
v/s Ratio Prot	c0.02							0.38			c0.59	
v/s Ratio Perm									0.05			
v/c Ratio	0.47							0.45	0.06		0.71	
Uniform Delay, d1	51.4							2.4	1.6		3.9	
Progression Factor	1.00							1.00	1.00		0.26	
Incremental Delay, d2	1.5							0.3	0.1		0.6	
Delay (s)	52.9							2.7	1.7		1.6	
Level of Service	D							A	A		A	
Approach Delay (s)		52.9			0.0			2.7			1.6	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	2.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
5322: Fairfax County Parkway & Rt 50 WB Off-Ramp



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←←		↑↑↑			↑↑↑
Traffic Volume (vph)	175	0	1710	0	0	3220
Future Volume (vph)	175	0	1710	0	0	3220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5		6.5			6.0
Lane Util. Factor	0.97		0.91			0.91
Frt	1.00		1.00			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	3433		5085			5085
Flt Permitted	0.95		1.00			1.00
Satd. Flow (perm)	3433		5085			5085
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	175	0	1710	0	0	3220
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	175	0	1710	0	0	3220
Turn Type	Prot		NA			NA
Protected Phases	4		2			6
Permitted Phases						
Actuated Green, G (s)	10.1		85.9			86.4
Effective Green, g (s)	10.1		85.9			86.4
Actuated g/C Ratio	0.09		0.78			0.79
Clearance Time (s)	7.5		6.5			6.0
Vehicle Extension (s)	2.0		4.0			4.0
Lane Grp Cap (vph)	315		3970			3994
v/s Ratio Prot	c0.05		0.34			c0.63
v/s Ratio Perm						
v/c Ratio	0.56		0.43			0.81
Uniform Delay, d1	47.8		4.0			6.9
Progression Factor	1.00		0.92			0.94
Incremental Delay, d2	1.2		0.3			0.7
Delay (s)	49.0		4.0			7.2
Level of Service	D		A			A
Approach Delay (s)	49.0		4.0			7.2
Approach LOS	D		A			A






























Intersection Summary

HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
5421: Fairfax County Parkway & Rugby Rd

Fairfax County Parkway Study  
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  			  	
Traffic Volume (vph)	40	120	50	465	320	140	40	1765	340	90	2725	110
Future Volume (vph)	40	120	50	465	320	140	40	1765	340	90	2725	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	5.5	5.5	7.5	6.5	8.0	9.0	6.5	7.5	8.0	6.0	7.5
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	1770	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	3433	1863	1583	1770	5085	1583	1770	5085	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	120	50	465	320	140	40	1765	340	90	2725	110
RTOR Reduction (vph)	0	0	44	0	0	41	0	0	96	0	0	34
Lane Group Flow (vph)	40	120	6	465	320	99	40	1765	244	90	2725	76
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4	5	1	6	7	5	2	3
Permitted Phases			8			4			6			2
Actuated Green, G (s)	8.9	24.5	24.5	23.5	38.1	56.2	8.7	126.4	149.9	18.1	135.3	144.2
Effective Green, g (s)	8.9	24.5	24.5	23.5	38.1	56.2	8.7	126.4	149.9	18.1	135.3	144.2
Actuated g/C Ratio	0.04	0.11	0.11	0.11	0.17	0.26	0.04	0.57	0.68	0.08	0.62	0.66
Clearance Time (s)	7.5	5.5	5.5	7.5	6.5	8.0	9.0	6.5	7.5	8.0	6.0	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	71	207	176	366	322	404	69	2921	1078	145	3127	1037
v/s Ratio Prot	0.02	0.06		c0.14	c0.17	0.02	0.02	0.35	0.02	c0.05	c0.54	0.00
v/s Ratio Perm			0.00			0.04			0.13			0.04
v/c Ratio	0.56	0.58	0.03	1.27	0.99	0.25	0.58	0.60	0.23	0.62	0.87	0.07
Uniform Delay, d1	103.6	92.9	87.2	98.2	90.8	65.1	103.9	30.5	13.2	97.6	35.1	13.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.89	3.44	1.25	0.27	0.15
Incremental Delay, d2	9.8	3.9	0.1	141.6	48.2	0.7	16.7	0.9	0.1	1.1	0.3	0.0
Delay (s)	113.5	96.8	87.2	239.8	139.1	65.7	115.9	27.9	45.5	122.9	9.9	2.1
Level of Service	F	F	F	F	F	E	F	C	D	F	A	A
Approach Delay (s)		97.7			178.6			32.3			13.1	
Approach LOS		F			F			C			B	

Intersection Summary

HCM 2000 Control Delay	47.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 5531: Fairfax County Parkway & Old Plains Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕↕	↕↕	↗
Traffic Volume (veh/h)	0	30	0	1935	2885	50
Future Volume (Veh/h)	0	30	0	1935	2885	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	30	0	1935	2885	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3852	1442	2935			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3852	1442	2935			
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	75	100			
cM capacity (veh/h)	3	122	120			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	30	968	968	1442	1442	50
Volume Left	0	0	0	0	0	0
Volume Right	30	0	0	0	0	50
cSH	122	1700	1700	1700	1700	1700
Volume to Capacity	0.25	0.57	0.57	0.85	0.85	0.03
Queue Length 95th (ft)	23	0	0	0	0	0
Control Delay (s)	44.1	0.0	0.0	0.0	0.0	0.0
Lane LOS	E					
Approach Delay (s)	44.1	0.0		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			89.7%		ICU Level of Service	E
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis  
5821: Fairfax County Parkway & Franklin Farm Rd

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	270	590	90	315	30	335	1605	80	30	2310	240
Future Volume (vph)	150	270	590	90	315	30	335	1605	80	30	2310	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0		9.5	6.5	8.0	8.0	6.5	8.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3493		3433	3539	1583	1770	3539	1583
Flt Permitted	0.17	1.00	1.00	0.18	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	310	1863	1583	339	3493		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	150	270	590	90	315	30	335	1605	80	30	2310	240
RTOR Reduction (vph)	0	0	94	0	4	0	0	0	23	0	0	21
Lane Group Flow (vph)	150	270	496	90	341	0	335	1605	57	30	2310	219
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases	8		8	4					6			2
Actuated Green, G (s)	41.0	25.5	25.5	34.0	22.0		17.0	144.1	156.1	7.9	133.5	149.0
Effective Green, g (s)	41.0	25.5	25.5	34.0	22.0		17.0	144.1	156.1	7.9	133.5	149.0
Actuated g/C Ratio	0.19	0.12	0.12	0.15	0.10		0.08	0.65	0.71	0.04	0.61	0.68
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0		9.5	6.5	8.0	8.0	6.5	8.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	160	215	183	130	349		265	2318	1123	63	2147	1072
v/s Ratio Prot	c0.07	0.14		0.04	0.10		c0.10	c0.45	0.00	0.02	c0.65	0.01
v/s Ratio Perm	0.11		c0.31	0.07					0.03			0.12
v/c Ratio	0.94	1.26	2.71	0.69	0.98		1.26	0.69	0.05	0.48	1.08	0.20
Uniform Delay, d1	81.5	97.2	97.2	83.6	98.8		101.5	24.0	9.6	104.0	43.2	13.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.72	1.46	3.90	1.23	0.49	0.23
Incremental Delay, d2	52.4	147.2	785.7	14.8	41.8		136.6	1.1	0.0	0.5	35.2	0.0
Delay (s)	133.9	244.5	882.9	98.4	140.6		209.6	36.1	37.5	128.5	56.6	3.1
Level of Service	F	F	F	F	F		F	D	D	F	E	A
Approach Delay (s)		601.0			131.9			65.0			52.4	
Approach LOS		F			F			E			D	

























Intersection Summary

HCM 2000 Control Delay	154.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
5921: Fairfax County Parkway & West Ox Rd

Fairfax County Parkway Study  
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	350	450	50	200	90	345	1375	70	150	2085	245
Future Volume (vph)	230	350	450	50	200	90	345	1375	70	150	2085	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	9.5	6.5	6.5	8.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.13	1.00	1.00	0.17	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	242	1863	1583	324	1863	1583	3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	230	350	450	50	200	90	345	1375	70	150	2085	245
RTOR Reduction (vph)	0	0	159	0	0	81	0	0	31	0	0	0
Lane Group Flow (vph)	230	350	291	50	200	9	345	1375	39	150	2085	245
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Free
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4			6			Free
Actuated Green, G (s)	54.5	36.4	36.4	33.1	23.0	23.0	20.0	122.6	122.6	20.4	122.0	220.0
Effective Green, g (s)	54.5	36.4	36.4	33.1	23.0	23.0	20.0	122.6	122.6	20.4	122.0	220.0
Actuated g/C Ratio	0.25	0.17	0.17	0.15	0.10	0.10	0.09	0.56	0.56	0.09	0.55	1.00
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	9.5	6.5	6.5	8.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	223	308	261	115	194	165	312	1972	882	164	1962	1583
v/s Ratio Prot	c0.11	c0.19		0.02	0.11		c0.10	0.39		0.08	c0.59	
v/s Ratio Perm	0.15		0.18	0.05		0.01			0.02			c0.15
v/c Ratio	1.03	1.14	1.12	0.43	1.03	0.06	1.11	0.70	0.04	0.91	1.06	0.15
Uniform Delay, d1	73.3	91.8	91.8	82.5	98.5	88.7	100.0	35.3	22.1	98.9	49.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.21	1.00	1.26	0.46	1.00
Incremental Delay, d2	68.7	93.4	90.7	2.6	72.9	0.1	74.3	1.4	0.1	20.7	32.5	0.1
Delay (s)	142.0	185.2	182.5	85.2	171.4	88.9	163.9	44.3	22.2	145.1	54.9	0.1
Level of Service	F	F	F	F	F	F	F	D	C	F	D	A
Approach Delay (s)		174.3			136.9			66.5			54.9	
Approach LOS		F			F			E			D	

























Intersection Summary

HCM 2000 Control Delay	85.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	117.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
6021: Fairfax County Parkway & Fox Mill Rd

Fairfax County Parkway Study  
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	455	380	80	340	180	165	1420	120	245	2020	180
Future Volume (vph)	90	455	380	80	340	180	165	1420	120	245	2020	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5	10.0	8.5	8.5	9.0	10.0	6.5	8.5	9.0	6.5	8.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.25	1.00	1.00	0.16	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	473	3539	1583	300	3539	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	90	455	380	80	340	180	165	1420	120	245	2020	180
RTOR Reduction (vph)	0	0	47	0	0	49	0	0	30	0	0	28
Lane Group Flow (vph)	90	455	333	80	340	131	165	1420	90	245	2020	152
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases	8		8	4		4			6			2
Actuated Green, G (s)	38.5	25.3	46.8	37.5	24.8	52.3	21.5	122.0	134.7	27.5	127.0	140.2
Effective Green, g (s)	38.5	25.3	46.8	37.5	24.8	52.3	21.5	122.0	134.7	27.5	127.0	140.2
Actuated g/C Ratio	0.18	0.12	0.21	0.17	0.11	0.24	0.10	0.55	0.61	0.12	0.58	0.64
Clearance Time (s)	8.5	8.5	10.0	8.5	8.5	9.0	10.0	6.5	8.5	9.0	6.5	8.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	160	406	336	135	398	376	172	1962	969	221	2042	1008
v/s Ratio Prot	0.03	c0.13	0.10	c0.03	0.10	0.04	0.09	0.40	0.01	c0.14	c0.57	0.01
v/s Ratio Perm	0.06		0.11	0.07		0.04			0.05			0.09
v/c Ratio	0.56	1.12	0.99	0.59	0.85	0.35	0.96	0.72	0.09	1.11	0.99	0.15
Uniform Delay, d1	79.3	97.3	86.4	80.3	95.8	69.7	98.8	36.5	17.5	96.2	45.8	16.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.43	0.69	0.05	1.06	0.67	0.34
Incremental Delay, d2	4.5	81.7	46.4	6.8	16.2	0.6	44.8	1.6	0.0	55.5	4.0	0.0
Delay (s)	83.8	179.0	132.7	87.1	112.0	70.3	185.9	26.9	0.8	157.1	34.8	5.5
Level of Service	F	F	F	F	F	E	F	C	A	F	C	A
Approach Delay (s)		150.7			96.2			40.4			44.9	
Approach LOS		F			F			D			D	

Intersection Summary

HCM 2000 Control Delay	66.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	33.5
Intersection Capacity Utilization	109.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis  
6121: Fairfax County Parkway & Sunrise Valley Dr

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗	↘	↖	↗↗	↘	↖↖	↗↗	↘	↖↖	↗↗	↘
Traffic Volume (vph)	460	360	180	375	475	550	80	1500	100	220	1885	460
Future Volume (vph)	460	360	180	375	475	550	80	1500	100	220	1885	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	9.5	9.5	9.5	10.0	10.0	10.0	9.0	6.5	6.5	9.0	6.5	6.5
Lane Util. Factor	0.97	0.95	1.00	0.91	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1610	3361	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1610	3361	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	460	360	180	375	475	550	80	1500	100	220	1885	460
RTOR Reduction (vph)	0	0	135	0	0	127	0	0	55	0	0	125
Lane Group Flow (vph)	460	360	45	277	573	423	80	1500	45	220	1885	335
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			2
Actuated Green, G (s)	29.5	29.5	29.5	38.5	38.5	38.5	9.4	98.8	98.8	18.2	107.6	107.6
Effective Green, g (s)	29.5	29.5	29.5	38.5	38.5	38.5	9.4	98.8	98.8	18.2	107.6	107.6
Actuated g/C Ratio	0.13	0.13	0.13	0.18	0.18	0.18	0.04	0.45	0.45	0.08	0.49	0.49
Clearance Time (s)	9.5	9.5	9.5	10.0	10.0	10.0	9.0	6.5	6.5	9.0	6.5	6.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	460	474	212	281	588	277	146	1589	710	284	1730	774
v/s Ratio Prot	c0.13	0.10		0.17	0.17		0.02	0.42		c0.06	c0.53	
v/s Ratio Perm			0.03			c0.27			0.03			0.21
v/c Ratio	1.00	0.76	0.21	0.99	0.97	1.53	0.55	0.94	0.06	0.77	1.09	0.43
Uniform Delay, d1	95.2	91.8	84.9	90.5	90.3	90.8	103.2	58.0	34.4	98.9	56.2	36.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.87	1.00	0.82	0.67	0.98
Incremental Delay, d2	42.0	6.1	0.2	49.2	30.4	254.6	1.6	10.0	0.1	8.7	48.2	1.3
Delay (s)	137.2	98.0	85.1	139.7	120.6	345.4	104.1	60.4	34.5	90.1	85.8	36.9
Level of Service	F	F	F	F	F	F	F	E	C	F	F	D
Approach Delay (s)		113.7			212.7			61.0			77.4	
Approach LOS		F			F			E			E	

Intersection Summary

HCM 2000 Control Delay	107.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	35.0
Intersection Capacity Utilization	114.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
6221: Fairfax County Parkway & Dulles Toll Rd EB Off-Ramp

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗					↑↑↑	↗	↖↗	↑↑↑	
Traffic Volume (vph)	390	0	150	0	0	0	0	2255	250	325	2420	0
Future Volume (vph)	390	0	150	0	0	0	0	2255	250	325	2420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	9.0	9.0	9.0					6.0	4.0	7.5	6.0	
Lane Util. Factor	0.95	0.91	0.95					0.91	1.00	0.97	0.91	
Frt	1.00	0.99	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1602	1504					5085	1583	3433	5085	
Flt Permitted	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1602	1504					5085	1583	3433	5085	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	390	0	150	0	0	0	0	2255	250	325	2420	0
RTOR Reduction (vph)	0	87	87	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	203	115	48	0	0	0	0	2255	250	325	2420	0
Turn Type	Split	NA	Perm					NA	Free	Prot	NA	
Protected Phases	3	3						6		5	2	
Permitted Phases			3						Free			
Actuated Green, G (s)	17.7	17.7	17.7					55.1	110.0	14.7	77.3	
Effective Green, g (s)	17.7	17.7	17.7					55.1	110.0	14.7	77.3	
Actuated g/C Ratio	0.16	0.16	0.16					0.50	1.00	0.13	0.70	
Clearance Time (s)	9.0	9.0	9.0					6.0		7.5	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					2.0		2.0	2.0	
Lane Grp Cap (vph)	270	257	242					2547	1583	458	3573	
v/s Ratio Prot	c0.12	0.07						c0.44		0.09	c0.48	
v/s Ratio Perm			0.03						0.16			
v/c Ratio	0.75	0.45	0.20					0.89	0.16	0.71	0.68	
Uniform Delay, d1	44.1	41.7	40.0					24.6	0.0	45.6	9.3	
Progression Factor	1.00	1.00	1.00					0.90	1.00	0.62	1.36	
Incremental Delay, d2	11.2	1.2	0.4					0.5	0.0	1.0	0.4	
Delay (s)	55.3	43.0	40.4					22.6	0.0	29.3	13.0	
Level of Service	E	D	D					C	A	C	B	
Approach Delay (s)		46.9			0.0			20.3			15.0	
Approach LOS		D			A			C			B	

























Intersection Summary

HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
7021: Fairfax County Parkway & Wiehle Ave

Fairfax County Parkway Study  
Existing Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	165	190	50	505	370	400	1825	80	100	695	50
Future Volume (vph)	50	165	190	50	505	370	400	1825	80	100	695	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	6.5	10.0	6.5	7.0	11.0	10.0	6.5	6.5	11.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	165	190	50	505	370	400	1825	80	100	695	50
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	37	0	0	31
Lane Group Flow (vph)	50	165	190	50	505	370	400	1825	43	100	695	19
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	8.7	26.8	68.6	8.4	25.5	38.7	41.8	91.1	91.1	13.2	63.5	63.5
Effective Green, g (s)	8.7	26.8	68.6	8.4	25.5	38.7	41.8	91.1	91.1	13.2	63.5	63.5
Actuated g/C Ratio	0.05	0.16	0.40	0.05	0.15	0.23	0.25	0.54	0.54	0.08	0.37	0.37
Clearance Time (s)	7.0	6.5	10.0	6.5	7.0	11.0	10.0	6.5	6.5	11.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	90	557	638	87	530	360	435	1896	848	137	1321	591
v/s Ratio Prot	c0.03	0.05	0.07	0.03	0.14	c0.08	c0.23	c0.52		0.06	0.20	
v/s Ratio Perm			0.05			0.15			0.03			0.01
v/c Ratio	0.56	0.30	0.30	0.57	0.95	1.03	0.92	0.96	0.05	0.73	0.53	0.03
Uniform Delay, d1	78.8	63.3	34.4	79.1	71.7	65.7	62.5	37.8	18.8	76.7	41.5	33.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.15	0.28	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.2	0.3	0.3	8.9	27.5	54.7	10.0	5.7	0.0	17.6	1.5	0.1
Delay (s)	86.0	63.6	34.6	87.9	99.2	120.4	81.7	16.4	18.9	94.3	43.0	33.9
Level of Service	F	E	C	F	F	F	F	B	B	F	D	C
Approach Delay (s)		52.8			107.0			27.8			48.5	
Approach LOS		D			F			C			D	

Intersection Summary

HCM 2000 Control Delay	50.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	170.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Fairfax County Parkway Study

7521: Bonniemill Ln/Spring Village Dr/Bonnie & Franconia Springfield Pkwy

Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	40	1330	70	230	3620	90	40	0	140	120	20	80
Future Volume (vph)	40	1330	70	230	3620	90	40	0	140	120	20	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	11	12	12
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1577	1770	5085	1577	1770		1583	1711	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.74		1.00	0.76	1.00	1.00
Satd. Flow (perm)	1770	5085	1577	1770	5085	1577	1386		1583	1363	1863	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	1330	70	230	3620	90	40	0	140	120	20	80
RTOR Reduction (vph)	0	0	0	0	0	18	0	0	127	0	0	72
Lane Group Flow (vph)	40	1330	70	230	3620	72	40	0	13	120	20	8
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	0	0	0	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm		Perm	Perm	NA	Perm
Protected Phases	5	2		1 3	6			4			8	
Permitted Phases			2			6	4		4	8		8
Actuated Green, G (s)	7.8	120.5	120.5	50.8	170.5	170.5	20.7		20.7	20.7	20.7	20.7
Effective Green, g (s)	7.8	120.5	120.5	50.8	170.5	170.5	20.7		20.7	20.7	20.7	20.7
Actuated g/C Ratio	0.04	0.55	0.55	0.23	0.78	0.78	0.09		0.09	0.09	0.09	0.09
Clearance Time (s)	7.0	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	7.0
Vehicle Extension (s)	2.0	4.0	4.0		4.0	4.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	62	2785	863	408	3940	1222	130		148	128	175	148
v/s Ratio Prot	0.02	0.26		c0.13	c0.71						0.01	
v/s Ratio Perm			0.04			0.05	0.03		0.01	c0.09		0.00
v/c Ratio	0.65	0.48	0.08	0.56	0.92	0.06	0.31		0.09	0.94	0.11	0.05
Uniform Delay, d1	104.7	30.5	23.5	74.8	19.3	5.8	93.0		91.0	99.0	91.3	90.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	15.9	0.6	0.2	1.1	4.6	0.1	1.3		0.3	59.9	0.3	0.1
Delay (s)	120.7	31.1	23.7	75.9	23.9	5.9	94.3		91.3	158.9	91.5	90.9
Level of Service	F	C	C	E	C	A	F		F	F	F	F
Approach Delay (s)		33.2			26.6			92.0			128.0	
Approach LOS		C			C			F			F	

Intersection Summary

HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	104.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
8121: Beulah Street & Franconia Springfield Pkwy

Fairfax County Parkway Study  
Existing Conditions



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	370	1075	660	180	1185	165	600	440	180	330	620	285
Future Volume (vph)	370	1075	660	180	1185	165	600	440	180	330	620	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%				0%
Total Lost time (s)	7.0	8.0	8.0	7.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3416	3522	1575	1770	3539	1577	3433	3539	1577	3433	3539	1577
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3416	3522	1575	1770	3539	1577	3433	3539	1577	3433	3539	1577
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	370	1075	660	180	1185	165	600	440	180	330	620	285
RTOR Reduction (vph)	0	0	242	0	0	92	0	0	148	0	0	210
Lane Group Flow (vph)	370	1075	418	180	1185	73	600	440	32	330	620	75
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	1	0	0	1
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	25.6	78.0	78.0	19.0	71.4	71.4	29.0	32.0	32.0	22.0	25.0	25.0
Effective Green, g (s)	25.6	78.0	78.0	19.0	71.4	71.4	29.0	32.0	32.0	22.0	25.0	25.0
Actuated g/C Ratio	0.14	0.43	0.43	0.11	0.40	0.40	0.16	0.18	0.18	0.12	0.14	0.14
Clearance Time (s)	7.0	8.0	8.0	7.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	4.0	2.0	2.0	3.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	485	1526	682	186	1403	625	553	629	280	419	491	219
v/s Ratio Prot	0.11	c0.31		c0.10	c0.33		c0.17	c0.12		0.10	c0.18	
v/s Ratio Perm			0.27			0.05			0.02			0.05
v/c Ratio	0.76	0.70	0.61	0.97	0.84	0.12	1.08	0.70	0.11	0.79	1.26	0.34
Uniform Delay, d1	74.3	41.6	39.4	80.2	49.3	34.4	75.5	69.5	62.1	76.7	77.5	70.1
Progression Factor	0.95	1.00	1.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.3	2.7	4.0	56.0	6.4	0.4	63.3	3.4	0.2	9.5	133.8	0.9
Delay (s)	77.8	44.3	46.2	136.2	55.7	34.7	138.8	72.9	62.3	86.2	211.3	71.0
Level of Service	E	D	D	F	E	C	F	E	E	F	F	E
Approach Delay (s)		50.8			62.9			103.8			145.5	
Approach LOS		D			E			F			F	

**Intersection Summary**

HCM 2000 Control Delay	83.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 3121: Fairfax County Parkway & Huntsman Blvd

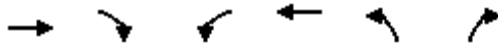
Fairfax County Parkway Study  
 Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗↘		↖↗	↗	↖	↖↗	↗
Traffic Volume (vph)	80	40	40	0	20	350	0	1730	150	110	2975	40
Future Volume (vph)	80	40	40	0	20	350	0	1730	150	110	2975	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			0%			1%				-1%
Total Lost time (s)	7.0	7.0			6.5	6.5		7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00			1.00	0.88		0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.93			1.00	0.85		1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1734	1689			1863	2787		3522	1575	1778	3557	1591
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	1734	1689			1863	2787		3522	1575	165	3557	1591
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	40	40	0	20	350	0	1730	150	110	2975	40
RTOR Reduction (vph)	0	5	0	0	0	74	0	0	44	0	0	8
Lane Group Flow (vph)	80	75	0	0	20	276	0	1730	106	110	2975	32
Turn Type	Prot	NA			NA	pt+ov		NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8			4	4 1		2		1	6	
Permitted Phases									2	6		6
Actuated Green, G (s)	11.0	27.1			9.6	29.6		148.9	148.9	168.9	168.9	168.9
Effective Green, g (s)	11.0	27.1			9.6	22.6		148.9	148.9	168.9	168.9	168.9
Actuated g/C Ratio	0.05	0.13			0.05	0.11		0.71	0.71	0.80	0.80	0.80
Clearance Time (s)	7.0	7.0			6.5			7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	90	217			85	299		2497	1116	232	2860	1279
v/s Ratio Prot	c0.05	0.04			0.01	c0.10		0.49		0.03	c0.84	
v/s Ratio Perm									0.07	0.35		0.02
v/c Ratio	0.89	0.34			0.24	0.92		0.69	0.10	0.47	1.04	0.03
Uniform Delay, d1	98.9	83.4			96.7	92.8		17.5	9.5	38.9	20.5	4.1
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	0.41	0.24	0.00
Incremental Delay, d2	59.2	1.0			1.4	32.5		1.6	0.2	0.1	19.5	0.0
Delay (s)	158.1	84.3			98.1	125.3		19.1	9.7	16.1	24.3	0.0
Level of Service	F	F			F	F		B	A	B	C	A
Approach Delay (s)		121.2			123.8			18.3			23.7	
Approach LOS		F			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	27.5
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
3122: Fairfax County Parkway



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑		
Traffic Volume (vph)	2920	0	200	1960	0	0
Future Volume (vph)	2920	0	200	1960	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%			0%	0%	
Total Lost time (s)	5.0		5.0	5.0		
Lane Util. Factor	0.95		1.00	0.95		
Frt	1.00		1.00	1.00		
Flt Protected	1.00		0.95	1.00		
Satd. Flow (prot)	3557		1770	3539		
Flt Permitted	1.00		0.95	1.00		
Satd. Flow (perm)	3557		1770	3539		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2920	0	200	1960	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	2920	0	200	1960	0	0
Turn Type	NA		Prot	NA		
Protected Phases	6		5	2 3		
Permitted Phases						
Actuated Green, G (s)	166.1		24.9	210.0		
Effective Green, g (s)	166.1		24.9	210.0		
Actuated g/C Ratio	0.79		0.12	1.00		
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	2813		209	3539		
v/s Ratio Prot	c0.82		c0.11	c0.55		
v/s Ratio Perm						
v/c Ratio	1.04		0.96	0.55		
Uniform Delay, d1	22.0		92.0	0.0		
Progression Factor	0.40		1.09	1.00		
Incremental Delay, d2	20.8		47.2	0.2		
Delay (s)	29.6		147.7	0.2		
Level of Service	C		F	A		
Approach Delay (s)	29.6			13.8	0.0	
Approach LOS	C			B	A	

Intersection Summary

HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 3721: Fairfax County Parkway & Burke Lake Rd

Fairfax County Parkway Study  
 Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↘	↑↑	↗	↘	↑↑	↗		↑↑↑	↗
Traffic Volume (vph)	0	320	210	40	90	140	50	2205	140	0	2565	70
Future Volume (vph)	0	320	210	40	90	140	50	2205	140	0	2565	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			0%			2%			0%	
Total Lost time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.5	7.5		7.5	7.5
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.91	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)		3468	1552	1770	3539	1583	1752	3504	1567		5085	1583
Flt Permitted		1.00	1.00	0.30	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)		3468	1552	554	3539	1583	1752	3504	1567		5085	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	320	210	40	90	140	50	2205	140	0	2565	70
RTOR Reduction (vph)	0	0	52	0	0	53	0	0	31	0	0	21
Lane Group Flow (vph)	0	320	158	40	90	87	50	2205	109	0	2565	49
Turn Type		NA	pm+ov	pm+pt	NA	Perm	Prot	NA	Perm		NA	Perm
Protected Phases		8	5	7	4		5	2			6	
Permitted Phases			8	4		4			2			6
Actuated Green, G (s)		20.0	29.0	31.7	31.7	31.7	9.0	163.8	163.8		147.8	147.8
Effective Green, g (s)		20.0	29.0	31.7	31.7	31.7	9.0	163.8	163.8		147.8	147.8
Actuated g/C Ratio		0.10	0.14	0.15	0.15	0.15	0.04	0.78	0.78		0.70	0.70
Clearance Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.5	7.5		7.5	7.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		330	266	110	534	238	75	2733	1222		3578	1114
v/s Ratio Prot		c0.09	0.03	0.01	0.03		0.03	c0.63			0.50	
v/s Ratio Perm			0.08	0.05		c0.06			0.07			0.03
v/c Ratio		0.97	0.60	0.36	0.17	0.37	0.67	0.81	0.09		0.72	0.04
Uniform Delay, d1		94.7	85.0	90.3	77.7	80.1	99.0	13.7	5.5		18.6	9.5
Progression Factor		1.00	1.00	1.00	1.00	1.00	0.88	0.73	2.12		0.92	2.51
Incremental Delay, d2		40.9	3.6	2.0	0.2	1.0	11.9	1.5	0.1		0.7	0.0
Delay (s)		135.6	88.5	92.3	77.8	81.1	99.0	11.6	11.7		17.9	23.9
Level of Service		F	F	F	E	F	F	B	B		B	C
Approach Delay (s)		116.9			81.7			13.4			18.1	
Approach LOS		F			F			B			B	

Intersection Summary		
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.85	C
Actuated Cycle Length (s)	210.0	Sum of lost time (s)
Intersection Capacity Utilization	91.9%	28.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		F



HCM Signalized Intersection Capacity Analysis  
3722: Fairfax County Parkway

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑		↘	↑↑
Traffic Volume (vph)	0	0	2140	0	250	2565
Future Volume (vph)	0	0	2140	0	250	2565
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			2%
Total Lost time (s)			5.0		5.0	5.0
Lane Util. Factor			0.95		1.00	0.95
Frt			1.00		1.00	1.00
Flt Protected			1.00		0.95	1.00
Satd. Flow (prot)			3504		1752	3504
Flt Permitted			1.00		0.95	1.00
Satd. Flow (perm)			3504		1752	3504
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	2140	0	250	2565
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	2140	0	250	2565
Turn Type			NA		Prot	NA
Protected Phases			2		1	3 6
Permitted Phases						
Actuated Green, G (s)			156.0		35.0	210.0
Effective Green, g (s)			156.0		35.0	210.0
Actuated g/C Ratio			0.74		0.17	1.00
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)			2602		292	3504
v/s Ratio Prot			c0.61		c0.14	c0.73
v/s Ratio Perm						
v/c Ratio			0.82		0.86	0.73
Uniform Delay, d1			17.8		85.1	0.0
Progression Factor			0.22		1.21	1.00
Incremental Delay, d2			2.1		18.2	0.7
Delay (s)			6.1		121.5	0.7
Level of Service			A		F	A
Approach Delay (s)	0.0		6.1			11.4
Approach LOS	A		A			B

Intersection Summary

HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
5321: Fairfax County Parkway & Rt 50 EB Off-Ramp

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖							↑↑↑	↗		↑↑↑	
Traffic Volume (vph)	70	0	0	0	0	0	0	3185	90	0	1675	0
Future Volume (vph)	70	0	0	0	0	0	0	3185	90	0	1675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	7.5							6.0	6.0		6.5	
Lane Util. Factor	1.00							0.86	1.00		0.91	
Frt	1.00							1.00	0.85		1.00	
Flt Protected	0.95							1.00	1.00		1.00	
Satd. Flow (prot)	2006							6408	1583		5085	
Flt Permitted	0.95							1.00	1.00		1.00	
Satd. Flow (perm)	2006							6408	1583		5085	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	0	0	0	0	0	0	3185	90	0	1675	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	18	0	0	0
Lane Group Flow (vph)	70	0	0	0	0	0	0	3185	72	0	1675	0
Turn Type	Prot							NA	Perm		NA	
Protected Phases	4							2			6	
Permitted Phases									2			
Actuated Green, G (s)	7.2							84.3	84.3		83.8	
Effective Green, g (s)	7.2							84.3	84.3		83.8	
Actuated g/C Ratio	0.07							0.80	0.80		0.80	
Clearance Time (s)	7.5							6.0	6.0		6.5	
Vehicle Extension (s)	2.0							4.0	4.0		4.0	
Lane Grp Cap (vph)	137							5144	1270		4058	
v/s Ratio Prot	c0.03							c0.50			0.33	
v/s Ratio Perm									0.05			
v/c Ratio	0.51							0.62	0.06		0.41	
Uniform Delay, d1	47.2							4.1	2.1		3.2	
Progression Factor	1.00							1.00	1.00		0.28	
Incremental Delay, d2	1.3							0.6	0.1		0.3	
Delay (s)	48.5							4.6	2.2		1.2	
Level of Service	D							A	A		A	
Approach Delay (s)		48.5			0.0			4.6			1.2	
Approach LOS		D			A			A			A	

Intersection Summary

HCM 2000 Control Delay	4.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
 5322: Fairfax County Parkway & Rt 50 WB Off-Ramp



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	390	2625	0	0	2055
Future Volume (vph)	60	390	2625	0	0	2055
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	5.0	6.5			6.0
Lane Util. Factor	0.97	0.88	0.91			0.91
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	5085			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	5085			5085
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	390	2625	0	0	2055
RTOR Reduction (vph)	0	5	0	0	0	0
Lane Group Flow (vph)	60	385	2625	0	0	2055
Turn Type	Prot	custom	NA			NA
Protected Phases	4	1 4	2			6
Permitted Phases						
Actuated Green, G (s)	7.8	22.8	68.2			83.7
Effective Green, g (s)	7.8	22.8	68.2			83.7
Actuated g/C Ratio	0.07	0.22	0.65			0.80
Clearance Time (s)	7.5		6.5			6.0
Vehicle Extension (s)	2.0		4.0			4.0
Lane Grp Cap (vph)	255	605	3302			4053
v/s Ratio Prot	0.02	c0.14	c0.52			0.40
v/s Ratio Perm						
v/c Ratio	0.24	0.64	0.79			0.51
Uniform Delay, d1	45.8	37.3	13.3			3.6
Progression Factor	1.00	1.00	0.83			0.37
Incremental Delay, d2	0.2	2.2	1.7			0.4
Delay (s)	46.0	39.5	12.7			1.7
Level of Service	D	D	B			A
Approach Delay (s)	40.4		12.7			1.7
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay		10.7	HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio		0.80	
Actuated Cycle Length (s)		105.0	Sum of lost time (s) 19.0
Intersection Capacity Utilization		73.9%	ICU Level of Service D
Analysis Period (min)		15	

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
5421: Fairfax County Parkway & Rugby Rd

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↖	↗	↘↖	↖	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (vph)	230	140	90	250	140	90	10	2220	790	150	1725	60
Future Volume (vph)	230	140	90	250	140	90	10	2220	790	150	1725	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.5	6.5	8.0	9.0	6.5	6.5	8.0	6.0	5.5
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1747	1583	3221	1682	1583	1770	5085	1583	1770	5085	1583
Flt Permitted	0.95	0.99	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1747	1583	3221	1682	1583	1770	5085	1583	1770	5085	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	230	140	90	250	140	90	10	2220	790	150	1725	60
RTOR Reduction (vph)	0	0	79	0	0	37	0	0	94	0	0	15
Lane Group Flow (vph)	182	188	11	225	165	53	10	2220	696	150	1725	45
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	3		4	4	5	1	6	4	5	2	3
Permitted Phases			3			4			6			2
Actuated Green, G (s)	25.2	25.2	25.2	22.2	22.2	46.4	4.0	111.9	134.1	24.2	131.6	156.8
Effective Green, g (s)	25.2	25.2	25.2	22.2	22.2	46.4	4.0	111.9	134.1	24.2	131.6	156.8
Actuated g/C Ratio	0.12	0.12	0.12	0.11	0.11	0.22	0.02	0.53	0.64	0.12	0.63	0.75
Clearance Time (s)	5.5	5.5	5.5	6.5	6.5	8.0	9.0	6.5	6.5	8.0	6.0	5.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	201	209	189	340	177	349	33	2709	1010	203	3186	1181
v/s Ratio Prot	c0.11	0.11		0.07	c0.10	0.02	0.01	c0.44	0.07	c0.08	0.34	0.00
v/s Ratio Perm			0.01			0.02			0.37			0.02
v/c Ratio	0.91	0.90	0.06	0.66	0.93	0.15	0.30	0.82	0.69	0.74	0.54	0.04
Uniform Delay, d1	91.2	91.2	81.9	90.3	93.2	66.0	101.6	40.7	24.5	89.8	22.2	6.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.02	1.13	1.13	0.63	0.00
Incremental Delay, d2	38.0	35.6	0.1	4.8	48.2	0.4	6.7	1.8	1.2	12.5	0.5	0.0
Delay (s)	129.3	126.7	82.0	95.1	141.3	66.4	118.5	43.3	28.9	113.9	14.4	0.0
Level of Service	F	F	F	F	F	E	F	D	C	F	B	A
Approach Delay (s)		119.0			105.6			39.8			21.7	
Approach LOS		F			F			D			C	

Intersection Summary

HCM 2000 Control Delay	45.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
5531: Fairfax County Parkway & Old Plains Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations		↗	↘	↑↑	↑↑	↗	
Traffic Volume (veh/h)	0	50	30	2515	1880	20	
Future Volume (Veh/h)	0	50	30	2515	1880	20	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly flow rate (vph)	0	50	30	2515	1880	20	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Median storage (veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	3198	940	1900				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	3198	940	1900				
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	81	90				
cM capacity (veh/h)	7	265	310				
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	50	30	1258	1258	940	940	20
Volume Left	0	30	0	0	0	0	0
Volume Right	50	0	0	0	0	0	20
cSH	265	310	1700	1700	1700	1700	1700
Volume to Capacity	0.19	0.10	0.74	0.74	0.55	0.55	0.01
Queue Length 95th (ft)	17	8	0	0	0	0	0
Control Delay (s)	21.7	17.9	0.0	0.0	0.0	0.0	0.0
Lane LOS	C	C					
Approach Delay (s)	21.7	0.2			0.0		
Approach LOS	C						
Intersection Summary							
Average Delay			0.4				
Intersection Capacity Utilization			72.9%	ICU Level of Service	C		
Analysis Period (min)			15				

HCM Signalized Intersection Capacity Analysis  
5821: Fairfax County Parkway & Franklin Farm Rd

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	210	330	40	270	40	355	2330	50	20	1400	180
Future Volume (vph)	170	210	330	40	270	40	355	2330	50	20	1400	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0		9.5	6.5	8.0	8.0	6.5	8.0
Lane Util. Factor	0.97	1.00	0.88	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	2787	1770	3471		3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	2787	1770	3471		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	170	210	330	40	270	40	355	2330	50	20	1400	180
RTOR Reduction (vph)	0	0	96	0	5	0	0	0	15	0	0	29
Lane Group Flow (vph)	170	210	234	40	305	0	355	2330	35	20	1400	151
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	8 1	7	4		1	6	7	5	2	3
Permitted Phases									6			2
Actuated Green, G (s)	13.6	27.6	53.4	8.2	22.2		25.8	138.5	146.7	5.2	116.4	130.0
Effective Green, g (s)	13.6	27.6	53.4	8.2	22.2		25.8	138.5	146.7	5.2	116.4	130.0
Actuated g/C Ratio	0.06	0.13	0.25	0.04	0.11		0.12	0.66	0.70	0.02	0.55	0.62
Clearance Time (s)	8.0	8.0		8.0	8.0		9.5	6.5	8.0	8.0	6.5	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	222	244	708	69	366		421	2334	1105	43	1961	979
v/s Ratio Prot	c0.05	c0.11	0.08	0.02	0.09		0.10	c0.66	0.00	0.01	c0.40	0.01
v/s Ratio Perm									0.02			0.09
v/c Ratio	0.77	0.86	0.33	0.58	0.83		0.84	1.00	0.03	0.47	0.71	0.15
Uniform Delay, d1	96.6	89.3	63.7	99.2	92.1		90.1	35.6	9.8	101.0	34.5	16.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.93	0.81	2.84	1.41	0.32	0.22
Incremental Delay, d2	14.5	25.2	0.3	11.3	14.9		4.6	9.6	0.0	5.7	1.6	0.1
Delay (s)	111.2	114.5	64.0	110.5	106.9		88.3	38.3	27.7	148.0	12.8	3.8
Level of Service	F	F	E	F	F		F	D	C	F	B	A
Approach Delay (s)		90.2			107.3			44.6			13.5	
Approach LOS		F			F			D			B	

Intersection Summary

HCM 2000 Control Delay	45.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	109.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
5921: Fairfax County Parkway & West Ox Rd

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	230	310	40	290	90	560	1930	50	50	1245	260
Future Volume (vph)	170	230	310	40	290	90	560	1930	50	50	1245	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	9.5	8.0	8.0		9.5	6.5	6.5	8.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3413		3433	3539	1583	1770	3539	1583
Flt Permitted	0.20	1.00	1.00	0.43	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	379	1863	1583	802	3413		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	170	230	310	40	290	90	560	1930	50	50	1245	260
RTOR Reduction (vph)	0	0	65	0	15	0	0	0	20	0	0	0
Lane Group Flow (vph)	170	230	245	40	365	0	560	1930	30	50	1245	260
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Prot	NA	Perm	Prot	NA	Free
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4					6			Free
Actuated Green, G (s)	51.9	37.5	75.5	35.3	28.9		38.0	126.0	126.0	9.6	96.6	210.0
Effective Green, g (s)	51.9	37.5	75.5	35.3	28.9		38.0	126.0	126.0	9.6	96.6	210.0
Actuated g/C Ratio	0.25	0.18	0.36	0.17	0.14		0.18	0.60	0.60	0.05	0.46	1.00
Clearance Time (s)	8.0	8.0	9.5	8.0	8.0		9.5	6.5	6.5	8.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	193	332	569	164	469		621	2123	949	80	1627	1583
v/s Ratio Prot	c0.06	c0.12	0.08	0.01	0.11		0.16	c0.55		0.03	c0.35	
v/s Ratio Perm	c0.15		0.08	0.03					0.02			0.16
v/c Ratio	0.88	0.69	0.43	0.24	0.78		0.90	0.91	0.03	0.62	0.77	0.16
Uniform Delay, d1	69.6	80.9	51.0	74.5	87.5		84.2	37.0	17.1	98.4	47.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.12	0.50	1.00	0.86	0.71	1.00
Incremental Delay, d2	34.1	6.1	0.5	0.8	8.0		6.4	2.6	0.0	11.8	2.9	0.2
Delay (s)	103.7	87.0	51.5	75.3	95.5		100.7	20.9	17.1	96.6	36.6	0.2
Level of Service	F	F	D	E	F		F	C	B	F	D	A
Approach Delay (s)		75.5			93.5			38.5			32.5	
Approach LOS		E			F			D			C	

Intersection Summary

HCM 2000 Control Delay	46.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
6021: Fairfax County Parkway & Fox Mill Rd

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	350	230	110	390	190	220	1840	130	170	1220	40
Future Volume (vph)	100	350	230	110	390	190	220	1840	130	170	1220	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5	10.0	8.5	8.5	9.0	10.0	6.5	8.5	9.0	6.5	8.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.20	1.00	1.00	0.26	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	372	3539	1583	480	3539	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	350	230	110	390	190	220	1840	130	170	1220	40
RTOR Reduction (vph)	0	0	88	0	0	94	0	0	25	0	0	14
Lane Group Flow (vph)	100	350	142	110	390	96	220	1840	105	170	1220	26
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases	8		8	4		4			6			2
Actuated Green, G (s)	38.3	24.4	41.4	38.9	24.7	37.7	17.0	125.9	140.1	13.0	120.9	134.8
Effective Green, g (s)	38.3	24.4	41.4	38.9	24.7	37.7	17.0	125.9	140.1	13.0	120.9	134.8
Actuated g/C Ratio	0.18	0.12	0.20	0.19	0.12	0.18	0.08	0.60	0.67	0.06	0.58	0.64
Clearance Time (s)	8.5	8.5	10.0	8.5	8.5	9.0	10.0	6.5	8.5	9.0	6.5	8.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	160	411	312	176	416	284	277	2121	1056	212	2037	1016
v/s Ratio Prot	0.04	0.10	0.04	c0.04	c0.11	0.02	0.06	c0.52	0.01	0.05	c0.34	0.00
v/s Ratio Perm	0.07		0.05	0.07		0.04			0.06			0.01
v/c Ratio	0.62	0.85	0.46	0.62	0.94	0.34	0.79	0.87	0.10	0.80	0.60	0.03
Uniform Delay, d1	75.0	91.0	74.4	74.8	91.9	75.3	94.8	35.1	12.5	97.2	28.8	13.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.17	0.51	0.13	0.74	0.68	1.00
Incremental Delay, d2	7.4	15.5	1.1	6.8	28.6	0.7	7.0	2.4	0.0	13.8	0.9	0.0
Delay (s)	82.4	106.5	75.4	81.5	120.5	76.0	117.7	20.4	1.6	85.8	20.4	13.7
Level of Service	F	F	E	F	F	E	F	C	A	F	C	B
Approach Delay (s)		92.5			102.0			29.1			28.0	
Approach LOS		F			F			C			C	

Intersection Summary

HCM 2000 Control Delay	47.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	33.5
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis  
6121: Fairfax County Parkway & Sunrise Valley Dr

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖↗	↕↖↗		↖↗	↕↖↗	
Traffic Volume (vph)	400	560	40	70	300	230	150	1495	470	570	1320	665
Future Volume (vph)	400	560	40	70	300	230	150	1495	470	570	1320	665
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	9.5	9.5	9.0	10.0	10.0	9.0	9.0	6.5		9.0	6.5	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	4903		3433	4830	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	4903		3433	4830	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	400	560	40	70	300	230	150	1495	470	570	1320	665
RTOR Reduction (vph)	0	0	30	0	0	87	0	27	0	0	41	0
Lane Group Flow (vph)	400	560	10	70	300	143	150	1938	0	570	1944	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8	1	7	4	5	1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	28.5	40.0	53.4	9.7	21.2	57.2	13.4	89.3		36.0	111.9	
Effective Green, g (s)	28.5	40.0	53.4	9.7	21.2	57.2	13.4	89.3		36.0	111.9	
Actuated g/C Ratio	0.14	0.19	0.25	0.05	0.10	0.27	0.06	0.43		0.17	0.53	
Clearance Time (s)	9.5	9.5	9.0	10.0	10.0	9.0	9.0	6.5		9.0	6.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	465	674	402	158	357	431	219	2084		588	2573	
v/s Ratio Prot	c0.12	c0.16	0.00	0.02	0.08	0.06	0.04	c0.40		c0.17	0.40	
v/s Ratio Perm			0.00			0.03						
v/c Ratio	0.86	0.83	0.03	0.44	0.84	0.33	0.68	0.93		0.97	0.76	
Uniform Delay, d1	88.8	81.7	58.8	97.5	92.7	61.1	96.2	57.4		86.5	38.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.12	0.58		1.13	1.29	
Incremental Delay, d2	14.5	8.2	0.0	0.7	15.5	0.2	3.8	5.3		23.3	1.5	
Delay (s)	103.3	90.0	58.8	98.2	108.3	61.3	112.0	38.8		121.0	51.1	
Level of Service	F	F	E	F	F	E	F	D		F	D	
Approach Delay (s)		94.0			89.1			44.0			66.7	
Approach LOS		F			F			D			E	

Intersection Summary

HCM 2000 Control Delay	65.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	210.0	Sum of lost time (s)	35.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
6221: Fairfax County Parkway & Dulles Toll Rd EB Off-Ramp

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↔	↗					↑↑↑	↗	↖↗	↑↑↑	
Traffic Volume (vph)	745	0	320	0	0	0	0	1695	420	800	2230	0
Future Volume (vph)	745	0	320	0	0	0	0	1695	420	800	2230	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	9.0	9.0	9.0					6.0	6.0	7.5	6.0	
Lane Util. Factor	0.95	0.91	0.95					0.91	1.00	0.97	0.91	
Frt	1.00	0.99	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1601	1504					5085	1583	3433	5085	
Flt Permitted	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1601	1504					5085	1583	3433	5085	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	745	0	320	0	0	0	0	1695	420	800	2230	0
RTOR Reduction (vph)	0	83	83	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	387	307	205	0	0	0	0	1695	420	800	2230	0
Turn Type	Split	NA	Perm					NA	custom	Prot	NA	
Protected Phases	3	3						6	6	5	2	
Permitted Phases			3						3			
Actuated Green, G (s)	25.0	25.0	25.0					34.0	59.0	23.5	65.0	
Effective Green, g (s)	25.0	25.0	25.0					34.0	59.0	23.5	65.0	
Actuated g/C Ratio	0.24	0.24	0.24					0.32	0.56	0.22	0.62	
Clearance Time (s)	9.0	9.0	9.0					6.0	6.0	7.5	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	400	381	358					1646	979	768	3147	
v/s Ratio Prot	c0.23	0.19						c0.33	0.14	c0.23	0.44	
v/s Ratio Perm			0.14						0.13			
v/c Ratio	0.97	0.81	0.57					1.03	0.43	1.04	0.71	
Uniform Delay, d1	39.6	37.7	35.3					35.5	13.3	40.8	13.6	
Progression Factor	1.00	1.00	1.00					1.98	1.31	1.41	0.16	
Incremental Delay, d2	36.1	11.7	2.2					24.3	0.2	23.0	0.1	
Delay (s)	75.7	49.5	37.5					94.5	17.6	80.5	2.3	
Level of Service	E	D	D					F	B	F	A	
Approach Delay (s)		55.8			0.0			79.2			23.0	
Approach LOS		E			A			E			C	

Intersection Summary

HCM 2000 Control Delay	47.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
7021: Fairfax County Parkway & Wiehle Ave

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘	↗↗	↘	↘↘	↗↗	↘	↘	↗↗	↘
Traffic Volume (vph)	30	450	480	60	150	100	110	390	60	320	2095	40
Future Volume (vph)	30	450	480	60	150	100	110	390	60	320	2095	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	6.5	10.0	6.5	7.0	11.0	10.0	6.5	6.5	11.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	450	480	60	150	100	110	390	60	320	2095	40
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	47	0	0	18
Lane Group Flow (vph)	30	450	480	60	150	100	110	390	13	320	2095	22
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	7.6	33.9	45.4	11.9	37.2	110.7	11.5	40.2	40.2	73.5	103.2	103.2
Effective Green, g (s)	7.6	33.9	45.4	11.9	37.2	110.7	11.5	40.2	40.2	73.5	103.2	103.2
Actuated g/C Ratio	0.04	0.18	0.24	0.06	0.20	0.58	0.06	0.21	0.21	0.39	0.54	0.54
Clearance Time (s)	7.0	6.5	10.0	6.5	7.0	11.0	10.0	6.5	6.5	11.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	70	631	378	110	692	922	207	748	334	684	1922	859
v/s Ratio Prot	0.02	0.13	c0.08	c0.03	c0.04	0.04	0.03	0.11		0.18	c0.59	
v/s Ratio Perm			0.23			0.02			0.01			0.01
v/c Ratio	0.43	0.71	1.27	0.55	0.22	0.11	0.53	0.52	0.04	0.47	1.09	0.03
Uniform Delay, d1	89.1	73.5	72.3	86.4	64.2	17.7	86.6	66.4	59.5	43.6	43.4	20.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.22	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	3.8	140.8	5.4	0.2	0.1	2.6	2.6	0.2	2.3	49.7	0.1
Delay (s)	93.3	77.3	213.1	91.9	64.3	17.7	72.2	83.4	59.7	45.9	93.1	20.2
Level of Service	F	E	F	F	E	B	E	F	E	D	F	C
Approach Delay (s)		145.7			54.6			78.6			85.8	
Approach LOS		F			D			E			F	

Intersection Summary		
HCM 2000 Control Delay	96.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.12	F
Actuated Cycle Length (s)	190.0	Sum of lost time (s)
Intersection Capacity Utilization	111.0%	31.5
Analysis Period (min)	15	ICU Level of Service
		H

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

# Fairfax County Parkway Study

7521: Bonniemill Ln/Spring Village Dr/Bonnie & Franconia Springfield Pkwy Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	0	3435	30	0	860	210	50	10	190	80	10	50
Future Volume (vph)	0	3435	30	0	860	210	50	10	190	80	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	11	12	12
Total Lost time (s)		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor		0.86	1.00		0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		6408	1577		5085	1577	1770	1863	1583	1711	1863	1583
Flt Permitted		1.00	1.00		1.00	1.00	0.75	1.00	1.00	0.75	1.00	1.00
Satd. Flow (perm)		6408	1577		5085	1577	1399	1863	1583	1352	1863	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	3435	30	0	860	210	50	10	190	80	10	50
RTOR Reduction (vph)	0	0	0	0	0	40	0	0	21	0	0	44
Lane Group Flow (vph)	0	3435	30	0	860	170	50	10	169	80	10	6
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	0	0	0	0
Turn Type		NA	Perm		NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			4			8	
Permitted Phases			2			6	4		4	8		8
Actuated Green, G (s)		145.4	145.4		145.4	145.4	20.6	20.6	20.6	20.6	20.6	20.6
Effective Green, g (s)		145.4	145.4		145.4	145.4	20.6	20.6	20.6	20.6	20.6	20.6
Actuated g/C Ratio		0.81	0.81		0.81	0.81	0.11	0.11	0.11	0.11	0.11	0.11
Clearance Time (s)		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)		4.0	4.0		4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		5176	1273		4107	1273	160	213	181	154	213	181
v/s Ratio Prot		c0.54			0.17			0.01			0.01	
v/s Ratio Perm			0.02			0.11	0.04		c0.11	0.06		0.00
v/c Ratio		0.66	0.02		0.21	0.13	0.31	0.05	0.93	0.52	0.05	0.03
Uniform Delay, d1		7.2	3.4		4.0	3.7	73.2	71.0	79.0	75.0	71.0	70.8
Progression Factor		1.00	1.00		1.07	2.61	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.7	0.0		0.1	0.2	1.1	0.1	47.5	2.9	0.1	0.1
Delay (s)		7.9	3.4		4.4	9.9	74.3	71.1	126.5	78.0	71.1	70.9
Level of Service		A	A		A	A	E	E	F	E	E	E
Approach Delay (s)		7.8			5.5			113.9			75.0	
Approach LOS		A			A			F			E	

## Intersection Summary

HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
7522: Manchester Woods & Franconia Springfield Pkwy

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⇐	⇕⇕⇕		⇑	⇕⇕⇕		
Traffic Volume (vph)	80	3625	0	60	990	0	0
Future Volume (vph)	80	3625	0	60	990	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	6.0		8.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91		
Frt	1.00	1.00		1.00	1.00		
Flt Protected	0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1770	5085		1770	5085		
Flt Permitted	0.95	1.00		0.95	1.00		
Satd. Flow (perm)	1770	5085		1770	5085		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	3625	0	60	990	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	80	3625	0	60	990	0	0
Turn Type	Prot	NA		Prot	NA		
Protected Phases	5	2		1	6		
Permitted Phases							
Actuated Green, G (s)	13.2	149.0		17.0	152.8		
Effective Green, g (s)	13.2	149.0		17.0	152.8		
Actuated g/C Ratio	0.07	0.83		0.09	0.85		
Clearance Time (s)	8.0	6.0		8.0	6.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	129	4209		167	4316		
v/s Ratio Prot	0.05	c0.71		c0.03	0.19		
v/s Ratio Perm							
v/c Ratio	0.62	0.86		0.36	0.23		
Uniform Delay, d1	81.0	9.3		76.4	2.6		
Progression Factor	1.22	0.70		0.86	0.97		
Incremental Delay, d2	6.6	1.9		1.3	0.1		
Delay (s)	105.7	8.4		67.3	2.6		
Level of Service	F	A		E	A		
Approach Delay (s)		10.5			6.3	0.0	
Approach LOS		B			A	A	

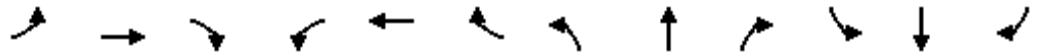
Intersection Summary

HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
8121: Beulah Street & Franconia Springfield Pkwy

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑	↗	↖	↑↑↑		↖↖↖	↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	600	800	425	90	900	170	720	615	110	110	295	300
Future Volume (vph)	600	800	425	90	900	170	720	615	110	110	295	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Total Lost time (s)	7.0	8.0	7.0	7.0	8.0		7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91		0.94	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3416	3522	1575	1770	4964		4990	3539	1577	3433	3539	1577
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3416	3522	1575	1770	4964		4990	3539	1577	3433	3539	1577
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	600	800	425	90	900	170	720	615	110	110	295	300
RTOR Reduction (vph)	0	0	81	0	16	0	0	0	77	0	0	88
Lane Group Flow (vph)	600	800	344	90	1054	0	720	615	33	110	295	212
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	1	0	0	1
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8	1	7	4	5
Permitted Phases			2						8			4
Actuated Green, G (s)	35.1	71.8	101.7	12.9	49.6		29.9	35.7	48.6	10.6	16.4	51.5
Effective Green, g (s)	35.1	71.8	101.7	12.9	49.6		29.9	35.7	48.6	10.6	16.4	51.5
Actuated g/C Ratio	0.22	0.45	0.64	0.08	0.31		0.19	0.22	0.30	0.07	0.10	0.32
Clearance Time (s)	7.0	8.0	7.0	7.0	8.0		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	4.0	2.0	3.0	3.0	2.0		3.0	3.0	3.0	3.0	3.0	4.0
Lane Grp Cap (vph)	749	1580	1001	142	1538		932	789	548	227	362	576
v/s Ratio Prot	c0.18	0.23	0.06	0.05	c0.21		c0.14	c0.17	0.00	0.03	0.08	0.08
v/s Ratio Perm			0.15						0.02			0.05
v/c Ratio	0.80	0.51	0.34	0.63	0.69		0.77	0.78	0.06	0.48	0.81	0.37
Uniform Delay, d1	59.1	31.5	13.6	71.3	48.4		61.8	58.4	39.5	72.1	70.3	41.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.5	1.2	0.2	8.9	2.5		4.0	4.9	0.0	1.6	13.2	0.5
Delay (s)	65.6	32.6	13.8	80.2	50.9		65.8	63.4	39.6	73.7	83.5	42.3
Level of Service	E	C	B	F	D		E	E	D	E	F	D
Approach Delay (s)		39.1			53.1			62.8			64.4	
Approach LOS		D			D			E			E	

**Intersection Summary**

HCM 2000 Control Delay	52.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 3121: Fairfax County Parkway & Huntsman Blvd

Fairfax County Parkway Study  
 Existing Conditions - w/Mitigation

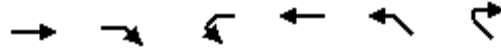


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘			↑	↗↘		↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	70	40	20	0	40	485	0	2595	110	170	1770	70
Future Volume (vph)	70	40	20	0	40	485	0	2595	110	170	1770	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			0%			1%				-1%
Total Lost time (s)	7.0	7.0			6.5	6.5		7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	1.00			1.00	0.88		0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.95			1.00	0.85		1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1734	1734			1863	2787		3522	1575	1778	3557	1591
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00	0.02	1.00	1.00
Satd. Flow (perm)	1734	1734			1863	2787		3522	1575	43	3557	1591
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	40	20	0	40	485	0	2595	110	170	1770	70
RTOR Reduction (vph)	0	8	0	0	0	42	0	0	25	0	0	13
Lane Group Flow (vph)	70	52	0	0	40	443	0	2595	85	170	1770	57
Turn Type	Prot	NA			NA	pt+ov		NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8			4	4 1		2		1	6	
Permitted Phases									2	6		6
Actuated Green, G (s)	11.0	30.6			13.1	43.1		165.4	165.4	195.4	195.4	195.4
Effective Green, g (s)	11.0	30.6			13.1	36.1		165.4	165.4	195.4	195.4	195.4
Actuated g/C Ratio	0.05	0.13			0.05	0.15		0.69	0.69	0.81	0.81	0.81
Clearance Time (s)	7.0	7.0			6.5			7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	79	221			101	419		2427	1085	201	2895	1295
v/s Ratio Prot	c0.04	0.03			0.02	c0.16		c0.74		0.08	0.50	
v/s Ratio Perm									0.05	0.60		0.04
v/c Ratio	0.89	0.24			0.40	1.06		1.07	0.08	0.85	0.61	0.04
Uniform Delay, d1	113.9	94.2			109.6	102.0		37.3	12.3	101.5	8.3	4.3
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00	0.89	0.16	0.00
Incremental Delay, d2	63.8	0.6			2.5	59.5		40.1	0.1	21.5	0.7	0.0
Delay (s)	177.7	94.7			112.2	161.5		77.4	12.4	111.9	2.1	0.0
Level of Service	F	F			F	F		E	B	F	A	A
Approach Delay (s)		139.4			157.7			74.7			11.3	
Approach LOS		F			F			E			B	

Intersection Summary		
HCM 2000 Control Delay	60.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.06	E
Actuated Cycle Length (s)	240.0	Sum of lost time (s)
Intersection Capacity Utilization	111.6%	27.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		H

HCM Signalized Intersection Capacity Analysis  
 3122: Fairfax County Parkway

Fairfax County Parkway Study  
 Existing Conditions - w/Mitigation



Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations	↑↑		↙	↑↑		
Traffic Volume (vph)	1740	0	255	2895	0	0
Future Volume (vph)	1740	0	255	2895	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%			0%	0%	
Total Lost time (s)	5.0		5.0	5.0		
Lane Util. Factor	0.95		1.00	0.95		
Frt	1.00		1.00	1.00		
Flt Protected	1.00		0.95	1.00		
Satd. Flow (prot)	3557		1770	3539		
Flt Permitted	1.00		0.95	1.00		
Satd. Flow (perm)	3557		1770	3539		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1740	0	255	2895	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1740	0	255	2895	0	0
Turn Type	NA		Prot	NA		
Protected Phases	6		5	2 3		
Permitted Phases						
Actuated Green, G (s)	177.9		40.1	240.0		
Effective Green, g (s)	177.9		40.1	240.0		
Actuated g/C Ratio	0.74		0.17	1.00		
Clearance Time (s)	5.0		5.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	2636		295	3539		
v/s Ratio Prot	0.49		0.14	0.82		
v/s Ratio Perm						
v/c Ratio	0.66		0.86	0.82		
Uniform Delay, d1	15.7		97.3	0.0		
Progression Factor	0.30		1.13	1.00		
Incremental Delay, d2	1.1		18.2	1.2		
Delay (s)	5.8		128.1	1.2		
Level of Service	A		F	A		
Approach Delay (s)	5.8			11.5	0.0	
Approach LOS	A			B	A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	240.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



HCM Signalized Intersection Capacity Analysis  
 3721: Fairfax County Parkway & Burke Lake Rd

Fairfax County Parkway Study  
 Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑↑	↑	↑	↑↑	↑		↑↑↑	↑
Traffic Volume (vph)	0	120	90	70	355	205	120	2470	190	0	1985	80
Future Volume (vph)	0	120	90	70	355	205	120	2470	190	0	1985	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			0%			2%			0%	
Total Lost time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.5	7.5		7.5	7.5
Lane Util. Factor		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.91	1.00
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)		3468	1552	1770	3539	1583	1752	3504	1567		5085	1583
Flt Permitted		1.00	1.00	0.64	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)		3468	1552	1185	3539	1583	1752	3504	1567		5085	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	120	90	70	355	205	120	2470	190	0	1985	80
RTOR Reduction (vph)	0	0	60	0	0	48	0	0	35	0	0	25
Lane Group Flow (vph)	0	120	30	70	355	157	120	2470	155	0	1985	55
Turn Type		NA	pm+ov	pm+pt	NA	Perm	Prot	NA	Perm		NA	Perm
Protected Phases		8	5	7	4		5	2			6	
Permitted Phases			8	4		4			2			6
Actuated Green, G (s)		13.8	37.8	30.8	30.8	30.8	24.0	194.7	194.7		163.7	163.7
Effective Green, g (s)		13.8	37.8	30.8	30.8	30.8	24.0	194.7	194.7		163.7	163.7
Actuated g/C Ratio		0.06	0.16	0.13	0.13	0.13	0.10	0.81	0.81		0.68	0.68
Clearance Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.5	7.5		7.5	7.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		199	289	176	454	203	175	2842	1271		3468	1079
v/s Ratio Prot		0.03	0.01	0.02	c0.10		0.07	c0.70			0.39	
v/s Ratio Perm			0.01	0.03		0.10			0.10			0.03
v/c Ratio		0.60	0.10	0.40	0.78	0.77	0.69	0.87	0.12		0.57	0.05
Uniform Delay, d1		110.4	86.6	97.7	101.3	101.2	104.4	14.5	4.7		19.9	12.6
Progression Factor		1.00	1.00	1.00	1.00	1.00	0.84	0.38	0.44		0.70	0.36
Incremental Delay, d2		5.1	0.2	1.5	8.5	16.6	3.8	1.4	0.1		0.5	0.1
Delay (s)		115.5	86.8	99.2	109.9	117.9	91.5	7.0	2.2		14.5	4.6
Level of Service		F	F	F	F	F	F	A	A		B	A
Approach Delay (s)		103.2			111.3			10.3			14.1	
Approach LOS		F			F			B			B	

Intersection Summary		
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.91	C
Actuated Cycle Length (s)	240.0	Sum of lost time (s)
Intersection Capacity Utilization	93.1%	28.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		F

HCM Signalized Intersection Capacity Analysis  
 3722: Fairfax County Parkway



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑		↗	↑↑
Traffic Volume (vph)	0	0	2560	0	210	1935
Future Volume (vph)	0	0	2560	0	210	1935
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			2%
Total Lost time (s)			5.0		5.0	5.0
Lane Util. Factor			0.95		1.00	0.95
Frt			1.00		1.00	1.00
Flt Protected			1.00		0.95	1.00
Satd. Flow (prot)			3504		1752	3504
Flt Permitted			1.00		0.95	1.00
Satd. Flow (perm)			3504		1752	3504
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	2560	0	210	1935
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	2560	0	210	1935
Turn Type			NA		Prot	NA
Protected Phases			2		1	3 6
Permitted Phases						
Actuated Green, G (s)			181.0		40.0	240.0
Effective Green, g (s)			181.0		40.0	240.0
Actuated g/C Ratio			0.75		0.17	1.00
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)			2642		292	3504
v/s Ratio Prot			c0.73		c0.12	c0.55
v/s Ratio Perm						
v/c Ratio			0.97		0.72	0.55
Uniform Delay, d1			26.9		94.7	0.0
Progression Factor			0.22		1.01	1.00
Incremental Delay, d2			6.1		7.6	0.2
Delay (s)			12.0		103.7	0.2
Level of Service			B		F	A
Approach Delay (s)	0.0		12.0			10.3
Approach LOS	A		B			B
<b>Intersection Summary</b>						
HCM 2000 Control Delay			11.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.93			
Actuated Cycle Length (s)			240.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			92.1%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis  
5321: Fairfax County Parkway & Rt 50 EB Off-Ramp

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	↖							↑↑↑	↖		↑↑↑			
Traffic Volume (vph)	40	0	0	0	0	0	0	2410	90	0	2990	0		
Future Volume (vph)	40	0	0	0	0	0	0	2410	90	0	2990	0		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width	16	12	12	12	12	12	12	12	12	12	12	12		
Total Lost time (s)	7.5							6.0	6.0		6.5			
Lane Util. Factor	1.00							0.86	1.00		0.91			
Frt	1.00							1.00	0.85		1.00			
Flt Protected	0.95							1.00	1.00		1.00			
Satd. Flow (prot)	2006							6408	1583		5085			
Flt Permitted	0.95							1.00	1.00		1.00			
Satd. Flow (perm)	2006							6408	1583		5085			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Adj. Flow (vph)	40	0	0	0	0	0	0	2410	90	0	2990	0		
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0		
Lane Group Flow (vph)	40	0	0	0	0	0	0	2410	90	0	2990	0		
Turn Type	Prot							NA	Perm		NA			
Protected Phases	4							2			6			
Permitted Phases									2					
Actuated Green, G (s)	4.7							91.8	91.8		91.3			
Effective Green, g (s)	4.7							91.8	91.8		91.3			
Actuated g/C Ratio	0.04							0.83	0.83		0.83			
Clearance Time (s)	7.5							6.0	6.0		6.5			
Vehicle Extension (s)	2.0							4.0	4.0		4.0			
Lane Grp Cap (vph)	85							5347	1321		4220			
v/s Ratio Prot	c0.02							0.38			c0.59			
v/s Ratio Perm									0.06					
v/c Ratio	0.47							0.45	0.07		0.71			
Uniform Delay, d1	51.4							2.4	1.6		3.9			
Progression Factor	1.00							1.00	1.00		0.23			
Incremental Delay, d2	1.5							0.3	0.1		0.6			
Delay (s)	52.9							2.7	1.7		1.5			
Level of Service	D							A	A		A			
Approach Delay (s)		52.9			0.0			2.7			1.5			
Approach LOS		D			A			A			A			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			2.4									HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio			0.70											
Actuated Cycle Length (s)			110.0								14.0		Sum of lost time (s)	
Intersection Capacity Utilization			73.6%										ICU Level of Service	D
Analysis Period (min)			15											
c Critical Lane Group														

HCM Signalized Intersection Capacity Analysis  
 5322: Fairfax County Parkway & Rt 50 WB Off-Ramp

Fairfax County Parkway Study  
 Existing Conditions - w/Mitigation



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↑↑↑			↑↑↑
Traffic Volume (vph)	175	430	1710	0	0	3220
Future Volume (vph)	175	430	1710	0	0	3220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.5	5.0	6.5			6.0
Lane Util. Factor	0.97	0.88	0.91			0.91
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	2787	5085			5085
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	2787	5085			5085
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	175	430	1710	0	0	3220
RTOR Reduction (vph)	0	22	0	0	0	0
Lane Group Flow (vph)	175	408	1710	0	0	3220
Turn Type	Prot	custom	NA			NA
Protected Phases	4	1 4	2			6
Permitted Phases						
Actuated Green, G (s)	10.5	27.2	71.3			86.0
Effective Green, g (s)	10.5	19.7	71.3			86.0
Actuated g/C Ratio	0.10	0.18	0.65			0.78
Clearance Time (s)	7.5		6.5			6.0
Vehicle Extension (s)	2.0		4.0			4.0
Lane Grp Cap (vph)	327	499	3296			3975
v/s Ratio Prot	0.05	c0.15	0.34			c0.63
v/s Ratio Perm						
v/c Ratio	0.54	0.82	0.52			0.81
Uniform Delay, d1	47.4	43.4	10.3			7.1
Progression Factor	1.00	1.00	0.82			1.15
Incremental Delay, d2	0.8	10.0	0.5			0.8
Delay (s)	48.3	53.4	9.0			9.0
Level of Service	D	D	A			A
Approach Delay (s)	51.9		9.0			9.0
Approach LOS	D		A			A

Intersection Summary

HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
5421: Fairfax County Parkway & Rugby Rd

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↙	↗	↘↙	↙	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (vph)	40	120	50	465	320	140	40	1765	340	90	2725	110
Future Volume (vph)	40	120	50	465	320	140	40	1765	340	90	2725	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.5	6.5	8.0	9.0	6.5	6.5	8.0	6.0	5.5
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1767	1583	3221	1684	1583	1770	5085	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1767	1583	3221	1684	1583	1770	5085	1583	1770	5085	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	120	50	465	320	140	40	1765	340	90	2725	110
RTOR Reduction (vph)	0	0	46	0	0	58	0	0	65	0	0	30
Lane Group Flow (vph)	36	124	4	418	367	82	40	1765	275	90	2725	80
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	3		4	4	5	1	6	4	5	2	3
Permitted Phases			3			4			6			2
Actuated Green, G (s)	16.5	16.5	16.5	41.5	41.5	59.6	8.7	117.4	158.9	18.1	126.3	142.8
Effective Green, g (s)	16.5	16.5	16.5	41.5	41.5	59.6	8.7	117.4	158.9	18.1	126.3	142.8
Actuated g/C Ratio	0.08	0.08	0.08	0.19	0.19	0.27	0.04	0.53	0.72	0.08	0.57	0.65
Clearance Time (s)	5.5	5.5	5.5	6.5	6.5	8.0	9.0	6.5	6.5	8.0	6.0	5.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	126	132	118	607	317	428	69	2713	1143	145	2919	1027
v/s Ratio Prot	0.02	c0.07		0.13	c0.22	0.02	0.02	0.35	0.05	c0.05	c0.54	0.01
v/s Ratio Perm			0.00			0.04			0.13			0.04
v/c Ratio	0.29	0.94	0.03	0.69	1.16	0.19	0.58	0.65	0.24	0.62	0.93	0.08
Uniform Delay, d1	96.2	101.3	94.3	83.2	89.2	61.7	103.9	36.6	10.3	97.6	43.0	14.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	1.07	1.30	0.64	0.15
Incremental Delay, d2	1.3	59.2	0.1	3.3	100.4	0.5	15.5	1.1	0.1	1.1	0.8	0.0
Delay (s)	97.4	160.5	94.5	86.5	189.7	62.2	111.5	34.8	11.1	127.5	28.3	2.1
Level of Service	F	F	F	F	F	E	F	C	B	F	C	A
Approach Delay (s)		133.9			123.7			32.5			30.4	
Approach LOS		F			F			C			C	

Intersection Summary		
HCM 2000 Control Delay	48.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.99	D
Actuated Cycle Length (s)	220.0	Sum of lost time (s)
Intersection Capacity Utilization	98.1%	27.0
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 5531: Fairfax County Parkway & Old Plains Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↕	↕	↗
Traffic Volume (veh/h)	0	30	30	1905	2885	50
Future Volume (Veh/h)	0	30	30	1905	2885	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	30	30	1905	2885	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3898	1442	2935			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3898	1442	2935			
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	75	75			
cM capacity (veh/h)	2	122	120			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	30	30	952	952	1442	1442	50
Volume Left	0	30	0	0	0	0	0
Volume Right	30	0	0	0	0	0	50
cSH	122	120	1700	1700	1700	1700	1700
Volume to Capacity	0.25	0.25	0.56	0.56	0.85	0.85	0.03
Queue Length 95th (ft)	23	23	0	0	0	0	0
Control Delay (s)	44.1	44.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	E	E					
Approach Delay (s)	44.1	0.7			0.0		
Approach LOS	E						

Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization	89.7%		ICU Level of Service	E		
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis  
5821: Fairfax County Parkway & Franklin Farm Rd

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔↔	↔	↔↔		↔↔	↔↔	↔	↔	↔↔	↔
Traffic Volume (vph)	150	270	590	90	315	30	335	1605	80	30	2310	240
Future Volume (vph)	150	270	590	90	315	30	335	1605	80	30	2310	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0		9.5	6.5	8.0	8.0	6.5	8.0
Lane Util. Factor	0.97	1.00	0.88	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	2787	1770	3493		3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	2787	1770	3493		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	150	270	590	90	315	30	335	1605	80	30	2310	240
RTOR Reduction (vph)	0	0	78	0	4	0	0	0	23	0	0	24
Lane Group Flow (vph)	150	270	512	90	341	0	335	1605	57	30	2310	216
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	8 1	7	4		1	6	7	5	2	3
Permitted Phases									6			2
Actuated Green, G (s)	13.3	25.0	42.1	12.0	23.7		17.1	144.6	156.6	7.9	133.9	147.2
Effective Green, g (s)	13.3	25.0	42.1	12.0	23.7		17.1	144.6	156.6	7.9	133.9	147.2
Actuated g/C Ratio	0.06	0.11	0.19	0.05	0.11		0.08	0.66	0.71	0.04	0.61	0.67
Clearance Time (s)	8.0	8.0		8.0	8.0		9.5	6.5	8.0	8.0	6.5	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	207	211	533	96	376		266	2326	1126	63	2153	1059
v/s Ratio Prot	0.04	c0.14	0.18	c0.05	0.10		c0.10	0.45	0.00	0.02	c0.65	0.01
v/s Ratio Perm									0.03			0.12
v/c Ratio	0.72	1.28	0.96	0.94	0.91		1.26	0.69	0.05	0.48	1.07	0.20
Uniform Delay, d1	101.6	97.5	88.1	103.6	97.1		101.5	23.6	9.5	104.0	43.0	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.81	0.79	1.37	1.14	0.50	0.78
Incremental Delay, d2	11.9	157.1	28.7	70.9	24.8		134.6	1.1	0.0	1.3	35.4	0.0
Delay (s)	113.4	254.6	116.8	174.5	121.9		217.2	19.9	13.0	120.1	57.1	11.0
Level of Service	F	F	F	F	F		F	B	B	F	E	B
Approach Delay (s)		153.1			132.8			52.3			53.5	
Approach LOS		F			F			D			D	

Intersection Summary

HCM 2000 Control Delay	75.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	32.0
Intersection Capacity Utilization	119.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
5921: Fairfax County Parkway & West Ox Rd

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	350	450	50	200	90	345	1375	70	150	2085	245
Future Volume (vph)	230	350	450	50	200	90	345	1375	70	150	2085	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	9.5	8.0	8.0		9.5	6.5	6.5	8.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	3374		3433	3539	1583	1770	3539	1583
Flt Permitted	0.18	1.00	1.00	0.21	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	338	1863	1583	388	3374		3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	230	350	450	50	200	90	345	1375	70	150	2085	245
RTOR Reduction (vph)	0	0	72	0	24	0	0	0	32	0	0	0
Lane Group Flow (vph)	230	350	378	50	266	0	345	1375	38	150	2085	245
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		Prot	NA	Perm	Prot	NA	Free
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4					6			Free
Actuated Green, G (s)	53.0	38.0	57.5	26.2	19.2		19.5	119.5	119.5	25.0	124.0	220.0
Effective Green, g (s)	53.0	38.0	57.5	26.2	19.2		19.5	119.5	119.5	25.0	124.0	220.0
Actuated g/C Ratio	0.24	0.17	0.26	0.12	0.09		0.09	0.54	0.54	0.11	0.56	1.00
Clearance Time (s)	8.0	8.0	9.5	8.0	8.0		9.5	6.5	6.5	8.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	249	321	413	90	294		304	1922	859	201	1994	1583
v/s Ratio Prot	c0.11	c0.19	0.08	0.02	0.08		c0.10	0.39		0.08	c0.59	
v/s Ratio Perm	0.11		0.16	0.05					0.02			0.15
v/c Ratio	0.92	1.09	0.92	0.56	0.91		1.13	0.72	0.04	0.75	1.05	0.15
Uniform Delay, d1	73.9	91.0	78.9	88.4	99.5		100.2	37.5	23.5	94.4	48.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.12	0.52	1.00	0.76	0.56	1.00
Incremental Delay, d2	36.8	76.6	24.6	7.2	29.2		86.0	1.7	0.1	5.9	26.8	0.1
Delay (s)	110.7	167.6	103.6	95.6	128.7		198.6	21.3	23.6	78.0	53.8	0.1
Level of Service	F	F	F	F	F		F	C	C	E	D	A
Approach Delay (s)		126.9			123.9			55.6			49.9	
Approach LOS		F			F			E			D	

Intersection Summary

HCM 2000 Control Delay	70.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	31.5
Intersection Capacity Utilization	116.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



HCM Signalized Intersection Capacity Analysis  
6021: Fairfax County Parkway & Fox Mill Rd

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘	↗↗	↘	↘↘	↗↗	↘	↘↘	↗↗	↘
Traffic Volume (vph)	90	455	380	80	340	180	165	1420	120	245	2020	180
Future Volume (vph)	90	455	380	80	340	180	165	1420	120	245	2020	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5	10.0	8.5	8.5	9.0	10.0	6.5	8.5	9.0	6.5	8.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.31	1.00	1.00	0.15	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	586	3539	1583	271	3539	1583	3433	3539	1583	3433	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	90	455	380	80	340	180	165	1420	120	245	2020	180
RTOR Reduction (vph)	0	0	84	0	0	83	0	0	28	0	0	26
Lane Group Flow (vph)	90	455	296	80	340	97	165	1420	92	245	2020	154
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	3	8	1	7	4	5	1	6	7	5	2	3
Permitted Phases	8		8	4		4			6			2
Actuated Green, G (s)	39.0	29.5	41.5	39.0	29.5	52.5	12.0	125.5	135.0	23.0	135.5	145.0
Effective Green, g (s)	39.0	29.5	41.5	39.0	29.5	52.5	12.0	125.5	135.0	23.0	135.5	145.0
Actuated g/C Ratio	0.18	0.13	0.19	0.18	0.13	0.24	0.05	0.57	0.61	0.10	0.62	0.66
Clearance Time (s)	8.5	8.5	10.0	8.5	8.5	9.0	10.0	6.5	8.5	9.0	6.5	8.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	155	474	298	112	474	377	187	2018	971	358	2179	1043
v/s Ratio Prot	0.03	0.13	c0.05	c0.03	0.10	0.03	0.05	c0.40	0.00	0.07	c0.57	0.01
v/s Ratio Perm	0.08		0.13	0.10		0.03			0.05			0.09
v/c Ratio	0.58	0.96	0.99	0.71	0.72	0.26	0.88	0.70	0.09	0.68	0.93	0.15
Uniform Delay, d1	79.1	94.7	89.1	79.1	91.3	67.9	103.3	33.9	17.4	95.0	37.8	14.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.23	0.51	0.19	0.75	0.41	0.41
Incremental Delay, d2	5.4	30.9	49.7	19.3	5.1	0.4	25.3	1.3	0.0	2.7	4.6	0.0
Delay (s)	84.5	125.5	138.8	98.4	96.4	68.3	152.3	18.7	3.4	74.1	20.2	5.8
Level of Service	F	F	F	F	F	E	F	B	A	E	C	A
Approach Delay (s)		127.0			88.2			30.5			24.5	
Approach LOS		F			F			C			C	

Intersection Summary

HCM 2000 Control Delay	49.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	33.5
Intersection Capacity Utilization	105.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
6121: Fairfax County Parkway & Sunrise Valley Dr

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↔		↔↔	↑↑↔	
Traffic Volume (vph)	460	360	180	375	475	550	80	1500	100	220	1885	460
Future Volume (vph)	460	360	180	375	475	550	80	1500	100	220	1885	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	9.5	9.5	9.0	10.0	10.0	9.0	9.0	6.5		9.0	6.5	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91		0.97	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5038		3433	4936	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5038		3433	4936	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	460	360	180	375	475	550	80	1500	100	220	1885	460
RTOR Reduction (vph)	0	0	87	0	0	43	0	3	0	0	18	0
Lane Group Flow (vph)	460	360	93	375	475	507	80	1597	0	220	2327	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8	1	7	4	5	1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	32.4	37.0	45.1	28.7	33.3	70.9	8.1	81.7		37.6	111.2	
Effective Green, g (s)	32.4	37.0	45.1	28.7	33.3	70.9	8.1	81.7		37.6	111.2	
Actuated g/C Ratio	0.15	0.17	0.21	0.13	0.15	0.32	0.04	0.37		0.17	0.51	
Clearance Time (s)	9.5	9.5	9.0	10.0	10.0	9.0	9.0	6.5		9.0	6.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	505	595	324	447	535	510	126	1870		586	2494	
v/s Ratio Prot	c0.13	c0.10	0.01	0.11	0.13	c0.17	0.02	0.32		0.06	c0.47	
v/s Ratio Perm			0.05			0.15						
v/c Ratio	0.91	0.61	0.29	0.84	0.89	0.99	0.63	0.85		0.38	0.93	
Uniform Delay, d1	92.4	84.7	73.9	93.4	91.5	74.3	104.5	63.7		80.8	50.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.04	0.80		0.86	0.83	
Incremental Delay, d2	20.3	1.2	0.2	12.4	15.9	37.9	5.6	3.9		0.1	6.2	
Delay (s)	112.7	85.9	74.1	105.8	107.4	112.2	114.5	54.9		69.6	48.3	
Level of Service	F	F	E	F	F	F	F	D		E	D	
Approach Delay (s)		96.1			108.9			57.7			50.1	
Approach LOS		F			F			E			D	

Intersection Summary

HCM 2000 Control Delay	71.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	220.0	Sum of lost time (s)	35.0
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 6221: Fairfax County Parkway & Dulles Toll Rd EB Off-Ramp

Fairfax County Parkway Study  
 Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	0	150	0	0	0	0	2255	250	325	2420	0
Future Volume (vph)	390	0	150	0	0	0	0	2255	250	325	2420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	9.0	9.0	9.0					6.0	6.0	7.5	6.0	
Lane Util. Factor	0.95	0.91	0.95					0.91	1.00	0.97	0.91	
Frt	1.00	0.99	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1602	1504					5085	1583	3433	5085	
Flt Permitted	0.95	0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1602	1504					5085	1583	3433	5085	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	390	0	150	0	0	0	0	2255	250	325	2420	0
RTOR Reduction (vph)	0	87	87	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	203	115	48	0	0	0	0	2255	250	325	2420	0
Turn Type	Split	NA	Perm					NA	custom	Prot	NA	
Protected Phases	3	3						6	6	5	2	
Permitted Phases			3						3			
Actuated Green, G (s)	17.7	17.7	17.7					55.1	72.8	14.7	77.3	
Effective Green, g (s)	17.7	17.7	17.7					55.1	72.8	14.7	77.3	
Actuated g/C Ratio	0.16	0.16	0.16					0.50	0.66	0.13	0.70	
Clearance Time (s)	9.0	9.0	9.0					6.0	6.0	7.5	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	270	257	242					2547	1134	458	3573	
v/s Ratio Prot	c0.12	0.07						c0.44	0.11	0.09	c0.48	
v/s Ratio Perm			0.03						0.05			
v/c Ratio	0.75	0.45	0.20					0.89	0.22	0.71	0.68	
Uniform Delay, d1	44.1	41.7	40.0					24.6	7.4	45.6	9.3	
Progression Factor	1.00	1.00	1.00					0.97	0.70	1.45	0.13	
Incremental Delay, d2	11.2	1.2	0.4					2.5	0.0	1.1	0.4	
Delay (s)	55.3	43.0	40.4					26.3	5.2	67.1	1.7	
Level of Service	E	D	D					C	A	E	A	
Approach Delay (s)		46.9			0.0			24.2			9.4	
Approach LOS		D			A			C			A	

Intersection Summary		
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.86	B
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	85.5%	22.5
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
7021: Fairfax County Parkway & Wiehle Ave

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘	↗↗	↘	↘↘	↗↗	↘	↘	↗↗	↘
Traffic Volume (vph)	50	165	190	50	505	370	400	1825	80	100	695	50
Future Volume (vph)	50	165	190	50	505	370	400	1825	80	100	695	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	6.5	10.0	6.5	7.0	11.0	10.0	6.5	6.5	11.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	165	190	50	505	370	400	1825	80	100	695	50
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	38	0	0	27
Lane Group Flow (vph)	50	165	190	50	505	370	400	1825	42	100	695	23
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	NA	6
Permitted Phases			4			8			2			6
Actuated Green, G (s)	8.3	33.0	59.2	9.3	33.0	46.0	26.2	94.2	94.2	13.0	82.0	82.0
Effective Green, g (s)	8.3	33.0	59.2	9.3	33.0	46.0	26.2	94.2	94.2	13.0	82.0	82.0
Actuated g/C Ratio	0.05	0.18	0.33	0.05	0.18	0.26	0.15	0.52	0.52	0.07	0.46	0.46
Clearance Time (s)	7.0	6.5	10.0	6.5	7.0	11.0	10.0	6.5	6.5	11.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	81	648	520	91	648	404	499	1852	828	127	1612	721
v/s Ratio Prot	c0.03	0.05	0.05	0.03	0.14	c0.07	0.12	c0.52		0.06	0.20	
v/s Ratio Perm			0.07			0.17			0.03			0.01
v/c Ratio	0.62	0.25	0.37	0.55	0.78	0.92	0.80	0.99	0.05	0.79	0.43	0.03
Uniform Delay, d1	84.3	63.0	46.1	83.3	70.0	65.1	74.4	42.2	21.0	82.1	33.2	27.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.14	0.40	1.00	1.09	1.22	1.00
Incremental Delay, d2	13.2	0.2	0.4	6.6	5.9	25.0	3.0	8.7	0.0	26.2	0.8	0.1
Delay (s)	97.5	63.2	46.5	89.9	75.9	90.1	88.0	25.6	21.0	115.9	41.4	27.1
Level of Service	F	E	D	F	E	F	F	C	C	F	D	C
Approach Delay (s)		59.6			82.4			36.3			49.4	
Approach LOS		E			F			D			D	

Intersection Summary		
HCM 2000 Control Delay	50.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.94	D
Actuated Cycle Length (s)	180.0	Sum of lost time (s)
Intersection Capacity Utilization	100.3%	31.5
Analysis Period (min)	15	ICU Level of Service
		G

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

Fairfax County Parkway Study

7521: Bonniemill Ln/Spring Village Dr/Bonnie & Franconia Springfield Parkway Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	0	1370	70	0	3620	130	40	0	140	120	20	80
Future Volume (vph)	0	1370	70	0	3620	130	40	0	140	120	20	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	11	12	12
Total Lost time (s)		7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	7.0
Lane Util. Factor		0.86	1.00		0.91	1.00	1.00		1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00		0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00	0.95	1.00	1.00
Satd. Flow (prot)		6408	1577		5085	1577	1770		1583	1711	1863	1583
Flt Permitted		1.00	1.00		1.00	1.00	0.74		1.00	0.76	1.00	1.00
Satd. Flow (perm)		6408	1577		5085	1577	1386		1583	1363	1863	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1370	70	0	3620	130	40	0	140	120	20	80
RTOR Reduction (vph)	0	0	0	0	0	24	0	0	103	0	0	21
Lane Group Flow (vph)	0	1370	70	0	3620	106	40	0	37	120	20	59
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	0	0	0	0
Turn Type		NA	Perm		NA	Perm	Perm		Perm	Perm	NA	Perm
Protected Phases		2			6			4			8	
Permitted Phases			2			6	4		4	8		8
Actuated Green, G (s)		146.9	146.9		146.9	146.9	19.1		19.1	19.1	19.1	19.1
Effective Green, g (s)		146.9	146.9		146.9	146.9	19.1		19.1	19.1	19.1	19.1
Actuated g/C Ratio		0.82	0.82		0.82	0.82	0.11		0.11	0.11	0.11	0.11
Clearance Time (s)		7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	7.0
Vehicle Extension (s)		4.0	4.0		4.0	4.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		5229	1287		4149	1287	147		167	144	197	167
v/s Ratio Prot		0.21			c0.71						0.01	
v/s Ratio Perm			0.04			0.07	0.03		0.02	c0.09		0.04
v/c Ratio		0.26	0.05		0.87	0.08	0.27		0.22	0.83	0.10	0.35
Uniform Delay, d1		3.9	3.2		10.6	3.3	74.1		73.7	78.9	72.7	74.7
Progression Factor		1.00	1.00		0.42	8.69	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		0.1	0.1		1.6	0.1	1.0		0.7	31.9	0.2	1.3
Delay (s)		4.0	3.3		6.1	28.4	75.1		74.3	110.8	72.9	76.0
Level of Service		A	A		A	C	E		E	F	E	E
Approach Delay (s)		4.0			6.8			74.5			94.7	
Approach LOS		A			A			E			F	

Intersection Summary

HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
 7522: Franconia Springfield Pkwy



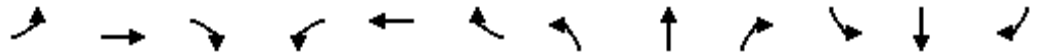
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⇐	⇕⇕⇕		⇑	⇕⇕⇕		
Traffic Volume (vph)	40	1590	0	230	3710	0	0
Future Volume (vph)	40	1590	0	230	3710	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	6.0		8.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91		
Frt	1.00	1.00		1.00	1.00		
Flt Protected	0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1770	5085		1770	5085		
Flt Permitted	0.95	1.00		0.95	1.00		
Satd. Flow (perm)	1770	5085		1770	5085		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	1590	0	230	3710	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0
Lane Group Flow (vph)	40	1590	0	230	3710	0	0
Turn Type	Prot	NA		Prot	NA		
Protected Phases	5	2		1	6		
Permitted Phases							
Actuated Green, G (s)	7.5	137.4		28.6	158.5		
Effective Green, g (s)	7.5	137.4		28.6	158.5		
Actuated g/C Ratio	0.04	0.76		0.16	0.88		
Clearance Time (s)	8.0	6.0		8.0	6.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	73	3881		281	4477		
v/s Ratio Prot	0.02	0.31		c0.13	c0.73		
v/s Ratio Perm							
v/c Ratio	0.55	0.41		0.82	0.83		
Uniform Delay, d1	84.6	7.3		73.2	4.8		
Progression Factor	1.11	1.01		1.17	0.92		
Incremental Delay, d2	8.0	0.3		15.1	1.7		
Delay (s)	101.8	7.7		100.8	6.0		
Level of Service	F	A		F	A		
Approach Delay (s)		10.0			11.6	0.0	
Approach LOS		B			B	A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
8121: Beulah Street & Franconia Springfield Pkwy

Fairfax County Parkway Study  
Existing Conditions - w/Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑↑		↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	370	1075	660	180	1185	165	600	440	180	330	620	285
Future Volume (vph)	370	1075	660	180	1185	165	600	440	180	330	620	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Total Lost time (s)	7.0	8.0	7.0	7.0	8.0		7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91		0.94	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3416	3522	1575	1770	4992		4990	3539	1577	3433	3539	1577
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3416	3522	1575	1770	4992		4990	3539	1577	3433	3539	1577
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	370	1075	660	180	1185	165	600	440	180	330	620	285
RTOR Reduction (vph)	0	0	46	0	10	0	0	0	51	0	0	49
Lane Group Flow (vph)	370	1075	614	180	1340	0	600	440	129	330	620	236
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	1	0	0	1
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8	1	7	4	5
Permitted Phases			2						8			4
Actuated Green, G (s)	25.2	73.3	96.3	21.8	69.9		23.0	33.5	55.3	22.4	32.9	58.1
Effective Green, g (s)	25.2	73.3	96.3	21.8	69.9		23.0	33.5	55.3	22.4	32.9	58.1
Actuated g/C Ratio	0.14	0.41	0.53	0.12	0.39		0.13	0.19	0.31	0.12	0.18	0.32
Clearance Time (s)	7.0	8.0	7.0	7.0	8.0		7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	4.0	2.0	3.0	3.0	2.0		3.0	3.0	3.0	3.0	3.0	4.0
Lane Grp Cap (vph)	478	1434	842	214	1938		637	658	545	427	646	570
v/s Ratio Prot	c0.11	c0.31	0.09	0.10	0.27		c0.12	0.12	0.03	0.10	c0.18	0.06
v/s Ratio Perm			0.30						0.05			0.09
v/c Ratio	0.77	0.75	0.73	0.84	0.69		0.94	0.67	0.24	0.77	0.96	0.41
Uniform Delay, d1	74.7	45.5	31.9	77.4	46.0		77.8	68.1	46.6	76.3	72.9	47.6
Progression Factor	1.20	0.63	0.38	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.8	3.5	3.1	24.6	2.1		22.3	2.6	0.2	8.5	25.4	0.7
Delay (s)	97.2	32.3	15.2	102.0	48.1		100.2	70.7	46.8	84.8	98.3	48.3
Level of Service	F	C	B	F	D		F	E	D	F	F	D
Approach Delay (s)		38.4			54.4			81.7			83.2	
Approach LOS		D			D			F			F	

**Intersection Summary**

HCM 2000 Control Delay	60.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	29.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group