

Bedford Highway Analysis

1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St

2018 Existing Conditions

Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 			 		 	 	
Traffic Volume (vph)	132	466	157	112	434	0	93	177	0	1606	1137	402
Future Volume (vph)	132	466	157	112	434	0	93	177	0	1606	1137	402
Satd. Flow (prot)	3433	3405	0	1770	3539	0	1770	3539	0	3433	3401	0
Flt Permitted	0.950			0.147			0.950			0.950		
Satd. Flow (perm)	3433	3405	0	274	3539	0	1770	3539	0	3433	3401	0
Satd. Flow (RTOR)		33									47	
Lane Group Flow (vph)	143	678	0	122	472	0	101	192	0	1746	1673	0
Turn Type	Prot	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases				8								
Total Split (s)	22.5	24.0		22.5	24.0		24.5	24.5		49.0	49.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)	10.3	26.2		38.5	27.2		20.0	20.0		44.5	44.5	
Actuated g/C Ratio	0.09	0.22		0.32	0.23		0.17	0.17		0.37	0.37	
v/c Ratio	0.48	0.88		0.54	0.59		0.34	0.33		1.37	1.30	
Control Delay	57.5	57.8		36.4	45.4		48.0	45.8		204.2	171.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	57.5	57.8		36.4	45.4		48.0	45.8		204.2	171.6	
LOS	E	E		D	D		D	D		F	F	
Approach Delay		57.7			43.6			46.6			188.3	
Approach LOS		E			D			D			F	
Queue Length 50th (m)	17.7	82.3		21.0	55.3		22.4	22.3		~294.9	~276.5	
Queue Length 95th (m)	27.9	#131.3		36.1	75.9		40.1	34.1		#338.5	#322.1	
Internal Link Dist (m)		134.4			85.9			203.3			67.2	
Turn Bay Length (m)	50.0			35.0			50.0					
Base Capacity (vph)	514	769		320	800		295	589		1273	1290	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.28	0.88		0.38	0.59		0.34	0.33		1.37	1.30	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.37

Intersection Signal Delay: 142.5

Intersection LOS: F

Intersection Capacity Utilization 89.8%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St

 Ø2 (R)	 Ø6	 Ø3	 Ø4
24.5 s	49 s	22.5 s	24 s
		 Ø7	 Ø8
		22.5 s	24 s

Bedford Highway Analysis
2: Bedford Hwy & Manor Ln

2018 Existing Conditions
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	18	31	19	1074	1769	11
Future Volume (vph)	18	31	19	1074	1769	11
Satd. Flow (prot)	1770	1583	1770	3539	3536	0
Flt Permitted	0.950		0.072			
Satd. Flow (perm)	1770	1583	134	3539	3536	0
Satd. Flow (RTOR)		34			1	
Lane Group Flow (vph)	20	34	21	1167	1935	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	24.0	24.0	13.0	76.0	63.0	
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8	
Act Effect Green (s)	7.3	7.3	87.9	88.4	84.0	
Actuated g/C Ratio	0.07	0.07	0.88	0.88	0.84	
v/c Ratio	0.16	0.23	0.09	0.37	0.65	
Control Delay	46.0	18.7	2.3	2.3	4.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.0	18.7	2.3	2.3	4.1	
LOS	D	B	A	A	A	
Approach Delay	28.8			2.3	4.1	
Approach LOS	C			A	A	
Queue Length 50th (m)	3.9	0.0	0.5	26.1	25.6	
Queue Length 95th (m)	11.4	9.6	1.7	36.5	m83.2	
Internal Link Dist (m)	44.2			416.4	230.9	
Turn Bay Length (m)			15.0			
Base Capacity (vph)	318	312	264	3128	2969	
Starvation Cap Reductn	0	0	0	0	81	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.06	0.11	0.08	0.37	0.67	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 3.9

Intersection LOS: A

Intersection Capacity Utilization 64.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Bedford Hwy & Manor Ln



Bedford Highway Analysis

3: Bedford Hwy & Bayview Dr

2018 Existing Conditions
Timing Plan: AM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	44	656	361	548	1384	36
Future Volume (vph)	44	656	361	548	1384	36
Satd. Flow (prot)	1623	0	0	3472	3525	0
Flt Permitted	0.997			0.529		
Satd. Flow (perm)	1623	0	0	1872	3525	0
Satd. Flow (RTOR)	176				4	
Lane Group Flow (vph)	761	0	0	988	1543	0
Turn Type	Prot		pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases			6			
Total Split (s)	26.0		13.0	74.0	61.0	
Total Lost Time (s)	6.0			5.8	5.8	
Act Effect Green (s)	20.0			68.2	55.2	
Actuated g/C Ratio	0.20			0.68	0.55	
v/c Ratio	1.64			1.92dl	0.79	
Control Delay	319.6			9.5	21.6	
Queue Delay	0.0			0.0	0.0	
Total Delay	319.6			9.5	21.6	
LOS	F			A	C	
Approach Delay	319.6			9.5	21.6	
Approach LOS	F			A	C	
Queue Length 50th (m)	~196.8			21.7	124.2	
Queue Length 95th (m)	#270.5			25.6	155.2	
Internal Link Dist (m)	326.3			230.9	392.1	
Turn Bay Length (m)						
Base Capacity (vph)	465			1391	1947	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.64			0.71	0.79	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.64

Intersection Signal Delay: 86.9

Intersection LOS: F

Intersection Capacity Utilization 122.7%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: Bedford Hwy & Bayview Dr



Bedford Highway Analysis
6: Bedford Hwy & Flamingo Dr

2018 Existing Conditions
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	197	42	355	630	0
Future Volume (vph)	19	197	42	355	630	0
Satd. Flow (prot)	1770	1583	1770	1863	1863	0
Flt Permitted	0.950		0.377			
Satd. Flow (perm)	1770	1583	702	1863	1863	0
Satd. Flow (RTOR)		214				
Lane Group Flow (vph)	21	214	46	386	685	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases		4	6			
Total Split (s)	26.0	26.0	94.0	94.0	94.0	
Total Lost Time (s)	6.0	6.0	6.1	6.1	6.1	
Act Effct Green (s)	8.9	8.9	99.0	99.0	99.0	
Actuated g/C Ratio	0.07	0.07	0.82	0.82	0.82	
v/c Ratio	0.16	0.68	0.08	0.25	0.45	
Control Delay	53.3	18.2	2.7	3.0	4.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.3	18.2	2.7	3.0	4.2	
LOS	D	B	A	A	A	
Approach Delay	21.3			2.9	4.2	
Approach LOS	C			A	A	
Queue Length 50th (m)	5.1	0.0	1.4	14.2	31.6	
Queue Length 95th (m)	12.8	23.2	5.1	31.6	67.9	
Internal Link Dist (m)	139.9			392.2	501.1	
Turn Bay Length (m)	22.0		34.0			
Base Capacity (vph)	295	442	579	1537	1537	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.48	0.08	0.25	0.45	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 6.8

Intersection LOS: A

Intersection Capacity Utilization 55.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Bedford Hwy & Flamingo Dr



Bedford Highway Analysis
8: Bedford Hwy & Kearney Lake Rd

2018 Existing Conditions
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	138	289	140	324	433	116
Future Volume (vph)	138	289	140	324	433	116
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.453			
Satd. Flow (perm)	1770	1583	844	1863	1863	1583
Satd. Flow (RTOR)		314				126
Lane Group Flow (vph)	150	314	152	352	471	126
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases		3	2			2
Total Split (s)	31.0	31.0	56.0	56.0	56.0	56.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effct Green (s)	9.2	9.2	18.4	18.4	18.4	18.4
Actuated g/C Ratio	0.23	0.23	0.46	0.46	0.46	0.46
v/c Ratio	0.37	0.52	0.39	0.41	0.55	0.16
Control Delay	16.9	6.0	10.9	9.0	10.8	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	6.0	10.9	9.0	10.8	2.2
LOS	B	A	B	A	B	A
Approach Delay	9.5			9.6	9.0	
Approach LOS	A			A	A	
Queue Length 50th (m)	8.1	0.0	6.1	14.2	20.7	0.0
Queue Length 95th (m)	24.9	15.5	18.7	32.9	46.6	5.8
Internal Link Dist (m)	207.2			269.8	796.7	
Turn Bay Length (m)		41.0				87.0
Base Capacity (vph)	1137	1129	838	1849	1849	1572
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.28	0.18	0.19	0.25	0.08

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 39.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 9.3

Intersection LOS: A

Intersection Capacity Utilization 57.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 8: Bedford Hwy & Kearney Lake Rd



Bedford Highway Analysis
9: Bedford Hwy & Larry Uteck Blvd

2018 Existing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	0	258	0	0	0	146	364	0	0	380	43
Future Volume (vph)	128	0	258	0	0	0	146	364	0	0	380	43
Satd. Flow (prot)	0	1770	1583	0	1863	0	1770	1863	0	0	1863	1583
Flt Permitted		0.757					0.305					
Satd. Flow (perm)	0	1410	1583	0	1863	0	568	1863	0	0	1863	1583
Satd. Flow (RTOR)			280									72
Lane Group Flow (vph)	0	139	280	0	0	0	159	396	0	0	413	47
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Total Split (s)	31.0	31.0	31.0	31.0	31.0		24.0	75.0		51.0	51.0	51.0
Total Lost Time (s)		6.0	6.0		6.0		4.0	6.0			6.0	6.0
Act Effect Green (s)		11.3	11.3				35.0	32.9			18.2	18.2
Actuated g/C Ratio		0.20	0.20				0.62	0.58			0.32	0.32
v/c Ratio		0.49	0.52				0.28	0.37			0.69	0.08
Control Delay		29.0	7.4				6.2	7.7			24.5	2.7
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		29.0	7.4				6.2	7.7			24.5	2.7
LOS		C	A				A	A			C	A
Approach Delay		14.5						7.3			22.3	
Approach LOS		B						A			C	
Queue Length 50th (m)		12.9	0.0				5.8	19.1			36.8	0.0
Queue Length 95th (m)		35.1	18.5				15.3	41.7			80.0	3.9
Internal Link Dist (m)		399.7			12.3			76.8			1542.8	
Turn Bay Length (m)							58.0					97.0
Base Capacity (vph)		648	879				792	1825			1516	1301
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.21	0.32				0.20	0.22			0.27	0.04

Intersection Summary

Cycle Length: 106

Actuated Cycle Length: 56.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 14.2

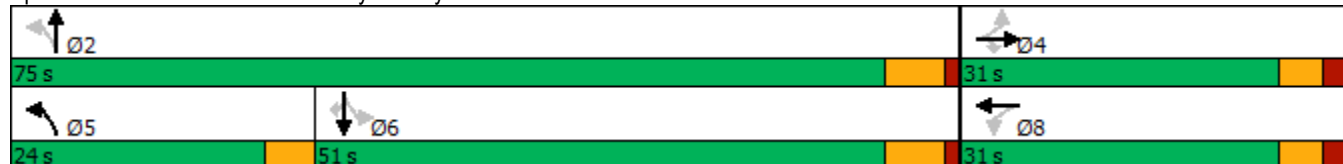
Intersection LOS: B

Intersection Capacity Utilization 61.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 9: Bedford Hwy & Larry Uteck Blvd



Bedford Highway Analysis
10: Bedford Hwy & Southgate Dr

2018 Existing Conditions
Timing Plan: AM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	112	31	4	436	557	125
Future Volume (vph)	112	31	4	436	557	125
Satd. Flow (prot)	1770	1583	1770	1863	1816	0
Flt Permitted	0.950		0.321			
Satd. Flow (perm)	1770	1583	598	1863	1816	0
Satd. Flow (RTOR)		34			22	
Lane Group Flow (vph)	122	34	4	474	741	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Total Split (s)	31.0	31.0	56.0	56.0	56.0	
Total Lost Time (s)	6.0	6.0	5.7	5.7	5.7	
Act Effct Green (s)	10.3	10.3	54.6	54.6	54.6	
Actuated g/C Ratio	0.14	0.14	0.75	0.75	0.75	
v/c Ratio	0.49	0.13	0.01	0.34	0.54	
Control Delay	35.2	11.2	4.2	5.4	7.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.2	11.2	4.2	5.4	7.4	
LOS	D	B	A	A	A	
Approach Delay	30.0			5.4	7.4	
Approach LOS	C			A	A	
Queue Length 50th (m)	16.3	0.0	0.1	22.5	42.5	
Queue Length 95th (m)	31.6	7.2	1.1	44.2	84.9	
Internal Link Dist (m)	107.6			1542.8	369.0	
Turn Bay Length (m)			42.0			
Base Capacity (vph)	608	566	448	1396	1367	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.20	0.06	0.01	0.34	0.54	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 72.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 52.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Bedford Hwy & Southgate Dr



Bedford Highway Analysis
11: Bedford Hwy & Moirs Mill Rd

2018 Existing Conditions
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	207	28	6	526	469	86
Future Volume (vph)	207	28	6	526	469	86
Satd. Flow (prot)	1770	1583	0	3536	3458	0
Flt Permitted	0.950			0.949		
Satd. Flow (perm)	1770	1583	0	3359	3458	0
Satd. Flow (RTOR)		30			32	
Lane Group Flow (vph)	225	30	0	579	603	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	3			2	2	
Permitted Phases		3	2			
Total Split (s)	41.5	41.5	58.5	58.5	58.5	
Total Lost Time (s)	6.0	6.0		5.5	5.5	
Act Effct Green (s)	18.2	18.2		70.3	70.3	
Actuated g/C Ratio	0.18	0.18		0.70	0.70	
v/c Ratio	0.70	0.10		0.25	0.25	
Control Delay	49.6	11.5		6.2	3.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	49.6	11.5		6.2	3.7	
LOS	D	B		A	A	
Approach Delay	45.1			6.2	3.7	
Approach LOS	D			A	A	
Queue Length 50th (m)	43.4	0.0		19.4	3.0	
Queue Length 95th (m)	63.9	7.3		33.2	19.0	
Internal Link Dist (m)	95.1			116.3	148.8	
Turn Bay Length (m)		25.0				
Base Capacity (vph)	628	581		2362	2440	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.36	0.05		0.25	0.25	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 12.0

Intersection LOS: B

Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 11: Bedford Hwy & Moirs Mill Rd



Bedford Highway Analysis
12: Bedford Hwy & Hammonds Plains Rd

2018 Existing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	59	181	37	46	59	233	440	8	62	375	202
Future Volume (vph)	292	59	181	37	46	59	233	440	8	62	375	202
Satd. Flow (prot)	1770	1652	0	1770	1706	0	1770	1857	0	1770	3539	1583
Flt Permitted	0.509			0.598			0.435			0.386		
Satd. Flow (perm)	948	1652	0	1114	1706	0	810	1857	0	719	3539	1583
Satd. Flow (RTOR)		146			58			1				220
Lane Group Flow (vph)	317	261	0	40	114	0	253	487	0	67	408	220
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Total Split (s)	17.0	30.0		14.0	27.0		22.0	42.0		14.0	34.0	34.0
Total Lost Time (s)	4.0	6.1		4.0	6.1		4.0	5.8		4.0	5.8	5.8
Act Effct Green (s)	33.1	23.9		19.8	10.1		58.8	47.7		49.8	40.4	40.4
Actuated g/C Ratio	0.33	0.24		0.20	0.10		0.59	0.48		0.50	0.40	0.40
v/c Ratio	0.70	0.52		0.15	0.51		0.42	0.55		0.15	0.29	0.29
Control Delay	36.3	19.0		23.7	29.6		9.9	16.5		11.3	22.2	4.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.2		0.0	0.0	0.0
Total Delay	36.3	19.0		23.7	29.6		9.9	16.8		11.3	22.2	4.4
LOS	D	B		C	C		A	B		B	C	A
Approach Delay		28.5			28.1			14.4			15.6	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	51.2	20.0		5.4	11.0		16.5	44.0		5.6	29.5	0.0
Queue Length 95th (m)	76.2	46.3		12.5	26.0		25.7	45.8		12.2	46.2	15.9
Internal Link Dist (m)		215.5			47.8			148.8			134.8	
Turn Bay Length (m)	67.0									31.0		60.0
Base Capacity (vph)	452	524		313	402		649	886		480	1431	771
Starvation Cap Reductn	0	0		0	0		0	72		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.70	0.50		0.13	0.28		0.39	0.60		0.14	0.29	0.29

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 19.5

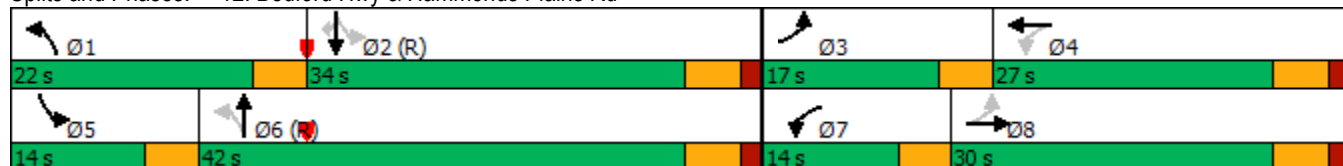
Intersection LOS: B

Intersection Capacity Utilization 68.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 12: Bedford Hwy & Hammonds Plains Rd



Bedford Highway Analysis
13: Bedford Hwy & Holland Ave/Convoy Run

2018 Existing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	3	30	45	4	16	17	586	98	42	569	15
Future Volume (vph)	22	3	30	45	4	16	17	586	98	42	569	15
Satd. Flow (prot)	0	1690	0	0	1781	1583	1770	1822	0	1770	1855	0
Flt Permitted		0.846			0.699		0.395			0.339		
Satd. Flow (perm)	0	1459	0	0	1302	1583	736	1822	0	631	1855	0
Satd. Flow (RTOR)		33				28		11			2	
Lane Group Flow (vph)	0	60	0	0	53	17	18	744	0	46	634	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3			3		3	2			2		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	67.0	67.0		67.0	67.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		8.6			8.6	8.6	69.4	69.4		69.4	69.4	
Actuated g/C Ratio		0.10			0.10	0.10	0.80	0.80		0.80	0.80	
v/c Ratio		0.34			0.41	0.09	0.03	0.51		0.09	0.43	
Control Delay		24.7			44.9	9.1	3.2	5.6		3.6	4.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		24.7			44.9	9.1	3.2	5.6		3.6	4.8	
LOS		C			D	A	A	A		A	A	
Approach Delay		24.7			36.2			5.5			4.7	
Approach LOS		C			D			A			A	
Queue Length 50th (m)		4.4			8.9	0.0	0.6	40.1		1.6	31.1	
Queue Length 95th (m)		15.3			19.3	4.1	2.5	73.8		5.1	56.8	
Internal Link Dist (m)		82.0			72.0			302.4			719.4	
Turn Bay Length (m)						41.0	73.0			28.0		
Base Capacity (vph)		761			665	822	591	1465		506	1490	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.08			0.08	0.02	0.03	0.51		0.09	0.43	

Intersection Summary

Cycle Length: 117

Actuated Cycle Length: 86.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 7.3

Intersection LOS: A

Intersection Capacity Utilization 60.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: Bedford Hwy & Holland Ave/Convoy Run



Bedford Highway Analysis
14: Bedford Hwy & Meadowbrook Dr

2018 Existing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	0	29	0	0	3	7	630	8	9	683	62
Future Volume (vph)	180	0	29	0	0	3	7	630	8	9	683	62
Satd. Flow (prot)	0	1770	1583	0	1611	0	1770	1859	0	1770	1840	0
Flt Permitted		0.756					0.255			0.319		
Satd. Flow (perm)	0	1408	1583	0	1611	0	475	1859	0	594	1840	0
Satd. Flow (RTOR)			32		258			1			9	
Lane Group Flow (vph)	0	196	32	0	3	0	8	694	0	10	809	0
Turn Type	Perm	NA	Perm		NA		Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3		3	3			2			2		
Total Split (s)	31.0	31.0	31.0	31.0	31.0		65.0	65.0		65.0	65.0	
Total Lost Time (s)		6.0	6.0		6.0		5.6	5.6		5.6	5.6	
Act Effct Green (s)		17.7	17.7		17.7		62.7	62.7		62.7	62.7	
Actuated g/C Ratio		0.19	0.19		0.19		0.68	0.68		0.68	0.68	
v/c Ratio		0.73	0.10		0.01		0.02	0.55		0.02	0.64	
Control Delay		49.6	10.6		0.0		6.7	10.4		6.7	12.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		49.6	10.6		0.0		6.7	10.4		6.7	12.3	
LOS		D	B		A		A	B		A	B	
Approach Delay		44.1						10.4			12.2	
Approach LOS		D						B			B	
Queue Length 50th (m)		32.9	0.0		0.0		0.4	56.3		0.5	72.5	
Queue Length 95th (m)		55.8	7.2		0.0		2.3	109.3		2.8	143.1	
Internal Link Dist (m)		116.5			20.8			112.1			644.8	
Turn Bay Length (m)							25.0			26.0		
Base Capacity (vph)		383	454		626		323	1266		404	1256	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.51	0.07		0.00		0.02	0.55		0.02	0.64	

Intersection Summary

Cycle Length: 96

Actuated Cycle Length: 92

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 15.6

Intersection LOS: B

Intersection Capacity Utilization 66.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 14: Bedford Hwy & Meadowbrook Dr



Bedford Highway Analysis
15: Bedford Hwy & Hatchery Ln

2018 Existing Conditions
Timing Plan: AM PEAK

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	92	51	817	90	20	650
Future Volume (vph)	92	51	817	90	20	650
Satd. Flow (prot)	1770	1583	1839	0	1770	1863
Flt Permitted	0.950				0.225	
Satd. Flow (perm)	1770	1583	1839	0	419	1863
Satd. Flow (RTOR)		55	11			
Lane Group Flow (vph)	100	55	986	0	22	707
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	4		6			2
Permitted Phases		4			2	
Total Split (s)	31.0	31.0	69.0		69.0	69.0
Total Lost Time (s)	6.0	6.0	6.5		6.5	6.5
Act Effct Green (s)	11.1	11.1	80.3		80.3	80.3
Actuated g/C Ratio	0.11	0.11	0.80		0.80	0.80
v/c Ratio	0.51	0.25	0.67		0.07	0.47
Control Delay	50.5	13.5	8.9		3.0	3.5
Queue Delay	0.0	0.0	0.0		0.0	0.1
Total Delay	50.5	13.5	8.9		3.0	3.5
LOS	D	B	A		A	A
Approach Delay	37.4		8.9			3.5
Approach LOS	D		A			A
Queue Length 50th (m)	19.6	0.0	81.7		0.6	24.5
Queue Length 95th (m)	34.8	10.9	153.1		m1.6	33.9
Internal Link Dist (m)	38.8		644.8			132.9
Turn Bay Length (m)					18.0	
Base Capacity (vph)	442	437	1479		336	1496
Starvation Cap Reductn	0	0	0		0	81
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.23	0.13	0.67		0.07	0.50

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 80 (80%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 64.7%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Bedford Hwy & Hatchery Ln



Bedford Highway Analysis
16: Bedford Hwy & Union St

2018 Existing Conditions
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	45	60	41	753	602	22
Future Volume (vph)	45	60	41	753	602	22
Satd. Flow (prot)	1683	0	1770	1863	1853	0
Flt Permitted	0.979		0.372			
Satd. Flow (perm)	1683	0	693	1863	1853	0
Satd. Flow (RTOR)	64				4	
Lane Group Flow (vph)	114	0	45	818	678	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases			6			
Total Split (s)	31.0		69.0	69.0	69.0	
Total Lost Time (s)	6.0		6.5	6.5	6.5	
Act Effct Green (s)	9.3		78.2	78.2	78.2	
Actuated g/C Ratio	0.09		0.78	0.78	0.78	
v/c Ratio	0.53		0.08	0.56	0.47	
Control Delay	29.8		2.4	3.7	5.3	
Queue Delay	0.0		0.0	0.3	0.0	
Total Delay	29.8		2.4	4.0	5.3	
LOS	C		A	A	A	
Approach Delay	29.8			3.9	5.3	
Approach LOS	C			A	A	
Queue Length 50th (m)	9.8		1.2	21.7	35.5	
Queue Length 95th (m)	26.0		m2.2	31.7	68.2	
Internal Link Dist (m)	153.0			132.9	320.3	
Turn Bay Length (m)			33.0			
Base Capacity (vph)	468		541	1456	1449	
Starvation Cap Reductn	0		0	185	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.24		0.08	0.64	0.47	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 80 (80%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 6.3

Intersection LOS: A

Intersection Capacity Utilization 56.2%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Bedford Hwy & Union St



Bedford Highway Analysis
17: Bedford Hwy & Dartmouth Rd

2018 Existing Conditions
Timing Plan: AM PEAK

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕	↕	↕	↕		↕	↕	
Traffic Volume (vph)	2	32	12	352	12	468	10	257	249	354	258	15
Future Volume (vph)	2	32	12	352	12	468	10	257	249	354	258	15
Satd. Flow (prot)	0	1794	0	1770	1517	1504	1770	3277	0	1770	3511	0
Flt Permitted		0.990		0.724			0.571			0.349		
Satd. Flow (perm)	0	1780	0	1349	1517	1504	1064	3277	0	650	3511	0
Satd. Flow (RTOR)		13			249	260		236			9	
Lane Group Flow (vph)	0	50	0	383	262	260	11	550	0	385	296	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4		4	2			6		
Total Split (s)	40.0	40.0		40.0	40.0	40.0	43.0	43.0		29.0	72.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.2	6.2		4.0	6.2	
Act Effct Green (s)		33.2		33.2	33.2	33.2	44.7	44.7		68.8	66.6	
Actuated g/C Ratio		0.30		0.30	0.30	0.30	0.40	0.40		0.61	0.59	
v/c Ratio		0.09		0.96	0.42	0.41	0.03	0.38		0.67	0.14	
Control Delay		22.7		75.1	6.7	5.7	23.9	14.8		30.2	8.7	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		1.1	0.0	
Total Delay		22.7		75.1	6.7	5.7	23.9	14.8		31.3	8.7	
LOS		C		E	A	A	C	B		C	A	
Approach Delay		22.7			35.4			14.9			21.5	
Approach LOS		C			D			B			C	
Queue Length 50th (m)		6.1		85.7	2.2	0.0	1.5	25.3		58.6	12.7	
Queue Length 95th (m)		15.3		#146.1	22.8	19.7	6.0	44.1		92.9	21.9	
Internal Link Dist (m)		15.4			319.7			106.0			83.4	
Turn Bay Length (m)				56.0		40.0	47.0			40.0		
Base Capacity (vph)		549		409	633	637	424	1450		648	2090	
Starvation Cap Reductn		0		0	0	0	0	0		100	0	
Spillback Cap Reductn		0		0	0	0	0	0		0	0	
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.09		0.94	0.41	0.41	0.03	0.38		0.70	0.14	

Intersection Summary

Cycle Length: 112

Actuated Cycle Length: 112

Offset: 65 (58%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 25.6

Intersection LOS: C

Intersection Capacity Utilization 74.4%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Bedford Hwy & Dartmouth Rd



Bedford Highway Analysis
18: Bedford Hwy & Sunnyside Mall

2018 Existing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	8	0	4	36	2	22	4	641	60	40	825	59
Future Volume (vph)	8	0	4	36	2	22	4	641	60	40	825	59
Satd. Flow (prot)	0	1726	0	0	3248	0	1770	3493	0	1770	3504	0
Flt Permitted		0.751			0.810		0.298			0.340		
Satd. Flow (perm)	0	1340	0	0	2709	0	555	3493	0	633	3504	0
Satd. Flow (RTOR)		70			24			12			14	
Lane Group Flow (vph)	0	13	0	0	65	0	4	762	0	43	961	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4			2			6		
Total Split (s)	32.0	32.0		32.0	32.0		61.0	61.0		19.0	80.0	
Total Lost Time (s)		6.4			6.4		6.2	6.2		4.0	6.2	
Act Effct Green (s)		7.7			7.7		89.0	89.0		96.5	95.6	
Actuated g/C Ratio		0.07			0.07		0.79	0.79		0.86	0.85	
v/c Ratio		0.08			0.31		0.01	0.27		0.07	0.32	
Control Delay		1.0			37.6		5.2	5.7		2.7	6.1	
Queue Delay		0.0			0.0		0.0	0.2		0.0	0.2	
Total Delay		1.0			37.6		5.2	5.9		2.7	6.4	
LOS		A			D		A	A		A	A	
Approach Delay		1.0			37.6			5.8			6.2	
Approach LOS		A			D			A			A	
Queue Length 50th (m)		0.0			4.8		0.3	40.2		2.8	65.9	
Queue Length 95th (m)		0.0			11.9		m0.7	46.7		m3.1	102.6	
Internal Link Dist (m)		20.0			34.2			83.4			134.0	
Turn Bay Length (m)							22.0			45.0		
Base Capacity (vph)		360			637		440	2777		697	2992	
Starvation Cap Reductn		0			0		0	1025		0	1126	
Spillback Cap Reductn		0			0		0	0		0	124	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.04			0.10		0.01	0.43		0.06	0.52	

Intersection Summary

Cycle Length: 112

Actuated Cycle Length: 112

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 7.1

Intersection LOS: A

Intersection Capacity Utilization 51.1%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Bedford Hwy & Sunnyside Mall



Bedford Highway Analysis
19: Bedford Hwy & Rocky Lake

2018 Existing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	20	38	205	30	61	65	435	194	107	647	26
Future Volume (vph)	29	20	38	205	30	61	65	435	194	107	647	26
Satd. Flow (prot)	1770	1680	0	1770	1676	0	1770	3376	0	1770	3518	0
Flt Permitted	0.693			0.463			0.362			0.950		
Satd. Flow (perm)	1291	1680	0	862	1676	0	674	3376	0	1770	3518	0
Satd. Flow (RTOR)		41			66			68			4	
Lane Group Flow (vph)	32	63	0	223	99	0	71	684	0	116	731	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2					
Total Split (s)	31.0	31.0		22.0	53.0		12.0	43.0		16.0	47.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	8.7	8.7		30.5	28.5		64.4	54.9		12.6	62.1	
Actuated g/C Ratio	0.08	0.08		0.27	0.25		0.58	0.49		0.11	0.55	
v/c Ratio	0.32	0.38		0.58	0.21		0.15	0.41		0.58	0.37	
Control Delay	56.8	28.7		39.4	13.2		10.6	20.4		53.9	21.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	56.8	28.7		39.4	13.2		10.6	20.4		53.9	21.6	
LOS	E	C		D	B		B	C		D	C	
Approach Delay		38.2			31.4			19.5			26.0	
Approach LOS		D			C			B			C	
Queue Length 50th (m)	7.1	4.8		41.9	5.7		4.9	38.5		25.8	56.1	
Queue Length 95th (m)	17.2	18.1		62.5	18.4		16.2	73.0		43.1	105.4	
Internal Link Dist (m)		43.5			31.5			134.0			140.7	
Turn Bay Length (m)	34.0						25.0			32.0		
Base Capacity (vph)	288	406		383	741		472	1688		216	1952	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.16		0.58	0.13		0.15	0.41		0.54	0.37	

Intersection Summary

Cycle Length: 112

Actuated Cycle Length: 112

Offset: 71 (63%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 25.0

Intersection LOS: C

Intersection Capacity Utilization 55.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 19: Bedford Hwy & Rocky Lake

			
Ø1	Ø2 (R)	Ø3	Ø4
16 s	43 s	22 s	31 s
			
Ø5	Ø6	Ø7	Ø8
12 s	47 s	53 s	

Bedford Highway Analysis
20: Bedford Hwy & Bedford Place

2018 Existing Conditions
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	16	14	418	776	24
Future Volume (vph)	10	16	14	418	776	24
Satd. Flow (prot)	1678	0	1770	3539	3539	1583
Flt Permitted	0.981		0.335			
Satd. Flow (perm)	1678	0	624	3539	3539	1583
Satd. Flow (RTOR)	17					26
Lane Group Flow (vph)	28	0	15	454	843	26
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			6	2	
Permitted Phases			6			2
Total Split (s)	34.0		78.0	78.0	78.0	78.0
Total Lost Time (s)	6.0		6.2	6.2	6.2	6.2
Act Effect Green (s)	7.4		100.1	100.1	100.1	100.1
Actuated g/C Ratio	0.07		0.89	0.89	0.89	0.89
v/c Ratio	0.22		0.03	0.14	0.27	0.02
Control Delay	32.7		5.6	4.7	0.3	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	32.7		5.6	4.7	0.3	0.0
LOS	C		A	A	A	A
Approach Delay	32.7			4.7	0.3	
Approach LOS	C			A	A	
Queue Length 50th (m)	2.5		0.9	14.7	1.3	0.0
Queue Length 95th (m)	11.6		m4.2	44.3	1.6	0.0
Internal Link Dist (m)	28.6			140.7	211.4	
Turn Bay Length (m)						40.0
Base Capacity (vph)	432		557	3163	3163	1417
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.06		0.03	0.14	0.27	0.02

Intersection Summary

Cycle Length: 112

Actuated Cycle Length: 112

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 2.5

Intersection LOS: A

Intersection Capacity Utilization 37.5%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Bedford Hwy & Bedford Place



Bedford Highway Analysis
21: Bedford Hwy & River Ln

2018 Existing Conditions
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	48	11	6	456	792	73
Future Volume (vph)	48	11	6	456	792	73
Satd. Flow (prot)	1745	0	1770	3539	3539	1583
Flt Permitted	0.961		0.950			
Satd. Flow (perm)	1745	0	1770	3539	3539	1583
Satd. Flow (RTOR)	10					61
Lane Group Flow (vph)	64	0	7	496	861	79
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases						2
Total Split (s)	32.0		21.0	80.0	59.0	59.0
Total Lost Time (s)	6.0		6.0	6.5	6.5	6.5
Act Effct Green (s)	9.2		7.0	94.2	91.5	91.5
Actuated g/C Ratio	0.08		0.06	0.84	0.82	0.82
v/c Ratio	0.42		0.06	0.17	0.30	0.06
Control Delay	49.4		65.0	1.6	4.2	1.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	49.4		65.0	1.6	4.2	1.9
LOS	D		E	A	A	A
Approach Delay	49.4			2.5	4.0	
Approach LOS	D			A	A	
Queue Length 50th (m)	12.0		1.8	5.6	20.5	0.6
Queue Length 95th (m)	25.6		7.0	7.6	54.2	6.4
Internal Link Dist (m)	31.9			211.4	233.1	
Turn Bay Length (m)			19.0			38.0
Base Capacity (vph)	412		237	2975	2892	1304
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.16		0.03	0.17	0.30	0.06

Intersection Summary

Cycle Length: 112

Actuated Cycle Length: 112

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 5.4

Intersection LOS: A

Intersection Capacity Utilization 38.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Bedford Hwy & River Ln



Bedford Highway Analysis

2018 Existing Conditions

1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St

Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	366	442	63	38	412	0	69	419	2	956	505	88
Future Volume (vph)	366	442	63	38	412	0	69	419	2	956	505	88
Satd. Flow (prot)	3433	3472	0	1770	3539	0	1770	3536	0	3433	3461	0
Flt Permitted	0.950			0.417			0.950			0.950		
Satd. Flow (perm)	3433	3472	0	777	3539	0	1770	3536	0	3433	3461	0
Satd. Flow (RTOR)		11									18	
Lane Group Flow (vph)	398	548	0	41	448	0	75	457	0	1039	645	0
Turn Type	Prot	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases				8								
Total Split (s)	22.6	26.6		22.5	26.5		24.9	24.9		46.0	46.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)	17.2	31.5		26.9	19.6		23.7	23.7		41.5	41.5	
Actuated g/C Ratio	0.14	0.26		0.22	0.16		0.20	0.20		0.35	0.35	
v/c Ratio	0.81	0.60		0.17	0.78		0.21	0.66		0.88	0.53	
Control Delay	63.3	41.2		27.6	57.7		44.1	50.4		46.4	32.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	63.3	41.2		27.6	57.7		44.1	50.4		46.4	32.5	
LOS	E	D		C	E		D	D		D	C	
Approach Delay		50.5			55.2			49.5			41.1	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	49.4	61.7		6.7	56.2		16.0	56.4		123.7	65.1	
Queue Length 95th (m)	#67.6	81.3		14.5	73.8		31.1	76.7		#154.2	84.2	
Internal Link Dist (m)		134.4			85.9			203.3			67.2	
Turn Bay Length (m)	50.0			35.0			50.0					
Base Capacity (vph)	517	918		392	648		349	697		1187	1208	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.77	0.60		0.10	0.69		0.21	0.66		0.88	0.53	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 46.7

Intersection LOS: D

Intersection Capacity Utilization 75.7%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St

 Ø2 (R)	 Ø6	 Ø3	 Ø4
24.9 s	46 s	22.5 s	26.6 s
		 Ø7	 Ø8
		22.6 s	26.5 s

Bedford Highway Analysis
2: Bedford Hwy & Manor Ln

2018 Existing Conditions
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	39	55	2053	1036	25
Future Volume (vph)	16	39	55	2053	1036	25
Satd. Flow (prot)	1770	1583	1770	3539	3525	0
Flt Permitted	0.950		0.212			
Satd. Flow (perm)	1770	1583	395	3539	3525	0
Satd. Flow (RTOR)		42			4	
Lane Group Flow (vph)	17	42	60	2232	1153	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	21.0	21.0	18.0	89.0	71.0	
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8	
Act Effct Green (s)	7.4	7.4	95.2	94.6	85.8	
Actuated g/C Ratio	0.07	0.07	0.87	0.86	0.78	
v/c Ratio	0.14	0.29	0.14	0.73	0.42	
Control Delay	50.8	19.9	2.2	5.9	7.7	
Queue Delay	0.0	0.0	0.0	35.4	0.0	
Total Delay	50.8	19.9	2.2	41.3	7.7	
LOS	D	B	A	D	A	
Approach Delay	28.8			40.3	7.7	
Approach LOS	C			D	A	
Queue Length 50th (m)	3.7	0.0	1.5	90.7	74.0	
Queue Length 95th (m)	10.9	11.1	3.7	129.2	m93.0	
Internal Link Dist (m)	44.2			416.4	230.9	
Turn Bay Length (m)			15.0			
Base Capacity (vph)	241	252	516	3042	2749	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	960	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.17	0.12	1.07	0.42	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 29.4

Intersection LOS: C

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Bedford Hwy & Manor Ln



Bedford Highway Analysis
3: Bedford Hwy & Bayview Dr

2018 Existing Conditions
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	52	429	751	1544	692	121
Future Volume (vph)	52	429	751	1544	692	121
Satd. Flow (prot)	1631	0	0	3483	3461	0
Flt Permitted	0.995			0.563		
Satd. Flow (perm)	1631	0	0	1993	3461	0
Satd. Flow (RTOR)	327				22	
Lane Group Flow (vph)	523	0	0	2494	884	0
Turn Type	Prot		pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases			6			
Total Split (s)	26.0		34.0	84.0	50.0	
Total Lost Time (s)	6.0			5.8	5.8	
Act Effct Green (s)	18.5			79.7	79.7	
Actuated g/C Ratio	0.17			0.72	0.72	
v/c Ratio	0.96			2.00dl	0.35	
Control Delay	46.7			348.6	6.1	
Queue Delay	0.0			0.0	0.0	
Total Delay	46.7			348.6	6.1	
LOS	D			F	A	
Approach Delay	46.7			348.6	6.1	
Approach LOS	D			F	A	
Queue Length 50th (m)	47.5			~448.2	34.7	
Queue Length 95th (m)	#115.5			#487.8	44.2	
Internal Link Dist (m)	326.3			230.9	392.1	
Turn Bay Length (m)						
Base Capacity (vph)	564			1443	2512	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.93			1.73	0.35	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.73

Intersection Signal Delay: 230.5

Intersection LOS: F

Intersection Capacity Utilization 131.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: Bedford Hwy & Bayview Dr



Bedford Highway Analysis
6: Bedford Hwy & Flamingo Dr

2018 Existing Conditions
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	91	153	173	864	471	22
Future Volume (vph)	91	153	173	864	471	22
Satd. Flow (prot)	1770	1583	1770	1863	1852	0
Flt Permitted	0.950		0.445			
Satd. Flow (perm)	1770	1583	829	1863	1852	0
Satd. Flow (RTOR)		166			5	
Lane Group Flow (vph)	99	166	188	939	536	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases		4	6			
Total Split (s)	26.0	26.0	94.0	94.0	94.0	
Total Lost Time (s)	6.0	6.0	6.1	6.1	6.1	
Act Effct Green (s)	12.0	12.0	95.9	95.9	95.9	
Actuated g/C Ratio	0.10	0.10	0.80	0.80	0.80	
v/c Ratio	0.56	0.54	0.28	0.63	0.36	
Control Delay	62.8	13.9	4.8	7.7	4.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.8	13.9	4.8	7.7	4.5	
LOS	E	B	A	A	A	
Approach Delay	32.2			7.2	4.5	
Approach LOS	C			A	A	
Queue Length 50th (m)	23.8	0.0	9.8	76.3	30.1	
Queue Length 95th (m)	40.7	20.2	21.6	134.3	52.8	
Internal Link Dist (m)	139.9			392.2	501.1	
Turn Bay Length (m)	22.0		34.0			
Base Capacity (vph)	295	402	662	1488	1480	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.34	0.41	0.28	0.63	0.36	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 9.9

Intersection LOS: A

Intersection Capacity Utilization 61.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Bedford Hwy & Flamingo Dr



Bedford Highway Analysis
8: Bedford Hwy & Kearney Lake Rd

2018 Existing Conditions
Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	147	194	453	752	439	147
Future Volume (vph)	147	194	453	752	439	147
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.308			
Satd. Flow (perm)	1770	1583	574	1863	1863	1583
Satd. Flow (RTOR)		211				160
Lane Group Flow (vph)	160	211	492	817	477	160
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	3		1	2	2	
Permitted Phases		3	2	1		2
Total Split (s)	36.0	36.0	29.0	56.0	56.0	56.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Act Effct Green (s)	13.3	13.3	48.6	50.8	29.1	29.1
Actuated g/C Ratio	0.17	0.17	0.63	0.66	0.38	0.38
v/c Ratio	0.52	0.47	0.78	0.66	0.68	0.23
Control Delay	39.0	9.1	17.7	11.1	26.3	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.0	9.1	17.7	11.1	26.3	4.1
LOS	D	A	B	B	C	A
Approach Delay	22.0			13.5	20.7	
Approach LOS	C			B	C	
Queue Length 50th (m)	21.5	0.0	25.7	61.3	56.4	0.0
Queue Length 95th (m)	52.7	19.9	72.9	123.1	114.3	12.3
Internal Link Dist (m)	207.2			269.8	796.7	
Turn Bay Length (m)		41.0				87.0
Base Capacity (vph)	737	782	804	1683	1292	1147
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.27	0.61	0.49	0.37	0.14

Intersection Summary

Cycle Length: 121

Actuated Cycle Length: 76.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 16.9

Intersection LOS: B

Intersection Capacity Utilization 69.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 8: Bedford Hwy & Kearney Lake Rd



Bedford Highway Analysis
9: Bedford Hwy & Larry Uteck Blvd

2018 Existing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	0	220	0	0	0	330	562	0	0	401	140
Future Volume (vph)	85	0	220	0	0	0	330	562	0	0	401	140
Satd. Flow (prot)	0	1770	1583	0	1863	0	1770	1863	0	0	1863	1583
Flt Permitted		0.757					0.266					
Satd. Flow (perm)	0	1410	1583	0	1863	0	495	1863	0	0	1863	1583
Satd. Flow (RTOR)			239									152
Lane Group Flow (vph)	0	92	239	0	0	0	359	611	0	0	436	152
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		6			6
Total Split (s)	31.0	31.0	31.0	31.0	31.0		24.0	75.0		51.0	51.0	51.0
Total Lost Time (s)		6.0	6.0		6.0		4.0	6.0			6.0	6.0
Act Effct Green (s)		10.1	10.1				42.6	40.5			20.0	20.0
Actuated g/C Ratio		0.16	0.16				0.68	0.64			0.32	0.32
v/c Ratio		0.41	0.53				0.54	0.51			0.74	0.25
Control Delay		32.9	9.2				7.8	7.8			28.3	4.5
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		32.9	9.2				7.8	7.8			28.3	4.5
LOS		C	A				A	A			C	A
Approach Delay		15.8						7.8			22.2	
Approach LOS		B						A			C	
Queue Length 50th (m)		10.1	0.0				13.5	31.3			46.6	0.0
Queue Length 95th (m)		27.6	18.9				32.0	64.8			88.0	11.3
Internal Link Dist (m)		399.7			12.3			76.8			1542.8	
Turn Bay Length (m)							58.0					97.0
Base Capacity (vph)		584	795				756	1787			1389	1218
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.16	0.30				0.47	0.34			0.31	0.12

Intersection Summary

Cycle Length: 106

Actuated Cycle Length: 63.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 71.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Bedford Hwy & Larry Uteck Blvd



Bedford Highway Analysis
10: Bedford Hwy & Southgate Dr

2018 Existing Conditions
Timing Plan: PM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	143	25	30	823	666	152
Future Volume (vph)	143	25	30	823	666	152
Satd. Flow (prot)	1770	1583	1770	1863	1816	0
Flt Permitted	0.950		0.221			
Satd. Flow (perm)	1770	1583	412	1863	1816	0
Satd. Flow (RTOR)		27			22	
Lane Group Flow (vph)	155	27	33	895	889	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Total Split (s)	31.0	31.0	56.0	56.0	56.0	
Total Lost Time (s)	6.0	6.0	5.7	5.7	5.7	
Act Effct Green (s)	11.7	11.7	50.4	50.4	50.4	
Actuated g/C Ratio	0.16	0.16	0.68	0.68	0.68	
v/c Ratio	0.56	0.10	0.12	0.70	0.71	
Control Delay	36.4	11.3	6.1	11.7	11.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.4	11.3	6.1	11.7	11.8	
LOS	D	B	A	B	B	
Approach Delay	32.7			11.5	11.8	
Approach LOS	C			B	B	
Queue Length 50th (m)	21.1	0.0	1.4	66.3	64.8	
Queue Length 95th (m)	38.8	6.4	5.5	134.5	134.1	
Internal Link Dist (m)	107.6			1542.8	369.0	
Turn Bay Length (m)			42.0			
Base Capacity (vph)	601	555	281	1272	1247	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.26	0.05	0.12	0.70	0.71	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 73.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 13.6

Intersection LOS: B

Intersection Capacity Utilization 62.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Bedford Hwy & Southgate Dr



Bedford Highway Analysis
11: Bedford Hwy & Moirs Mill Rd

2018 Existing Conditions
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	146	20	33	783	594	216
Future Volume (vph)	146	20	33	783	594	216
Satd. Flow (prot)	1770	1583	0	3532	3398	0
Flt Permitted	0.950			0.881		
Satd. Flow (perm)	1770	1583	0	3118	3398	0
Satd. Flow (RTOR)		22			89	
Lane Group Flow (vph)	159	22	0	887	881	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	3			2	2	
Permitted Phases		3	2			
Total Split (s)	36.0	36.0	74.0	74.0	74.0	
Total Lost Time (s)	6.0	6.0		5.5	5.5	
Act Effct Green (s)	15.2	15.2		83.3	83.3	
Actuated g/C Ratio	0.14	0.14		0.76	0.76	
v/c Ratio	0.65	0.09		0.38	0.34	
Control Delay	56.8	15.6		5.5	2.4	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	56.8	15.6		5.5	2.4	
LOS	E	B		A	A	
Approach Delay	51.8			5.5	2.4	
Approach LOS	D			A	A	
Queue Length 50th (m)	34.5	0.0		30.0	5.6	
Queue Length 95th (m)	53.8	7.0		48.9	14.2	
Internal Link Dist (m)	95.1			116.3	148.8	
Turn Bay Length (m)		25.0				
Base Capacity (vph)	482	447		2360	2594	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.33	0.05		0.38	0.34	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 8.4

Intersection LOS: A

Intersection Capacity Utilization 70.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 11: Bedford Hwy & Moirs Mill Rd



Bedford Highway Analysis
12: Bedford Hwy & Hammonds Plains Rd

2018 Existing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	309	152	143	121	163	147	214	436	6	129	447	316
Future Volume (vph)	309	152	143	121	163	147	214	436	6	129	447	316
Satd. Flow (prot)	1770	1727	0	1770	1730	0	1770	1859	0	1770	3539	1583
Flt Permitted	0.166			0.505			0.350			0.265		
Satd. Flow (perm)	309	1727	0	941	1730	0	652	1859	0	494	3539	1583
Satd. Flow (RTOR)		42			37			1				343
Lane Group Flow (vph)	336	320	0	132	337	0	233	481	0	140	486	343
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Total Split (s)	22.0	35.0		16.0	29.0		24.0	42.0		17.0	35.0	35.0
Total Lost Time (s)	4.0	6.1		4.0	6.1		4.0	5.8		4.0	5.8	5.8
Act Effct Green (s)	46.8	30.5		34.1	21.9		54.6	39.2		47.4	35.4	35.4
Actuated g/C Ratio	0.43	0.28		0.31	0.20		0.50	0.36		0.43	0.32	0.32
v/c Ratio	0.88	0.63		0.36	0.90		0.50	0.73		0.42	0.43	0.46
Control Delay	51.3	36.5		23.1	66.5		18.9	32.7		19.9	31.8	5.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.0	0.0
Total Delay	51.3	36.5		23.1	66.5		18.9	32.7		19.9	31.8	5.5
LOS	D	D		C	E		B	C		B	C	A
Approach Delay		44.1			54.2			28.2			20.8	
Approach LOS		D			D			C			C	
Queue Length 50th (m)	51.7	52.5		17.0	66.6		25.8	67.8		17.7	47.7	0.0
Queue Length 95th (m)	#109.3	88.1		31.2	#118.0		44.2	#94.2		28.2	65.2	21.8
Internal Link Dist (m)		215.5			47.8			148.8			134.8	
Turn Bay Length (m)	67.0									31.0		60.0
Base Capacity (vph)	383	513		397	389		530	666		376	1140	742
Starvation Cap Reductn	0	0		0	0		0	5		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.88	0.62		0.33	0.87		0.44	0.73		0.37	0.43	0.46

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 100 (91%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 33.7

Intersection LOS: C

Intersection Capacity Utilization 81.7%

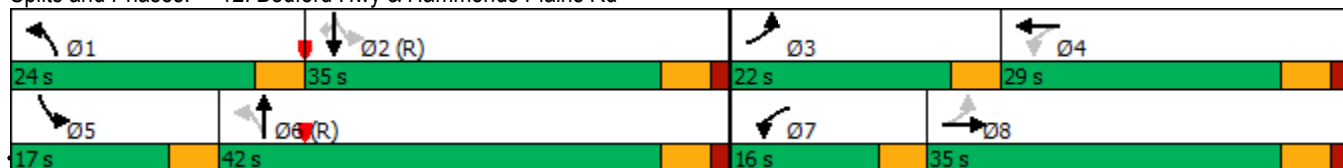
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Bedford Hwy & Hammonds Plains Rd

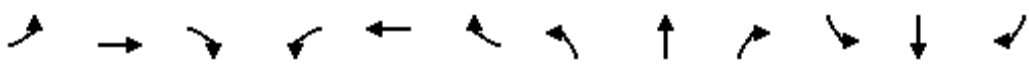


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Synchro 10 Report
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Bedford Highway Analysis
13: Bedford Hwy & Holland Ave/Convoy Run

2018 Existing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	4	21	104	8	69	23	747	53	20	856	22
Future Volume (vph)	12	4	21	104	8	69	23	747	53	20	856	22
Satd. Flow (prot)	0	1690	0	0	1781	1583	1770	1844	0	1770	1855	0
Flt Permitted		0.877			0.713		0.204			0.246		
Satd. Flow (perm)	0	1506	0	0	1328	1583	380	1844	0	458	1855	0
Satd. Flow (RTOR)		23				75		5			2	
Lane Group Flow (vph)	0	40	0	0	122	75	25	870	0	22	954	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3			3		3	2			2		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	67.0	67.0		67.0	67.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		13.4			13.4	13.4	64.3	64.3		64.3	64.3	
Actuated g/C Ratio		0.15			0.15	0.15	0.72	0.72		0.72	0.72	
v/c Ratio		0.16			0.62	0.25	0.09	0.66		0.07	0.72	
Control Delay		19.3			48.2	9.9	5.9	10.6		5.5	12.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		19.3			48.2	9.9	5.9	10.6		5.5	12.3	
LOS		B			D	A	A	B		A	B	
Approach Delay		19.3			33.6			10.5			12.1	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		2.6			20.0	0.0	1.2	69.4		1.0	83.3	
Queue Length 95th (m)		11.3			37.6	11.4	4.6	136.7		4.1	165.4	
Internal Link Dist (m)		82.0			72.0			302.4			719.4	
Turn Bay Length (m)						41.0	73.0			28.0		
Base Capacity (vph)		751			652	815	272	1322		328	1329	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.05			0.19	0.09	0.09	0.66		0.07	0.72	

Intersection Summary

Cycle Length: 117

Actuated Cycle Length: 89.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 13.6

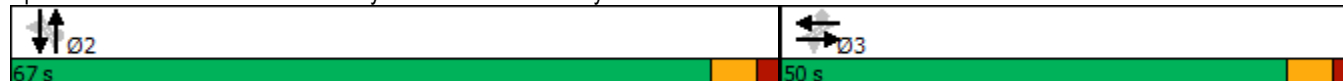
Intersection LOS: B

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: Bedford Hwy & Holland Ave/Convoy Run



Bedford Highway Analysis
14: Bedford Hwy & Meadowbrook Dr

2018 Existing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	0	29	8	0	8	20	728	0	0	793	127
Future Volume (vph)	116	0	29	8	0	8	20	728	0	0	793	127
Satd. Flow (prot)	0	1770	1583	0	1694	0	1770	1863	0	1863	1824	0
Flt Permitted		0.746			0.836		0.182					
Satd. Flow (perm)	0	1390	1583	0	1451	0	339	1863	0	1863	1824	0
Satd. Flow (RTOR)			32		30						16	
Lane Group Flow (vph)	0	126	32	0	18	0	22	791	0	0	1000	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3		3	3			2			2		
Total Split (s)	31.0	31.0	31.0	31.0	31.0		65.0	65.0		65.0	65.0	
Total Lost Time (s)		6.0	6.0		6.0		5.6	5.6		5.6	5.6	
Act Effct Green (s)		13.2	13.2		13.2		64.2	64.2			64.2	
Actuated g/C Ratio		0.15	0.15		0.15		0.72	0.72			0.72	
v/c Ratio		0.61	0.12		0.07		0.09	0.59			0.76	
Control Delay		47.1	11.8		7.1		5.9	9.0			13.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	
Total Delay		47.1	11.8		7.1		5.9	9.0			13.6	
LOS		D	B		A		A	A			B	
Approach Delay		39.9			7.1			8.9			13.6	
Approach LOS		D			A			A			B	
Queue Length 50th (m)		20.2	0.0		0.0		1.0	56.4			88.8	
Queue Length 95th (m)		37.6	7.5		3.8		4.3	111.4			185.6	
Internal Link Dist (m)		116.5			20.8			112.1			644.8	
Turn Bay Length (m)							25.0					
Base Capacity (vph)		390	467		429		244	1343			1319	
Starvation Cap Reductn		0	0		0		0	0			0	
Spillback Cap Reductn		0	0		0		0	0			0	
Storage Cap Reductn		0	0		0		0	0			0	
Reduced v/c Ratio		0.32	0.07		0.04		0.09	0.59			0.76	

Intersection Summary

Cycle Length: 96

Actuated Cycle Length: 89.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 75.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 14: Bedford Hwy & Meadowbrook Dr



Bedford Highway Analysis
15: Bedford Hwy & Hatchery Ln

2018 Existing Conditions
Timing Plan: PM PEAK

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group						
Lane Configurations						
Traffic Volume (vph)	118	55	744	99	39	829
Future Volume (vph)	118	55	744	99	39	829
Satd. Flow (prot)	1770	1583	1833	0	1770	1863
Flt Permitted	0.950				0.241	
Satd. Flow (perm)	1770	1583	1833	0	449	1863
Satd. Flow (RTOR)		60	15			
Lane Group Flow (vph)	128	60	917	0	42	901
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	4		6			2
Permitted Phases		4			2	
Total Split (s)	26.0	26.0	74.0		74.0	74.0
Total Lost Time (s)	6.0	6.0	6.5		6.5	6.5
Act Effct Green (s)	12.5	12.5	75.0		75.0	75.0
Actuated g/C Ratio	0.12	0.12	0.75		0.75	0.75
v/c Ratio	0.58	0.24	0.67		0.12	0.64
Control Delay	51.2	12.3	9.8		3.6	5.4
Queue Delay	0.0	0.0	0.0		0.0	0.2
Total Delay	51.2	12.3	9.8		3.6	5.6
LOS	D	B	A		A	A
Approach Delay	38.8		9.8			5.5
Approach LOS	D		A			A
Queue Length 50th (m)	25.0	0.0	76.1		1.4	30.7
Queue Length 95th (m)	41.9	11.0	141.4		m2.8	45.1
Internal Link Dist (m)	38.8		644.8			132.9
Turn Bay Length (m)					18.0	
Base Capacity (vph)	354	364	1378		336	1397
Starvation Cap Reductn	0	0	0		0	74
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.36	0.16	0.67		0.13	0.68

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 97 (97%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 10.5

Intersection LOS: B

Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Bedford Hwy & Hatchery Ln



Bedford Highway Analysis
16: Bedford Hwy & Union St

2018 Existing Conditions
Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	29	126	69	864	807	27
Future Volume (vph)	29	126	69	864	807	27
Satd. Flow (prot)	1645	0	1770	1863	1855	0
Flt Permitted	0.991		0.264			
Satd. Flow (perm)	1645	0	492	1863	1855	0
Satd. Flow (RTOR)	137				4	
Lane Group Flow (vph)	169	0	75	939	906	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases			6			
Total Split (s)	26.0		74.0	74.0	74.0	
Total Lost Time (s)	6.0		6.5	6.5	6.5	
Act Effct Green (s)	9.1		78.4	78.4	78.4	
Actuated g/C Ratio	0.09		0.78	0.78	0.78	
v/c Ratio	0.62		0.19	0.64	0.62	
Control Delay	21.6		3.4	4.5	7.3	
Queue Delay	0.0		0.0	0.2	0.0	
Total Delay	21.6		3.4	4.7	7.3	
LOS	C		A	A	A	
Approach Delay	21.6			4.6	7.3	
Approach LOS	C			A	A	
Queue Length 50th (m)	6.3		2.1	27.9	54.9	
Queue Length 95th (m)	25.4		m4.3	43.3	118.3	
Internal Link Dist (m)	153.0			132.9	320.3	
Turn Bay Length (m)			33.0			
Base Capacity (vph)	438		385	1459	1454	
Starvation Cap Reductn	0		0	93	0	
Spillback Cap Reductn	0		0	0	8	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.39		0.19	0.69	0.63	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 97 (97%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 7.2

Intersection LOS: A

Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Bedford Hwy & Union St



Bedford Highway Analysis
17: Bedford Hwy & Dartmouth Rd

2018 Existing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔	↔	↔		↔	↔	
Traffic Volume (vph)	3	10	11	389	18	368	3	338	242	357	255	8
Future Volume (vph)	3	10	11	389	18	368	3	338	242	357	255	8
Satd. Flow (prot)	0	1737	0	1770	1529	1504	1770	3316	0	1770	3522	0
Flt Permitted		0.974		0.740			0.576			0.285		
Satd. Flow (perm)	0	1702	0	1378	1529	1504	1073	3316	0	531	3522	0
Satd. Flow (RTOR)		12			192	208		158			4	
Lane Group Flow (vph)	0	26	0	423	212	208	3	630	0	388	286	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4		4	2			6		
Total Split (s)	52.0	52.0		52.0	52.0	52.0	44.0	44.0		24.0	68.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.2	6.2		4.0	6.2	
Act Effect Green (s)		41.1		41.1	41.1	41.1	44.1	44.1		68.9	66.7	
Actuated g/C Ratio		0.34		0.34	0.34	0.34	0.37	0.37		0.57	0.56	
v/c Ratio		0.04		0.90	0.33	0.32	0.01	0.48		0.78	0.15	
Control Delay		15.8		59.7	6.1	4.6	28.3	24.1		38.9	9.7	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.1		1.4	0.0	
Total Delay		15.8		59.7	6.1	4.6	28.3	24.2		40.3	9.7	
LOS		B		E	A	A	C	C		D	A	
Approach Delay		15.8			32.6			24.2			27.3	
Approach LOS		B			C			C			C	
Queue Length 50th (m)		2.2		95.7	3.3	0.0	0.5	50.1		44.7	12.2	
Queue Length 95th (m)		8.3		#145.9	20.2	16.3	2.9	69.6		#100.9	16.5	
Internal Link Dist (m)		15.4			319.7			106.0			83.4	
Turn Bay Length (m)				56.0		40.0	47.0			40.0		
Base Capacity (vph)		659		528	704	704	393	1317		515	1959	
Starvation Cap Reductn		0		0	0	0	0	0		35	0	
Spillback Cap Reductn		0		0	3	3	0	54		0	0	
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.04		0.80	0.30	0.30	0.01	0.50		0.81	0.15	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 91 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 78.6%

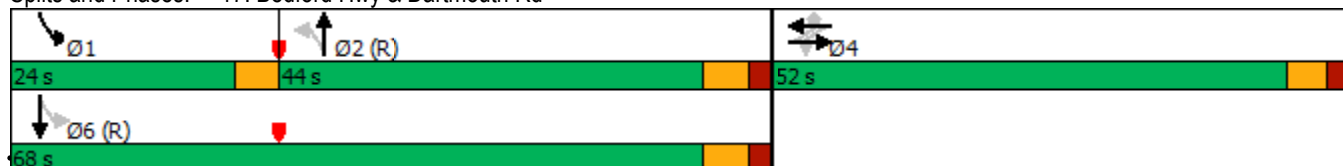
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Bedford Hwy & Dartmouth Rd



11-13-2018

Synchro 10 Report
Page 14

Bedford Highway Analysis
18: Bedford Hwy & Sunnyside Mall

2018 Existing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	39	6	5	135	9	66	4	883	70	30	704	54
Future Volume (vph)	39	6	5	135	9	66	4	883	70	30	704	54
Satd. Flow (prot)	0	1771	0	0	3268	0	1770	3500	0	1770	3500	0
Flt Permitted		0.567			0.862		0.341			0.237		
Satd. Flow (perm)	0	1042	0	0	2907	0	635	3500	0	441	3500	0
Satd. Flow (RTOR)		4			59			10			13	
Lane Group Flow (vph)	0	54	0	0	229	0	4	1036	0	33	824	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4			2			6		
Total Split (s)	36.0	36.0		36.0	36.0		65.0	65.0		19.0	84.0	
Total Lost Time (s)		6.4			6.4		6.2	6.2		4.0	6.2	
Act Effct Green (s)		13.5			13.5		87.3	87.3		96.1	93.9	
Actuated g/C Ratio		0.11			0.11		0.73	0.73		0.80	0.78	
v/c Ratio		0.45			0.60		0.01	0.41		0.08	0.30	
Control Delay		57.1			43.7		4.8	6.1		3.2	7.8	
Queue Delay		0.8			0.2		0.0	0.3		0.0	0.3	
Total Delay		57.8			43.8		4.8	6.4		3.2	8.0	
LOS		E			D		A	A		A	A	
Approach Delay		57.8			43.8			6.4			7.8	
Approach LOS		E			D			A			A	
Queue Length 50th (m)		11.7			21.2		0.2	36.4		2.8	68.7	
Queue Length 95th (m)		24.6			33.5		m0.6	70.5		m2.8	70.4	
Internal Link Dist (m)		20.0			34.2			83.4			134.0	
Turn Bay Length (m)							22.0			45.0		
Base Capacity (vph)		260			761		462	2549		519	2741	
Starvation Cap Reductn		0			0		0	755		0	1142	
Spillback Cap Reductn		81			114		0	41		0	12	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.30			0.35		0.01	0.58		0.06	0.52	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 12.2

Intersection LOS: B

Intersection Capacity Utilization 46.7%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Bedford Hwy & Sunnyside Mall



Bedford Highway Analysis
19: Bedford Hwy & Rocky Lake

2018 Existing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	73	103	192	88	157	138	733	215	121	544	66
Future Volume (vph)	97	73	103	192	88	157	138	733	215	121	544	66
Satd. Flow (prot)	1770	1699	0	1770	1684	0	1770	3419	0	1770	3483	0
Flt Permitted	0.595			0.319			0.364			0.950		
Satd. Flow (perm)	1108	1699	0	594	1684	0	678	3419	0	1770	3483	0
Satd. Flow (RTOR)		54			84			36			13	
Lane Group Flow (vph)	105	191	0	209	267	0	150	1031	0	132	663	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2					
Total Split (s)	31.0	31.0		19.0	50.0		15.0	51.0		19.0	55.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	16.6	16.6		37.6	35.6		66.6	55.0		13.4	58.8	
Actuated g/C Ratio	0.14	0.14		0.31	0.30		0.56	0.46		0.11	0.49	
v/c Ratio	0.69	0.68		0.63	0.48		0.32	0.65		0.67	0.39	
Control Delay	70.3	46.4		39.9	25.2		19.3	36.5		59.6	30.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	1.4		0.0	0.0	
Total Delay	70.3	46.4		39.9	25.2		19.3	37.9		59.6	30.1	
LOS	E	D		D	C		B	D		E	C	
Approach Delay		54.9			31.7			35.5			35.0	
Approach LOS		D			C			D			D	
Queue Length 50th (m)	25.1	32.6		40.2	36.6		18.7	107.4		31.8	72.8	
Queue Length 95th (m)	42.1	54.2		56.4	57.0		42.6	150.1		52.7	104.9	
Internal Link Dist (m)		43.5			31.5			134.0			140.7	
Turn Bay Length (m)	34.0						25.0			32.0		
Base Capacity (vph)	230	396		333	670		486	1585		227	1713	
Starvation Cap Reductn	0	0		0	0		0	335		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.48		0.63	0.40		0.31	0.82		0.58	0.39	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 71 (59%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 36.8

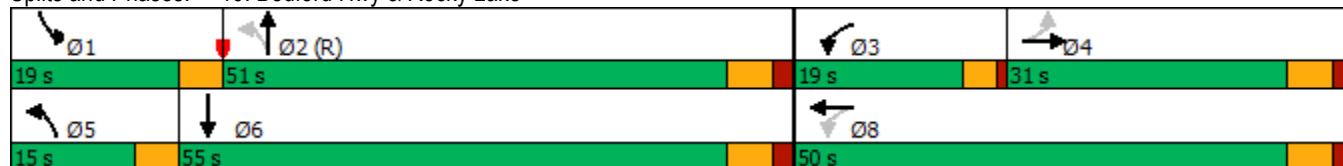
Intersection LOS: D

Intersection Capacity Utilization 73.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 19: Bedford Hwy & Rocky Lake



Bedford Highway Analysis
20: Bedford Hwy & Bedford Place

2018 Existing Conditions
Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	33	28	939	676	38
Future Volume (vph)	32	33	28	939	676	38
Satd. Flow (prot)	1694	0	1770	3539	3539	1583
Flt Permitted	0.976		0.372			
Satd. Flow (perm)	1694	0	693	3539	3539	1583
Satd. Flow (RTOR)	36					41
Lane Group Flow (vph)	71	0	30	1021	735	41
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			6	2	
Permitted Phases			6			2
Total Split (s)	34.0		86.0	86.0	86.0	86.0
Total Lost Time (s)	6.0		6.2	6.2	6.2	6.2
Act Effct Green (s)	8.7		102.9	102.9	102.9	102.9
Actuated g/C Ratio	0.07		0.86	0.86	0.86	0.86
v/c Ratio	0.46		0.05	0.34	0.24	0.03
Control Delay	38.6		5.0	7.5	0.3	0.0
Queue Delay	0.0		0.0	0.4	0.0	0.0
Total Delay	38.6		5.0	7.9	0.3	0.0
LOS	D		A	A	A	A
Approach Delay	38.6			7.8	0.3	
Approach LOS	D			A	A	
Queue Length 50th (m)	8.4		2.7	65.2	1.3	0.0
Queue Length 95th (m)	23.1		m4.2	122.6	1.4	0.0
Internal Link Dist (m)	28.6			140.7	211.4	
Turn Bay Length (m)						40.0
Base Capacity (vph)	422		594	3035	3035	1363
Starvation Cap Reductn	0		0	1363	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.17		0.05	0.61	0.24	0.03

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 5.9

Intersection LOS: A

Intersection Capacity Utilization 42.0%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Bedford Hwy & Bedford Place



Bedford Highway Analysis
21: Bedford Hwy & River Ln

2018 Existing Conditions
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	11	16	988	782	146
Future Volume (vph)	140	11	16	988	782	146
Satd. Flow (prot)	1763	0	1770	3539	3539	1583
Flt Permitted	0.956		0.950			
Satd. Flow (perm)	1763	0	1770	3539	3539	1583
Satd. Flow (RTOR)	3					124
Lane Group Flow (vph)	164	0	17	1074	850	159
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases						2
Total Split (s)	32.0		21.0	88.0	67.0	67.0
Total Lost Time (s)	6.0		6.0	6.5	6.5	6.5
Act Effct Green (s)	16.2		7.4	91.3	85.7	85.7
Actuated g/C Ratio	0.14		0.06	0.76	0.71	0.71
v/c Ratio	0.68		0.16	0.40	0.34	0.14
Control Delay	62.2		73.1	1.9	8.4	2.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	62.2		73.1	1.9	8.4	2.9
LOS	E		E	A	A	A
Approach Delay	62.2			3.0	7.5	
Approach LOS	E			A	A	
Queue Length 50th (m)	38.5		4.0	5.2	29.8	1.8
Queue Length 95th (m)	59.0		13.2	13.6	70.7	12.7
Internal Link Dist (m)	31.9			211.4	233.1	
Turn Bay Length (m)			19.0			38.0
Base Capacity (vph)	384		221	2691	2526	1165
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.43		0.08	0.40	0.34	0.14

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 9.3

Intersection LOS: A

Intersection Capacity Utilization 46.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Bedford Hwy & River Ln



Bedford Highway Analysis

2031 Do Nothing Conditions

1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St

Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	527	178	127	491	0	106	217	0	1922	1361	482
Future Volume (vph)	166	527	178	127	491	0	106	217	0	1922	1361	482
Satd. Flow (prot)	3433	3405	0	1770	3539	0	1770	3539	0	3433	3401	0
Flt Permitted	0.950			0.154			0.950			0.950		
Satd. Flow (perm)	3433	3405	0	287	3539	0	1770	3539	0	3433	3401	0
Satd. Flow (RTOR)		33									47	
Lane Group Flow (vph)	180	766	0	138	534	0	115	236	0	2089	2003	0
Turn Type	Prot	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases				8								
Total Split (s)	22.5	24.0		22.5	24.0		24.5	24.5		49.0	49.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)	11.6	25.4		38.0	25.9		20.0	20.0		44.5	44.5	
Actuated g/C Ratio	0.10	0.21		0.32	0.22		0.17	0.17		0.37	0.37	
v/c Ratio	0.54	1.03		0.57	0.70		0.39	0.40		1.64	1.55	
Control Delay	57.5	84.9		37.7	49.6		49.0	47.0		320.3	281.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	57.5	84.9		37.7	49.6		49.0	47.0		320.3	281.4	
LOS	E	F		D	D		D	D		F	F	
Approach Delay		79.7			47.2			47.7			301.3	
Approach LOS		E			D			D			F	
Queue Length 50th (m)	22.2	~102.6		23.9	64.7		25.7	27.8		~386.1	~367.6	
Queue Length 95th (m)	33.4	#161.0		40.2	87.9		44.7	41.0		#429.2	#412.4	
Internal Link Dist (m)		134.4			85.9			203.3			67.2	
Turn Bay Length (m)	50.0			35.0			50.0					
Base Capacity (vph)	514	746		321	763		295	589		1273	1290	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.35	1.03		0.43	0.70		0.39	0.40		1.64	1.55	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.64

Intersection Signal Delay: 223.8

Intersection LOS: F

Intersection Capacity Utilization 103.1%

ICU Level of Service G

Analysis Period (min) 15

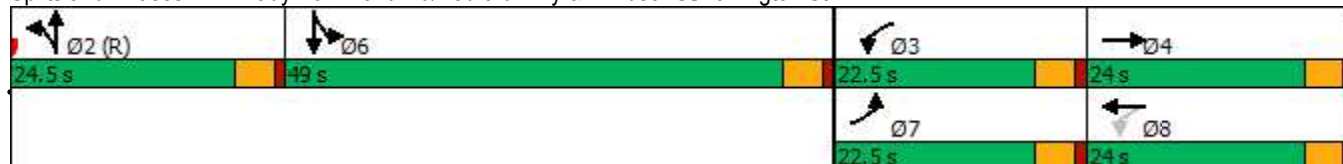
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St



Bedford Highway Analysis

2: Bedford Hwy & Manor Ln

2031 Do Nothing Conditions

Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	36	22	1323	2209	13
Future Volume (vph)	21	36	22	1323	2209	13
Satd. Flow (prot)	1770	1583	1770	3539	3536	0
Flt Permitted	0.950		0.050			
Satd. Flow (perm)	1770	1583	93	3539	3536	0
Satd. Flow (RTOR)		39			1	
Lane Group Flow (vph)	23	39	24	1438	2415	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	24.0	24.0	13.0	76.0	63.0	
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8	
Act Effct Green (s)	7.5	7.5	85.1	84.5	80.1	
Actuated g/C Ratio	0.08	0.08	0.85	0.84	0.80	
v/c Ratio	0.18	0.25	0.12	0.48	0.85	
Control Delay	46.3	18.3	3.0	3.4	9.2	
Queue Delay	0.0	0.0	0.0	0.0	0.3	
Total Delay	46.3	18.3	3.0	3.4	9.5	
LOS	D	B	A	A	A	
Approach Delay	28.7			3.4	9.5	
Approach LOS	C			A	A	
Queue Length 50th (m)	4.5	0.0	0.6	36.2	113.3	
Queue Length 95th (m)	12.4	10.2	1.9	51.7	m96.8	
Internal Link Dist (m)	44.2			423.6	230.9	
Turn Bay Length (m)			15.0			
Base Capacity (vph)	318	316	230	2990	2832	
Starvation Cap Reductn	0	0	0	0	84	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.12	0.10	0.48	0.88	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 7.5

Intersection LOS: A

Intersection Capacity Utilization 77.1%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Bedford Hwy & Manor Ln



Bedford Highway Analysis

3: Bedford Hwy & Bayview Dr

2031 Do Nothing Conditions
Timing Plan: AM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	742	408	739	1804	51
Future Volume (vph)	60	742	408	739	1804	51
Satd. Flow (prot)	1623	0	0	3479	3525	0
Flt Permitted	0.996			0.562		
Satd. Flow (perm)	1623	0	0	1989	3525	0
Satd. Flow (RTOR)	160				4	
Lane Group Flow (vph)	872	0	0	1246	2016	0
Turn Type	Prot		pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases			6			
Total Split (s)	26.0		13.0	74.0	61.0	
Total Lost Time (s)	6.0			5.8	5.8	
Act Effect Green (s)	20.0			68.2	55.2	
Actuated g/C Ratio	0.20			0.68	0.55	
v/c Ratio	1.93			2.17dl	1.04	
Control Delay	448.2			14.3	53.6	
Queue Delay	0.1			0.0	23.1	
Total Delay	448.2			14.3	76.6	
LOS	F			B	E	
Approach Delay	448.2			14.3	76.6	
Approach LOS	F			B	E	
Queue Length 50th (m)	~250.9			27.2	~234.2	
Queue Length 95th (m)	#327.1			31.2	#279.4	
Internal Link Dist (m)	326.3			230.9	392.1	
Turn Bay Length (m)						
Base Capacity (vph)	452			1463	1947	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	4			0	102	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.95			0.85	1.09	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.93

Intersection Signal Delay: 136.2

Intersection LOS: F

Intersection Capacity Utilization 147.6%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: Bedford Hwy & Bayview Dr



Bedford Highway Analysis
4: Bedford Hwy & Seton Rd

2031 Do Nothing Conditions

Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	113	278	238	723	1341	121
Future Volume (vph)	113	278	238	723	1341	121
Satd. Flow (prot)	1660	0	0	3497	3497	0
Flt Permitted	0.986			0.485		
Satd. Flow (perm)	1660	0	0	1717	3497	0
Satd. Flow (RTOR)	72				15	
Lane Group Flow (vph)	425	0	0	1045	1590	0
Turn Type	Prot		pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases			2			
Total Split (s)	31.0		9.5	119.0	109.5	
Total Lost Time (s)	4.5			4.5	4.5	
Act Effect Green (s)	26.5			114.5	114.5	
Actuated g/C Ratio	0.18			0.76	0.76	
v/c Ratio	1.21			1.50dl	0.60	
Control Delay	159.0			16.7	8.7	
Queue Delay	0.0			0.0	0.0	
Total Delay	159.0			16.7	8.7	
LOS	F			B	A	
Approach Delay	159.0			16.7	8.7	
Approach LOS	F			B	A	
Queue Length 50th (m)	~142.3			92.3	99.5	
Queue Length 95th (m)	#212.7			128.6	115.5	
Internal Link Dist (m)	37.2			201.0	255.1	
Turn Bay Length (m)						
Base Capacity (vph)	352			1310	2672	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.21			0.80	0.60	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.21

Intersection Signal Delay: 32.3

Intersection LOS: C

Intersection Capacity Utilization 102.4%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 4: Bedford Hwy & Seton Rd

		
Ø2 (R)		Ø4
119 s		31 s
		
Ø5	Ø6 (R)	
9.5 s	109.5 s	

Bedford Highway Analysis
6: Bedford Hwy & Flamingo Dr

2031 Do Nothing Conditions

Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	349	74	592	1041	20
Future Volume (vph)	64	349	74	592	1041	20
Satd. Flow (prot)	1770	1583	1770	1863	1857	0
Flt Permitted	0.950		0.109			
Satd. Flow (perm)	1770	1583	203	1863	1857	0
Satd. Flow (RTOR)		142			2	
Lane Group Flow (vph)	70	379	80	643	1154	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases		4	6			
Total Split (s)	26.0	26.0	94.0	94.0	94.0	
Total Lost Time (s)	6.0	6.0	6.1	6.1	6.1	
Act Effct Green (s)	20.0	20.0	87.9	87.9	87.9	
Actuated g/C Ratio	0.17	0.17	0.73	0.73	0.73	
v/c Ratio	0.24	0.99	0.54	0.47	0.85	
Control Delay	45.9	75.9	23.4	7.9	19.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.9	75.9	23.4	7.9	19.1	
LOS	D	E	C	A	B	
Approach Delay	71.2			9.6	19.1	
Approach LOS	E			A	B	
Queue Length 50th (m)	15.2	62.6	7.7	57.1	177.0	
Queue Length 95th (m)	29.5	#128.3	29.5	78.7	260.8	
Internal Link Dist (m)	139.9			392.2	501.1	
Turn Bay Length (m)	22.0		34.0			
Base Capacity (vph)	295	382	148	1364	1360	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.99	0.54	0.47	0.85	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 26.2

Intersection LOS: C

Intersection Capacity Utilization 87.7%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Bedford Hwy & Flamingo Dr



04-10-2019

Bedford Highway Analysis
8: Bedford Hwy & Kearney Lake Rd

2031 Do Nothing Conditions
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	156	337	174	447	522	132
Future Volume (vph)	156	337	174	447	522	132
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.364			
Satd. Flow (perm)	1770	1583	678	1863	1863	1583
Satd. Flow (RTOR)		303				143
Lane Group Flow (vph)	170	366	189	486	567	143
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			2	2	
Permitted Phases		3	2			2
Total Split (s)	31.0	31.0	56.0	56.0	56.0	56.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effect Green (s)	11.0	11.0	23.6	23.6	23.6	23.6
Actuated g/C Ratio	0.23	0.23	0.50	0.50	0.50	0.50
v/c Ratio	0.42	0.61	0.56	0.53	0.61	0.17
Control Delay	21.2	9.8	16.1	10.4	11.9	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	9.8	16.1	10.4	11.9	2.0
LOS	C	A	B	B	B	A
Approach Delay	13.4			12.0	9.9	
Approach LOS	B			B	A	
Queue Length 50th (m)	11.4	4.0	9.2	23.1	28.7	0.0
Queue Length 95th (m)	37.2	30.4	32.6	58.2	71.7	6.6
Internal Link Dist (m)	207.2			269.8	796.7	
Turn Bay Length (m)		41.0				87.0
Base Capacity (vph)	1003	1028	633	1739	1739	1487
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.36	0.30	0.28	0.33	0.10

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 47.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 11.6

Intersection LOS: B

Intersection Capacity Utilization 63.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 8: Bedford Hwy & Kearney Lake Rd



Bedford Highway Analysis
9: Bedford Hwy & Larry Uteck Blvd

2031 Do Nothing Conditions

Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	0	302	0	0	0	185	472	0	0	452	49
Future Volume (vph)	145	0	302	0	0	0	185	472	0	0	452	49
Satd. Flow (prot)	0	1770	1583	0	1863	0	1770	1863	0	0	1863	1583
Flt Permitted		0.757					0.237					
Satd. Flow (perm)	0	1410	1583	0	1863	0	441	1863	0	0	1863	1583
Satd. Flow (RTOR)			328									72
Lane Group Flow (vph)	0	158	328	0	0	0	201	513	0	0	491	53
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Total Split (s)	31.0	31.0	31.0	31.0	31.0		24.0	75.0		51.0	51.0	51.0
Total Lost Time (s)		6.0	6.0		6.0		4.0	6.0			6.0	6.0
Act Effect Green (s)		13.3	13.3				41.2	39.1			22.4	22.4
Actuated g/C Ratio		0.20	0.20				0.63	0.60			0.34	0.34
v/c Ratio		0.55	0.56				0.38	0.46			0.77	0.09
Control Delay		34.1	7.8				7.4	8.9			29.0	3.3
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		34.1	7.8				7.4	8.9			29.0	3.3
LOS		C	A				A	A			C	A
Approach Delay		16.3						8.5			26.5	
Approach LOS		B						A			C	
Queue Length 50th (m)		17.2	0.0				8.4	29.4			51.3	0.0
Queue Length 95th (m)		46.1	21.4				22.0	65.5			112.1	4.9
Internal Link Dist (m)		399.7			12.3			76.8			1542.8	
Turn Bay Length (m)							58.0					97.0
Base Capacity (vph)		577	842				714	1747			1367	1180
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.27	0.39				0.28	0.29			0.36	0.04

Intersection Summary

Cycle Length: 106

Actuated Cycle Length: 65.2

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 16.3

Intersection LOS: B

Intersection Capacity Utilization 71.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Bedford Hwy & Larry Uteck Blvd



Bedford Highway Analysis
10: Bedford Hwy & Southgate Dr

2031 Do Nothing Conditions
Timing Plan: AM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	127	36	5	553	652	142
Future Volume (vph)	127	36	5	553	652	142
Satd. Flow (prot)	1770	1583	1770	1863	1818	0
Flt Permitted	0.950		0.241			
Satd. Flow (perm)	1770	1583	449	1863	1818	0
Satd. Flow (RTOR)		39			21	
Lane Group Flow (vph)	138	39	5	601	863	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Total Split (s)	31.0	31.0	56.0	56.0	56.0	
Total Lost Time (s)	6.0	6.0	5.7	5.7	5.7	
Act Effct Green (s)	11.0	11.0	51.2	51.2	51.2	
Actuated g/C Ratio	0.15	0.15	0.69	0.69	0.69	
v/c Ratio	0.52	0.15	0.02	0.47	0.68	
Control Delay	36.1	10.7	4.6	7.1	10.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.1	10.7	4.6	7.1	10.6	
LOS	D	B	A	A	B	
Approach Delay	30.5			7.1	10.6	
Approach LOS	C			A	B	
Queue Length 50th (m)	18.6	0.0	0.2	32.8	58.7	
Queue Length 95th (m)	35.1	7.6	1.3	63.8	119.6	
Internal Link Dist (m)	107.6			1542.8	369.0	
Turn Bay Length (m)			42.0			
Base Capacity (vph)	599	562	311	1290	1265	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.23	0.07	0.02	0.47	0.68	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 73.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 11.4

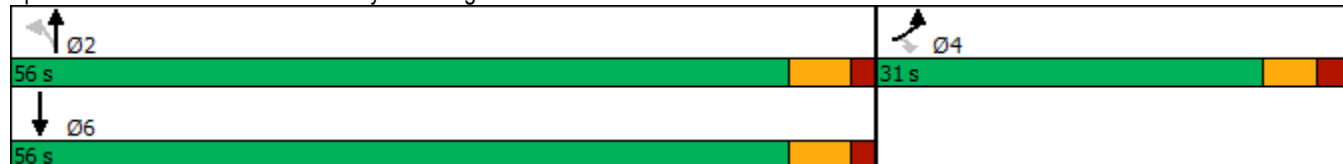
Intersection LOS: B

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Bedford Hwy & Southgate Dr



Bedford Highway Analysis
11: Bedford Hwy & Moirs Mill Rd

2031 Do Nothing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR						
Lane Configurations												
Traffic Volume (vph)	234	32	7	655	552	98						
Future Volume (vph)	234	32	7	655	552	98						
Satd. Flow (prot)	1770	1583	0	3536	3458	0						
Flt Permitted	0.950			0.947								
Satd. Flow (perm)	1770	1583	0	3352	3458	0						
Satd. Flow (RTOR)		32			31							
Lane Group Flow (vph)	254	35	0	720	707	0						
Turn Type	Prot	Perm	Perm	NA	NA							
Protected Phases	3			2	2							
Permitted Phases		3	2									
Total Split (s)	41.5	41.5	58.5	58.5	58.5							
Total Lost Time (s)	6.0	6.0		5.5	5.5							
Act Effct Green (s)	19.8	19.8		68.7	68.7							
Actuated g/C Ratio	0.20	0.20		0.69	0.69							
v/c Ratio	0.73	0.10		0.31	0.30							
Control Delay	49.1	12.0		7.3	4.7							
Queue Delay	0.0	0.0		0.0	0.0							
Total Delay	49.1	12.0		7.3	4.7							
LOS	D	B		A	A							
Approach Delay	44.6			7.3	4.7							
Approach LOS	D			A	A							
Queue Length 50th (m)	48.9	0.5		27.1	8.2							
Queue Length 95th (m)	69.9	8.1		45.5	24.1							
Internal Link Dist (m)	95.1			116.3	148.8							
Turn Bay Length (m)		25.0										
Base Capacity (vph)	628	582		2302	2384							
Starvation Cap Reductn	0	0		0	0							
Spillback Cap Reductn	0	0		0	0							
Storage Cap Reductn	0	0		0	0							
Reduced v/c Ratio	0.40	0.06		0.31	0.30							

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 12.5

Intersection LOS: B

Intersection Capacity Utilization 62.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 11: Bedford Hwy & Moirs Mill Rd



Bedford Highway Analysis
12: Bedford Hwy & Hammonds Plains Rd

2031 Do Nothing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	330	67	215	42	52	67	284	538	10	71	436	229
Future Volume (vph)	330	67	215	42	52	67	284	538	10	71	436	229
Satd. Flow (prot)	1770	1650	0	1770	1706	0	1770	1857	0	1770	3539	1583
Flt Permitted	0.494			0.573			0.385			0.277		
Satd. Flow (perm)	920	1650	0	1067	1706	0	717	1857	0	516	3539	1583
Satd. Flow (RTOR)		152			58			1				249
Lane Group Flow (vph)	359	307	0	46	130	0	309	596	0	77	474	249
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Total Split (s)	17.0	30.0		14.0	27.0		22.0	42.0		14.0	34.0	34.0
Total Lost Time (s)	4.0	6.1		4.0	6.1		4.0	5.8		4.0	5.8	5.8
Act Effct Green (s)	33.1	23.7		21.7	11.9		58.8	47.4		48.6	39.0	39.0
Actuated g/C Ratio	0.33	0.24		0.22	0.12		0.59	0.47		0.49	0.39	0.39
v/c Ratio	0.83	0.61		0.16	0.51		0.54	0.68		0.22	0.34	0.32
Control Delay	45.6	23.0		23.3	29.5		14.3	20.8		12.4	24.0	4.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.3		0.0	0.0	0.0
Total Delay	45.6	23.0		23.3	29.5		14.3	21.1		12.4	24.0	4.7
LOS	D	C		C	C		B	C		B	C	A
Approach Delay		35.1			27.9			18.8			16.9	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	61.9	29.3		6.5	14.1		19.9	47.9		6.1	34.5	0.0
Queue Length 95th (m)	#87.3	56.2		13.1	29.2		47.8	#95.4		15.0	57.8	18.3
Internal Link Dist (m)		215.5			47.8			148.8			134.8	
Turn Bay Length (m)	67.0									31.0		60.0
Base Capacity (vph)	434	537		326	402		611	879		387	1378	768
Starvation Cap Reductn	0	0		0	0		0	47		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.83	0.57		0.14	0.32		0.51	0.72		0.20	0.34	0.32

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 23.1

Intersection LOS: C

Intersection Capacity Utilization 76.5%

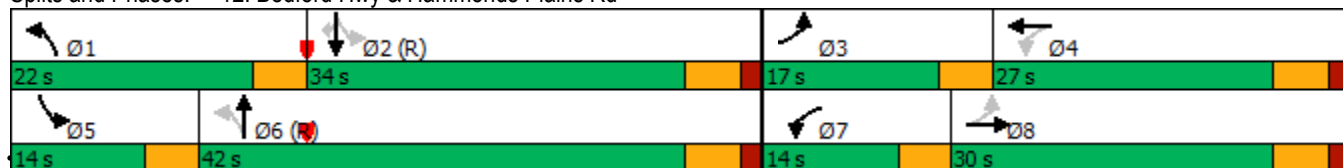
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Bedford Hwy & Hammonds Plains Rd



04-10-2019

Synchro 10 Report
Page 9

Bedford Highway Analysis
13: Bedford Hwy & Holland Ave/Convoy Run

2031 Do Nothing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	4	34	51	5	19	20	703	111	48	655	17
Future Volume (vph)	25	4	34	51	5	19	20	703	111	48	655	17
Satd. Flow (prot)	0	1694	0	0	1781	1583	1770	1824	0	1770	1855	0
Flt Permitted		0.844			0.828		0.344			0.270		
Satd. Flow (perm)	0	1457	0	0	1542	1583	641	1824	0	503	1855	0
Satd. Flow (RTOR)		37				28		10			2	
Lane Group Flow (vph)	0	68	0	0	60	21	22	885	0	52	730	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3			3		3	2			2		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	67.0	67.0		67.0	67.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		9.1			9.1	9.1	68.7	68.7		68.7	68.7	
Actuated g/C Ratio		0.11			0.11	0.11	0.80	0.80		0.80	0.80	
v/c Ratio		0.37			0.37	0.11	0.04	0.61		0.13	0.49	
Control Delay		24.7			41.4	11.5	3.5	7.2		4.3	5.6	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		24.7			41.4	11.5	3.5	7.2		4.3	5.6	
LOS		C			D	B	A	A		A	A	
Approach Delay		24.7			33.6			7.2			5.6	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		4.9			9.7	0.0	0.8	56.5		1.9	40.1	
Queue Length 95th (m)		16.5			21.0	5.3	2.9	107.2		6.1	73.8	
Internal Link Dist (m)		82.0			72.0			302.4			719.4	
Turn Bay Length (m)						41.0	73.0			28.0		
Base Capacity (vph)		764			789	824	511	1458		401	1481	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.09			0.08	0.03	0.04	0.61		0.13	0.49	

Intersection Summary

Cycle Length: 117

Actuated Cycle Length: 86.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 8.3

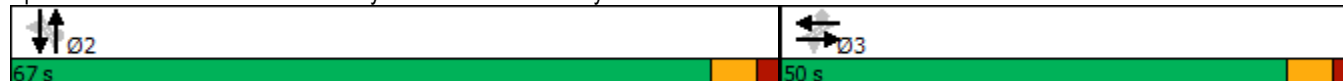
Intersection LOS: A

Intersection Capacity Utilization 67.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: Bedford Hwy & Holland Ave/Convoy Run



Bedford Highway Analysis
14: Bedford Hwy & Meadowbrook Dr

2031 Do Nothing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	0	33	0	0	4	8	752	10	11	784	71
Future Volume (vph)	204	0	33	0	0	4	8	752	10	11	784	71
Satd. Flow (prot)	0	1770	1583	0	1611	0	1770	1859	0	1770	1840	0
Flt Permitted		0.755					0.180			0.236		
Satd. Flow (perm)	0	1406	1583	0	1611	0	335	1859	0	440	1840	0
Satd. Flow (RTOR)			36		193			1			9	
Lane Group Flow (vph)	0	222	36	0	4	0	9	828	0	12	929	0
Turn Type	Perm	NA	Perm		NA		Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3		3	3			2			2		
Total Split (s)	31.0	31.0	31.0	31.0	31.0		65.0	65.0		65.0	65.0	
Total Lost Time (s)		6.0	6.0		6.0		5.6	5.6		5.6	5.6	
Act Effct Green (s)		19.0	19.0		19.0		61.4	61.4		61.4	61.4	
Actuated g/C Ratio		0.21	0.21		0.21		0.67	0.67		0.67	0.67	
v/c Ratio		0.77	0.10		0.01		0.04	0.67		0.04	0.75	
Control Delay		51.6	10.1		0.0		7.4	13.5		7.3	16.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6	10.1		0.0		7.4	13.5		7.3	16.4	
LOS		D	B		A		A	B		A	B	
Approach Delay		45.8						13.5			16.3	
Approach LOS		D						B			B	
Queue Length 50th (m)		38.1	0.0		0.0		0.5	82.3		0.7	102.3	
Queue Length 95th (m)		63.6	7.5		0.0		2.7	149.2		3.2	189.7	
Internal Link Dist (m)		116.5			20.8			112.1			644.8	
Turn Bay Length (m)							25.0			26.0		
Base Capacity (vph)		382	456		578		223	1241		293	1231	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.58	0.08		0.01		0.04	0.67		0.04	0.75	

Intersection Summary

Cycle Length: 96

Actuated Cycle Length: 92

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 18.9

Intersection LOS: B

Intersection Capacity Utilization 73.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 14: Bedford Hwy & Meadowbrook Dr



Bedford Highway Analysis
15: Bedford Hwy & Hatchery Ln

2031 Do Nothing Conditions
Timing Plan: AM PEAK

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	104	58	964	102	23	747
Future Volume (vph)	104	58	964	102	23	747
Satd. Flow (prot)	1770	1583	1839	0	1770	1863
Flt Permitted	0.950				0.132	
Satd. Flow (perm)	1770	1583	1839	0	246	1863
Satd. Flow (RTOR)		63	10			
Lane Group Flow (vph)	113	63	1159	0	25	812
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	4		6			2
Permitted Phases		4			2	
Total Split (s)	31.0	31.0	69.0		69.0	69.0
Total Lost Time (s)	6.0	6.0	6.5		6.5	6.5
Act Effct Green (s)	11.7	11.7	75.8		75.8	75.8
Actuated g/C Ratio	0.12	0.12	0.76		0.76	0.76
v/c Ratio	0.55	0.26	0.83		0.13	0.58
Control Delay	50.7	12.7	15.8		4.2	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	50.7	12.7	15.8		4.2	4.5
LOS	D	B	B		A	A
Approach Delay	37.1		15.8			4.5
Approach LOS	D		B			A
Queue Length 50th (m)	22.1	0.0	125.5		0.7	28.8
Queue Length 95th (m)	38.1	11.5	#294.2		m1.8	38.6
Internal Link Dist (m)	38.8		644.8			132.9
Turn Bay Length (m)					18.0	
Base Capacity (vph)	442	443	1395		186	1411
Starvation Cap Reductn	0	0	0		0	37
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.26	0.14	0.83		0.13	0.59

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 80 (80%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 13.2

Intersection LOS: B

Intersection Capacity Utilization 73.2%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Bedford Hwy & Hatchery Ln



Bedford Highway Analysis
16: Bedford Hwy & Union St

2031 Do Nothing Conditions
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	51	68	47	891	693	25
Future Volume (vph)	51	68	47	891	693	25
Satd. Flow (prot)	1683	0	1770	1863	1853	0
Flt Permitted	0.979		0.320			
Satd. Flow (perm)	1683	0	596	1863	1853	0
Satd. Flow (RTOR)	65				3	
Lane Group Flow (vph)	129	0	51	968	780	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases			6			
Total Split (s)	31.0		69.0	69.0	69.0	
Total Lost Time (s)	6.0		6.5	6.5	6.5	
Act Effct Green (s)	9.9		77.6	77.6	77.6	
Actuated g/C Ratio	0.10		0.78	0.78	0.78	
v/c Ratio	0.57		0.11	0.67	0.54	
Control Delay	32.3		3.1	4.3	6.4	
Queue Delay	0.0		0.0	0.6	0.0	
Total Delay	32.3		3.1	4.9	6.4	
LOS	C		A	A	A	
Approach Delay	32.3			4.8	6.4	
Approach LOS	C			A	A	
Queue Length 50th (m)	12.5		1.3	25.9	47.1	
Queue Length 95th (m)	29.8		m2.6	47.8	91.1	
Internal Link Dist (m)	153.0			132.9	320.3	
Turn Bay Length (m)			33.0			
Base Capacity (vph)	469		462	1445	1438	
Starvation Cap Reductn	0		0	174	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.28		0.11	0.76	0.54	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 80 (80%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 7.3

Intersection LOS: A

Intersection Capacity Utilization 64.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Bedford Hwy & Union St



Bedford Highway Analysis
17: Bedford Hwy & Dartmouth Rd

2031 Do Nothing Conditions
Timing Plan: AM PEAK

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗	↗	↖	↕		↖	↕	
Traffic Volume (vph)	3	37	14	398	14	529	12	311	528	427	384	19
Future Volume (vph)	3	37	14	398	14	529	12	311	528	427	384	19
Satd. Flow (prot)	0	1792	0	1770	1518	1504	1770	3207	0	1770	3514	0
Flt Permitted		0.984		0.719			0.498			0.121		
Satd. Flow (perm)	0	1769	0	1339	1518	1504	928	3207	0	225	3514	0
Satd. Flow (RTOR)		15			282	293		410			8	
Lane Group Flow (vph)	0	58	0	433	297	293	13	912	0	464	438	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4		4	2			6		
Total Split (s)	40.0	40.0		40.0	40.0	40.0	43.0	43.0		29.0	72.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.2	6.2		4.0	6.2	
Act Effct Green (s)		34.0		34.0	34.0	34.0	37.0	37.0		68.0	65.8	
Actuated g/C Ratio		0.30		0.30	0.30	0.30	0.33	0.33		0.61	0.59	
v/c Ratio		0.11		1.07	0.45	0.44	0.04	0.68		0.97	0.21	
Control Delay		22.5		101.9	6.7	5.7	26.3	20.2		71.7	8.7	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		32.7	0.5	
Total Delay		22.5		101.9	6.7	5.7	26.3	20.2		104.4	9.2	
LOS		C		F	A	A	C	C		F	A	
Approach Delay		22.5			46.7			20.2			58.2	
Approach LOS		C			D			C			E	
Queue Length 50th (m)		7.1		~110.3	2.5	0.0	2.0	52.7		99.7	20.4	
Queue Length 95th (m)		17.1		#173.3	24.6	20.9	6.8	76.6		#156.0	30.0	
Internal Link Dist (m)		15.4			319.7			106.0			83.4	
Turn Bay Length (m)				56.0		40.0	47.0			40.0		
Base Capacity (vph)		547		406	657	660	306	1333		481	2067	
Starvation Cap Reductn		0		0	0	0	0	0		51	1155	
Spillback Cap Reductn		0		0	0	0	0	0		0	0	
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.11		1.07	0.45	0.44	0.04	0.68		1.08	0.48	

Intersection Summary

Cycle Length: 112

Actuated Cycle Length: 112

Offset: 65 (58%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 41.4

Intersection LOS: D

Intersection Capacity Utilization 91.5%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Bedford Hwy & Dartmouth Rd



Bedford Highway Analysis
18: Bedford Hwy & Sunnyside Mall

2031 Do Nothing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	10	0	5	41	3	25	5	745	68	46	795	67
Future Volume (vph)	10	0	5	41	3	25	5	745	68	46	795	67
Satd. Flow (prot)	0	1726	0	0	3251	0	1770	3493	0	1770	3497	0
Flt Permitted		0.746			0.808		0.305			0.293		
Satd. Flow (perm)	0	1331	0	0	2705	0	568	3493	0	546	3497	0
Satd. Flow (RTOR)		70			27			12			16	
Lane Group Flow (vph)	0	16	0	0	75	0	5	884	0	50	937	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4			2			6		
Total Split (s)	32.0	32.0		32.0	32.0		61.0	61.0		19.0	80.0	
Total Lost Time (s)		6.4			6.4		6.2	6.2		4.0	6.2	
Act Effct Green (s)		8.0			8.0		86.5	86.5		96.3	95.3	
Actuated g/C Ratio		0.07			0.07		0.77	0.77		0.86	0.85	
v/c Ratio		0.10			0.35		0.01	0.33		0.09	0.31	
Control Delay		1.3			37.6		4.4	5.9		2.7	5.5	
Queue Delay		0.0			0.0		0.0	0.2		0.0	0.2	
Total Delay		1.3			37.6		4.4	6.1		2.7	5.7	
LOS		A			D		A	A		A	A	
Approach Delay		1.3			37.6			6.0			5.6	
Approach LOS		A			D			A			A	
Queue Length 50th (m)		0.0			5.6		0.3	49.3		3.3	59.5	
Queue Length 95th (m)		0.0			13.2		m0.5	52.9		m3.2	93.4	
Internal Link Dist (m)		20.0			34.2			83.4			134.0	
Turn Bay Length (m)							22.0			45.0		
Base Capacity (vph)		358			639		438	2701		633	2979	
Starvation Cap Reductn		0			0		0	910		0	1126	
Spillback Cap Reductn		0			4		0	0		0	590	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.04			0.12		0.01	0.49		0.08	0.51	

Intersection Summary

Cycle Length: 112

Actuated Cycle Length: 112

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 7.0

Intersection LOS: A

Intersection Capacity Utilization 53.1%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Bedford Hwy & Sunnyside Mall



Bedford Highway Analysis
19: Bedford Hwy & Rocky Lake

2031 Do Nothing Conditions
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	23	43	232	34	69	74	512	220	121	594	30
Future Volume (vph)	33	23	43	232	34	69	74	512	220	121	594	30
Satd. Flow (prot)	1770	1680	0	1770	1676	0	1770	3380	0	1770	3514	0
Flt Permitted	0.685			0.465			0.393			0.950		
Satd. Flow (perm)	1276	1680	0	866	1676	0	732	3380	0	1770	3514	0
Satd. Flow (RTOR)		47			75			64			5	
Lane Group Flow (vph)	36	72	0	252	112	0	80	796	0	132	679	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2					
Total Split (s)	31.0	31.0		22.0	53.0		12.0	43.0		16.0	47.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	9.0	9.0		30.8	28.8		63.1	53.3		13.9	61.6	
Actuated g/C Ratio	0.08	0.08		0.28	0.26		0.56	0.48		0.12	0.55	
v/c Ratio	0.35	0.40		0.65	0.23		0.17	0.48		0.60	0.35	
Control Delay	57.6	28.1		41.9	13.0		12.8	25.6		53.0	21.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.2		0.0	0.0	
Total Delay	57.6	28.1		41.9	13.0		12.8	25.8		53.0	21.7	
LOS	E	C		D	B		B	C		D	C	
Approach Delay		37.9			33.0			24.6			26.8	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	8.0	5.5		48.0	6.4		6.2	57.5		29.3	51.6	
Queue Length 95th (m)	18.5	19.6		70.0	19.7		20.2	91.1		47.9	97.2	
Internal Link Dist (m)		43.5			31.5			134.0			140.7	
Turn Bay Length (m)	34.0						25.0			32.0		
Base Capacity (vph)	284	411		386	746		493	1643		229	1935	
Starvation Cap Reductn	0	0		0	0		0	252		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.18		0.65	0.15		0.16	0.57		0.58	0.35	

Intersection Summary

Cycle Length: 112

Actuated Cycle Length: 112

Offset: 71 (63%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 27.5

Intersection LOS: C

Intersection Capacity Utilization 60.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 19: Bedford Hwy & Rocky Lake

								
Ø1	Ø2 (R)	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	Ø9
16 s	43 s	22 s	31 s	12 s	47 s	53 s		

Bedford Highway Analysis
20: Bedford Hwy & Bedford Place

2031 Do Nothing Conditions
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	19	16	493	739	28
Future Volume (vph)	12	19	16	493	739	28
Satd. Flow (prot)	1676	0	1770	3539	3539	1583
Flt Permitted	0.981		0.348			
Satd. Flow (perm)	1676	0	648	3539	3539	1583
Satd. Flow (RTOR)	21					30
Lane Group Flow (vph)	34	0	17	536	803	30
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			6	2	
Permitted Phases			6			2
Total Split (s)	34.0		78.0	78.0	78.0	78.0
Total Lost Time (s)	6.0		6.2	6.2	6.2	6.2
Act Effect Green (s)	7.5		100.0	100.0	100.0	100.0
Actuated g/C Ratio	0.07		0.89	0.89	0.89	0.89
v/c Ratio	0.26		0.03	0.17	0.25	0.02
Control Delay	31.8		5.0	5.2	0.3	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	31.8		5.0	5.2	0.3	0.0
LOS	C		A	A	A	A
Approach Delay	31.8			5.1	0.3	
Approach LOS	C			A	A	
Queue Length 50th (m)	2.9		1.6	27.7	1.5	0.0
Queue Length 95th (m)	13.0		m3.1	52.5	1.9	0.0
Internal Link Dist (m)	28.6			140.7	211.4	
Turn Bay Length (m)						40.0
Base Capacity (vph)	434		578	3159	3159	1416
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.08		0.03	0.17	0.25	0.02

Intersection Summary

Cycle Length: 112

Actuated Cycle Length: 112

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.26

Intersection Signal Delay: 2.9

Intersection LOS: A

Intersection Capacity Utilization 36.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Bedford Hwy & Bedford Place



Bedford Highway Analysis
21: Bedford Hwy & River Ln

2031 Do Nothing Conditions
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	55	13	7	536	757	83
Future Volume (vph)	55	13	7	536	757	83
Satd. Flow (prot)	1744	0	1770	3539	3539	1583
Flt Permitted	0.961		0.950			
Satd. Flow (perm)	1744	0	1770	3539	3539	1583
Satd. Flow (RTOR)	10					72
Lane Group Flow (vph)	74	0	8	583	823	90
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases						2
Total Split (s)	32.0		21.0	80.0	59.0	59.0
Total Lost Time (s)	6.0		6.0	6.5	6.5	6.5
Act Effct Green (s)	9.8		7.0	93.6	91.0	91.0
Actuated g/C Ratio	0.09		0.06	0.84	0.81	0.81
v/c Ratio	0.46		0.07	0.20	0.29	0.07
Control Delay	50.4		66.4	1.6	4.4	1.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	50.4		66.4	1.6	4.4	1.9
LOS	D		E	A	A	A
Approach Delay	50.4			2.5	4.1	
Approach LOS	D			A	A	
Queue Length 50th (m)	14.3		2.0	6.6	20.0	0.7
Queue Length 95th (m)	28.7		7.5	8.4	52.7	6.9
Internal Link Dist (m)	31.9			211.4	233.1	
Turn Bay Length (m)			19.0			38.0
Base Capacity (vph)	412		237	2957	2874	1299
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.18		0.03	0.20	0.29	0.07

Intersection Summary

Cycle Length: 112

Actuated Cycle Length: 112

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 5.7

Intersection LOS: A

Intersection Capacity Utilization 37.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Bedford Hwy & River Ln



Bedford Highway Analysis

2031 Do Nothing Conditions

1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St

Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	461	500	72	43	466	0	78	521	0	1201	634	111
Future Volume (vph)	461	500	72	43	466	0	78	521	0	1201	634	111
Satd. Flow (prot)	3433	3472	0	1770	3539	0	1770	3539	0	3433	3461	0
Flt Permitted	0.950			0.357			0.950			0.950		
Satd. Flow (perm)	3433	3472	0	665	3539	0	1770	3539	0	3433	3461	0
Satd. Flow (RTOR)		12									18	
Lane Group Flow (vph)	501	621	0	47	507	0	85	566	0	1305	810	0
Turn Type	Prot	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases				8								
Total Split (s)	22.6	26.6		22.5	26.5		24.9	24.9		46.0	46.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)	18.1	33.2		28.2	20.7		21.7	21.7		41.5	41.5	
Actuated g/C Ratio	0.15	0.28		0.24	0.17		0.18	0.18		0.35	0.35	
v/c Ratio	0.97	0.64		0.21	0.83		0.27	0.88		1.10	0.67	
Control Delay	83.5	41.5		27.8	60.6		45.7	64.9		95.2	35.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	83.5	41.5		27.8	60.6		45.7	64.9		95.2	35.9	
LOS	F	D		C	E		D	E		F	D	
Approach Delay		60.3			57.8			62.4			72.5	
Approach LOS		E			E			E			E	
Queue Length 50th (m)	64.4	70.4		7.5	63.6		18.6	73.7		~189.1	87.5	
Queue Length 95th (m)	#99.4	93.6		16.0	83.8		34.4	#108.8		#232.2	110.2	
Internal Link Dist (m)		134.4			85.9			203.3			67.2	
Turn Bay Length (m)	50.0			35.0			50.0					
Base Capacity (vph)	517	970		380	648		320	640		1187	1208	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.97	0.64		0.12	0.78		0.27	0.88		1.10	0.67	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 66.1

Intersection LOS: E

Intersection Capacity Utilization 89.7%

ICU Level of Service E

Analysis Period (min) 15

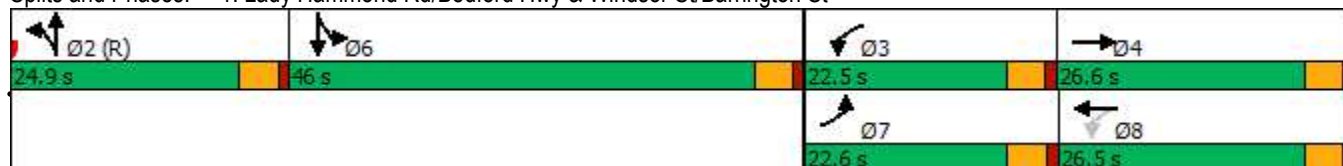
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St



Bedford Highway Analysis

2: Bedford Hwy & Manor Ln

2031 Do Nothing Conditions
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	45	63	2554	1365	29
Future Volume (vph)	19	45	63	2554	1365	29
Satd. Flow (prot)	1770	1583	1770	3539	3529	0
Flt Permitted	0.950		0.131			
Satd. Flow (perm)	1770	1583	244	3539	3529	0
Satd. Flow (RTOR)		49			3	
Lane Group Flow (vph)	21	49	68	2776	1516	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	21.0	21.0	18.0	89.0	71.0	
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8	
Act Effct Green (s)	7.5	7.5	95.1	94.4	85.6	
Actuated g/C Ratio	0.07	0.07	0.86	0.86	0.78	
v/c Ratio	0.17	0.32	0.22	0.91	0.55	
Control Delay	51.4	19.4	3.2	13.7	9.1	
Queue Delay	0.0	0.0	0.0	0.0	0.1	
Total Delay	51.4	19.4	3.2	13.7	9.2	
LOS	D	B	A	B	A	
Approach Delay	29.0			13.4	9.2	
Approach LOS	C			B	A	
Queue Length 50th (m)	4.6	0.0	1.7	193.3	113.5	
Queue Length 95th (m)	12.7	12.0	4.1	#374.6	m125.5	
Internal Link Dist (m)	44.2			360.5	230.9	
Turn Bay Length (m)			15.0			
Base Capacity (vph)	241	258	405	3038	2748	
Starvation Cap Reductn	0	0	0	0	241	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.09	0.19	0.17	0.91	0.60	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 12.2

Intersection LOS: B

Intersection Capacity Utilization 86.3%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Bedford Hwy & Manor Ln



Bedford Highway Analysis

3: Bedford Hwy & Bayview Dr

2031 Do Nothing Conditions
Timing Plan: PM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	69	485	849	1998	996	147
Future Volume (vph)	69	485	849	1998	996	147
Satd. Flow (prot)	1633	0	0	3486	3472	0
Flt Permitted	0.994			0.511		
Satd. Flow (perm)	1633	0	0	1809	3472	0
Satd. Flow (RTOR)	281				18	
Lane Group Flow (vph)	602	0	0	3095	1243	0
Turn Type	Prot		pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases			6			
Total Split (s)	26.0		34.0	84.0	50.0	
Total Lost Time (s)	6.0			5.8	5.8	
Act Effct Green (s)	20.0			78.2	78.2	
Actuated g/C Ratio	0.18			0.71	0.71	
v/c Ratio	1.14			3.69dl	0.50	
Control Delay	108.5			651.2	7.9	
Queue Delay	0.0			0.0	0.0	
Total Delay	108.5			651.2	7.9	
LOS	F			F	A	
Approach Delay	108.5			651.2	7.9	
Approach LOS	F			F	A	
Queue Length 50th (m)	~104.1			~613.1	57.4	
Queue Length 95th (m)	#175.1			#654.5	71.2	
Internal Link Dist (m)	326.3			230.9	392.1	
Turn Bay Length (m)						
Base Capacity (vph)	526			1286	2473	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.14			2.41	0.50	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.41

Intersection Signal Delay: 423.2

Intersection LOS: F

Intersection Capacity Utilization 160.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 3: Bedford Hwy & Bayview Dr



Bedford Highway Analysis
4: Bedford Hwy & Seton Rd

2031 Do Nothing Conditions
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	132	379	320	1589	854	141
Future Volume (vph)	132	379	320	1589	854	141
Satd. Flow (prot)	1655	0	0	3511	3465	0
Flt Permitted	0.987			0.569		
Satd. Flow (perm)	1655	0	0	2014	3465	0
Satd. Flow (RTOR)	88				25	
Lane Group Flow (vph)	555	0	0	2075	1081	0
Turn Type	Prot		pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases			2			
Total Split (s)	37.0		11.4	113.0	101.6	
Total Lost Time (s)	4.5			4.5	4.5	
Act Effct Green (s)	32.5			108.5	108.5	
Actuated g/C Ratio	0.22			0.72	0.72	
v/c Ratio	1.30			1.43	0.43	
Control Delay	189.4			218.1	8.7	
Queue Delay	0.0			0.0	0.0	
Total Delay	189.4			218.1	8.7	
LOS	F			F	A	
Approach Delay	189.4			218.1	8.7	
Approach LOS	F			F	A	
Queue Length 50th (m)	~199.6			~460.0	63.4	
Queue Length 95th (m)	#276.0			#502.1	75.4	
Internal Link Dist (m)	37.2			201.0	255.1	
Turn Bay Length (m)						
Base Capacity (vph)	427			1456	2513	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.30			1.43	0.43	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.43

Intersection Signal Delay: 152.8

Intersection LOS: F

Intersection Capacity Utilization 123.2%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Bedford Hwy & Seton Rd



Bedford Highway Analysis
6: Bedford Hwy & Flamingo Dr

2031 Do Nothing Conditions
Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	103	190	214	1055	629	25
Future Volume (vph)	103	190	214	1055	629	25
Satd. Flow (prot)	1770	1583	1770	1863	1853	0
Flt Permitted	0.950		0.352			
Satd. Flow (perm)	1770	1583	656	1863	1853	0
Satd. Flow (RTOR)		207			4	
Lane Group Flow (vph)	112	207	233	1147	711	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases		4	6			
Total Split (s)	26.0	26.0	94.0	94.0	94.0	
Total Lost Time (s)	6.0	6.0	6.1	6.1	6.1	
Act Effct Green (s)	12.9	12.9	95.0	95.0	95.0	
Actuated g/C Ratio	0.11	0.11	0.79	0.79	0.79	
v/c Ratio	0.59	0.58	0.45	0.78	0.48	
Control Delay	63.0	13.4	7.8	12.4	5.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.0	13.4	7.8	12.4	5.9	
LOS	E	B	A	B	A	
Approach Delay	30.8			11.6	5.9	
Approach LOS	C			B	A	
Queue Length 50th (m)	26.9	0.0	15.3	126.3	48.4	
Queue Length 95th (m)	44.5	22.0	36.2	232.5	84.1	
Internal Link Dist (m)	139.9			392.2	501.1	
Turn Bay Length (m)	22.0		34.0			
Base Capacity (vph)	295	436	519	1474	1467	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.38	0.47	0.45	0.78	0.48	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 12.5

Intersection LOS: B

Intersection Capacity Utilization 71.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: Bedford Hwy & Flamingo Dr



Bedford Highway Analysis
8: Bedford Hwy & Kearney Lake Rd

2031 Do Nothing Conditions
Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	167	236	525	915	577	167
Future Volume (vph)	167	236	525	915	577	167
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.169			
Satd. Flow (perm)	1770	1583	315	1863	1863	1583
Satd. Flow (RTOR)		257				175
Lane Group Flow (vph)	182	257	571	995	627	182
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	3		1	2	2	
Permitted Phases		3	2	1		2
Total Split (s)	36.0	36.0	29.0	56.0	56.0	56.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Act Effct Green (s)	15.7	15.7	68.1	70.2	40.6	40.6
Actuated g/C Ratio	0.16	0.16	0.69	0.72	0.41	0.41
v/c Ratio	0.64	0.55	0.96	0.75	0.81	0.24
Control Delay	51.1	9.7	51.8	13.6	35.2	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	9.7	51.8	13.6	35.2	4.1
LOS	D	A	D	B	D	A
Approach Delay	26.9			27.5	28.2	
Approach LOS	C			C	C	
Queue Length 50th (m)	35.4	0.0	83.6	105.6	107.6	0.8
Queue Length 95th (m)	61.8	22.1	#182.9	195.2	169.5	13.9
Internal Link Dist (m)	207.2			269.8	796.7	
Turn Bay Length (m)		41.0				87.0
Base Capacity (vph)	552	670	597	1520	969	907
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.38	0.96	0.65	0.65	0.20

Intersection Summary

Cycle Length: 121

Actuated Cycle Length: 98.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 27.6

Intersection LOS: C

Intersection Capacity Utilization 82.0%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Bedford Hwy & Kearney Lake Rd



Bedford Highway Analysis
9: Bedford Hwy & Larry Uteck Blvd

2031 Do Nothing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	269	0	0	0	393	681	0	0	514	159
Future Volume (vph)	97	0	269	0	0	0	393	681	0	0	514	159
Satd. Flow (prot)	0	1770	1583	0	1863	0	1770	1863	0	0	1863	1583
Flt Permitted		0.757					0.183					
Satd. Flow (perm)	0	1410	1583	0	1863	0	341	1863	0	0	1863	1583
Satd. Flow (RTOR)			292									173
Lane Group Flow (vph)	0	105	292	0	0	0	427	740	0	0	559	173
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		6			6
Total Split (s)	31.0	31.0	31.0	31.0	31.0		24.0	75.0		51.0	51.0	51.0
Total Lost Time (s)		6.0	6.0		6.0		4.0	6.0			6.0	6.0
Act Effct Green (s)		11.4	11.4				52.7	50.6			27.5	27.5
Actuated g/C Ratio		0.15	0.15				0.71	0.68			0.37	0.37
v/c Ratio		0.49	0.60				0.71	0.59			0.81	0.25
Control Delay		40.4	10.0				18.9	8.8			31.9	3.7
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		40.4	10.0				18.9	8.8			31.9	3.7
LOS		D	B				B	A			C	A
Approach Delay		18.1						12.5			25.2	
Approach LOS		B						B			C	
Queue Length 50th (m)		14.5	0.0				27.3	46.8			73.0	0.0
Queue Length 95th (m)		35.3	22.5				#88.5	94.1			123.6	11.5
Internal Link Dist (m)		399.7			12.3			76.8			1542.8	
Turn Bay Length (m)							58.0					97.0
Base Capacity (vph)		494	744				641	1661			1175	1063
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.21	0.39				0.67	0.45			0.48	0.16

Intersection Summary

Cycle Length: 106

Actuated Cycle Length: 74.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 17.5

Intersection LOS: B

Intersection Capacity Utilization 83.7%

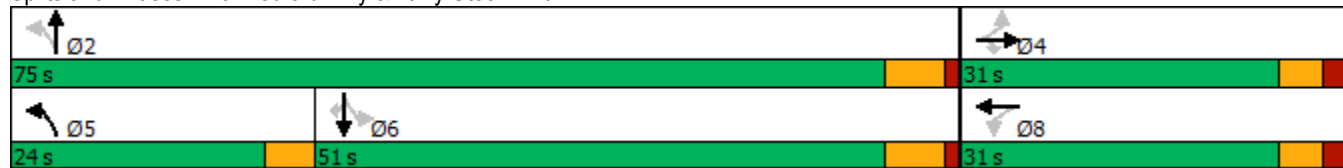
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 9: Bedford Hwy & Larry Uteck Blvd



Bedford Highway Analysis
10: Bedford Hwy & Southgate Dr

2031 Do Nothing Conditions
Timing Plan: PM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	162	29	34	975	813	172
Future Volume (vph)	162	29	34	975	813	172
Satd. Flow (prot)	1770	1583	1770	1863	1818	0
Flt Permitted	0.950		0.114			
Satd. Flow (perm)	1770	1583	212	1863	1818	0
Satd. Flow (RTOR)		32			21	
Lane Group Flow (vph)	176	32	37	1060	1071	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Total Split (s)	31.0	31.0	56.0	56.0	56.0	
Total Lost Time (s)	6.0	6.0	5.7	5.7	5.7	
Act Effect Green (s)	12.6	12.6	50.4	50.4	50.4	
Actuated g/C Ratio	0.17	0.17	0.67	0.67	0.67	
v/c Ratio	0.59	0.11	0.26	0.84	0.87	
Control Delay	37.0	10.6	11.6	18.7	20.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	37.0	10.6	11.6	18.7	20.5	
LOS	D	B	B	B	C	
Approach Delay	32.9			18.5	20.5	
Approach LOS	C			B	C	
Queue Length 50th (m)	24.3	0.0	1.8	100.2	103.5	
Queue Length 95th (m)	43.3	7.0	8.8	#232.9	#240.2	
Internal Link Dist (m)	107.6			1542.8	369.0	
Turn Bay Length (m)			42.0			
Base Capacity (vph)	593	551	142	1256	1232	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.30	0.06	0.26	0.84	0.87	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 74.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 20.6

Intersection LOS: C

Intersection Capacity Utilization 72.0%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Bedford Hwy & Southgate Dr



Bedford Highway Analysis
11: Bedford Hwy & Moirs Mill Rd

2031 Do Nothing Conditions
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	165	23	38	930	732	245
Future Volume (vph)	165	23	38	930	732	245
Satd. Flow (prot)	1770	1583	0	3532	3405	0
Flt Permitted	0.950			0.859		
Satd. Flow (perm)	1770	1583	0	3040	3405	0
Satd. Flow (RTOR)		25			79	
Lane Group Flow (vph)	179	25	0	1052	1062	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	3			2	2	
Permitted Phases		3	2			
Total Split (s)	36.0	36.0	74.0	74.0	74.0	
Total Lost Time (s)	6.0	6.0		5.5	5.5	
Act Effct Green (s)	16.5	16.5		82.0	82.0	
Actuated g/C Ratio	0.15	0.15		0.75	0.75	
v/c Ratio	0.68	0.10		0.46	0.42	
Control Delay	56.5	14.6		6.7	2.8	
Queue Delay	0.0	0.0		0.0	0.3	
Total Delay	56.5	14.6		6.7	3.1	
LOS	E	B		A	A	
Approach Delay	51.4			6.7	3.1	
Approach LOS	D			A	A	
Queue Length 50th (m)	38.7	0.0		41.4	11.1	
Queue Length 95th (m)	59.0	7.4		66.8	19.2	
Internal Link Dist (m)	95.1			116.3	148.8	
Turn Bay Length (m)		25.0				
Base Capacity (vph)	482	449		2267	2559	
Starvation Cap Reductn	0	0		0	779	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.37	0.06		0.46	0.60	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 9.0

Intersection LOS: A

Intersection Capacity Utilization 72.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 11: Bedford Hwy & Moirs Mill Rd



Bedford Highway Analysis
12: Bedford Hwy & Hammonds Plains Rd

2031 Do Nothing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	172	182	137	185	167	262	518	7	146	546	358
Future Volume (vph)	350	172	182	137	185	167	262	518	7	146	546	358
Satd. Flow (prot)	1770	1719	0	1770	1730	0	1770	1859	0	1770	3539	1583
Flt Permitted	0.149			0.379			0.256			0.130		
Satd. Flow (perm)	278	1719	0	706	1730	0	477	1859	0	242	3539	1583
Satd. Flow (RTOR)		47			37			1				389
Lane Group Flow (vph)	380	385	0	149	383	0	285	571	0	159	593	389
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Total Split (s)	22.0	35.0		16.0	29.0		24.0	42.0		17.0	35.0	35.0
Total Lost Time (s)	4.0	6.1		4.0	6.1		4.0	5.8		4.0	5.8	5.8
Act Effct Green (s)	48.1	31.5		35.5	22.9		53.8	37.3		44.7	32.2	32.2
Actuated g/C Ratio	0.44	0.29		0.32	0.21		0.49	0.34		0.41	0.29	0.29
v/c Ratio	1.00	0.73		0.45	0.98		0.68	0.90		0.64	0.57	0.53
Control Delay	77.1	41.3		25.0	82.1		29.8	48.4		32.4	36.0	6.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	1.5		0.0	0.0	0.0
Total Delay	77.1	41.3		25.0	82.1		29.8	49.9		32.4	36.0	6.1
LOS	E	D		C	F		C	D		C	D	A
Approach Delay		59.1			66.1			43.2			25.3	
Approach LOS		E			E			D			C	
Queue Length 50th (m)	~75.8	71.1		20.6	79.5		34.5	82.6		19.0	59.0	0.0
Queue Length 95th (m)	#136.8	#119.0		34.8	#142.5		66.4	#154.8		39.5	81.8	24.1
Internal Link Dist (m)		215.5			47.8			148.8			134.8	
Turn Bay Length (m)	67.0									31.0		60.0
Base Capacity (vph)	380	526		353	389		468	632		284	1035	738
Starvation Cap Reductn	0	0		0	0		0	13		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.00	0.73		0.42	0.98		0.61	0.92		0.56	0.57	0.53

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 100 (91%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 44.4

Intersection LOS: D

Intersection Capacity Utilization 91.7%

ICU Level of Service F

Analysis Period (min) 15

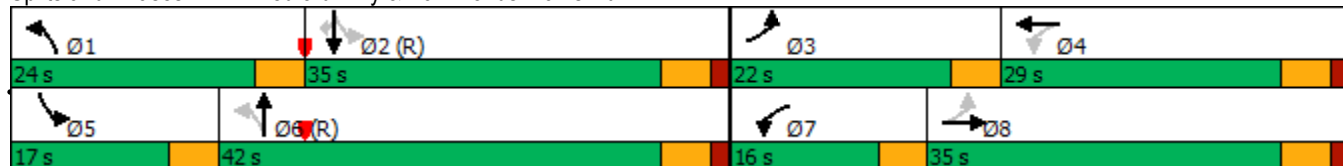
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Bedford Hwy & Hammonds Plains Rd



Bedford Highway Analysis
13: Bedford Hwy & Holland Ave/Convoy Run

2031 Do Nothing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	5	24	118	10	78	26	870	60	23	1008	25
Future Volume (vph)	14	5	24	118	10	78	26	870	60	23	1008	25
Satd. Flow (prot)	0	1694	0	0	1781	1583	1770	1844	0	1770	1855	0
Flt Permitted		0.873			0.710		0.107			0.166		
Satd. Flow (perm)	0	1503	0	0	1323	1583	199	1844	0	309	1855	0
Satd. Flow (RTOR)		26				85		4			2	
Lane Group Flow (vph)	0	46	0	0	139	85	28	1011	0	25	1123	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3			3		3	2			2		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	67.0	67.0		67.0	67.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		14.7			14.7	14.7	64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.16			0.16	0.16	0.71	0.71		0.71	0.71	
v/c Ratio		0.17			0.65	0.26	0.20	0.78		0.12	0.86	
Control Delay		18.8			49.0	9.2	10.1	15.3		7.0	19.9	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		18.8			49.0	9.2	10.1	15.3		7.0	19.9	
LOS		B			D	A	B	B		A	B	
Approach Delay		18.8			33.9			15.2			19.7	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		3.0			23.1	0.0	1.5	100.8		1.2	128.5	
Queue Length 95th (m)		12.3			42.1	11.9	7.0	#206.1		5.2	#286.6	
Internal Link Dist (m)		82.0			72.0			302.4			719.4	
Turn Bay Length (m)						41.0	73.0			28.0		
Base Capacity (vph)		744			643	813	140	1301		217	1308	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.06			0.22	0.10	0.20	0.78		0.12	0.86	

Intersection Summary

Cycle Length: 117

Actuated Cycle Length: 90.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 19.1

Intersection LOS: B

Intersection Capacity Utilization 78.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 13: Bedford Hwy & Holland Ave/Convoy Run



Bedford Highway Analysis
14: Bedford Hwy & Meadowbrook Dr

2031 Do Nothing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	0	33	10	0	10	23	848	0	0	937	144
Future Volume (vph)	132	0	33	10	0	10	23	848	0	0	937	144
Satd. Flow (prot)	0	1770	1583	0	1694	0	1770	1863	0	1863	1825	0
Flt Permitted		0.743			0.831		0.081					
Satd. Flow (perm)	0	1384	1583	0	1443	0	151	1863	0	1863	1825	0
Satd. Flow (RTOR)			36		30						15	
Lane Group Flow (vph)	0	143	36	0	22	0	25	922	0	0	1175	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3		3	3			2			2		
Total Split (s)	31.0	31.0	31.0	31.0	31.0		65.0	65.0		65.0	65.0	
Total Lost Time (s)		6.0	6.0		6.0		5.6	5.6		5.6	5.6	
Act Effct Green (s)		14.4	14.4		14.4		63.4	63.4			63.4	
Actuated g/C Ratio		0.16	0.16		0.16		0.71	0.71			0.71	
v/c Ratio		0.64	0.13		0.09		0.24	0.70			0.90	
Control Delay		47.6	11.1		9.2		12.6	12.1			23.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	
Total Delay		47.6	11.1		9.2		12.6	12.1			23.9	
LOS		D	B		A		B	B			C	
Approach Delay		40.2			9.2			12.1			23.9	
Approach LOS		D			A			B			C	
Queue Length 50th (m)		23.0	0.0		0.0		1.3	79.2			141.1	
Queue Length 95th (m)		41.8	7.8		4.9		7.4	160.7			#304.7	
Internal Link Dist (m)		116.5			20.8			112.1			644.8	
Turn Bay Length (m)							25.0					
Base Capacity (vph)		387	469		425		106	1321			1299	
Starvation Cap Reductn		0	0		0		0	0			0	
Spillback Cap Reductn		0	0		0		0	0			0	
Storage Cap Reductn		0	0		0		0	0			0	
Reduced v/c Ratio		0.37	0.08		0.05		0.24	0.70			0.90	

Intersection Summary

Cycle Length: 96

Actuated Cycle Length: 89.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 20.2

Intersection LOS: C

Intersection Capacity Utilization 84.4%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 14: Bedford Hwy & Meadowbrook Dr



Bedford Highway Analysis
15: Bedford Hwy & Hatchery Ln

2031 Do Nothing Conditions
Timing Plan: PM PEAK

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	134	63	866	112	45	977
Future Volume (vph)	134	63	866	112	45	977
Satd. Flow (prot)	1770	1583	1835	0	1770	1863
Flt Permitted	0.950				0.165	
Satd. Flow (perm)	1770	1583	1835	0	307	1863
Satd. Flow (RTOR)		68	14			
Lane Group Flow (vph)	146	68	1063	0	49	1062
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	4		6			2
Permitted Phases		4			2	
Total Split (s)	26.0	26.0	74.0		74.0	74.0
Total Lost Time (s)	6.0	6.0	6.5		6.5	6.5
Act Effct Green (s)	13.5	13.5	74.0		74.0	74.0
Actuated g/C Ratio	0.14	0.14	0.74		0.74	0.74
v/c Ratio	0.61	0.25	0.78		0.22	0.77
Control Delay	51.2	11.4	14.2		5.3	8.1
Queue Delay	0.0	0.0	0.1		0.0	0.4
Total Delay	51.2	11.4	14.3		5.3	8.6
LOS	D	B	B		A	A
Approach Delay	38.6		14.3			8.4
Approach LOS	D		B			A
Queue Length 50th (m)	28.5	0.0	110.6		1.7	37.6
Queue Length 95th (m)	46.4	11.6	214.5		m3.3	74.9
Internal Link Dist (m)	38.8		644.8			132.9
Turn Bay Length (m)					18.0	
Base Capacity (vph)	354	371	1361		227	1378
Starvation Cap Reductn	0	0	0		0	66
Spillback Cap Reductn	0	0	11		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.41	0.18	0.79		0.22	0.81

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 97 (97%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 70.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Bedford Hwy & Hatchery Ln



Bedford Highway Analysis
16: Bedford Hwy & Union St

2031 Do Nothing Conditions
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	143	78	1002	952	31
Future Volume (vph)	33	143	78	1002	952	31
Satd. Flow (prot)	1643	0	1770	1863	1855	0
Flt Permitted	0.991		0.187			
Satd. Flow (perm)	1643	0	348	1863	1855	0
Satd. Flow (RTOR)	145				4	
Lane Group Flow (vph)	191	0	85	1089	1069	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases			6			
Total Split (s)	26.0		74.0	74.0	74.0	
Total Lost Time (s)	6.0		6.5	6.5	6.5	
Act Effct Green (s)	9.8		77.7	77.7	77.7	
Actuated g/C Ratio	0.10		0.78	0.78	0.78	
v/c Ratio	0.66		0.31	0.75	0.74	
Control Delay	23.4		5.5	6.3	10.7	
Queue Delay	0.0		0.0	0.4	0.2	
Total Delay	23.4		5.5	6.7	10.9	
LOS	C		A	A	B	
Approach Delay	23.4			6.6	10.9	
Approach LOS	C			A	B	
Queue Length 50th (m)	9.0		2.4	33.3	83.3	
Queue Length 95th (m)	29.4		m5.5	63.7	187.6	
Internal Link Dist (m)	153.0			132.9	320.3	
Turn Bay Length (m)			33.0			
Base Capacity (vph)	444		270	1447	1442	
Starvation Cap Reductn	0		0	76	0	
Spillback Cap Reductn	3		0	0	48	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.43		0.31	0.79	0.77	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 97 (97%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 9.8

Intersection LOS: A

Intersection Capacity Utilization 84.3%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Bedford Hwy & Union St



Bedford Highway Analysis
17: Bedford Hwy & Dartmouth Rd

2031 Do Nothing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	12	13	460	21	426	4	510	510	404	535	10
Future Volume (vph)	4	12	13	460	21	426	4	510	510	404	535	10
Satd. Flow (prot)	0	1739	0	1770	1529	1504	1770	3274	0	1770	3529	0
Flt Permitted		0.967		0.737			0.428			0.096		
Satd. Flow (perm)	0	1691	0	1373	1529	1504	797	3274	0	179	3529	0
Satd. Flow (RTOR)		14			222	241		221			2	
Lane Group Flow (vph)	0	31	0	500	245	241	4	1108	0	439	593	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4		4	2			6		
Total Split (s)	52.0	52.0		52.0	52.0	52.0	44.0	44.0		24.0	68.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.2	6.2		4.0	6.2	
Act Effct Green (s)		45.1		45.1	45.1	45.1	37.8	37.8		64.9	62.7	
Actuated g/C Ratio		0.38		0.38	0.38	0.38	0.32	0.32		0.54	0.52	
v/c Ratio		0.05		0.97	0.34	0.34	0.02	0.94		1.18	0.32	
Control Delay		15.5		70.1	5.8	4.4	28.8	47.1		146.9	11.0	
Queue Delay		0.0		0.0	0.0	0.0	0.0	1.7		0.3	0.6	
Total Delay		15.5		70.1	5.8	4.4	28.8	48.8		147.2	11.6	
LOS		B		E	A	A	C	D		F	B	
Approach Delay		15.5			38.1			48.7			69.3	
Approach LOS		B			D			D			E	
Queue Length 50th (m)		2.6		118.8	3.6	0.0	0.7	117.1		~120.2	25.5	
Queue Length 95th (m)		9.3		#189.7	21.7	17.4	3.5	#162.5		#183.1	30.6	
Internal Link Dist (m)		15.4			319.7			106.0			83.4	
Turn Bay Length (m)				56.0		40.0	47.0			40.0		
Base Capacity (vph)		656		526	723	725	251	1182		373	1844	
Starvation Cap Reductn		0		0	0	0	0	0		9	829	
Spillback Cap Reductn		0		0	1	1	0	23		0	0	
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.05		0.95	0.34	0.33	0.02	0.96		1.21	0.58	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 91 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.18

Intersection Signal Delay: 51.8

Intersection LOS: D

Intersection Capacity Utilization 98.5%

ICU Level of Service F

Analysis Period (min) 15

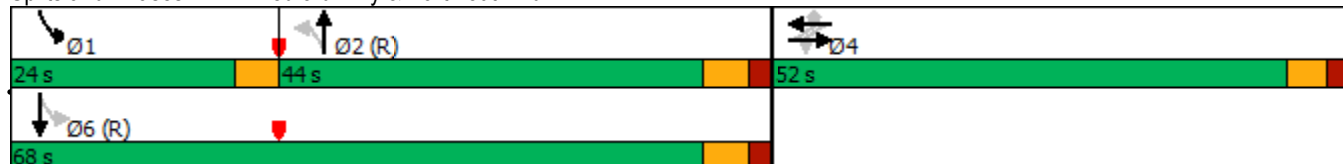
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Bedford Hwy & Dartmouth Rd



Bedford Highway Analysis
18: Bedford Hwy & Sunnyside Mall

2031 Do Nothing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	7	6	153	11	75	5	863	80	34	816	62
Future Volume (vph)	45	7	6	153	11	75	5	863	80	34	816	62
Satd. Flow (prot)	0	1767	0	0	3268	0	1770	3493	0	1770	3500	0
Flt Permitted		0.521			0.795		0.300			0.238		
Satd. Flow (perm)	0	956	0	0	2681	0	559	3493	0	443	3500	0
Satd. Flow (RTOR)		5			59			11			13	
Lane Group Flow (vph)	0	64	0	0	260	0	5	1025	0	37	954	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4			2			6		
Total Split (s)	36.0	36.0		36.0	36.0		65.0	65.0		19.0	84.0	
Total Lost Time (s)		6.4			6.4		6.2	6.2		4.0	6.2	
Act Effct Green (s)		15.1			15.1		85.7	85.7		94.5	92.3	
Actuated g/C Ratio		0.13			0.13		0.71	0.71		0.79	0.77	
v/c Ratio		0.52			0.67		0.01	0.41		0.09	0.35	
Control Delay		58.6			46.6		4.0	4.5		2.9	8.1	
Queue Delay		1.3			0.5		0.0	0.4		0.0	0.4	
Total Delay		59.8			47.1		4.0	4.9		2.9	8.5	
LOS		E			D		A	A		A	A	
Approach Delay		59.8			47.1			4.9			8.3	
Approach LOS		E			D			A			A	
Queue Length 50th (m)		13.8			25.3		0.2	25.4		2.4	84.2	
Queue Length 95th (m)		27.8			38.2		m0.4	m46.5		m3.3	98.0	
Internal Link Dist (m)		20.0			34.2			83.4			134.0	
Turn Bay Length (m)							22.0			45.0		
Base Capacity (vph)		239			705		399	2496		514	2694	
Starvation Cap Reductn		0			0		0	839		0	1092	
Spillback Cap Reductn		75			171		0	65		0	394	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.39			0.49		0.01	0.62		0.07	0.60	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 12.5

Intersection LOS: B

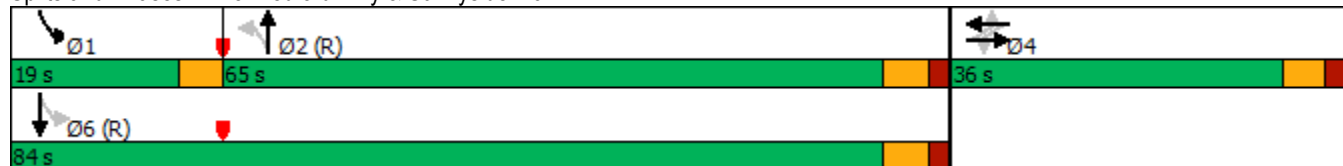
Intersection Capacity Utilization 49.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Bedford Hwy & Sunnyside Mall



Bedford Highway Analysis
19: Bedford Hwy & Rocky Lake

2031 Do Nothing Conditions
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	83	117	217	100	178	156	694	243	137	635	75
Future Volume (vph)	110	83	117	217	100	178	156	694	243	137	635	75
Satd. Flow (prot)	1770	1699	0	1770	1684	0	1770	3401	0	1770	3483	0
Flt Permitted	0.576			0.287			0.304			0.950		
Satd. Flow (perm)	1073	1699	0	535	1684	0	566	3401	0	1770	3483	0
Satd. Flow (RTOR)		53			84			47			13	
Lane Group Flow (vph)	120	217	0	236	302	0	170	1018	0	149	772	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2					
Total Split (s)	31.0	31.0		19.0	50.0		15.0	51.0		19.0	55.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	18.2	18.2		39.2	37.2		64.5	52.5		14.3	56.8	
Actuated g/C Ratio	0.15	0.15		0.33	0.31		0.54	0.44		0.12	0.47	
v/c Ratio	0.74	0.72		0.72	0.52		0.42	0.67		0.71	0.47	
Control Delay	73.5	49.1		43.6	26.6		24.9	43.4		60.3	33.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	1.6		0.0	0.5	
Total Delay	73.5	49.1		43.6	26.6		24.9	45.0		60.3	33.6	
LOS	E	D		D	C		C	D		E	C	
Approach Delay		57.8			34.0			42.1			38.0	
Approach LOS		E			C			D			D	
Queue Length 50th (m)	28.7	39.1		45.0	43.7		24.5	111.6		35.9	91.5	
Queue Length 95th (m)	47.8	62.8		63.0	66.4		51.1	154.0		#63.5	122.9	
Internal Link Dist (m)		43.5			31.5			134.0			140.7	
Turn Bay Length (m)	34.0						25.0			32.0		
Base Capacity (vph)	223	395		329	670		422	1514		231	1655	
Starvation Cap Reductn	0	0		0	0		0	304		0	453	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.54	0.55		0.72	0.45		0.40	0.84		0.65	0.64	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 71 (59%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 41.1

Intersection LOS: D

Intersection Capacity Utilization 75.2%

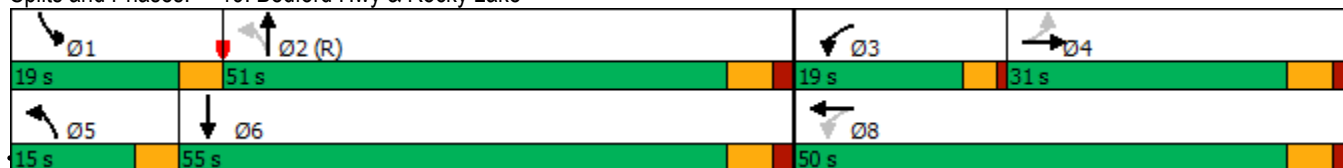
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 19: Bedford Hwy & Rocky Lake



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Synchro 10 Report
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Bedford Highway Analysis
20: Bedford Hwy & Bedford Place

2031 Do Nothing Conditions
Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	38	32	927	784	43
Future Volume (vph)	37	38	32	927	784	43
Satd. Flow (prot)	1694	0	1770	3539	3539	1583
Flt Permitted	0.976		0.331			
Satd. Flow (perm)	1694	0	617	3539	3539	1583
Satd. Flow (RTOR)	40					47
Lane Group Flow (vph)	81	0	35	1008	852	47
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			6	2	
Permitted Phases			6			2
Total Split (s)	34.0		86.0	86.0	86.0	86.0
Total Lost Time (s)	6.0		6.2	6.2	6.2	6.2
Act Effct Green (s)	9.1		102.5	102.5	102.5	102.5
Actuated g/C Ratio	0.08		0.85	0.85	0.85	0.85
v/c Ratio	0.49		0.07	0.33	0.28	0.03
Control Delay	39.2		5.1	7.6	0.3	0.0
Queue Delay	0.0		0.0	0.4	0.0	0.0
Total Delay	39.2		5.1	8.0	0.3	0.0
LOS	D		A	A	A	A
Approach Delay	39.2			7.9	0.3	
Approach LOS	D			A	A	
Queue Length 50th (m)	9.9		3.2	74.0	1.4	0.0
Queue Length 95th (m)	25.5		m5.0	111.6	1.5	m0.0
Internal Link Dist (m)	28.6			140.7	211.4	
Turn Bay Length (m)						40.0
Base Capacity (vph)	425		527	3024	3024	1359
Starvation Cap Reductn	0		0	1354	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.19		0.07	0.60	0.28	0.03

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 5.8

Intersection LOS: A

Intersection Capacity Utilization 42.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Bedford Hwy & Bedford Place



Bedford Highway Analysis
21: Bedford Hwy & River Ln

2031 Do Nothing Conditions

Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	159	13	19	982	904	165
Future Volume (vph)	159	13	19	982	904	165
Satd. Flow (prot)	1763	0	1770	3539	3539	1583
Flt Permitted	0.956		0.950			
Satd. Flow (perm)	1763	0	1770	3539	3539	1583
Satd. Flow (RTOR)	3					120
Lane Group Flow (vph)	187	0	21	1067	983	179
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases						2
Total Split (s)	32.0		21.0	88.0	67.0	67.0
Total Lost Time (s)	6.0		6.0	6.5	6.5	6.5
Act Effect Green (s)	17.8		7.5	89.7	84.0	84.0
Actuated g/C Ratio	0.15		0.06	0.75	0.70	0.70
v/c Ratio	0.71		0.19	0.40	0.40	0.16
Control Delay	62.2		73.8	2.3	9.7	3.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	62.2		73.8	2.3	9.7	3.8
LOS	E		E	A	A	A
Approach Delay	62.2			3.7	8.8	
Approach LOS	E			A	A	
Queue Length 50th (m)	44.0		5.2	8.6	38.6	3.3
Queue Length 95th (m)	65.5		14.8	17.2	89.5	16.8
Internal Link Dist (m)	31.9			211.4	233.1	
Turn Bay Length (m)			19.0			38.0
Base Capacity (vph)	384		221	2646	2477	1143
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.49		0.10	0.40	0.40	0.16

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 10.6

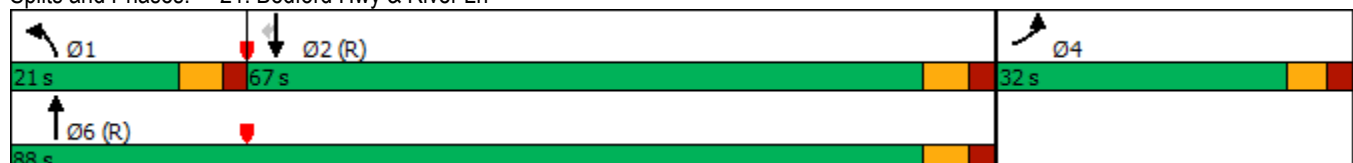
Intersection LOS: B

Intersection Capacity Utilization 47.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Bedford Hwy & River Ln



Bedford Highway Analysis

Future Conditions-Balanced Options

1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St

Timing Plan: AM PEAK

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↰					↰↰				↰↰	
Traffic Volume (vph)	0	503	170	0	0	0	100	0	0	0	1304	461
Future Volume (vph)	0	503	170	0	0	0	100	0	0	0	1304	461
Satd. Flow (prot)	0	1799	0	0	0	0	3433	0	0	0	3401	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	1799	0	0	0	0	3433	0	0	0	3401	0
Satd. Flow (RTOR)		12									43	
Lane Group Flow (vph)	0	732	0	0	0	0	109	0	0	0	1918	0
Turn Type		NA					Prot				NA	
Protected Phases		4					2				6	
Permitted Phases												
Total Split (s)		54.0					25.0				71.0	
Total Lost Time (s)		4.5					4.5				4.5	
Act Effct Green (s)		49.5					10.1				76.9	
Actuated g/C Ratio		0.33					0.07				0.51	
v/c Ratio		1.22					0.47				1.09	
Control Delay		154.5					73.6				79.0	
Queue Delay		0.0					0.0				0.0	
Total Delay		154.5					73.6				79.0	
LOS		F					E				E	
Approach Delay		154.5						73.6			79.0	
Approach LOS		F						E			E	
Queue Length 50th (m)		~278.3					17.2				~350.5	
Queue Length 95th (m)		#359.3					27.5				#404.1	
Internal Link Dist (m)		134.4			28.5			164.7			67.2	
Turn Bay Length (m)							50.0					
Base Capacity (vph)		601					469				1763	
Starvation Cap Reductn		0					0				0	
Spillback Cap Reductn		0					0				0	
Storage Cap Reductn		0					0				0	
Reduced v/c Ratio		1.22					0.23				1.09	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.22

Intersection Signal Delay: 98.9

Intersection LOS: F

Intersection Capacity Utilization 95.1%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St



Bedford Highway Analysis

2: Bedford Hwy & Manor Ln

Future Conditions-Balanced Options
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	34	21	1269	2121	12
Future Volume (vph)	20	34	21	1269	2121	12
Satd. Flow (prot)	1770	1583	1770	3539	3536	0
Flt Permitted	0.950		0.040			
Satd. Flow (perm)	1770	1583	75	3539	3536	0
Satd. Flow (RTOR)		37			1	
Lane Group Flow (vph)	22	37	23	1379	2318	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	18.0	18.0	14.0	132.0	118.0	
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8	
Act Effect Green (s)	10.0	10.0	133.2	132.6	125.4	
Actuated g/C Ratio	0.07	0.07	0.89	0.88	0.84	
v/c Ratio	0.19	0.26	0.15	0.44	0.78	
Control Delay	70.2	23.9	3.3	2.7	5.0	
Queue Delay	0.0	0.0	0.0	0.0	0.2	
Total Delay	70.2	23.9	3.3	2.7	5.3	
LOS	E	C	A	A	A	
Approach Delay	41.2			2.7	5.3	
Approach LOS	D			A	A	
Queue Length 50th (m)	6.6	0.0	0.7	41.8	96.3	
Queue Length 95th (m)	16.6	12.2	1.8	48.8	m88.2	
Internal Link Dist (m)	44.2			423.6	230.9	
Turn Bay Length (m)			15.0			
Base Capacity (vph)	141	160	180	3127	2955	
Starvation Cap Reductn	0	0	0	0	145	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.16	0.23	0.13	0.44	0.82	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 94 (63%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 4.9

Intersection LOS: A

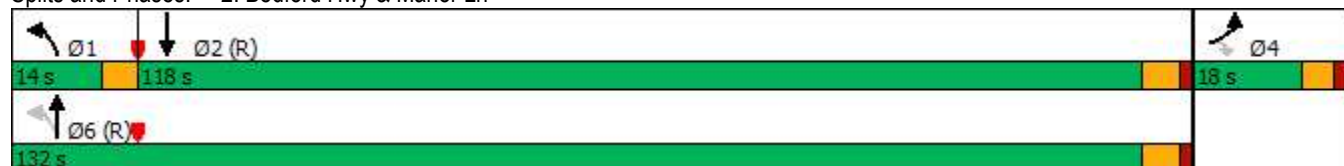
Intersection Capacity Utilization 77.2%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Bedford Hwy & Manor Ln



Bedford Highway Analysis
3: Bedford Hwy & Bayview Dr

Future Conditions-Balanced Options
Timing Plan: AM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	58	709	390	711	1735	49
Future Volume (vph)	58	709	390	711	1735	49
Satd. Flow (prot)	1770	1583	0	3479	3525	0
Flt Permitted	0.950			0.502		
Satd. Flow (perm)	1770	1583	0	1777	3525	0
Satd. Flow (RTOR)		221			3	
Lane Group Flow (vph)	63	771	0	1197	1939	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	50.0	50.0	22.0	100.0	78.0	
Total Lost Time (s)	6.0	6.0		5.8	5.8	
Act Effct Green (s)	11.6	9.6		129.8	109.4	
Actuated g/C Ratio	0.08	0.06		0.87	0.73	
v/c Ratio	0.46	2.50		1.67dl	0.75	
Control Delay	76.7	703.6		5.4	10.9	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	76.7	703.6		5.4	10.9	
LOS	E	F		A	B	
Approach Delay	656.2			5.4	10.9	
Approach LOS	F			A	B	
Queue Length 50th (m)	19.4	~332.8		22.4	122.0	
Queue Length 95th (m)	34.9	#404.1		28.5	m113.7	
Internal Link Dist (m)	326.3			230.9	392.1	
Turn Bay Length (m)						
Base Capacity (vph)	519	308		1721	2572	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	22	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.12	2.50		0.70	0.76	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 133 (89%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.50

Intersection Signal Delay: 144.8

Intersection LOS: F

Intersection Capacity Utilization 103.5%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

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

Splits and Phases: 3: Bedford Hwy & Bayview Dr



Bedford Highway Analysis
4: Bedford Hwy & Seton Rd

Future Conditions-Balanced Options
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	113	276	233	691	1281	118
Future Volume (vph)	113	276	233	691	1281	118
Satd. Flow (prot)	1770	1583	0	3497	1842	0
Flt Permitted	0.950			0.525		
Satd. Flow (perm)	1770	1583	0	1858	1842	0
Satd. Flow (RTOR)		157			7	
Lane Group Flow (vph)	123	300	0	1004	1520	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	27.0	27.0	13.0	123.0	110.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Act Effct Green (s)	15.7	15.7		124.3	111.3	
Actuated g/C Ratio	0.10	0.10		0.83	0.74	
v/c Ratio	0.66	0.98		1.76dl	1.11	
Control Delay	81.1	77.7		5.1	73.4	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	81.1	77.7		5.1	73.4	
LOS	F	E		A	E	
Approach Delay	78.7			5.1	73.4	
Approach LOS	E			A	E	
Queue Length 50th (m)	37.7	47.7		29.3	~543.3	
Queue Length 95th (m)	58.3	#95.2		49.8	#650.5	
Internal Link Dist (m)	37.2			201.0	255.1	
Turn Bay Length (m)						
Base Capacity (vph)	259	306		1626	1368	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.47	0.98		0.62	1.11	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 80 (53%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 50.9

Intersection LOS: D

Intersection Capacity Utilization 121.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

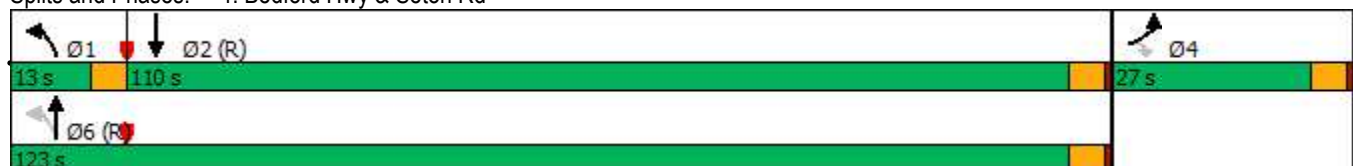
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 4: Bedford Hwy & Seton Rd



Bedford Highway Analysis

6: Bedford Hwy & Flamingo Dr

Future Conditions-Balanced Options
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	61	334	71	570	997	19
Future Volume (vph)	61	334	71	570	997	19
Satd. Flow (prot)	1770	1583	1770	1863	1857	0
Flt Permitted	0.950		0.095			
Satd. Flow (perm)	1770	1583	177	1863	1857	0
Satd. Flow (RTOR)		225			1	
Lane Group Flow (vph)	66	363	77	620	1105	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	28.0	28.0	15.0	122.0	107.0	
Total Lost Time (s)	6.0	6.0	4.0	6.1	6.1	
Act Effct Green (s)	18.6	18.6	121.4	119.3	104.3	
Actuated g/C Ratio	0.12	0.12	0.81	0.80	0.70	
v/c Ratio	0.30	0.92	0.30	0.42	0.86	
Control Delay	62.0	53.7	5.7	4.7	26.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.0	53.7	5.7	4.7	26.5	
LOS	E	D	A	A	C	
Approach Delay	54.9			4.8	26.5	
Approach LOS	D			A	C	
Queue Length 50th (m)	18.6	44.6	3.9	48.5	261.3	
Queue Length 95th (m)	34.3	#100.5	m6.9	65.2	354.1	
Internal Link Dist (m)	139.9			392.2	501.1	
Turn Bay Length (m)	22.0		34.0			
Base Capacity (vph)	259	424	260	1482	1291	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.25	0.86	0.30	0.42	0.86	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 60 (40%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 25.2

Intersection LOS: C

Intersection Capacity Utilization 84.4%

ICU Level of Service E

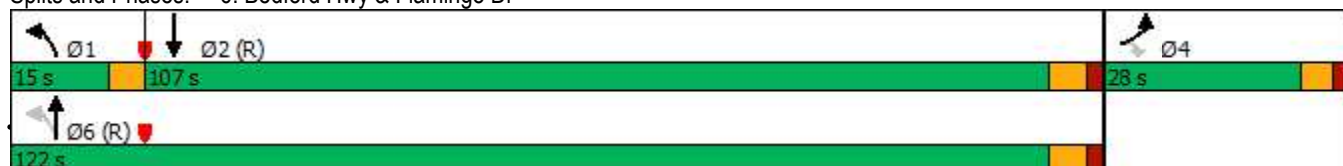
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bedford Hwy & Flamingo Dr



Bedford Highway Analysis
8: Bedford Hwy & Kearney Lake Rd

Future Conditions-Balanced Options
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	150	323	167	430	500	126
Future Volume (vph)	150	323	167	430	500	126
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.266			
Satd. Flow (perm)	1770	1583	495	1863	1863	1583
Satd. Flow (RTOR)		351				137
Lane Group Flow (vph)	163	351	182	467	543	137
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	3		1	6	2	
Permitted Phases		3	6			2
Total Split (s)	30.0	30.0	13.0	70.0	57.0	57.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Act Effct Green (s)	11.4	11.4	42.4	40.4	27.8	27.8
Actuated g/C Ratio	0.18	0.18	0.66	0.63	0.44	0.44
v/c Ratio	0.52	0.62	0.37	0.40	0.67	0.18
Control Delay	30.8	8.5	6.7	7.4	19.8	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	8.5	6.7	7.4	19.8	3.1
LOS	C	A	A	A	B	A
Approach Delay	15.6			7.2	16.4	
Approach LOS	B			A	B	
Queue Length 50th (m)	17.2	0.0	6.8	23.5	49.7	0.0
Queue Length 95th (m)	40.4	20.9	16.9	49.7	94.6	8.9
Internal Link Dist (m)	207.2			269.8	796.7	
Turn Bay Length (m)		41.0				87.0
Base Capacity (vph)	674	820	510	1782	1508	1307
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.43	0.36	0.26	0.36	0.10

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 63.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 12.9

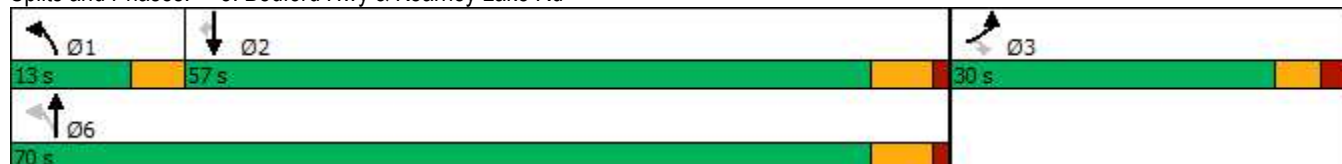
Intersection LOS: B

Intersection Capacity Utilization 57.2%

ICU Level of Service B

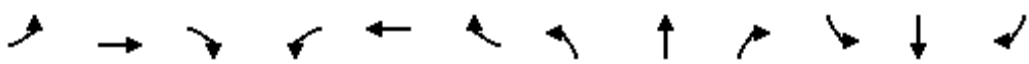
Analysis Period (min) 15

Splits and Phases: 8: Bedford Hwy & Kearney Lake Rd



Bedford Highway Analysis
9: Bedford Hwy & Larry Uteck Blvd

Future Conditions-Balanced Options
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↗			↖	↗
Traffic Volume (vph)	139	0	289	0	0	0	178	454	0	0	433	47
Future Volume (vph)	139	0	289	0	0	0	178	454	0	0	433	47
Satd. Flow (prot)	0	1770	1583	0	1863	0	1770	1863	0	0	1863	1583
Flt Permitted		0.757					0.252					
Satd. Flow (perm)	0	1410	1583	0	1863	0	469	1863	0	0	1863	1583
Satd. Flow (RTOR)			314									72
Lane Group Flow (vph)	0	151	314	0	0	0	193	493	0	0	471	51
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Total Split (s)	31.0	31.0	31.0	31.0	31.0		24.0	75.0		51.0	51.0	51.0
Total Lost Time (s)		6.0	6.0		6.0		4.0	6.0			6.0	6.0
Act Effct Green (s)		12.7	12.7				39.6	37.4			21.2	21.2
Actuated g/C Ratio		0.20	0.20				0.63	0.59			0.34	0.34
v/c Ratio		0.53	0.55				0.36	0.44			0.75	0.09
Control Delay		32.7	7.7				7.1	8.6			27.8	3.1
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		32.7	7.7				7.1	8.6			27.8	3.1
LOS		C	A				A	A			C	A
Approach Delay		15.8						8.2			25.4	
Approach LOS		B						A			C	
Queue Length 50th (m)		15.7	0.0				7.8	27.0			47.3	0.0
Queue Length 95th (m)		42.7	20.5				20.4	60.2			103.5	4.6
Internal Link Dist (m)		399.7			12.3			76.8			1542.8	
Turn Bay Length (m)							58.0					97.0
Base Capacity (vph)		596	850				735	1773			1403	1210
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.25	0.37				0.26	0.28			0.34	0.04

Intersection Summary

Cycle Length: 106

Actuated Cycle Length: 62.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 15.7

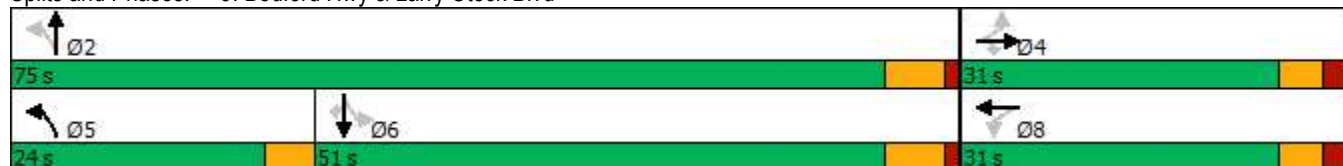
Intersection LOS: B

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Bedford Hwy & Larry Uteck Blvd



Bedford Highway Analysis
10: Bedford Hwy & Southgate Dr

Future Conditions-Balanced Options
Timing Plan: AM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	121	34	5	531	624	135
Future Volume (vph)	121	34	5	531	624	135
Satd. Flow (prot)	1770	1583	1770	1863	1818	0
Flt Permitted	0.950		0.275			
Satd. Flow (perm)	1770	1583	512	1863	1818	0
Satd. Flow (RTOR)		37			21	
Lane Group Flow (vph)	132	37	5	577	825	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Total Split (s)	31.0	31.0	56.0	56.0	56.0	
Total Lost Time (s)	6.0	6.0	5.7	5.7	5.7	
Act Effct Green (s)	10.7	10.7	54.6	54.6	54.6	
Actuated g/C Ratio	0.15	0.15	0.75	0.75	0.75	
v/c Ratio	0.51	0.14	0.01	0.42	0.61	
Control Delay	35.7	10.9	4.4	6.2	8.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.7	10.9	4.4	6.2	8.6	
LOS	D	B	A	A	A	
Approach Delay	30.3			6.2	8.6	
Approach LOS	C			A	A	
Queue Length 50th (m)	17.7	0.0	0.2	30.3	53.0	
Queue Length 95th (m)	33.7	7.5	1.3	59.2	106.8	
Internal Link Dist (m)	107.6			1542.8	369.0	
Turn Bay Length (m)			42.0			
Base Capacity (vph)	605	565	382	1390	1362	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.22	0.07	0.01	0.42	0.61	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 73.2

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 10.0

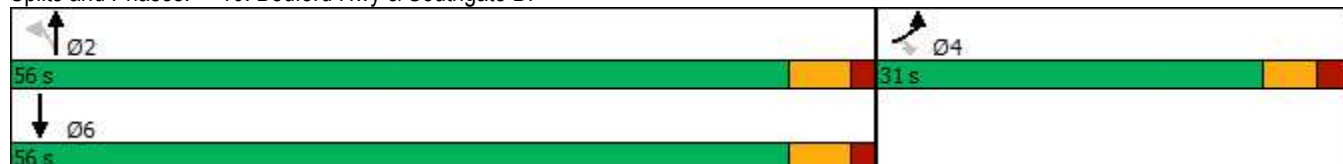
Intersection LOS: B

Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Bedford Hwy & Southgate Dr



Bedford Highway Analysis
11: Bedford Hwy & Moirs Mill Rd

Future Conditions-Balanced Options
Timing Plan: AM PEAK

												
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR						
Lane Configurations												
Traffic Volume (vph)	224	31	7	629	529	93						
Future Volume (vph)	224	31	7	629	529	93						
Satd. Flow (prot)	1770	1583	0	3536	3461	0						
Flt Permitted	0.950			0.948								
Satd. Flow (perm)	1770	1583	0	3355	3461	0						
Satd. Flow (RTOR)		32			30							
Lane Group Flow (vph)	243	34	0	692	676	0						
Turn Type	Prot	Perm	Perm	NA	NA							
Protected Phases	3			2	2							
Permitted Phases		3	2									
Total Split (s)	41.5	41.5	58.5	58.5	58.5							
Total Lost Time (s)	6.0	6.0		5.5	5.5							
Act Effct Green (s)	19.2	19.2		69.3	69.3							
Actuated g/C Ratio	0.19	0.19		0.69	0.69							
v/c Ratio	0.72	0.10		0.30	0.28							
Control Delay	49.3	11.7		6.9	4.4							
Queue Delay	0.0	0.0		0.0	0.0							
Total Delay	49.3	11.7		6.9	4.4							
LOS	D	B		A	A							
Approach Delay	44.7			6.9	4.4							
Approach LOS	D			A	A							
Queue Length 50th (m)	46.9	0.3		25.2	5.0							
Queue Length 95th (m)	67.6	8.0		42.4	22.6							
Internal Link Dist (m)	95.1			116.3	148.8							
Turn Bay Length (m)		25.0										
Base Capacity (vph)	628	582		2325	2408							
Starvation Cap Reductn	0	0		0	0							
Spillback Cap Reductn	0	0		0	0							
Storage Cap Reductn	0	0		0	0							
Reduced v/c Ratio	0.39	0.06		0.30	0.28							

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 12.3

Intersection LOS: B

Intersection Capacity Utilization 62.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 11: Bedford Hwy & Moirs Mill Rd



Bedford Highway Analysis

12: Bedford Hwy & Hammonds Plains Rd

Future Conditions-Balanced Options
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	316	64	206	40	50	64	272	516	9	67	417	219
Future Volume (vph)	316	64	206	40	50	64	272	516	9	67	417	219
Satd. Flow (prot)	1770	1650	0	1770	1704	0	1770	1857	0	1770	3539	1583
Flt Permitted	0.503			0.580			0.399			0.305		
Satd. Flow (perm)	937	1650	0	1080	1704	0	743	1857	0	568	3539	1583
Satd. Flow (RTOR)		151			59			1				238
Lane Group Flow (vph)	343	294	0	43	124	0	296	571	0	73	453	238
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Total Split (s)	17.0	30.0		14.0	27.0		22.0	42.0		14.0	34.0	34.0
Total Lost Time (s)	4.0	6.1		4.0	6.1		4.0	5.8		4.0	5.8	5.8
Act Effct Green (s)	33.0	23.7		21.1	11.3		58.9	47.6		48.7	39.2	39.2
Actuated g/C Ratio	0.33	0.24		0.21	0.11		0.59	0.48		0.49	0.39	0.39
v/c Ratio	0.78	0.58		0.15	0.51		0.51	0.65		0.20	0.33	0.31
Control Delay	41.6	21.8		23.5	29.1		12.9	19.4		12.0	23.6	4.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.2		0.0	0.0	0.0
Total Delay	41.6	21.8		23.5	29.1		12.9	19.6		12.0	23.6	4.7
LOS	D	C		C	C		B	B		B	C	A
Approach Delay		32.5			27.7			17.3			16.6	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	56.0	25.5		5.8	12.7		20.5	50.0		6.3	34.3	0.0
Queue Length 95th (m)	#80.8	53.3		12.7	27.8		39.4	#67.7		13.9	55.2	17.8
Internal Link Dist (m)		215.5			47.8			148.8			134.8	
Turn Bay Length (m)	67.0									31.0		60.0
Base Capacity (vph)	439	531		321	402		625	884		410	1387	765
Starvation Cap Reductn	0	0		0	0		0	44		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.78	0.55		0.13	0.31		0.47	0.68		0.18	0.33	0.31

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 21.8

Intersection LOS: C

Intersection Capacity Utilization 74.2%

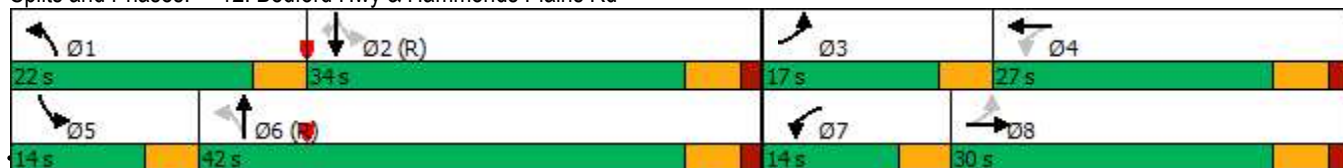
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Bedford Hwy & Hammonds Plains Rd



04-10-2019

Synchro 10 Report
Page 11

Bedford Highway Analysis
13: Bedford Hwy & Holland Ave/Convoy Run

Future Conditions-Balanced Options
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	4	33	49	5	18	19	673	106	46	627	17
Future Volume (vph)	24	4	33	49	5	18	19	673	106	46	627	17
Satd. Flow (prot)	0	1692	0	0	1781	1583	1770	1825	0	1770	1855	0
Flt Permitted		0.846			0.829		0.360			0.288		
Satd. Flow (perm)	0	1459	0	0	1544	1583	671	1825	0	536	1855	0
Satd. Flow (RTOR)		36				28		10			2	
Lane Group Flow (vph)	0	66	0	0	58	20	21	847	0	50	700	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3			3		3	2			2		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	67.0	67.0		67.0	67.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		9.0			9.0	9.0	69.0	69.0		69.0	69.0	
Actuated g/C Ratio		0.10			0.10	0.10	0.80	0.80		0.80	0.80	
v/c Ratio		0.36			0.36	0.11	0.04	0.58		0.12	0.47	
Control Delay		24.7			41.4	10.8	3.4	6.7		4.1	5.4	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		24.7			41.4	10.8	3.4	6.7		4.1	5.4	
LOS		C			D	B	A	A		A	A	
Approach Delay		24.7			33.5			6.6			5.3	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		4.8			9.5	0.0	0.7	51.6		1.8	37.2	
Queue Length 95th (m)		16.4			20.3	5.0	2.8	96.6		5.8	68.0	
Internal Link Dist (m)		82.0			72.0			302.4			719.4	
Turn Bay Length (m)						41.0	73.0			28.0		
Base Capacity (vph)		763			789	823	536	1461		428	1484	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.09			0.07	0.02	0.04	0.58		0.12	0.47	

Intersection Summary

Cycle Length: 117

Actuated Cycle Length: 86.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 7.9

Intersection LOS: A

Intersection Capacity Utilization 65.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: Bedford Hwy & Holland Ave/Convoy Run



Bedford Highway Analysis
14: Bedford Hwy & Meadowbrook Dr

Future Conditions-Balanced Options
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	0	32	0	0	4	8	721	9	10	750	67
Future Volume (vph)	195	0	32	0	0	4	8	721	9	10	750	67
Satd. Flow (prot)	0	1770	1583	0	1611	0	1770	1859	0	1770	1840	0
Flt Permitted		0.755					0.206			0.258		
Satd. Flow (perm)	0	1406	1583	0	1611	0	384	1859	0	481	1840	0
Satd. Flow (RTOR)			35		208			1			9	
Lane Group Flow (vph)	0	212	35	0	4	0	9	794	0	11	888	0
Turn Type	Perm	NA	Perm		NA		Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3		3	3			2			2		
Total Split (s)	31.0	31.0	31.0	31.0	31.0		65.0	65.0		65.0	65.0	
Total Lost Time (s)		6.0	6.0		6.0		5.6	5.6		5.6	5.6	
Act Effct Green (s)		18.5	18.5		18.5		61.7	61.7		61.7	61.7	
Actuated g/C Ratio		0.20	0.20		0.20		0.67	0.67		0.67	0.67	
v/c Ratio		0.75	0.10		0.01		0.03	0.64		0.03	0.72	
Control Delay		50.8	10.1		0.0		7.1	12.5		7.0	14.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		50.8	10.1		0.0		7.1	12.5		7.0	14.7	
LOS		D	B		A		A	B		A	B	
Approach Delay		45.0						12.5			14.6	
Approach LOS		D						B			B	
Queue Length 50th (m)		36.1	0.0		0.0		0.5	74.3		0.6	90.9	
Queue Length 95th (m)		60.6	7.6		0.0		2.6	138.0		3.0	171.9	
Internal Link Dist (m)		116.5			20.8			112.1			644.8	
Turn Bay Length (m)							25.0			26.0		
Base Capacity (vph)		383	457		590		258	1250		323	1240	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.55	0.08		0.01		0.03	0.64		0.03	0.72	

Intersection Summary

Cycle Length: 96

Actuated Cycle Length: 91.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 70.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 14: Bedford Hwy & Meadowbrook Dr



Bedford Highway Analysis
15: Bedford Hwy & Hatchery Ln

Future Conditions-Balanced Options
Timing Plan: AM PEAK

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group						
Lane Configurations						
Traffic Volume (vph)	100	56	923	98	22	714
Future Volume (vph)	100	56	923	98	22	714
Satd. Flow (prot)	1770	1583	1839	0	1770	1863
Flt Permitted	0.950				0.157	
Satd. Flow (perm)	1770	1583	1839	0	292	1863
Satd. Flow (RTOR)		61	10			
Lane Group Flow (vph)	109	61	1110	0	24	776
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	4		6			2
Permitted Phases		4			2	
Total Split (s)	31.0	31.0	69.0		69.0	69.0
Total Lost Time (s)	6.0	6.0	6.5		6.5	6.5
Act Effct Green (s)	11.5	11.5	76.0		76.0	76.0
Actuated g/C Ratio	0.12	0.12	0.76		0.76	0.76
v/c Ratio	0.54	0.26	0.79		0.11	0.55
Control Delay	50.9	13.0	13.6		6.9	7.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	50.9	13.0	13.6		6.9	7.9
LOS	D	B	B		A	A
Approach Delay	37.3		13.6			7.9
Approach LOS	D		B			A
Queue Length 50th (m)	21.3	0.0	111.1		1.5	53.0
Queue Length 95th (m)	37.2	11.4	216.2		m3.5	81.6
Internal Link Dist (m)	38.8		644.8			132.9
Turn Bay Length (m)					18.0	
Base Capacity (vph)	442	441	1400		222	1416
Starvation Cap Reductn	0	0	0		0	39
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.25	0.14	0.79		0.11	0.56

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 75 (75%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 13.3

Intersection LOS: B

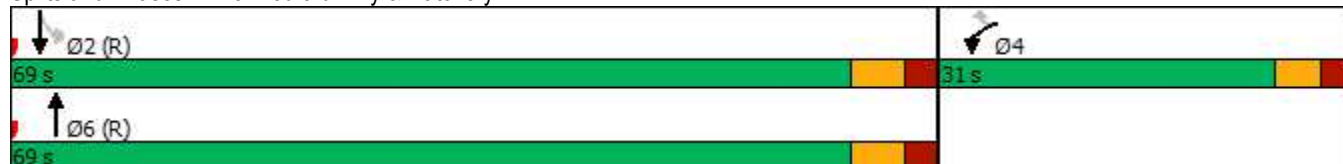
Intersection Capacity Utilization 70.8%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Bedford Hwy & Hatchery Ln



Bedford Highway Analysis
16: Bedford Hwy & Union St

Future Conditions-Balanced Options
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	49	65	45	854	663	24
Future Volume (vph)	49	65	45	854	663	24
Satd. Flow (prot)	1683	0	1770	1863	1853	0
Flt Permitted	0.979		0.336			
Satd. Flow (perm)	1683	0	626	1863	1853	0
Satd. Flow (RTOR)	64				3	
Lane Group Flow (vph)	124	0	49	928	747	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases			6			
Total Split (s)	31.0		69.0	69.0	69.0	
Total Lost Time (s)	6.0		6.5	6.5	6.5	
Act Effct Green (s)	9.7		77.8	77.8	77.8	
Actuated g/C Ratio	0.10		0.78	0.78	0.78	
v/c Ratio	0.56		0.10	0.64	0.52	
Control Delay	31.7		0.8	2.0	2.1	
Queue Delay	0.0		0.0	0.6	0.0	
Total Delay	31.7		0.8	2.6	2.1	
LOS	C		A	A	A	
Approach Delay	31.7			2.6	2.1	
Approach LOS	C			A	A	
Queue Length 50th (m)	11.7		0.1	2.2	10.4	
Queue Length 95th (m)	28.8		m0.5	9.0	m13.4	
Internal Link Dist (m)	153.0			132.9	320.3	
Turn Bay Length (m)			33.0			
Base Capacity (vph)	468		486	1448	1442	
Starvation Cap Reductn	0		0	214	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.26		0.10	0.75	0.52	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 89 (89%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 4.3

Intersection LOS: A

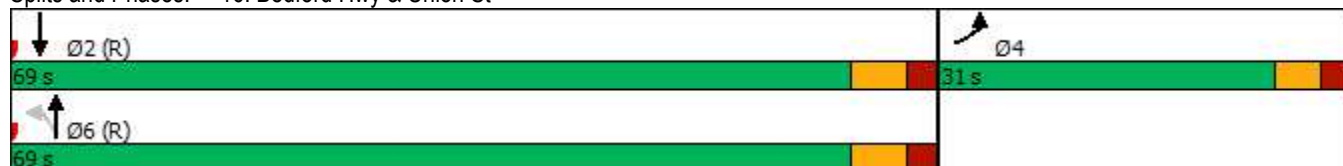
Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Bedford Hwy & Union St



Bedford Highway Analysis
17: Bedford Hwy & Dartmouth Rd

Future Conditions-Balanced Options
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	35	13	381	13	506	11	298	505	407	371	19
Future Volume (vph)	3	35	13	381	13	506	11	298	505	407	371	19
Satd. Flow (prot)	0	1794	0	1770	1863	1583	1770	3207	0	1770	1863	1583
Flt Permitted		0.993		0.721			0.525			0.121		
Satd. Flow (perm)	0	1787	0	1343	1863	1583	978	3207	0	225	1863	1583
Satd. Flow (RTOR)		14				550		422				33
Lane Group Flow (vph)	0	55	0	414	14	550	12	873	0	442	403	21
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4		4	2			6		6
Total Split (s)	41.0	41.0		41.0	41.0	41.0	33.0	33.0		26.0	59.0	59.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.2	6.2		4.0	6.2	6.2
Act Effct Green (s)		33.3		33.3	33.3	33.3	29.0	29.0		56.7	54.5	54.5
Actuated g/C Ratio		0.33		0.33	0.33	0.33	0.29	0.29		0.57	0.54	0.54
v/c Ratio		0.09		0.93	0.02	0.62	0.04	0.71		0.96	0.40	0.02
Control Delay		17.9		60.6	21.5	5.5	28.8	17.2		53.7	12.0	1.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		3.4	0.6	0.0
Total Delay		17.9		60.6	21.5	5.5	28.8	17.2		57.1	12.6	1.5
LOS		B		E	C	A	C	B		E	B	A
Approach Delay		17.9			29.0			17.3			35.1	
Approach LOS		B			C			B			D	
Queue Length 50th (m)		5.5		78.5	1.9	0.0	1.2	24.0		37.0	30.2	0.2
Queue Length 95th (m)		14.1		#136.2	6.2	23.1	m2.5	54.8		#127.1	42.1	0.5
Internal Link Dist (m)		15.4			319.7			106.0			83.4	
Turn Bay Length (m)				56.0		40.0	47.0			40.0		
Base Capacity (vph)		634		470	652	911	284	1230		469	1015	877
Starvation Cap Reductn		0		0	0	0	0	0		11	291	0
Spillback Cap Reductn		0		0	0	0	0	0		0	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.09		0.88	0.02	0.60	0.04	0.71		0.97	0.56	0.02

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 14 (14%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 27.0

Intersection LOS: C

Intersection Capacity Utilization 88.3%

ICU Level of Service E

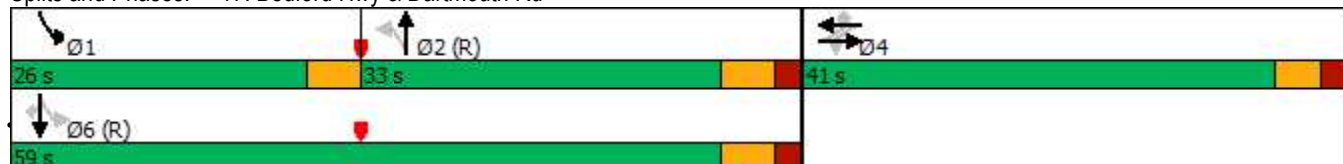
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 17: Bedford Hwy & Dartmouth Rd



Bedford Highway Analysis
18: Bedford Hwy & Sunnyside Mall

Future Conditions-Balanced Options
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	9	0	5	39	3	24	5	713	65	44	753	64
Future Volume (vph)	9	0	5	39	3	24	5	713	65	44	753	64
Satd. Flow (prot)	0	1722	0	0	3248	0	1770	3493	0	1770	3497	0
Flt Permitted		0.754			0.811		0.320			0.305		
Satd. Flow (perm)	0	1341	0	0	2712	0	596	3493	0	568	3497	0
Satd. Flow (RTOR)		79			26			13			16	
Lane Group Flow (vph)	0	15	0	0	71	0	5	846	0	48	888	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4			2			6		
Total Split (s)	33.0	33.0		33.0	33.0		54.0	54.0		13.0	67.0	
Total Lost Time (s)		6.4			6.4		6.2	6.2		4.0	6.2	
Act Effct Green (s)		7.7			7.7		77.0	77.0		84.6	83.6	
Actuated g/C Ratio		0.08			0.08		0.77	0.77		0.85	0.84	
v/c Ratio		0.09			0.30		0.01	0.31		0.09	0.30	
Control Delay		0.9			33.2		5.8	5.0		1.3	1.5	
Queue Delay		0.0			0.0		0.0	0.3		0.0	0.1	
Total Delay		0.9			33.2		5.8	5.3		1.3	1.5	
LOS		A			C		A	A		A	A	
Approach Delay		0.9			33.2			5.3			1.5	
Approach LOS		A			C			A			A	
Queue Length 50th (m)		0.0			4.6		0.2	24.1		0.6	6.7	
Queue Length 95th (m)		0.0			11.6		m0.5	45.5		m2.3	18.0	
Internal Link Dist (m)		20.0			34.2			83.4			134.0	
Turn Bay Length (m)							22.0			45.0		
Base Capacity (vph)		414			740		459	2692		588	2926	
Starvation Cap Reductn		0			0		0	1082		0	674	
Spillback Cap Reductn		0			0		0	0		0	60	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.04			0.10		0.01	0.53		0.08	0.39	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 1 (1%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 4.4

Intersection LOS: A

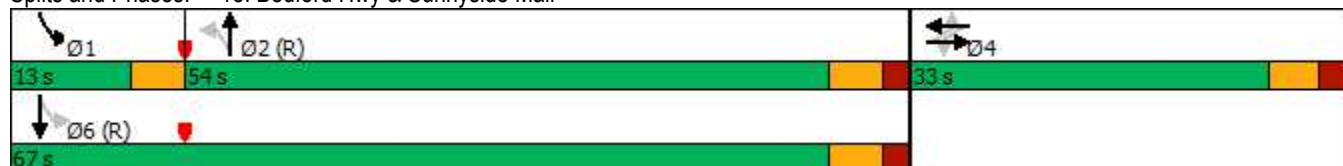
Intersection Capacity Utilization 51.8%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Bedford Hwy & Sunnyside Mall



Bedford Highway Analysis
19: Bedford Hwy & Rocky Lake

Future Conditions-Balanced Options
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	22	42	222	33	66	71	490	210	116	561	29
Future Volume (vph)	32	22	42	222	33	66	71	490	210	116	561	29
Satd. Flow (prot)	1770	1678	0	1770	1676	0	1770	3380	0	1770	3514	0
Flt Permitted	0.687			0.460			0.408			0.950		
Satd. Flow (perm)	1280	1678	0	857	1676	0	760	3380	0	1770	3514	0
Satd. Flow (RTOR)		46			72			65			5	
Lane Group Flow (vph)	35	70	0	241	108	0	77	761	0	126	642	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2					
Total Split (s)	31.0	31.0		22.0	53.0		11.0	33.0		14.0	36.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	8.7	8.7		30.1	28.5		53.0	43.2		12.7	50.4	
Actuated g/C Ratio	0.09	0.09		0.30	0.28		0.53	0.43		0.13	0.50	
v/c Ratio	0.32	0.37		0.57	0.20		0.16	0.51		0.56	0.36	
Control Delay	49.8	24.9		32.9	10.9		11.3	21.6		42.9	11.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.8	24.9		32.9	10.9		11.3	21.6		42.9	11.9	
LOS	D	C		C	B		B	C		D	B	
Approach Delay		33.2			26.1			20.7			17.0	
Approach LOS		C			C			C			B	
Queue Length 50th (m)	6.9	4.7		38.4	5.2		7.9	43.4		15.1	44.0	
Queue Length 95th (m)	16.5	17.8		57.6	17.0		14.9	50.1		22.4	65.4	
Internal Link Dist (m)		43.5			31.5			134.0			140.7	
Turn Bay Length (m)	34.0						25.0			32.0		
Base Capacity (vph)	320	454		422	825		480	1498		231	1772	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.15		0.57	0.13		0.16	0.51		0.55	0.36	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 93 (93%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 20.9

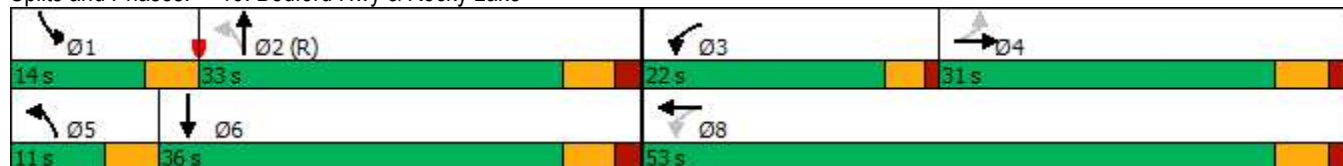
Intersection LOS: C

Intersection Capacity Utilization 59.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 19: Bedford Hwy & Rocky Lake



Bedford Highway Analysis
20: Bedford Hwy & Bedford Place

Future Conditions-Balanced Options
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	LT	TH	LT	TH	TH	LT
Traffic Volume (vph)	11	18	16	472	701	26
Future Volume (vph)	11	18	16	472	701	26
Satd. Flow (prot)	1676	0	1770	3539	3539	1583
Flt Permitted	0.982		0.363			
Satd. Flow (perm)	1676	0	676	3539	3539	1583
Satd. Flow (RTOR)	20					28
Lane Group Flow (vph)	32	0	17	513	762	28
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			6	2	
Permitted Phases			6			2
Total Split (s)	35.0		65.0	65.0	65.0	65.0
Total Lost Time (s)	6.0		6.2	6.2	6.2	6.2
Act Effct Green (s)	7.4		88.1	88.1	88.1	88.1
Actuated g/C Ratio	0.07		0.88	0.88	0.88	0.88
v/c Ratio	0.23		0.03	0.16	0.24	0.02
Control Delay	28.3		0.9	0.7	2.3	1.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	28.3		0.9	0.7	2.3	1.2
LOS	C		A	A	A	A
Approach Delay	28.3			0.7	2.2	
Approach LOS	C			A	A	
Queue Length 50th (m)	2.3		0.2	3.0	32.9	1.3
Queue Length 95th (m)	11.6		m0.6	5.4	0.0	0.0
Internal Link Dist (m)	28.6			140.7	211.4	
Turn Bay Length (m)						40.0
Base Capacity (vph)	500		595	3117	3117	1397
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.06		0.03	0.16	0.24	0.02

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 73 (73%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.24

Intersection Signal Delay: 2.2

Intersection LOS: A

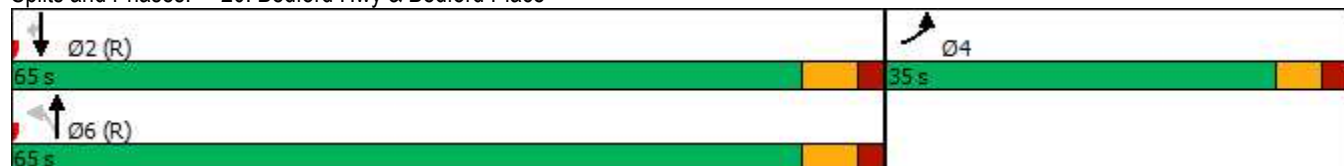
Intersection Capacity Utilization 35.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Bedford Hwy & Bedford Place



Bedford Highway Analysis
21: Bedford Hwy & River Ln

Future Conditions-Balanced Options

Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	52	12	7	513	718	79
Future Volume (vph)	52	12	7	513	718	79
Satd. Flow (prot)	1745	0	1770	3539	3539	1583
Flt Permitted	0.961		0.950			
Satd. Flow (perm)	1745	0	1770	3539	3539	1583
Satd. Flow (RTOR)	11					79
Lane Group Flow (vph)	70	0	8	558	780	86
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases						2
Total Split (s)	33.0		15.0	67.0	52.0	52.0
Total Lost Time (s)	6.0		6.0	6.5	6.5	6.5
Act Effct Green (s)	9.2		7.0	82.2	79.6	79.6
Actuated g/C Ratio	0.09		0.07	0.82	0.80	0.80
v/c Ratio	0.41		0.07	0.19	0.28	0.07
Control Delay	43.4		38.4	4.1	4.6	1.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	43.4		38.4	4.1	4.6	1.7
LOS	D		D	A	A	A
Approach Delay	43.4			4.6	4.3	
Approach LOS	D			A	A	
Queue Length 50th (m)	11.6		1.1	29.1	17.9	0.3
Queue Length 95th (m)	24.9		4.7	16.0	48.6	6.1
Internal Link Dist (m)	31.9			211.4	233.1	
Turn Bay Length (m)			19.0			38.0
Base Capacity (vph)	479		159	2910	2818	1276
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.15		0.05	0.19	0.28	0.07

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 6.2

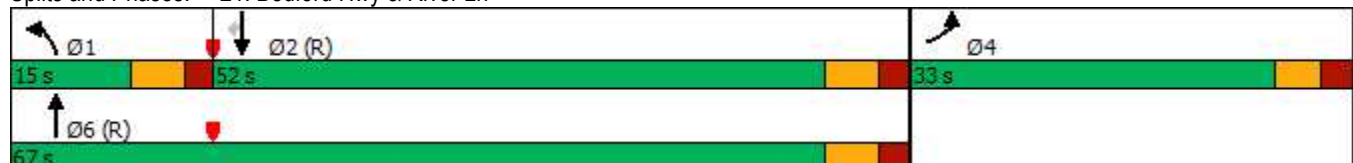
Intersection LOS: A

Intersection Capacity Utilization 36.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Bedford Hwy & River Ln



Bedford Highway Analysis

Future Conditions-Balanced Options

1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St

Timing Plan: PM PEAK

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰					↱↱				↱↱	
Traffic Volume (vph)	0	477	68	0	0	0	75	0	0	0	608	106
Future Volume (vph)	0	477	68	0	0	0	75	0	0	0	608	106
Satd. Flow (prot)	0	1831	0	0	0	0	3433	0	0	0	3461	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	1831	0	0	0	0	3433	0	0	0	3461	0
Satd. Flow (RTOR)		10									23	
Lane Group Flow (vph)	0	592	0	0	0	0	82	0	0	0	776	0
Turn Type		NA					Prot				NA	
Protected Phases		4					2				6	
Permitted Phases												
Total Split (s)		32.0					24.0				24.0	
Total Lost Time (s)		4.5					4.5				4.5	
Act Effct Green (s)		27.0					20.0				19.5	
Actuated g/C Ratio		0.34					0.25				0.24	
v/c Ratio		0.95					0.10				0.90	
Control Delay		52.6					23.9				44.1	
Queue Delay		0.0					0.0				0.0	
Total Delay		52.6					23.9				44.1	
LOS		D					C				D	
Approach Delay		52.6						23.9			44.1	
Approach LOS		D						C			D	
Queue Length 50th (m)		88.8					5.2				61.6	
Queue Length 95th (m)		#154.2					10.7				#95.7	
Internal Link Dist (m)		134.4			23.7			172.1			87.6	
Turn Bay Length (m)							50.0					
Base Capacity (vph)		635					857				861	
Starvation Cap Reductn		0					0				0	
Spillback Cap Reductn		0					0				0	
Storage Cap Reductn		0					0				0	
Reduced v/c Ratio		0.93					0.10				0.90	

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 46.4

Intersection LOS: D

Intersection Capacity Utilization 63.6%

ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St



Bedford Highway Analysis
2: Bedford Hwy & Manor Ln

Future Conditions-Balanced Options

Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	18	43	60	2452	1313	27
Future Volume (vph)	18	43	60	2452	1313	27
Satd. Flow (prot)	1770	1583	1770	3539	3529	0
Flt Permitted	0.950		0.143			
Satd. Flow (perm)	1770	1583	266	3539	3529	0
Satd. Flow (RTOR)		47			3	
Lane Group Flow (vph)	20	47	65	2665	1456	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	31.0	31.0	14.0	89.0	75.0	
Total Lost Time (s)	6.0	6.0	4.0	5.8	5.8	
Act Effct Green (s)	10.0	10.0	103.2	102.6	93.8	
Actuated g/C Ratio	0.08	0.08	0.86	0.86	0.78	
v/c Ratio	0.14	0.27	0.21	0.88	0.53	
Control Delay	53.4	18.7	3.2	12.0	4.3	
Queue Delay	0.0	0.0	0.0	46.1	0.1	
Total Delay	53.4	18.7	3.2	58.1	4.4	
LOS	D	B	A	E	A	
Approach Delay	29.0			56.8	4.4	
Approach LOS	C			E	A	
Queue Length 50th (m)	4.7	0.0	2.1	199.9	25.5	
Queue Length 95th (m)	12.9	12.2	4.2	255.8	m15.7	
Internal Link Dist (m)	44.2			360.5	230.9	
Turn Bay Length (m)			15.0			
Base Capacity (vph)	368	367	354	3025	2758	
Starvation Cap Reductn	0	0	0	0	349	
Spillback Cap Reductn	0	0	0	658	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.05	0.13	0.18	1.13	0.60	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 111 (93%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 38.4

Intersection LOS: D

Intersection Capacity Utilization 85.9%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Bedford Hwy & Manor Ln



Bedford Highway Analysis

3: Bedford Hwy & Bayview Dr

Future Conditions-Balanced Options
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	67	464	812	1921	962	141
Future Volume (vph)	67	464	812	1921	962	141
Satd. Flow (prot)	1770	1583	0	3486	3472	0
Flt Permitted	0.950			0.563		
Satd. Flow (perm)	1770	1583	0	1993	3472	0
Satd. Flow (RTOR)		504			13	
Lane Group Flow (vph)	73	504	0	2971	1199	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	26.0	26.0	57.0	94.0	37.0	
Total Lost Time (s)	6.0	6.0		5.8	5.8	
Act Effect Green (s)	10.4	9.0		100.4	31.2	
Actuated g/C Ratio	0.09	0.08		0.84	0.26	
v/c Ratio	0.48	0.86		1.21	1.31	
Control Delay	61.7	20.1		114.1	177.4	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	61.7	20.1		114.1	177.4	
LOS	E	C		F	F	
Approach Delay	25.4			114.1	177.4	
Approach LOS	C			F	F	
Queue Length 50th (m)	17.6	0.0		~397.3	~205.5	
Queue Length 95th (m)	32.4	#38.4		m#335.2	m#176.5	
Internal Link Dist (m)	326.3			230.9	392.1	
Turn Bay Length (m)						
Base Capacity (vph)	295	585		2455	912	
Starvation Cap Reductn	0	0		7	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.25	0.86		1.21	1.31	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 118 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.31

Intersection Signal Delay: 119.3

Intersection LOS: F

Intersection Capacity Utilization 128.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

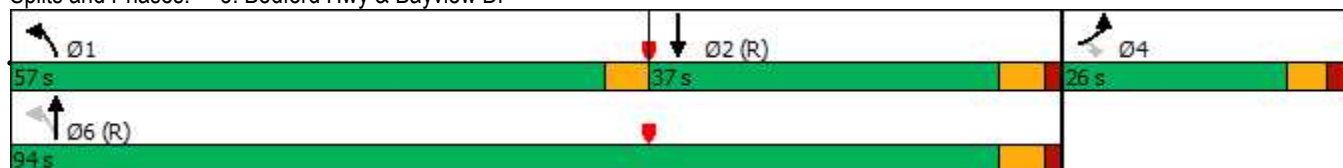
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Bedford Hwy & Bayview Dr



Bedford Highway Analysis
4: Bedford Hwy & Seton Rd

Future Conditions-Balanced Options

Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	130	372	317	1519	816	139
Future Volume (vph)	130	372	317	1519	816	139
Satd. Flow (prot)	1770	1583	0	3507	1825	0
Flt Permitted	0.950			0.516		
Satd. Flow (perm)	1770	1583	0	1826	1825	0
Satd. Flow (RTOR)		404			9	
Lane Group Flow (vph)	141	404	0	1996	1038	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	27.0	27.0	33.0	93.0	60.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Act Effect Green (s)	15.0	15.0		95.0	55.0	
Actuated g/C Ratio	0.12	0.12		0.79	0.46	
v/c Ratio	0.64	0.73		1.03	1.23	
Control Delay	62.7	13.0		28.1	144.4	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	62.7	13.0		28.1	144.4	
LOS	E	B		C	F	
Approach Delay	25.9			28.1	144.4	
Approach LOS	C			C	F	
Queue Length 50th (m)	33.8	0.0		~158.2	~319.1	
Queue Length 95th (m)	53.2	30.4		m93.0	#395.4	
Internal Link Dist (m)	37.2			201.0	255.1	
Turn Bay Length (m)						
Base Capacity (vph)	324	551		1937	841	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.44	0.73		1.03	1.23	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 25 (21%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.23

Intersection Signal Delay: 61.5

Intersection LOS: E

Intersection Capacity Utilization 123.4%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

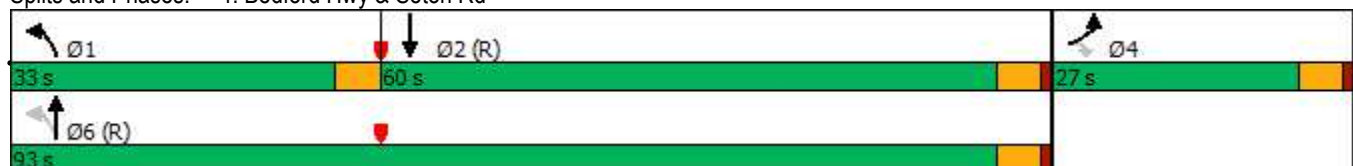
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Bedford Hwy & Seton Rd



Bedford Highway Analysis
6: Bedford Hwy & Flamingo Dr

Future Conditions-Balanced Options
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	99	183	205	1012	605	24
Future Volume (vph)	99	183	205	1012	605	24
Satd. Flow (prot)	1770	1583	1770	1863	1853	0
Flt Permitted	0.950		0.365			
Satd. Flow (perm)	1770	1583	680	1863	1853	0
Satd. Flow (RTOR)		199			4	
Lane Group Flow (vph)	108	199	223	1100	684	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases		4	6			
Total Split (s)	28.0	28.0	92.0	92.0	92.0	
Total Lost Time (s)	6.0	6.0	6.1	6.1	6.1	
Act Effct Green (s)	13.1	13.1	94.8	94.8	94.8	
Actuated g/C Ratio	0.11	0.11	0.79	0.79	0.79	
v/c Ratio	0.56	0.57	0.42	0.75	0.47	
Control Delay	61.6	13.3	4.2	6.1	5.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.6	13.3	4.2	6.1	5.7	
LOS	E	B	A	A	A	
Approach Delay	30.3			5.8	5.7	
Approach LOS	C			A	A	
Queue Length 50th (m)	25.9	0.0	11.3	62.0	44.9	
Queue Length 95th (m)	43.5	21.5	m13.2	m78.4	78.0	
Internal Link Dist (m)	139.9			392.2	501.1	
Turn Bay Length (m)	22.0		34.0			
Base Capacity (vph)	324	452	537	1472	1465	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.33	0.44	0.42	0.75	0.47	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 17 (14%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 9.0

Intersection LOS: A

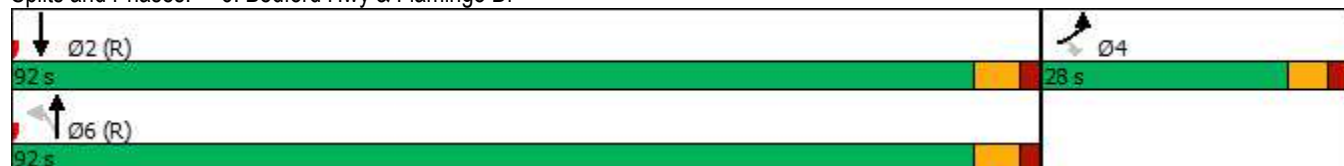
Intersection Capacity Utilization 71.7%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bedford Hwy & Flamingo Dr



Bedford Highway Analysis
8: Bedford Hwy & Kearney Lake Rd

Future Conditions-Balanced Options
Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	159	226	503	878	555	159
Future Volume (vph)	159	226	503	878	555	159
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.182			
Satd. Flow (perm)	1770	1583	339	1863	1863	1583
Satd. Flow (RTOR)		246				173
Lane Group Flow (vph)	173	246	547	954	603	173
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	3		1	2	2	
Permitted Phases		3	2	1		2
Total Split (s)	36.0	36.0	29.0	56.0	56.0	56.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Act Effct Green (s)	15.0	15.0	66.2	68.3	38.6	38.6
Actuated g/C Ratio	0.16	0.16	0.69	0.72	0.40	0.40
v/c Ratio	0.62	0.54	0.89	0.72	0.80	0.23
Control Delay	49.8	9.9	38.2	12.3	34.2	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	9.9	38.2	12.3	34.2	3.7
LOS	D	A	D	B	C	A
Approach Delay	26.4			21.8	27.4	
Approach LOS	C			C	C	
Queue Length 50th (m)	31.9	0.0	68.9	92.3	99.5	0.0
Queue Length 95th (m)	59.2	21.9	#162.5	173.1	158.0	12.5
Internal Link Dist (m)	207.2			269.8	796.7	
Turn Bay Length (m)		41.0				87.0
Base Capacity (vph)	568	675	618	1553	997	927
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.36	0.89	0.61	0.60	0.19

Intersection Summary

Cycle Length: 121

Actuated Cycle Length: 95.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 24.1

Intersection LOS: C

Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Bedford Hwy & Kearney Lake Rd



Bedford Highway Analysis
9: Bedford Hwy & Larry Uteck Blvd

Future Conditions-Balanced Options
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↩	↩		↩		↩	↩			↩	↩
Traffic Volume (vph)	92	0	258	0	0	0	377	652	0	0	494	152
Future Volume (vph)	92	0	258	0	0	0	377	652	0	0	494	152
Satd. Flow (prot)	0	1770	1583	0	1863	0	1770	1863	0	0	1863	1583
Flt Permitted		0.757					0.197					
Satd. Flow (perm)	0	1410	1583	0	1863	0	367	1863	0	0	1863	1583
Satd. Flow (RTOR)			280									165
Lane Group Flow (vph)	0	100	280	0	0	0	410	709	0	0	537	165
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Total Split (s)	31.0	31.0	31.0	31.0	31.0		24.0	75.0		51.0	51.0	51.0
Total Lost Time (s)		6.0	6.0		6.0		4.0	6.0			6.0	6.0
Act Effct Green (s)		11.1	11.1				50.3	48.2			25.8	25.8
Actuated g/C Ratio		0.15	0.15				0.70	0.67			0.36	0.36
v/c Ratio		0.46	0.58				0.67	0.57			0.80	0.25
Control Delay		38.5	9.9				15.6	8.5			31.2	3.8
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		38.5	9.9				15.6	8.5			31.2	3.8
LOS		D	A				B	A			C	A
Approach Delay		17.4						11.1			24.7	
Approach LOS		B						B			C	
Queue Length 50th (m)		13.2	0.0				21.2	42.3			68.1	0.0
Queue Length 95th (m)		33.1	21.6				67.1	86.5			116.7	11.3
Internal Link Dist (m)		399.7			12.3			76.8			1542.8	
Turn Bay Length (m)							58.0					97.0
Base Capacity (vph)		515	756				666	1690			1224	1096
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.19	0.37				0.62	0.42			0.44	0.15

Intersection Summary

Cycle Length: 106

Actuated Cycle Length: 71.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 16.5

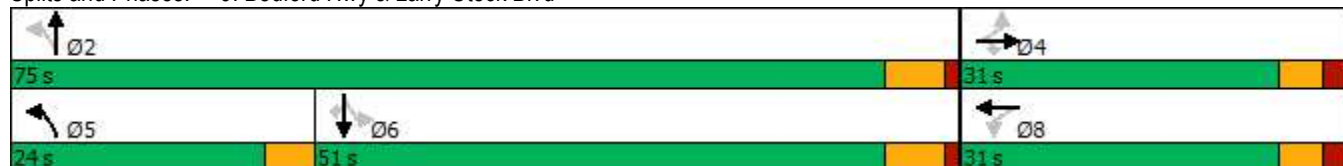
Intersection LOS: B

Intersection Capacity Utilization 81.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Bedford Hwy & Larry Uteck Blvd



Bedford Highway Analysis
10: Bedford Hwy & Southgate Dr

Future Conditions-Balanced Options
Timing Plan: PM PEAK

												
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR						
Lane Configurations												
Traffic Volume (vph)	155	27	33	934	780	165						
Future Volume (vph)	155	27	33	934	780	165						
Satd. Flow (prot)	1770	1583	1770	1863	1818	0						
Flt Permitted	0.950		0.142									
Satd. Flow (perm)	1770	1583	265	1863	1818	0						
Satd. Flow (RTOR)		29			21							
Lane Group Flow (vph)	168	29	36	1015	1027	0						
Turn Type	Prot	Perm	Perm	NA	NA							
Protected Phases	4			2	6							
Permitted Phases		4	2									
Total Split (s)	31.0	31.0	56.0	56.0	56.0							
Total Lost Time (s)	6.0	6.0	5.7	5.7	5.7							
Act Effct Green (s)	12.2	12.2	50.4	50.4	50.4							
Actuated g/C Ratio	0.16	0.16	0.68	0.68	0.68							
v/c Ratio	0.58	0.10	0.20	0.80	0.83							
Control Delay	36.8	11.0	8.8	16.2	17.5							
Queue Delay	0.0	0.0	0.0	0.0	0.0							
Total Delay	36.8	11.0	8.8	16.2	17.5							
LOS	D	B	A	B	B							
Approach Delay	33.0			15.9	17.5							
Approach LOS	C			B	B							
Queue Length 50th (m)	23.1	0.0	1.7	89.0	91.4							
Queue Length 95th (m)	41.6	6.6	7.3	#214.4	#221.6							
Internal Link Dist (m)	107.6			1542.8	369.0							
Turn Bay Length (m)			42.0									
Base Capacity (vph)	596	552	179	1262	1238							
Starvation Cap Reductn	0	0	0	0	0							
Spillback Cap Reductn	0	0	0	0	0							
Storage Cap Reductn	0	0	0	0	0							
Reduced v/c Ratio	0.28	0.05	0.20	0.80	0.83							

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 74.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 18.1

Intersection LOS: B

Intersection Capacity Utilization 69.4%

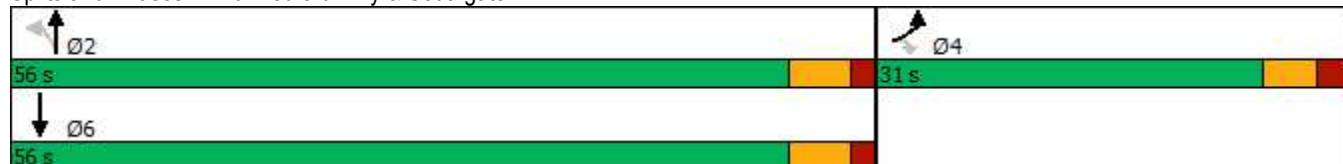
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Bedford Hwy & Southgate Dr



Bedford Highway Analysis
11: Bedford Hwy & Moirs Mill Rd

Future Conditions-Balanced Options
Timing Plan: PM PEAK

									
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations				 	 				
Traffic Volume (vph)	158	22	36	891	702	234			
Future Volume (vph)	158	22	36	891	702	234			
Satd. Flow (prot)	1770	1583	0	3532	3408	0			
Flt Permitted	0.950			0.867					
Satd. Flow (perm)	1770	1583	0	3068	3408	0			
Satd. Flow (RTOR)		24			78				
Lane Group Flow (vph)	172	24	0	1007	1017	0			
Turn Type	Prot	Perm	Perm	NA	NA				
Protected Phases	3			2	2				
Permitted Phases		3	2						
Total Split (s)	36.0	36.0	74.0	74.0	74.0				
Total Lost Time (s)	6.0	6.0		5.5	5.5				
Act Effct Green (s)	16.0	16.0		82.5	82.5				
Actuated g/C Ratio	0.15	0.15		0.75	0.75				
v/c Ratio	0.67	0.10		0.44	0.39				
Control Delay	56.7	15.0		6.3	2.6				
Queue Delay	0.0	0.0		0.0	0.3				
Total Delay	56.7	15.0		6.3	2.9				
LOS	E	B		A	A				
Approach Delay	51.6			6.3	2.9				
Approach LOS	D			A	A				
Queue Length 50th (m)	37.3	0.0		37.7	9.4				
Queue Length 95th (m)	57.1	7.3		61.1	18.3				
Internal Link Dist (m)	95.1			116.3	148.8				
Turn Bay Length (m)		25.0							
Base Capacity (vph)	482	449		2301	2575				
Starvation Cap Reductn	0	0		0	795				
Spillback Cap Reductn	0	0		0	0				
Storage Cap Reductn	0	0		0	0				
Reduced v/c Ratio	0.36	0.05		0.44	0.57				

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 8.7

Intersection LOS: A

Intersection Capacity Utilization 70.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 11: Bedford Hwy & Moirs Mill Rd



Bedford Highway Analysis

12: Bedford Hwy & Hammonds Plains Rd

Future Conditions-Balanced Options

Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	165	175	131	177	159	252	496	7	140	523	342
Future Volume (vph)	334	165	175	131	177	159	252	496	7	140	523	342
Satd. Flow (prot)	1770	1719	0	1770	1730	0	1770	1859	0	1770	3539	1583
Flt Permitted	0.150			0.431			0.273			0.162		
Satd. Flow (perm)	279	1719	0	803	1730	0	509	1859	0	302	3539	1583
Satd. Flow (RTOR)		47			37			1				372
Lane Group Flow (vph)	363	369	0	142	365	0	274	547	0	152	568	372
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Total Split (s)	22.0	35.0		16.0	29.0		24.0	42.0		17.0	35.0	35.0
Total Lost Time (s)	4.0	6.1		4.0	6.1		4.0	5.8		4.0	5.8	5.8
Act Effct Green (s)	48.4	32.0		35.0	22.6		53.5	37.3		44.5	32.2	32.2
Actuated g/C Ratio	0.44	0.29		0.32	0.21		0.49	0.34		0.40	0.29	0.29
v/c Ratio	0.93	0.69		0.41	0.95		0.64	0.87		0.58	0.55	0.51
Control Delay	61.0	38.9		23.9	74.4		27.0	43.8		26.7	35.5	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	1.1		0.0	0.0	0.0
Total Delay	61.0	38.9		23.9	74.4		27.0	44.9		26.7	35.5	6.0
LOS	E	D		C	E		C	D		C	D	A
Approach Delay		49.9			60.3			38.9			24.2	
Approach LOS		D			E			D			C	
Queue Length 50th (m)	64.7	66.6		19.6	74.3		29.6	77.4		18.1	55.6	0.0
Queue Length 95th (m)	#127.6	#107.2		33.3	#133.4		61.5	#139.5		32.1	78.1	23.6
Internal Link Dist (m)		215.5			47.8			148.8			134.8	
Turn Bay Length (m)	67.0									31.0		60.0
Base Capacity (vph)	389	533		373	389		477	630		302	1035	726
Starvation Cap Reductn	0	0		0	0		0	15		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.93	0.69		0.38	0.94		0.57	0.89		0.50	0.55	0.51

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 100 (91%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 39.8

Intersection LOS: D

Intersection Capacity Utilization 88.4%

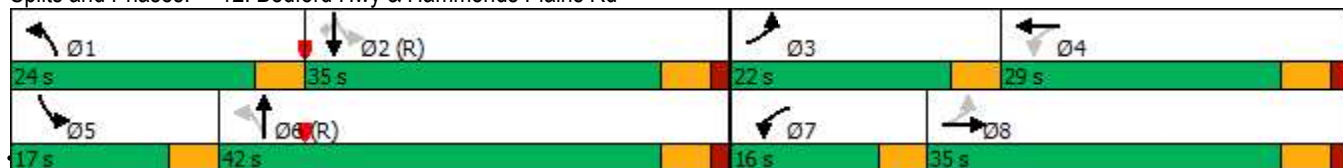
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Bedford Hwy & Hammonds Plains Rd



04-10-2019

Synchro 10 Report

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Bedford Highway Analysis
13: Bedford Hwy & Holland Ave/Convoy Run

Future Conditions-Balanced Options
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	5	23	113	9	75	25	832	58	22	965	24
Future Volume (vph)	13	5	23	113	9	75	25	832	58	22	965	24
Satd. Flow (prot)	0	1692	0	0	1781	1583	1770	1844	0	1770	1855	0
Flt Permitted		0.878			0.710		0.136			0.192		
Satd. Flow (perm)	0	1510	0	0	1323	1583	253	1844	0	358	1855	0
Satd. Flow (RTOR)		25				82		4			2	
Lane Group Flow (vph)	0	44	0	0	133	82	27	967	0	24	1075	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3			3		3	2			2		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	67.0	67.0		67.0	67.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		14.3			14.3	14.3	64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.16			0.16	0.16	0.71	0.71		0.71	0.71	
v/c Ratio		0.17			0.64	0.26	0.15	0.74		0.09	0.82	
Control Delay		19.0			48.8	9.4	7.9	13.5		6.3	17.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		19.0			48.8	9.4	7.9	13.5		6.3	17.1	
LOS		B			D	A	A	B		A	B	
Approach Delay		19.0			33.8			13.3			16.9	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		2.9			22.0	0.0	1.4	89.7		1.1	113.0	
Queue Length 95th (m)		11.9			40.6	11.9	5.8	179.6		4.8	#262.2	
Internal Link Dist (m)		82.0			72.0			302.4			719.4	
Turn Bay Length (m)						41.0	73.0			28.0		
Base Capacity (vph)		750			646	815	179	1308		253	1315	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.06			0.21	0.10	0.15	0.74		0.09	0.82	

Intersection Summary

Cycle Length: 117

Actuated Cycle Length: 90.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 17.0

Intersection LOS: B

Intersection Capacity Utilization 75.6%

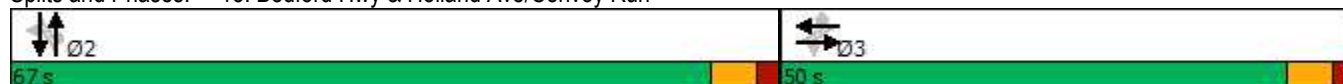
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 13: Bedford Hwy & Holland Ave/Convoy Run



Bedford Highway Analysis
14: Bedford Hwy & Meadowbrook Dr

Future Conditions-Balanced Options
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	0	32	9	0	9	22	812	0	0	897	138
Future Volume (vph)	126	0	32	9	0	9	22	812	0	0	897	138
Satd. Flow (prot)	0	1770	1583	0	1694	0	1770	1863	0	1863	1825	0
Flt Permitted		0.744			0.834		0.112					
Satd. Flow (perm)	0	1386	1583	0	1448	0	209	1863	0	1863	1825	0
Satd. Flow (RTOR)			35		30						15	
Lane Group Flow (vph)	0	137	35	0	20	0	24	883	0	0	1125	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3		3	3			2			2		
Total Split (s)	31.0	31.0	31.0	31.0	31.0		65.0	65.0		65.0	65.0	
Total Lost Time (s)		6.0	6.0		6.0		5.6	5.6		5.6	5.6	
Act Effct Green (s)		14.0	14.0		14.0		63.7	63.7			63.7	
Actuated g/C Ratio		0.16	0.16		0.16		0.71	0.71			0.71	
v/c Ratio		0.63	0.13		0.08		0.16	0.66			0.86	
Control Delay		47.3	11.3		8.2		8.6	11.0			19.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	
Total Delay		47.3	11.3		8.2		8.6	11.0			19.7	
LOS		D	B		A		A	B			B	
Approach Delay		40.0			8.2			11.0			19.7	
Approach LOS		D			A			B			B	
Queue Length 50th (m)		22.0	0.0		0.0		1.2	71.3			122.8	
Queue Length 95th (m)		40.3	7.6		4.3		5.7	143.6			#281.3	
Internal Link Dist (m)		116.5			20.8			112.1			644.8	
Turn Bay Length (m)							25.0					
Base Capacity (vph)		388	468		427		148	1329			1306	
Starvation Cap Reductn		0	0		0		0	0			0	
Spillback Cap Reductn		0	0		0		0	0			0	
Storage Cap Reductn		0	0		0		0	0			0	
Reduced v/c Ratio		0.35	0.07		0.05		0.16	0.66			0.86	

Intersection Summary

Cycle Length: 96

Actuated Cycle Length: 89.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 81.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 14: Bedford Hwy & Meadowbrook Dr



Bedford Highway Analysis
15: Bedford Hwy & Hatchery Ln

Future Conditions-Balanced Options
Timing Plan: PM PEAK

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	128	60	829	107	43	936
Future Volume (vph)	128	60	829	107	43	936
Satd. Flow (prot)	1770	1583	1835	0	1770	1863
Flt Permitted	0.950				0.190	
Satd. Flow (perm)	1770	1583	1835	0	354	1863
Satd. Flow (RTOR)		65	14			
Lane Group Flow (vph)	139	65	1017	0	47	1017
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	4		6			2
Permitted Phases		4			2	
Total Split (s)	26.0	26.0	74.0		74.0	74.0
Total Lost Time (s)	6.0	6.0	6.5		6.5	6.5
Act Effct Green (s)	13.1	13.1	74.4		74.4	74.4
Actuated g/C Ratio	0.13	0.13	0.74		0.74	0.74
v/c Ratio	0.60	0.25	0.74		0.18	0.73
Control Delay	51.2	11.7	12.4		7.4	11.3
Queue Delay	0.0	0.0	0.0		0.0	0.3
Total Delay	51.2	11.7	12.4		7.4	11.6
LOS	D	B	B		A	B
Approach Delay	38.6		12.4			11.4
Approach LOS	D		B			B
Queue Length 50th (m)	27.1	0.0	97.9		3.3	80.5
Queue Length 95th (m)	44.6	11.6	187.0		m4.6	93.5
Internal Link Dist (m)	38.8		644.8			132.9
Turn Bay Length (m)					18.0	
Base Capacity (vph)	354	368	1368		263	1385
Starvation Cap Reductn	0	0	0		0	67
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.39	0.18	0.74		0.18	0.77

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 97 (97%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 14.3

Intersection LOS: B

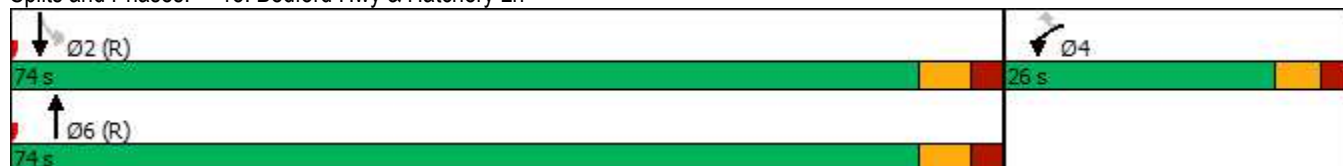
Intersection Capacity Utilization 67.6%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Bedford Hwy & Hatchery Ln



Bedford Highway Analysis
16: Bedford Hwy & Union St

Future Conditions-Balanced Options
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	137	75	959	912	30
Future Volume (vph)	32	137	75	959	912	30
Satd. Flow (prot)	1645	0	1770	1863	1855	0
Flt Permitted	0.991		0.211			
Satd. Flow (perm)	1645	0	393	1863	1855	0
Satd. Flow (RTOR)	149				4	
Lane Group Flow (vph)	184	0	82	1042	1024	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases			6			
Total Split (s)	26.0		74.0	74.0	74.0	
Total Lost Time (s)	6.0		6.5	6.5	6.5	
Act Effct Green (s)	9.3		78.2	78.2	78.2	
Actuated g/C Ratio	0.09		0.78	0.78	0.78	
v/c Ratio	0.64		0.27	0.72	0.71	
Control Delay	21.7		2.6	3.4	4.3	
Queue Delay	0.0		0.0	0.3	0.1	
Total Delay	21.7		2.6	3.7	4.4	
LOS	C		A	A	A	
Approach Delay	21.7			3.6	4.4	
Approach LOS	C			A	A	
Queue Length 50th (m)	6.9		0.6	8.5	8.9	
Queue Length 95th (m)	27.0		m1.9	21.1	m42.7	
Internal Link Dist (m)	153.0			132.9	320.3	
Turn Bay Length (m)			33.0			
Base Capacity (vph)	448		307	1455	1451	
Starvation Cap Reductn	0		0	81	0	
Spillback Cap Reductn	2		0	0	27	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.41		0.27	0.76	0.72	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 8 (8%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 5.4

Intersection LOS: A

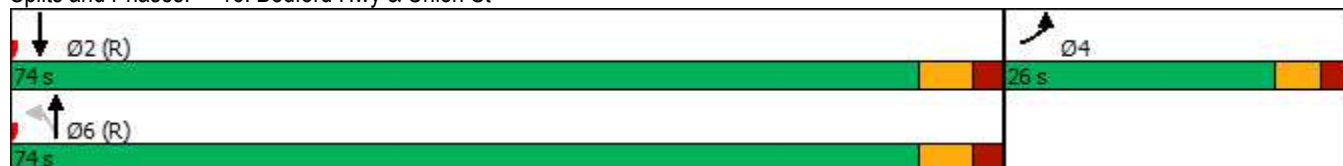
Intersection Capacity Utilization 81.7%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Bedford Hwy & Union St



Bedford Highway Analysis
17: Bedford Hwy & Dartmouth Rd

Future Conditions-Balanced Options
Timing Plan: PM PEAK

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↔		↔	↔	
Traffic Volume (vph)	4	11	12	441	20	408	4	489	488	386	512	9
Future Volume (vph)	4	11	12	441	20	408	4	489	488	386	512	9
Satd. Flow (prot)	0	1711	0	1770	1863	1583	1770	3177	0	1770	1856	0
Flt Permitted		0.981		0.738			0.451			0.118		
Satd. Flow (perm)	0	1685	0	1345	1863	1530	825	3177	0	220	1856	0
Satd. Flow (RTOR)		13				443		256			1	
Lane Group Flow (vph)	0	29	0	479	22	443	4	1062	0	420	567	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4		4	2			6		
Total Split (s)	41.0	41.0		41.0	41.0	41.0	36.0	36.0		23.0	59.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.2	6.2		4.0	6.2	
Act Effct Green (s)		35.0		35.0	35.0	35.0	29.8	29.8		55.0	52.8	
Actuated g/C Ratio		0.35		0.35	0.35	0.35	0.30	0.30		0.55	0.53	
v/c Ratio		0.05		1.02	0.03	0.54	0.02	0.94		1.01	0.58	
Control Delay		14.8		80.3	21.7	5.0	27.5	36.4		69.3	16.3	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.8	
Total Delay		14.8		80.3	21.7	5.0	27.5	36.4		69.3	17.1	
LOS		B		F	C	A	C	D		E	B	
Approach Delay		14.8			43.6			36.4			39.3	
Approach LOS		B			D			D			D	
Queue Length 50th (m)		2.1		~100.3	2.9	0.0	0.0	52.0		~75.0	92.1	
Queue Length 95th (m)		8.3		#166.8	8.3	21.0	m0.6	#130.7		#129.0	104.9	
Internal Link Dist (m)		15.4			319.7			106.0			83.4	
Turn Bay Length (m)				56.0		40.0	47.0			40.0		
Base Capacity (vph)		598		470	652	823	245	1126		415	980	
Starvation Cap Reductn		0		0	0	0	0	0		0	170	
Spillback Cap Reductn		0		0	0	0	0	0		0	0	
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.05		1.02	0.03	0.54	0.02	0.94		1.01	0.70	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 37 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 39.4

Intersection LOS: D

Intersection Capacity Utilization 96.1%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

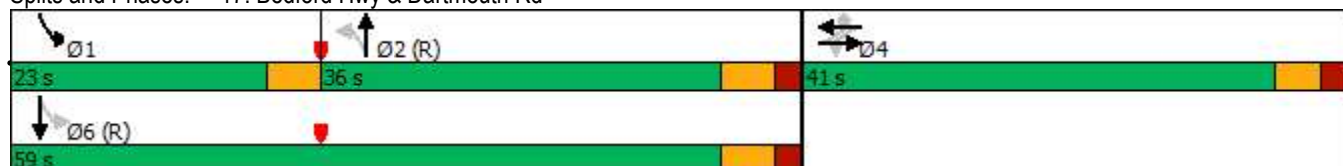
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 17: Bedford Hwy & Dartmouth Rd



Bedford Highway Analysis
18: Bedford Hwy & Sunnyside Mall

Future Conditions-Balanced Options
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	43	7	6	146	10	72	5	819	76	33	781	59
Future Volume (vph)	43	7	6	146	10	72	5	819	76	33	781	59
Satd. Flow (prot)	0	1767	0	0	3268	0	1770	3493	0	1770	3500	0
Flt Permitted		0.598			0.740		0.312			0.249		
Satd. Flow (perm)	0	1097	0	0	2496	0	581	3493	0	464	3500	0
Satd. Flow (RTOR)		6			74			13			13	
Lane Group Flow (vph)	0	62	0	0	248	0	5	973	0	36	913	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4			2			6		
Total Split (s)	35.0	35.0		35.0	35.0		53.0	53.0		12.0	65.0	
Total Lost Time (s)		6.4			6.4		6.2	6.2		4.0	6.2	
Act Effct Green (s)		12.4			12.4		68.4	68.4		77.2	75.0	
Actuated g/C Ratio		0.12			0.12		0.68	0.68		0.77	0.75	
v/c Ratio		0.44			0.66		0.01	0.41		0.08	0.35	
Control Delay		46.0			37.5		7.2	5.9		1.5	1.7	
Queue Delay		0.0			0.0		0.0	0.4		0.0	0.2	
Total Delay		46.0			37.5		7.2	6.3		1.5	1.9	
LOS		D			D		A	A		A	A	
Approach Delay		46.0			37.5			6.3			1.9	
Approach LOS		D			D			A			A	
Queue Length 50th (m)		10.7			17.8		0.2	25.1		0.2	5.2	
Queue Length 95th (m)		23.0			29.7		m0.5	m44.4		m1.3	13.1	
Internal Link Dist (m)		20.0			34.2			83.4			134.0	
Turn Bay Length (m)							22.0			45.0		
Base Capacity (vph)		318			766		397	2394		462	2628	
Starvation Cap Reductn		0			0		0	815		0	784	
Spillback Cap Reductn		0			3		0	31		0	386	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.19			0.33		0.01	0.62		0.08	0.50	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 26 (26%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 9.0

Intersection LOS: A

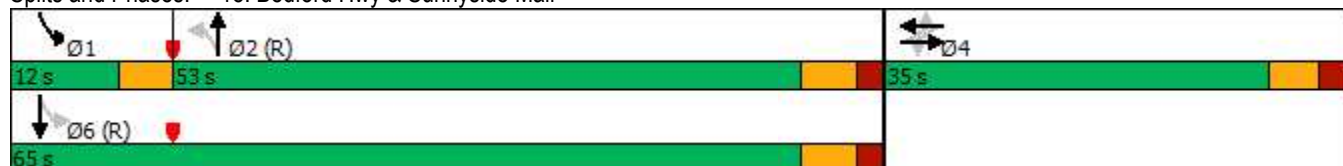
Intersection Capacity Utilization 48.4%

ICU Level of Service A

Analysis Period (min) 15

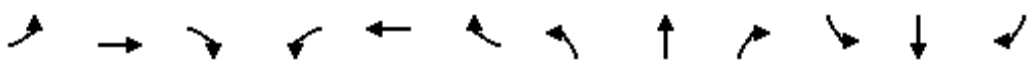
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Bedford Hwy & Sunnyside Mall



Bedford Highway Analysis
19: Bedford Hwy & Rocky Lake

Future Conditions-Balanced Options
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	79	112	208	96	170	150	657	233	131	608	72
Future Volume (vph)	105	79	112	208	96	170	150	657	233	131	608	72
Satd. Flow (prot)	1770	1699	0	1770	1684	0	1770	3401	0	1770	3483	0
Flt Permitted	0.414			0.344			0.309			0.950		
Satd. Flow (perm)	771	1699	0	641	1684	0	576	3401	0	1770	3483	0
Satd. Flow (RTOR)		68			91			52			13	
Lane Group Flow (vph)	114	208	0	226	289	0	163	967	0	142	739	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2					
Total Split (s)	11.0	31.0		16.0	36.0		14.0	38.0		15.0	39.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	24.9	15.9		33.3	20.5		51.4	39.5		13.1	42.7	
Actuated g/C Ratio	0.25	0.16		0.33	0.20		0.51	0.40		0.13	0.43	
v/c Ratio	0.44	0.64		0.66	0.69		0.39	0.70		0.61	0.49	
Control Delay	29.0	35.3		34.7	33.9		13.6	29.4		43.5	13.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.0	
Total Delay	29.0	35.3		34.7	33.9		13.6	29.5		43.5	13.7	
LOS	C	D		C	C		B	C		D	B	
Approach Delay		33.1			34.3			27.2			18.5	
Approach LOS		C			C			C			B	
Queue Length 50th (m)	16.8	27.4		35.7	38.5		15.2	79.3		14.7	56.2	
Queue Length 95th (m)	27.2	48.2		51.1	62.6		36.6	#106.7		33.7	88.3	
Internal Link Dist (m)		43.5			31.5			134.0			140.7	
Turn Bay Length (m)	34.0						25.0			32.0		
Base Capacity (vph)	261	475		350	568		431	1374		239	1493	
Starvation Cap Reductn	0	0		0	0		0	38		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.44	0.44		0.65	0.51		0.38	0.72		0.59	0.49	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 1 (1%), Referenced to phase 2:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 26.5

Intersection LOS: C

Intersection Capacity Utilization 72.1%

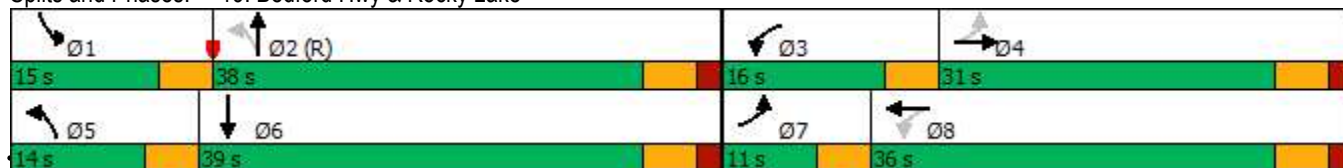
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 19: Bedford Hwy & Rocky Lake



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Synchro 10 Report
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Bedford Highway Analysis
20: Bedford Hwy & Bedford Place

Future Conditions-Balanced Options
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑↑	↑↑	W
Traffic Volume (vph)	35	36	31	880	751	42
Future Volume (vph)	35	36	31	880	751	42
Satd. Flow (prot)	1694	0	1770	3539	3539	1583
Flt Permitted	0.976		0.344			
Satd. Flow (perm)	1694	0	641	3539	3539	1583
Satd. Flow (RTOR)	39					46
Lane Group Flow (vph)	77	0	34	957	816	46
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			6	2	
Permitted Phases			6			2
Total Split (s)	35.0		65.0	65.0	65.0	65.0
Total Lost Time (s)	6.0		6.2	6.2	6.2	6.2
Act Effect Green (s)	8.6		83.1	83.1	83.1	83.1
Actuated g/C Ratio	0.09		0.83	0.83	0.83	0.83
v/c Ratio	0.43		0.06	0.33	0.28	0.03
Control Delay	31.4		2.1	2.0	2.9	0.9
Queue Delay	0.0		0.0	0.1	0.0	0.0
Total Delay	31.4		2.1	2.1	2.9	0.9
LOS	C		A	A	A	A
Approach Delay	31.4			2.1	2.8	
Approach LOS	C			A	A	
Queue Length 50th (m)	7.5		0.8	12.1	45.5	1.2
Queue Length 95th (m)	21.3		m1.6	21.2	0.0	0.0
Internal Link Dist (m)	28.6			140.7	211.4	
Turn Bay Length (m)						40.0
Base Capacity (vph)	518		532	2940	2940	1323
Starvation Cap Reductn	0		0	696	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.15		0.06	0.43	0.28	0.03

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 84 (84%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 3.6

Intersection LOS: A

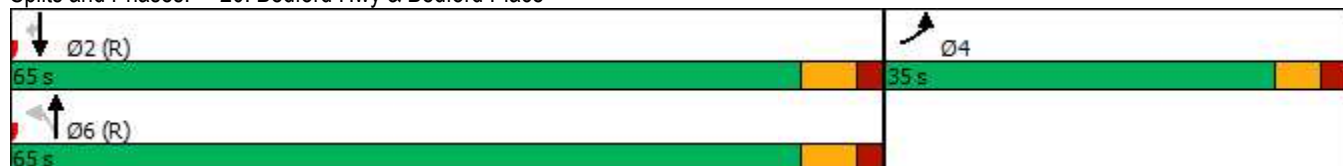
Intersection Capacity Utilization 41.8%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Bedford Hwy & Bedford Place



Bedford Highway Analysis
21: Bedford Hwy & River Ln

Future Conditions-Balanced Options

Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑↑	↑↑	W
Traffic Volume (vph)	152	12	18	933	865	158
Future Volume (vph)	152	12	18	933	865	158
Satd. Flow (prot)	1763	0	1770	3539	3539	1583
Flt Permitted	0.956		0.950			
Satd. Flow (perm)	1763	0	1770	3539	3539	1583
Satd. Flow (RTOR)	4					127
Lane Group Flow (vph)	178	0	20	1014	940	172
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases						2
Total Split (s)	32.0		18.0	68.0	50.0	50.0
Total Lost Time (s)	6.0		6.0	6.5	6.5	6.5
Act Effct Green (s)	15.2		7.3	72.3	66.8	66.8
Actuated g/C Ratio	0.15		0.07	0.72	0.67	0.67
v/c Ratio	0.66		0.16	0.40	0.40	0.16
Control Delay	50.2		47.2	3.8	9.9	3.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	50.2		47.2	3.8	9.9	3.7
LOS	D		D	A	A	A
Approach Delay	50.2			4.7	9.0	
Approach LOS	D			A	A	
Queue Length 50th (m)	33.8		3.1	35.3	32.6	2.3
Queue Length 95th (m)	53.0		9.8	19.0	80.1	14.7
Internal Link Dist (m)	31.9			211.4	233.1	
Turn Bay Length (m)			19.0			38.0
Base Capacity (vph)	461		212	2559	2363	1099
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.39		0.09	0.40	0.40	0.16

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 59 (59%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 10.2

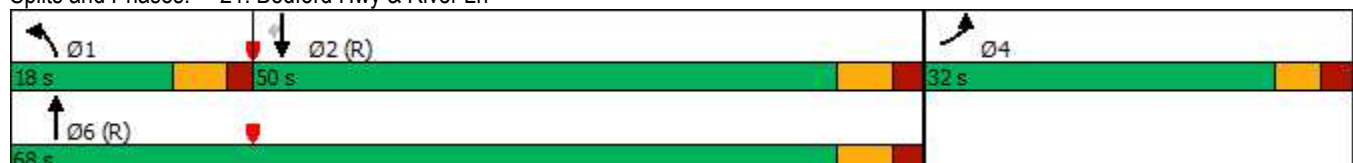
Intersection LOS: B

Intersection Capacity Utilization 45.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Bedford Hwy & River Ln



Bedford Highway Analysis
60: Kempt Rd & Lady Hammond Rd

Future Conditions-Balanced Options
Timing Plan: PM PEAK

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	
Traffic Volume (vph)	407	241	43	528	155	122
Future Volume (vph)	407	241	43	528	155	122
Satd. Flow (prot)	3341	0	0	3525	1704	0
Flt Permitted				0.833	0.973	
Satd. Flow (perm)	3341	0	0	2948	1704	0
Satd. Flow (RTOR)	259				62	
Lane Group Flow (vph)	704	0	0	621	301	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	6			2	4	
Permitted Phases			2			
Total Split (s)	38.8		38.8	38.8	26.2	
Total Lost Time (s)	7.2			7.2	7.2	
Act Effct Green (s)	14.0			14.0	11.3	
Actuated g/C Ratio	0.35			0.35	0.28	
v/c Ratio	0.53			0.60	0.58	
Control Delay	8.2			14.0	15.2	
Queue Delay	0.0			0.0	0.0	
Total Delay	8.2			14.0	15.2	
LOS	A			B	B	
Approach Delay	8.2			14.0	15.2	
Approach LOS	A			B	B	
Queue Length 50th (m)	11.5			17.7	13.5	
Queue Length 95th (m)	27.5			37.4	36.9	
Internal Link Dist (m)	172.1			115.8	58.6	
Turn Bay Length (m)						
Base Capacity (vph)	2742			2375	865	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.26			0.26	0.35	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 40.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 11.7

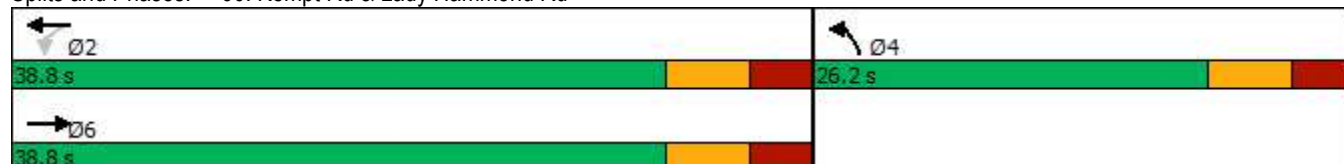
Intersection LOS: B

Intersection Capacity Utilization 68.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 60: Kempt Rd & Lady Hammond Rd

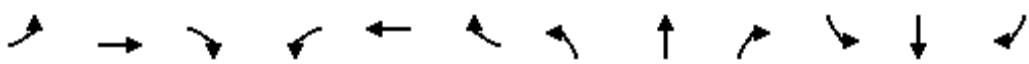


Bedford Highway Analysis

Future Conditions-Transit Priority Option

1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St

Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰					↱↱				↱↰	
Traffic Volume (vph)	0	503	170	0	0	0	100	0	0	0	1304	461
Future Volume (vph)	0	503	170	0	0	0	100	0	0	0	1304	461
Satd. Flow (prot)	0	1799	0	0	0	0	3433	0	0	0	3401	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	1799	0	0	0	0	3433	0	0	0	3401	0
Satd. Flow (RTOR)		12									43	
Lane Group Flow (vph)	0	732	0	0	0	0	109	0	0	0	1918	0
Turn Type		NA					Prot				NA	
Protected Phases		4					2				6	
Permitted Phases												
Total Split (s)		54.0					25.0				71.0	
Total Lost Time (s)		4.5					4.5				4.5	
Act Effct Green (s)		49.5					10.1				76.9	
Actuated g/C Ratio		0.33					0.07				0.51	
v/c Ratio		1.22					0.47				1.09	
Control Delay		154.5					73.6				77.2	
Queue Delay		0.0					0.0				0.0	
Total Delay		154.5					73.6				77.2	
LOS		F					E				E	
Approach Delay		154.5						73.6			77.2	
Approach LOS		F						E			E	
Queue Length 50th (m)		~278.3					17.2				~349.4	
Queue Length 95th (m)		#359.3					27.5				m232.0	
Internal Link Dist (m)		134.4			28.5			164.7			67.2	
Turn Bay Length (m)							50.0					
Base Capacity (vph)		601					469				1763	
Starvation Cap Reductn		0					0				0	
Spillback Cap Reductn		0					0				0	
Storage Cap Reductn		0					0				0	
Reduced v/c Ratio		1.22					0.23				1.09	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.22

Intersection Signal Delay: 97.6

Intersection LOS: F

Intersection Capacity Utilization 95.1%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

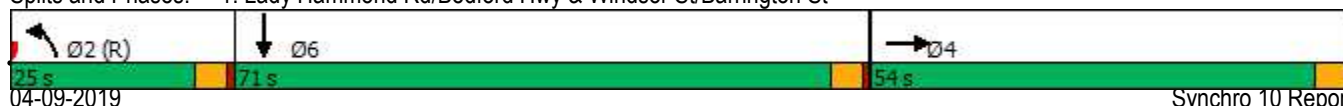
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St



04-09-2019

Synchro 10 Report

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Bedford Highway Analysis

2: Bedford Hwy & Manor Ln

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	34	21	1269	2121	12
Future Volume (vph)	20	34	21	1269	2121	12
Satd. Flow (prot)	1770	1583	0	3536	1861	0
Flt Permitted	0.950			0.661		
Satd. Flow (perm)	1770	1583	0	2339	1861	0
Satd. Flow (RTOR)		37			1	
Lane Group Flow (vph)	22	37	0	1402	2318	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	18.0	18.0	14.0	132.0	118.0	
Total Lost Time (s)	6.0	6.0		5.8	5.8	
Act Effect Green (s)	10.0	10.0		131.4	117.4	
Actuated g/C Ratio	0.07	0.07		0.88	0.78	
v/c Ratio	0.19	0.26		0.66	1.59	
Control Delay	70.2	23.9		4.3	285.8	
Queue Delay	0.0	0.0		0.0	0.2	
Total Delay	70.2	23.9		4.3	286.0	
LOS	E	C		A	F	
Approach Delay	41.2			4.3	286.0	
Approach LOS	D			A	F	
Queue Length 50th (m)	6.6	0.0		43.0	~1052.6	
Queue Length 95th (m)	16.6	12.2		50.3	m337.3	
Internal Link Dist (m)	44.2			423.6	230.9	
Turn Bay Length (m)						
Base Capacity (vph)	141	160		2114	1457	
Starvation Cap Reductn	0	0		0	78	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.16	0.23		0.66	1.68	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 102 (68%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.59

Intersection Signal Delay: 177.7

Intersection LOS: F

Intersection Capacity Utilization 130.5%

ICU Level of Service H

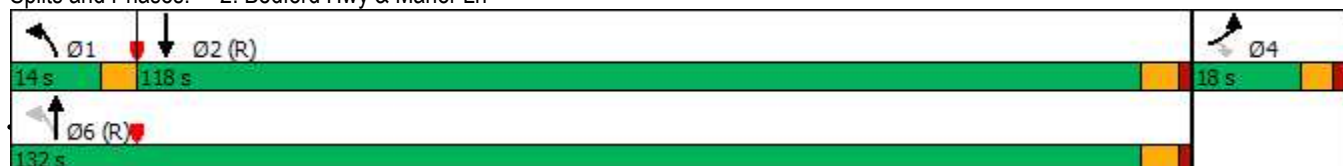
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Bedford Hwy & Manor Ln



Bedford Highway Analysis
3: Bedford Hwy & Bayview Dr

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	58	709	390	711	1735	49
Future Volume (vph)	58	709	390	711	1735	49
Satd. Flow (prot)	1770	1583	0	3479	1855	0
Flt Permitted	0.950			0.550		
Satd. Flow (perm)	1770	1583	0	1947	1855	0
Satd. Flow (RTOR)		113			2	
Lane Group Flow (vph)	63	771	0	1197	1939	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	43.0	43.0	13.0	107.0	94.0	
Total Lost Time (s)	6.0	6.0		5.8	5.8	
Act Effct Green (s)	11.6	9.6		129.8	116.8	
Actuated g/C Ratio	0.08	0.06		0.87	0.78	
v/c Ratio	0.46	3.72		3.16dl	1.34	
Control Delay	76.8	1253.5		3.8	171.9	
Queue Delay	0.0	7.3		0.0	1.3	
Total Delay	76.8	1260.8		3.8	173.2	
LOS	E	F		A	F	
Approach Delay	1171.4			3.8	173.2	
Approach LOS	F			A	F	
Queue Length 50th (m)	19.4	~399.6		16.0	~801.1	
Queue Length 95th (m)	35.0	#469.2		17.8 m#	740.9	
Internal Link Dist (m)	326.3			230.9	392.1	
Turn Bay Length (m)						
Base Capacity (vph)	436	207		1758	1444	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	71		0	392	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.14	5.67		0.68	1.84	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 132 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.72

Intersection Signal Delay: 331.8

Intersection LOS: F

Intersection Capacity Utilization 148.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

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

Splits and Phases: 3: Bedford Hwy & Bayview Dr



Bedford Highway Analysis
4: Bedford Hwy & Seton Rd

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	113	276	233	691	1281	118
Future Volume (vph)	113	276	233	691	1281	118
Satd. Flow (prot)	1770	1583	0	3497	1842	0
Flt Permitted	0.950			0.525		
Satd. Flow (perm)	1770	1583	0	1858	1842	0
Satd. Flow (RTOR)		157			7	
Lane Group Flow (vph)	123	300	0	1004	1520	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	27.0	27.0	13.0	123.0	110.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Act Effct Green (s)	15.7	15.7		124.3	111.3	
Actuated g/C Ratio	0.10	0.10		0.83	0.74	
v/c Ratio	0.66	0.98		1.76dl	1.11	
Control Delay	81.1	77.7		5.0	73.4	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	81.1	77.7		5.0	73.4	
LOS	F	E		A	E	
Approach Delay	78.7			5.0	73.4	
Approach LOS	E			A	E	
Queue Length 50th (m)	37.7	47.7		29.3	~544.8	
Queue Length 95th (m)	58.3	#95.2		48.1	#650.5	
Internal Link Dist (m)	37.2			201.0	255.1	
Turn Bay Length (m)						
Base Capacity (vph)	259	306		1626	1368	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.47	0.98		0.62	1.11	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 81 (54%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 50.8

Intersection LOS: D

Intersection Capacity Utilization 121.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

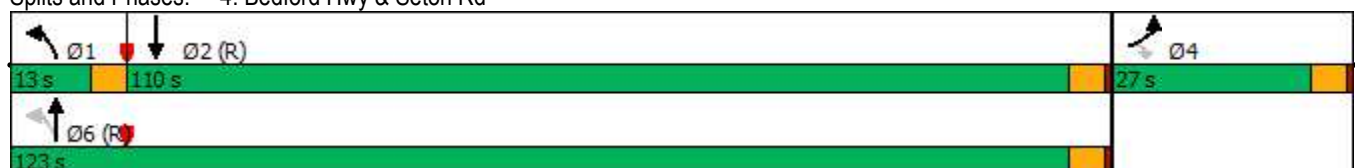
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 4: Bedford Hwy & Seton Rd



Bedford Highway Analysis

6: Bedford Hwy & Flamingo Dr

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	61	334	71	570	997	19
Future Volume (vph)	61	334	71	570	997	19
Satd. Flow (prot)	1770	1583	1770	1863	1857	0
Flt Permitted	0.950		0.095			
Satd. Flow (perm)	1770	1583	177	1863	1857	0
Satd. Flow (RTOR)		225			1	
Lane Group Flow (vph)	66	363	77	620	1105	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	28.0	28.0	15.0	122.0	107.0	
Total Lost Time (s)	6.0	6.0	4.0	6.1	6.1	
Act Effect Green (s)	18.6	18.6	121.4	119.3	104.3	
Actuated g/C Ratio	0.12	0.12	0.81	0.80	0.70	
v/c Ratio	0.30	0.92	0.30	0.42	0.86	
Control Delay	62.0	53.7	5.5	4.2	26.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.0	53.7	5.5	4.2	26.5	
LOS	E	D	A	A	C	
Approach Delay	54.9			4.4	26.5	
Approach LOS	D			A	C	
Queue Length 50th (m)	18.6	44.6	3.6	41.6	261.3	
Queue Length 95th (m)	34.3	#100.5	m4.8	53.9	354.1	
Internal Link Dist (m)	139.9			392.2	501.1	
Turn Bay Length (m)	22.0		34.0			
Base Capacity (vph)	259	424	260	1482	1291	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.25	0.86	0.30	0.42	0.86	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 60 (40%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 25.1

Intersection LOS: C

Intersection Capacity Utilization 84.4%

ICU Level of Service E

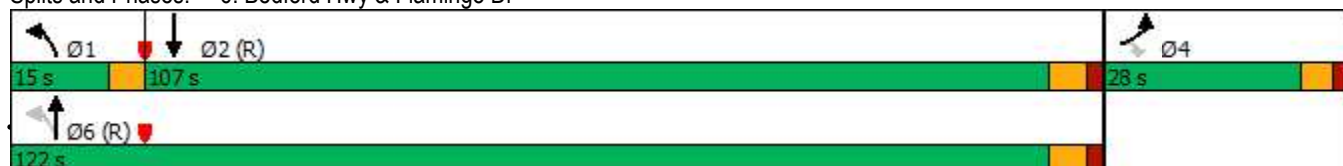
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bedford Hwy & Flamingo Dr



Bedford Highway Analysis
8: Bedford Hwy & Kearney Lake Rd

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	150	323	167	430	500	126
Future Volume (vph)	150	323	167	430	500	126
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.266			
Satd. Flow (perm)	1770	1583	495	1863	1863	1583
Satd. Flow (RTOR)		351				137
Lane Group Flow (vph)	163	351	182	467	543	137
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	3		1	6	2	
Permitted Phases		3	6			2
Total Split (s)	30.0	30.0	13.0	70.0	57.0	57.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Act Effct Green (s)	11.4	11.4	42.4	40.4	27.8	27.8
Actuated g/C Ratio	0.18	0.18	0.66	0.63	0.44	0.44
v/c Ratio	0.52	0.62	0.37	0.40	0.67	0.18
Control Delay	30.8	8.5	6.7	7.4	19.8	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	8.5	6.7	7.4	19.8	3.1
LOS	C	A	A	A	B	A
Approach Delay	15.6			7.2	16.4	
Approach LOS	B			A	B	
Queue Length 50th (m)	17.2	0.0	6.8	23.5	49.7	0.0
Queue Length 95th (m)	40.4	20.9	16.9	49.7	94.6	8.9
Internal Link Dist (m)	207.2			269.8	796.7	
Turn Bay Length (m)		41.0				87.0
Base Capacity (vph)	674	820	510	1782	1508	1307
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.43	0.36	0.26	0.36	0.10

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 63.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 12.9

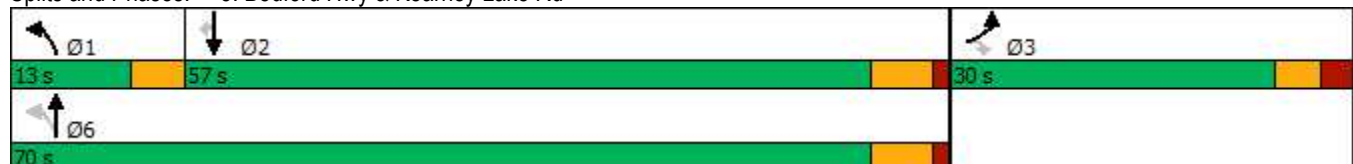
Intersection LOS: B

Intersection Capacity Utilization 57.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 8: Bedford Hwy & Kearney Lake Rd



Bedford Highway Analysis
9: Bedford Hwy & Larry Uteck Blvd

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	0	289	0	0	0	178	454	0	0	433	47
Future Volume (vph)	139	0	289	0	0	0	178	454	0	0	433	47
Satd. Flow (prot)	0	1770	1583	0	1863	0	1770	1863	0	0	1863	1583
Flt Permitted		0.757					0.252					
Satd. Flow (perm)	0	1410	1583	0	1863	0	469	1863	0	0	1863	1583
Satd. Flow (RTOR)			314									72
Lane Group Flow (vph)	0	151	314	0	0	0	193	493	0	0	471	51
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2		6			6
Total Split (s)	31.0	31.0	31.0	31.0	31.0		24.0	75.0		51.0	51.0	51.0
Total Lost Time (s)		6.0	6.0		6.0		4.0	6.0			6.0	6.0
Act Effct Green (s)		12.7	12.7				39.6	37.4			21.2	21.2
Actuated g/C Ratio		0.20	0.20				0.63	0.59			0.34	0.34
v/c Ratio		0.53	0.55				0.36	0.44			0.75	0.09
Control Delay		32.7	7.7				7.1	8.6			27.8	3.1
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		32.7	7.7				7.1	8.6			27.8	3.1
LOS		C	A				A	A			C	A
Approach Delay		15.8						8.2			25.4	
Approach LOS		B						A			C	
Queue Length 50th (m)		15.7	0.0				7.8	27.0			47.3	0.0
Queue Length 95th (m)		42.7	20.5				20.4	60.2			103.5	4.6
Internal Link Dist (m)		399.7			12.3			76.8			1542.8	
Turn Bay Length (m)							58.0					97.0
Base Capacity (vph)		596	850				735	1773			1403	1210
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.25	0.37				0.26	0.28			0.34	0.04

Intersection Summary

Cycle Length: 106

Actuated Cycle Length: 62.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 15.7

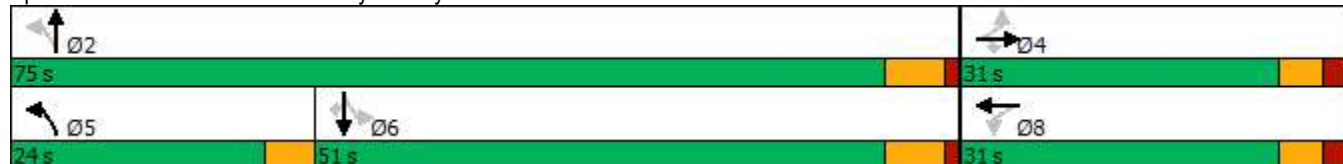
Intersection LOS: B

Intersection Capacity Utilization 69.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Bedford Hwy & Larry Uteck Blvd



Bedford Highway Analysis
10: Bedford Hwy & Southgate Dr

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	121	34	5	531	624	135
Future Volume (vph)	121	34	5	531	624	135
Satd. Flow (prot)	1770	1583	1770	1863	1818	0
Flt Permitted	0.950		0.275			
Satd. Flow (perm)	1770	1583	512	1863	1818	0
Satd. Flow (RTOR)		37			21	
Lane Group Flow (vph)	132	37	5	577	825	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Total Split (s)	31.0	31.0	56.0	56.0	56.0	
Total Lost Time (s)	6.0	6.0	5.7	5.7	5.7	
Act Effct Green (s)	10.7	10.7	54.6	54.6	54.6	
Actuated g/C Ratio	0.15	0.15	0.75	0.75	0.75	
v/c Ratio	0.51	0.14	0.01	0.42	0.61	
Control Delay	35.7	10.9	4.4	6.2	8.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.7	10.9	4.4	6.2	8.6	
LOS	D	B	A	A	A	
Approach Delay	30.3			6.2	8.6	
Approach LOS	C			A	A	
Queue Length 50th (m)	17.7	0.0	0.2	30.3	53.0	
Queue Length 95th (m)	33.7	7.5	1.3	59.2	106.8	
Internal Link Dist (m)	107.6			1542.8	369.0	
Turn Bay Length (m)			42.0			
Base Capacity (vph)	605	565	382	1390	1362	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.22	0.07	0.01	0.42	0.61	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 73.2

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 10.0

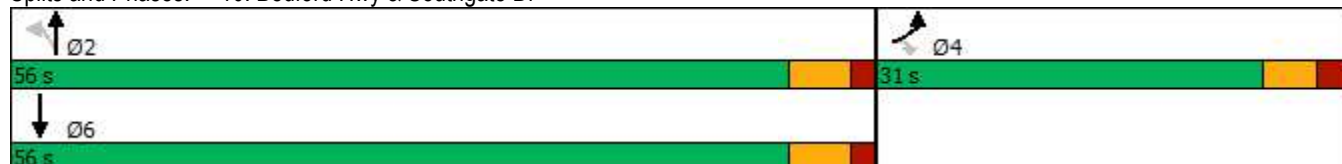
Intersection LOS: B

Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Bedford Hwy & Southgate Dr



Bedford Highway Analysis
11: Bedford Hwy & Moirs Mill Rd

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

												
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR						
Lane Configurations												
Traffic Volume (vph)	224	31	7	629	529	93						
Future Volume (vph)	224	31	7	629	529	93						
Satd. Flow (prot)	1770	1583	0	3536	3461	0						
Flt Permitted	0.950			0.948								
Satd. Flow (perm)	1770	1583	0	3355	3461	0						
Satd. Flow (RTOR)		32			30							
Lane Group Flow (vph)	243	34	0	692	676	0						
Turn Type	Prot	Perm	Perm	NA	NA							
Protected Phases	3			2	2							
Permitted Phases		3	2									
Total Split (s)	41.5	41.5	58.5	58.5	58.5							
Total Lost Time (s)	6.0	6.0		5.5	5.5							
Act Effct Green (s)	19.2	19.2		69.3	69.3							
Actuated g/C Ratio	0.19	0.19		0.69	0.69							
v/c Ratio	0.72	0.10		0.30	0.28							
Control Delay	49.3	11.7		6.9	4.4							
Queue Delay	0.0	0.0		0.0	0.0							
Total Delay	49.3	11.7		6.9	4.4							
LOS	D	B		A	A							
Approach Delay	44.7			6.9	4.4							
Approach LOS	D			A	A							
Queue Length 50th (m)	46.9	0.3		25.2	5.0							
Queue Length 95th (m)	67.6	8.0		42.4	22.6							
Internal Link Dist (m)	95.1			116.3	148.8							
Turn Bay Length (m)		25.0										
Base Capacity (vph)	628	582		2325	2408							
Starvation Cap Reductn	0	0		0	0							
Spillback Cap Reductn	0	0		0	0							
Storage Cap Reductn	0	0		0	0							
Reduced v/c Ratio	0.39	0.06		0.30	0.28							

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 12.3

Intersection LOS: B

Intersection Capacity Utilization 62.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 11: Bedford Hwy & Moirs Mill Rd



Bedford Highway Analysis
12: Bedford Hwy & Hammonds Plains Rd

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	316	64	206	40	50	64	272	516	9	67	417	219
Future Volume (vph)	316	64	206	40	50	64	272	516	9	67	417	219
Satd. Flow (prot)	1770	1650	0	1770	1704	0	1770	1857	0	1770	3539	1583
Flt Permitted	0.503			0.580			0.399			0.305		
Satd. Flow (perm)	937	1650	0	1080	1704	0	743	1857	0	568	3539	1583
Satd. Flow (RTOR)		151			59			1				238
Lane Group Flow (vph)	343	294	0	43	124	0	296	571	0	73	453	238
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Total Split (s)	17.0	30.0		14.0	27.0		22.0	42.0		14.0	34.0	34.0
Total Lost Time (s)	4.0	6.1		4.0	6.1		4.0	5.8		4.0	5.8	5.8
Act Effct Green (s)	33.0	23.7		21.1	11.3		58.9	47.6		48.7	39.2	39.2
Actuated g/C Ratio	0.33	0.24		0.21	0.11		0.59	0.48		0.49	0.39	0.39
v/c Ratio	0.78	0.58		0.15	0.51		0.51	0.65		0.20	0.33	0.31
Control Delay	41.6	21.8		23.5	29.1		12.9	19.4		12.0	23.6	4.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.2		0.0	0.0	0.0
Total Delay	41.6	21.8		23.5	29.1		12.9	19.6		12.0	23.6	4.7
LOS	D	C		C	C		B	B		B	C	A
Approach Delay		32.5			27.7			17.3			16.6	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	56.0	25.5		5.8	12.7		20.5	50.0		6.3	34.3	0.0
Queue Length 95th (m)	#80.8	53.3		12.7	27.8		39.4	#67.7		13.9	55.2	17.8
Internal Link Dist (m)		215.5			47.8			148.8			134.8	
Turn Bay Length (m)	67.0									31.0		60.0
Base Capacity (vph)	439	531		321	402		625	884		410	1387	765
Starvation Cap Reductn	0	0		0	0		0	44		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.78	0.55		0.13	0.31		0.47	0.68		0.18	0.33	0.31

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 21.8

Intersection LOS: C

Intersection Capacity Utilization 74.2%

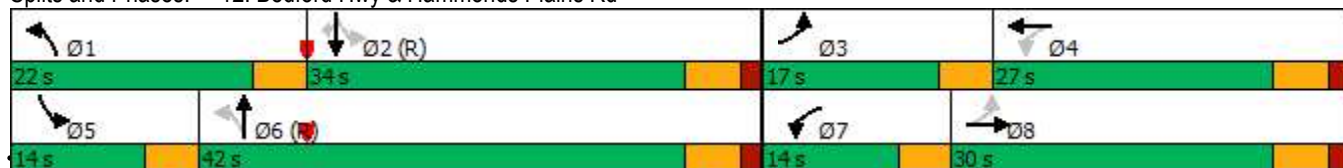
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Bedford Hwy & Hammonds Plains Rd



04-09-2019

Synchro 10 Report
Page 11

Bedford Highway Analysis
13: Bedford Hwy & Holland Ave/Convoy Run

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	4	33	49	5	18	19	673	106	46	627	17
Future Volume (vph)	24	4	33	49	5	18	19	673	106	46	627	17
Satd. Flow (prot)	0	1692	0	0	1781	1583	1770	1825	0	1770	1855	0
Flt Permitted		0.846			0.829		0.360			0.288		
Satd. Flow (perm)	0	1459	0	0	1544	1583	671	1825	0	536	1855	0
Satd. Flow (RTOR)		36				28		10			2	
Lane Group Flow (vph)	0	66	0	0	58	20	21	847	0	50	700	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3			3		3	2			2		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	67.0	67.0		67.0	67.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		9.0			9.0	9.0	69.0	69.0		69.0	69.0	
Actuated g/C Ratio		0.10			0.10	0.10	0.80	0.80		0.80	0.80	
v/c Ratio		0.36			0.36	0.11	0.04	0.58		0.12	0.47	
Control Delay		24.7			41.4	10.8	3.4	6.7		4.1	5.4	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		24.7			41.4	10.8	3.4	6.7		4.1	5.4	
LOS		C			D	B	A	A		A	A	
Approach Delay		24.7			33.5			6.6			5.3	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		4.8			9.5	0.0	0.7	51.6		1.8	37.2	
Queue Length 95th (m)		16.4			20.3	5.0	2.8	96.6		5.8	68.0	
Internal Link Dist (m)		82.0			72.0			302.4			719.4	
Turn Bay Length (m)						41.0	73.0			28.0		
Base Capacity (vph)		763			789	823	536	1461		428	1484	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.09			0.07	0.02	0.04	0.58		0.12	0.47	

Intersection Summary

Cycle Length: 117

Actuated Cycle Length: 86.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 7.9

Intersection LOS: A

Intersection Capacity Utilization 65.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 13: Bedford Hwy & Holland Ave/Convoy Run



Bedford Highway Analysis
14: Bedford Hwy & Meadowbrook Dr

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	0	32	0	0	4	8	721	9	10	750	67
Future Volume (vph)	195	0	32	0	0	4	8	721	9	10	750	67
Satd. Flow (prot)	0	1770	1583	0	1611	0	1770	1859	0	1770	1840	0
Flt Permitted		0.755					0.206			0.258		
Satd. Flow (perm)	0	1406	1583	0	1611	0	384	1859	0	481	1840	0
Satd. Flow (RTOR)			35		208			1			9	
Lane Group Flow (vph)	0	212	35	0	4	0	9	794	0	11	888	0
Turn Type	Perm	NA	Perm		NA		Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3		3	3			2			2		
Total Split (s)	31.0	31.0	31.0	31.0	31.0		65.0	65.0		65.0	65.0	
Total Lost Time (s)		6.0	6.0		6.0		5.6	5.6		5.6	5.6	
Act Effct Green (s)		18.5	18.5		18.5		61.7	61.7		61.7	61.7	
Actuated g/C Ratio		0.20	0.20		0.20		0.67	0.67		0.67	0.67	
v/c Ratio		0.75	0.10		0.01		0.03	0.64		0.03	0.72	
Control Delay		50.8	10.1		0.0		7.1	12.5		7.0	14.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		50.8	10.1		0.0		7.1	12.5		7.0	14.7	
LOS		D	B		A		A	B		A	B	
Approach Delay		45.0						12.5			14.6	
Approach LOS		D						B			B	
Queue Length 50th (m)		36.1	0.0		0.0		0.5	74.3		0.6	90.9	
Queue Length 95th (m)		60.6	7.6		0.0		2.6	138.0		3.0	171.9	
Internal Link Dist (m)		116.5			20.8			112.1			644.8	
Turn Bay Length (m)							25.0			26.0		
Base Capacity (vph)		383	457		590		258	1250		323	1240	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.55	0.08		0.01		0.03	0.64		0.03	0.72	

Intersection Summary

Cycle Length: 96

Actuated Cycle Length: 91.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 70.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 14: Bedford Hwy & Meadowbrook Dr



Bedford Highway Analysis
15: Bedford Hwy & Hatchery Ln

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	100	56	923	98	22	714
Future Volume (vph)	100	56	923	98	22	714
Satd. Flow (prot)	1770	1583	1839	0	1770	1863
Flt Permitted	0.950				0.157	
Satd. Flow (perm)	1770	1583	1839	0	292	1863
Satd. Flow (RTOR)		61	10			
Lane Group Flow (vph)	109	61	1110	0	24	776
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	4		6			2
Permitted Phases		4			2	
Total Split (s)	31.0	31.0	69.0		69.0	69.0
Total Lost Time (s)	6.0	6.0	6.5		6.5	6.5
Act Effct Green (s)	11.5	11.5	76.0		76.0	76.0
Actuated g/C Ratio	0.12	0.12	0.76		0.76	0.76
v/c Ratio	0.54	0.26	0.79		0.11	0.55
Control Delay	50.9	13.0	13.6		6.9	7.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	50.9	13.0	13.6		6.9	7.9
LOS	D	B	B		A	A
Approach Delay	37.3		13.6			7.9
Approach LOS	D		B			A
Queue Length 50th (m)	21.3	0.0	111.1		1.5	53.0
Queue Length 95th (m)	37.2	11.4	216.2		m3.5	81.6
Internal Link Dist (m)	38.8		644.8			132.9
Turn Bay Length (m)					18.0	
Base Capacity (vph)	442	441	1400		222	1416
Starvation Cap Reductn	0	0	0		0	39
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.25	0.14	0.79		0.11	0.56

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 75 (75%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 13.3

Intersection LOS: B

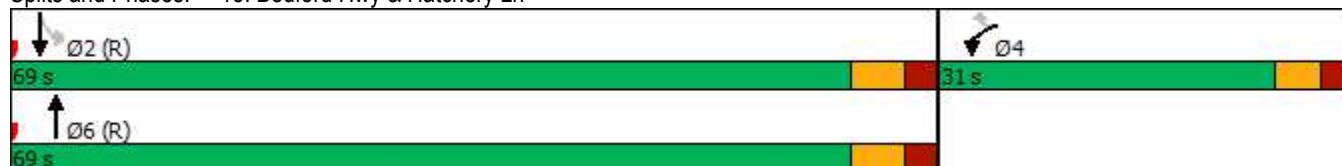
Intersection Capacity Utilization 70.8%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Bedford Hwy & Hatchery Ln



Bedford Highway Analysis
16: Bedford Hwy & Union St

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	49	65	45	854	663	24
Future Volume (vph)	49	65	45	854	663	24
Satd. Flow (prot)	1683	0	1770	1863	1853	0
Flt Permitted	0.979		0.336			
Satd. Flow (perm)	1683	0	626	1863	1853	0
Satd. Flow (RTOR)	64				3	
Lane Group Flow (vph)	124	0	49	928	747	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases			6			
Total Split (s)	31.0		69.0	69.0	69.0	
Total Lost Time (s)	6.0		6.5	6.5	6.5	
Act Effct Green (s)	9.7		77.8	77.8	77.8	
Actuated g/C Ratio	0.10		0.78	0.78	0.78	
v/c Ratio	0.56		0.10	0.64	0.52	
Control Delay	31.7		0.8	2.0	2.1	
Queue Delay	0.0		0.0	0.6	0.0	
Total Delay	31.7		0.8	2.6	2.1	
LOS	C		A	A	A	
Approach Delay	31.7			2.6	2.1	
Approach LOS	C			A	A	
Queue Length 50th (m)	11.7		0.1	2.2	10.4	
Queue Length 95th (m)	28.8		m0.5	9.0	m13.4	
Internal Link Dist (m)	153.0			132.9	320.3	
Turn Bay Length (m)			33.0			
Base Capacity (vph)	468		486	1448	1442	
Starvation Cap Reductn	0		0	214	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.26		0.10	0.75	0.52	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 89 (89%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 4.3

Intersection LOS: A

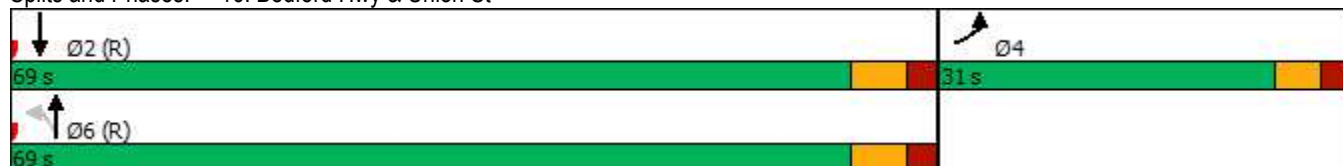
Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Bedford Hwy & Union St



Bedford Highway Analysis
17: Bedford Hwy & Dartmouth Rd

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	35	13	381	13	506	11	298	505	407	371	19
Future Volume (vph)	3	35	13	381	13	506	11	298	505	407	371	19
Satd. Flow (prot)	0	1794	0	1770	1863	1583	1770	3207	0	1770	1863	1583
Flt Permitted		0.993		0.721			0.525			0.121		
Satd. Flow (perm)	0	1787	0	1343	1863	1583	978	3207	0	225	1863	1583
Satd. Flow (RTOR)		14				550		422				33
Lane Group Flow (vph)	0	55	0	414	14	550	12	873	0	442	403	21
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4		4	2			6		6
Total Split (s)	41.0	41.0		41.0	41.0	41.0	33.0	33.0		26.0	59.0	59.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.2	6.2		4.0	6.2	6.2
Act Effct Green (s)		33.3		33.3	33.3	33.3	29.0	29.0		56.7	54.5	54.5
Actuated g/C Ratio		0.33		0.33	0.33	0.33	0.29	0.29		0.57	0.54	0.54
v/c Ratio		0.09		0.93	0.02	0.62	0.04	0.71		0.96	0.40	0.02
Control Delay		17.9		60.6	21.5	5.5	28.8	17.2		53.7	12.0	1.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		3.4	0.6	0.0
Total Delay		17.9		60.6	21.5	5.5	28.8	17.2		57.1	12.6	1.5
LOS		B		E	C	A	C	B		E	B	A
Approach Delay		17.9			29.0			17.3			35.1	
Approach LOS		B			C			B			D	
Queue Length 50th (m)		5.5		78.5	1.9	0.0	1.2	24.0		37.0	30.2	0.2
Queue Length 95th (m)		14.1		#136.2	6.2	23.1	m2.5	54.8		#127.1	42.1	0.5
Internal Link Dist (m)		15.4			319.7			106.0			83.4	
Turn Bay Length (m)				56.0		40.0	47.0			40.0		
Base Capacity (vph)		634		470	652	911	284	1230		469	1015	877
Starvation Cap Reductn		0		0	0	0	0	0		11	291	0
Spillback Cap Reductn		0		0	0	0	0	0		0	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.09		0.88	0.02	0.60	0.04	0.71		0.97	0.56	0.02

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 14 (14%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 27.0

Intersection LOS: C

Intersection Capacity Utilization 88.3%

ICU Level of Service E

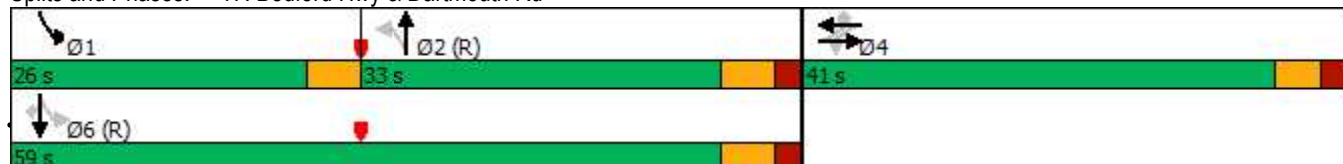
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 17: Bedford Hwy & Dartmouth Rd



Bedford Highway Analysis
18: Bedford Hwy & Sunnyside Mall

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	9	0	5	39	3	24	5	713	65	44	753	64
Future Volume (vph)	9	0	5	39	3	24	5	713	65	44	753	64
Satd. Flow (prot)	0	1722	0	0	3248	0	1770	3493	0	1770	3497	0
Flt Permitted		0.754			0.811		0.320			0.305		
Satd. Flow (perm)	0	1341	0	0	2712	0	596	3493	0	568	3497	0
Satd. Flow (RTOR)		79			26			13			16	
Lane Group Flow (vph)	0	15	0	0	71	0	5	846	0	48	888	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4			2			6		
Total Split (s)	33.0	33.0		33.0	33.0		54.0	54.0		13.0	67.0	
Total Lost Time (s)		6.4			6.4		6.2	6.2		4.0	6.2	
Act Effct Green (s)		7.7			7.7		77.0	77.0		84.6	83.6	
Actuated g/C Ratio		0.08			0.08		0.77	0.77		0.85	0.84	
v/c Ratio		0.09			0.30		0.01	0.31		0.09	0.30	
Control Delay		0.9			33.2		5.8	5.0		1.3	1.5	
Queue Delay		0.0			0.0		0.0	0.3		0.0	0.1	
Total Delay		0.9			33.2		5.8	5.3		1.3	1.5	
LOS		A			C		A	A		A	A	
Approach Delay		0.9			33.2			5.3			1.5	
Approach LOS		A			C			A			A	
Queue Length 50th (m)		0.0			4.6		0.2	24.1		0.6	6.7	
Queue Length 95th (m)		0.0			11.6		m0.5	45.5		m2.3	18.0	
Internal Link Dist (m)		20.0			34.2			83.4			134.0	
Turn Bay Length (m)							22.0			45.0		
Base Capacity (vph)		414			740		459	2692		588	2926	
Starvation Cap Reductn		0			0		0	1082		0	674	
Spillback Cap Reductn		0			0		0	0		0	60	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.04			0.10		0.01	0.53		0.08	0.39	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 1 (1%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 4.4

Intersection LOS: A

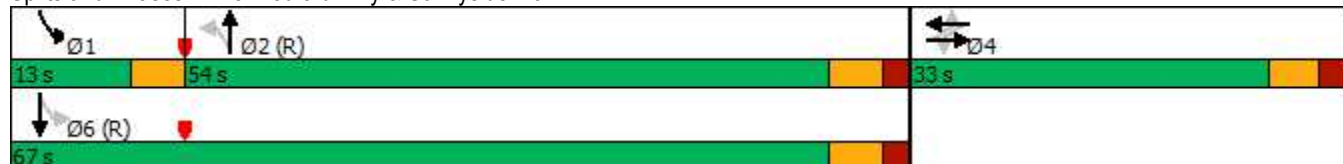
Intersection Capacity Utilization 51.8%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Bedford Hwy & Sunnyside Mall



Bedford Highway Analysis
19: Bedford Hwy & Rocky Lake

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	22	42	222	33	66	71	490	210	116	561	29
Future Volume (vph)	32	22	42	222	33	66	71	490	210	116	561	29
Satd. Flow (prot)	1770	1678	0	1770	1676	0	1770	3380	0	1770	3514	0
Flt Permitted	0.687			0.460			0.408			0.950		
Satd. Flow (perm)	1280	1678	0	857	1676	0	760	3380	0	1770	3514	0
Satd. Flow (RTOR)		46			72			65			5	
Lane Group Flow (vph)	35	70	0	241	108	0	77	761	0	126	642	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8			2					
Total Split (s)	31.0	31.0		22.0	53.0		11.0	33.0		14.0	36.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	8.7	8.7		30.1	28.5		53.0	43.2		12.7	50.4	
Actuated g/C Ratio	0.09	0.09		0.30	0.28		0.53	0.43		0.13	0.50	
v/c Ratio	0.32	0.37		0.57	0.20		0.16	0.51		0.56	0.36	
Control Delay	49.8	24.9		32.9	10.9		11.3	21.6		42.9	11.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.8	24.9		32.9	10.9		11.3	21.6		42.9	11.9	
LOS	D	C		C	B		B	C		D	B	
Approach Delay		33.2			26.1			20.7			17.0	
Approach LOS		C			C			C			B	
Queue Length 50th (m)	6.9	4.7		38.4	5.2		7.9	43.4		15.1	44.0	
Queue Length 95th (m)	16.5	17.8		57.6	17.0		14.9	50.1		22.4	65.4	
Internal Link Dist (m)		43.5			31.5			134.0			140.7	
Turn Bay Length (m)	34.0						25.0			32.0		
Base Capacity (vph)	320	454		422	825		480	1498		231	1772	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.15		0.57	0.13		0.16	0.51		0.55	0.36	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 93 (93%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 20.9

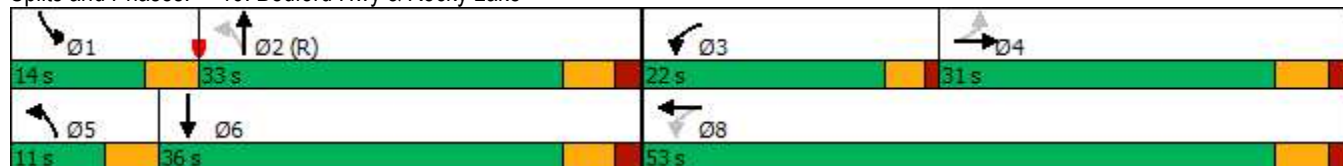
Intersection LOS: C

Intersection Capacity Utilization 59.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 19: Bedford Hwy & Rocky Lake



Bedford Highway Analysis
20: Bedford Hwy & Bedford Place

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	18	16	472	701	26
Future Volume (vph)	11	18	16	472	701	26
Satd. Flow (prot)	1676	0	1770	3539	3539	1583
Flt Permitted	0.982		0.363			
Satd. Flow (perm)	1676	0	676	3539	3539	1583
Satd. Flow (RTOR)	20					28
Lane Group Flow (vph)	32	0	17	513	762	28
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			6	2	
Permitted Phases			6			2
Total Split (s)	35.0		65.0	65.0	65.0	65.0
Total Lost Time (s)	6.0		6.2	6.2	6.2	6.2
Act Effect Green (s)	7.4		88.1	88.1	88.1	88.1
Actuated g/C Ratio	0.07		0.88	0.88	0.88	0.88
v/c Ratio	0.23		0.03	0.16	0.24	0.02
Control Delay	28.3		0.9	0.7	2.3	1.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	28.3		0.9	0.7	2.3	1.2
LOS	C		A	A	A	A
Approach Delay	28.3			0.7	2.2	
Approach LOS	C			A	A	
Queue Length 50th (m)	2.3		0.2	3.0	32.9	1.3
Queue Length 95th (m)	11.6		m0.6	5.4	0.0	0.0
Internal Link Dist (m)	28.6			140.7	211.4	
Turn Bay Length (m)						40.0
Base Capacity (vph)	500		595	3117	3117	1397
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.06		0.03	0.16	0.24	0.02

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 73 (73%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.24

Intersection Signal Delay: 2.2

Intersection LOS: A

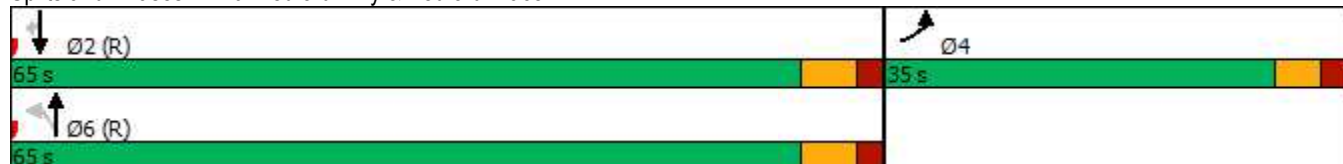
Intersection Capacity Utilization 35.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Bedford Hwy & Bedford Place



Bedford Highway Analysis
21: Bedford Hwy & River Ln

Future Conditions-Transit Priority Option
Timing Plan: AM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	52	12	7	513	718	79
Future Volume (vph)	52	12	7	513	718	79
Satd. Flow (prot)	1745	0	1770	3539	3539	1583
Flt Permitted	0.961		0.950			
Satd. Flow (perm)	1745	0	1770	3539	3539	1583
Satd. Flow (RTOR)	11					79
Lane Group Flow (vph)	70	0	8	558	780	86
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases						2
Total Split (s)	33.0		15.0	67.0	52.0	52.0
Total Lost Time (s)	6.0		6.0	6.5	6.5	6.5
Act Effct Green (s)	9.2		7.0	82.2	79.6	79.6
Actuated g/C Ratio	0.09		0.07	0.82	0.80	0.80
v/c Ratio	0.41		0.07	0.19	0.28	0.07
Control Delay	43.4		38.4	4.1	4.6	1.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	43.4		38.4	4.1	4.6	1.7
LOS	D		D	A	A	A
Approach Delay	43.4			4.6	4.3	
Approach LOS	D			A	A	
Queue Length 50th (m)	11.6		1.1	29.1	17.9	0.3
Queue Length 95th (m)	24.9		4.7	16.0	48.6	6.1
Internal Link Dist (m)	31.9			211.4	233.1	
Turn Bay Length (m)			19.0			38.0
Base Capacity (vph)	479		159	2910	2818	1276
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.15		0.05	0.19	0.28	0.07

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 6.2

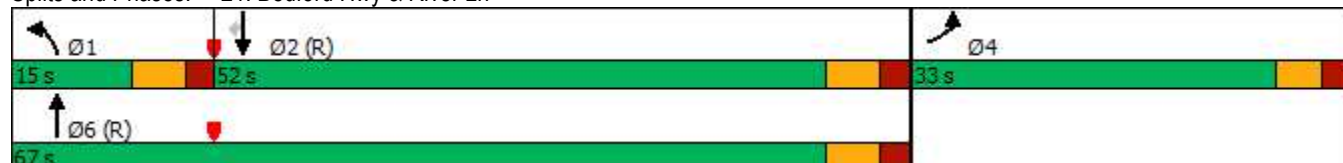
Intersection LOS: A

Intersection Capacity Utilization 36.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Bedford Hwy & River Ln



Bedford Highway Analysis

Future Conditions-Transit Priority Option

1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St

Timing Plan: PM PEAK

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰					↱↱				↱↱	
Traffic Volume (vph)	0	477	68	0	0	0	75	0	0	0	608	106
Future Volume (vph)	0	477	68	0	0	0	75	0	0	0	608	106
Satd. Flow (prot)	0	1831	0	0	0	0	3433	0	0	0	3461	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	1831	0	0	0	0	3433	0	0	0	3461	0
Satd. Flow (RTOR)		10									23	
Lane Group Flow (vph)	0	592	0	0	0	0	82	0	0	0	776	0
Turn Type		NA					Prot				NA	
Protected Phases		4					2				6	
Permitted Phases												
Total Split (s)		32.0					24.0				24.0	
Total Lost Time (s)		4.5					4.5				4.5	
Act Effct Green (s)		27.0					20.0				19.5	
Actuated g/C Ratio		0.34					0.25				0.24	
v/c Ratio		0.95					0.10				0.90	
Control Delay		52.6					23.9				44.1	
Queue Delay		0.0					0.0				0.0	
Total Delay		52.6					23.9				44.1	
LOS		D					C				D	
Approach Delay		52.6						23.9			44.1	
Approach LOS		D						C			D	
Queue Length 50th (m)		88.8					5.2				61.6	
Queue Length 95th (m)		#154.2					10.7				#95.7	
Internal Link Dist (m)		134.4			23.7			172.1			87.6	
Turn Bay Length (m)							50.0					
Base Capacity (vph)		635					857				861	
Starvation Cap Reductn		0					0				0	
Spillback Cap Reductn		0					0				0	
Storage Cap Reductn		0					0				0	
Reduced v/c Ratio		0.93					0.10				0.90	

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 46.4

Intersection LOS: D

Intersection Capacity Utilization 63.6%

ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Lady Hammond Rd/Bedford Hwy & Windsor St/Barrington St



Bedford Highway Analysis
2: Bedford Hwy & Manor Ln

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	18	43	60	2452	1313	27
Future Volume (vph)	18	43	60	2452	1313	27
Satd. Flow (prot)	1770	1583	0	3536	1857	0
Flt Permitted	0.950			0.542		
Satd. Flow (perm)	1770	1583	0	1918	1857	0
Satd. Flow (RTOR)		47			1	
Lane Group Flow (vph)	20	47	0	2730	1456	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	31.0	31.0	14.0	89.0	75.0	
Total Lost Time (s)	6.0	6.0		5.8	5.8	
Act Effct Green (s)	10.0	10.0		101.4	87.4	
Actuated g/C Ratio	0.08	0.08		0.84	0.73	
v/c Ratio	0.14	0.27		1.58	1.08	
Control Delay	53.4	18.7		279.0	58.5	
Queue Delay	0.0	0.0		0.3	3.0	
Total Delay	53.4	18.7		279.3	61.4	
LOS	D	B		F	E	
Approach Delay	29.0			279.3	61.4	
Approach LOS	C			F	E	
Queue Length 50th (m)	4.7	0.0		~513.0	~201.1	
Queue Length 95th (m)	12.9	12.2		#554.0	m87.2	
Internal Link Dist (m)	44.2			360.5	230.9	
Turn Bay Length (m)						
Base Capacity (vph)	368	367		1731	1352	
Starvation Cap Reductn	0	0		0	9	
Spillback Cap Reductn	0	0		157	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.05	0.13		1.73	1.08	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 112 (93%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.58

Intersection Signal Delay: 200.8

Intersection LOS: F

Intersection Capacity Utilization 129.0%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

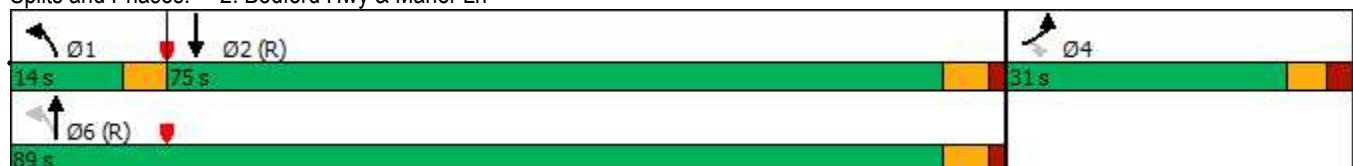
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Bedford Hwy & Manor Ln



Bedford Highway Analysis
3: Bedford Hwy & Bayview Dr

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	67	464	812	1921	962	141
Future Volume (vph)	67	464	812	1921	962	141
Satd. Flow (prot)	1770	1583	0	3486	1831	0
Flt Permitted	0.950			0.551		
Satd. Flow (perm)	1770	1583	0	1950	1831	0
Satd. Flow (RTOR)		485			7	
Lane Group Flow (vph)	73	504	0	2971	1199	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	26.0	26.0	40.0	94.0	54.0	
Total Lost Time (s)	6.0	6.0		5.8	5.8	
Act Effct Green (s)	10.4	9.0		100.4	48.2	
Actuated g/C Ratio	0.09	0.08		0.84	0.40	
v/c Ratio	0.48	0.89		1.34	1.62	
Control Delay	61.7	24.5		169.6	312.0	
Queue Delay	0.0	3.5		0.0	0.0	
Total Delay	61.7	28.0		169.6	312.0	
LOS	E	C		F	F	
Approach Delay	32.2			169.6	312.0	
Approach LOS	C			F	F	
Queue Length 50th (m)	17.6	4.4		~516.6	~438.4	
Queue Length 95th (m)	32.4	#55.0		m106.6 m#434.9		
Internal Link Dist (m)	326.3			230.9	392.1	
Turn Bay Length (m)						
Base Capacity (vph)	295	567		2224	739	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	26		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.25	0.93		1.34	1.62	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 117 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.62

Intersection Signal Delay: 188.8

Intersection LOS: F

Intersection Capacity Utilization 156.4%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

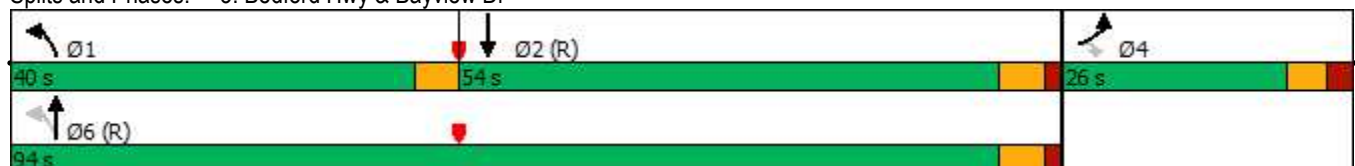
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Bedford Hwy & Bayview Dr



Bedford Highway Analysis
4: Bedford Hwy & Seton Rd

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	130	372	317	1519	816	139
Future Volume (vph)	130	372	317	1519	816	139
Satd. Flow (prot)	1770	1583	0	3507	1825	0
Flt Permitted	0.950			0.513		
Satd. Flow (perm)	1770	1583	0	1816	1825	0
Satd. Flow (RTOR)		360			11	
Lane Group Flow (vph)	141	404	0	1996	1038	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		1	6	2	
Permitted Phases		4	6			
Total Split (s)	27.0	27.0	25.0	93.0	68.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Act Effect Green (s)	15.0	15.0		95.0	63.0	
Actuated g/C Ratio	0.12	0.12		0.79	0.52	
v/c Ratio	0.64	0.79		1.10	1.08	
Control Delay	62.7	19.7		54.9	80.9	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	62.7	19.7		54.9	80.9	
LOS	E	B		D	F	
Approach Delay	30.8			54.9	80.9	
Approach LOS	C			D	F	
Queue Length 50th (m)	33.8	10.0		~197.0	~277.2	
Queue Length 95th (m)	53.2	44.9		m13.5	#362.7	
Internal Link Dist (m)	37.2			201.0	255.1	
Turn Bay Length (m)						
Base Capacity (vph)	324	512		1819	963	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.44	0.79		1.10	1.08	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 24 (20%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 58.8

Intersection LOS: E

Intersection Capacity Utilization 123.4%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

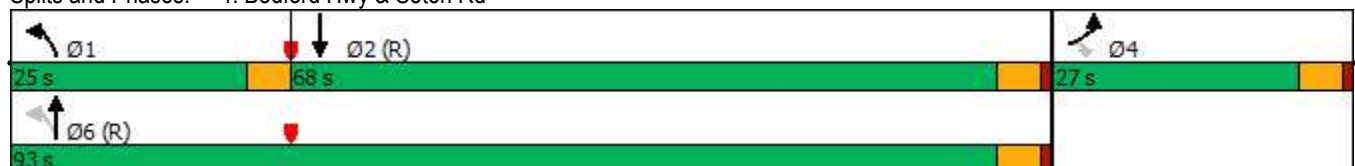
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Bedford Hwy & Seton Rd



Bedford Highway Analysis
6: Bedford Hwy & Flamingo Dr

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	99	183	205	1012	605	24
Future Volume (vph)	99	183	205	1012	605	24
Satd. Flow (prot)	1770	1583	1770	1863	1853	0
Flt Permitted	0.950		0.365			
Satd. Flow (perm)	1770	1583	680	1863	1853	0
Satd. Flow (RTOR)		199			4	
Lane Group Flow (vph)	108	199	223	1100	684	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases		4	6			
Total Split (s)	28.0	28.0	92.0	92.0	92.0	
Total Lost Time (s)	6.0	6.0	6.1	6.1	6.1	
Act Effct Green (s)	13.1	13.1	94.8	94.8	94.8	
Actuated g/C Ratio	0.11	0.11	0.79	0.79	0.79	
v/c Ratio	0.56	0.57	0.42	0.75	0.47	
Control Delay	61.6	13.3	3.6	5.2	5.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	61.6	13.3	3.6	5.2	5.7	
LOS	E	B	A	A	A	
Approach Delay	30.3			5.0	5.7	
Approach LOS	C			A	A	
Queue Length 50th (m)	25.9	0.0	9.0	66.0	44.9	
Queue Length 95th (m)	43.5	21.5	m11.4	m65.6	78.0	
Internal Link Dist (m)	139.9			392.2	501.1	
Turn Bay Length (m)	22.0		34.0			
Base Capacity (vph)	324	452	537	1472	1465	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.33	0.44	0.42	0.75	0.47	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 32 (27%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 8.5

Intersection LOS: A

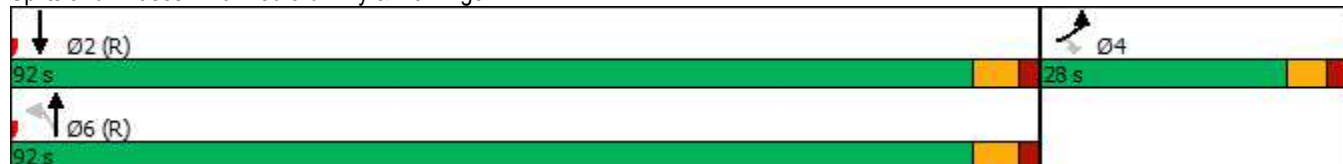
Intersection Capacity Utilization 71.7%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bedford Hwy & Flamingo Dr



Bedford Highway Analysis
8: Bedford Hwy & Kearney Lake Rd

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	159	226	503	878	555	159
Future Volume (vph)	159	226	503	878	555	159
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.182			
Satd. Flow (perm)	1770	1583	339	1863	1863	1583
Satd. Flow (RTOR)		246				173
Lane Group Flow (vph)	173	246	547	954	603	173
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	3		1	2	2	
Permitted Phases		3	2	1		2
Total Split (s)	36.0	36.0	29.0	56.0	56.0	56.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Act Effct Green (s)	15.0	15.0	66.2	68.3	38.6	38.6
Actuated g/C Ratio	0.16	0.16	0.69	0.72	0.40	0.40
v/c Ratio	0.62	0.54	0.89	0.72	0.80	0.23
Control Delay	49.8	9.9	38.2	12.3	34.2	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	9.9	38.2	12.3	34.2	3.7
LOS	D	A	D	B	C	A
Approach Delay	26.4			21.8	27.4	
Approach LOS	C			C	C	
Queue Length 50th (m)	31.9	0.0	68.9	92.3	99.5	0.0
Queue Length 95th (m)	59.2	21.9	#162.5	173.1	158.0	12.5
Internal Link Dist (m)	207.2			269.8	796.7	
Turn Bay Length (m)		41.0				87.0
Base Capacity (vph)	568	675	618	1553	997	927
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.36	0.89	0.61	0.60	0.19

Intersection Summary

Cycle Length: 121

Actuated Cycle Length: 95.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 24.1

Intersection LOS: C

Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

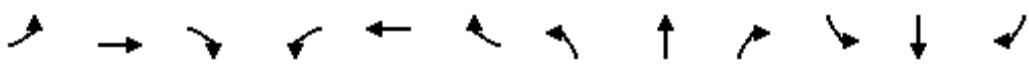
Queue shown is maximum after two cycles.

Splits and Phases: 8: Bedford Hwy & Kearney Lake Rd



Bedford Highway Analysis
9: Bedford Hwy & Larry Uteck Blvd

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↗			↖	↗
Traffic Volume (vph)	92	0	258	0	0	0	377	652	0	0	494	152
Future Volume (vph)	92	0	258	0	0	0	377	652	0	0	494	152
Satd. Flow (prot)	0	1770	1583	0	1863	0	1770	1863	0	0	1863	1583
Flt Permitted		0.757					0.197					
Satd. Flow (perm)	0	1410	1583	0	1863	0	367	1863	0	0	1863	1583
Satd. Flow (RTOR)			280									165
Lane Group Flow (vph)	0	100	280	0	0	0	410	709	0	0	537	165
Turn Type	Perm	NA	Perm				pm+pt	NA			NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Total Split (s)	31.0	31.0	31.0	31.0	31.0		24.0	75.0		51.0	51.0	51.0
Total Lost Time (s)		6.0	6.0		6.0		4.0	6.0			6.0	6.0
Act Effct Green (s)		11.1	11.1				50.3	48.2			25.8	25.8
Actuated g/C Ratio		0.15	0.15				0.70	0.67			0.36	0.36
v/c Ratio		0.46	0.58				0.67	0.57			0.80	0.25
Control Delay		38.5	9.9				15.6	8.5			31.2	3.8
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		38.5	9.9				15.6	8.5			31.2	3.8
LOS		D	A				B	A			C	A
Approach Delay		17.4						11.1			24.7	
Approach LOS		B						B			C	
Queue Length 50th (m)		13.2	0.0				21.2	42.3			68.1	0.0
Queue Length 95th (m)		33.1	21.6				67.1	86.5			116.7	11.3
Internal Link Dist (m)		399.7			12.3			76.8			1542.8	
Turn Bay Length (m)							58.0					97.0
Base Capacity (vph)		515	756				666	1690			1224	1096
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.19	0.37				0.62	0.42			0.44	0.15

Intersection Summary

Cycle Length: 106

Actuated Cycle Length: 71.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 16.5

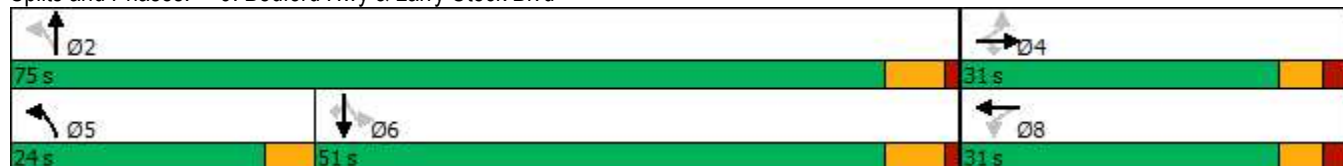
Intersection LOS: B

Intersection Capacity Utilization 81.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Bedford Hwy & Larry Uteck Blvd



Bedford Highway Analysis
10: Bedford Hwy & Southgate Dr

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	155	27	33	934	780	165
Future Volume (vph)	155	27	33	934	780	165
Satd. Flow (prot)	1770	1583	1770	1863	1818	0
Flt Permitted	0.950		0.142			
Satd. Flow (perm)	1770	1583	265	1863	1818	0
Satd. Flow (RTOR)		29			21	
Lane Group Flow (vph)	168	29	36	1015	1027	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Total Split (s)	31.0	31.0	56.0	56.0	56.0	
Total Lost Time (s)	6.0	6.0	5.7	5.7	5.7	
Act Effct Green (s)	12.2	12.2	50.4	50.4	50.4	
Actuated g/C Ratio	0.16	0.16	0.68	0.68	0.68	
v/c Ratio	0.58	0.10	0.20	0.80	0.83	
Control Delay	36.8	11.0	8.8	16.2	17.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.8	11.0	8.8	16.2	17.5	
LOS	D	B	A	B	B	
Approach Delay	33.0			15.9	17.5	
Approach LOS	C			B	B	
Queue Length 50th (m)	23.1	0.0	1.7	89.0	91.4	
Queue Length 95th (m)	41.6	6.6	7.3	#214.4	#221.6	
Internal Link Dist (m)	107.6			1542.8	369.0	
Turn Bay Length (m)			42.0			
Base Capacity (vph)	596	552	179	1262	1238	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.28	0.05	0.20	0.80	0.83	

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 74.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 18.1

Intersection LOS: B

Intersection Capacity Utilization 69.4%

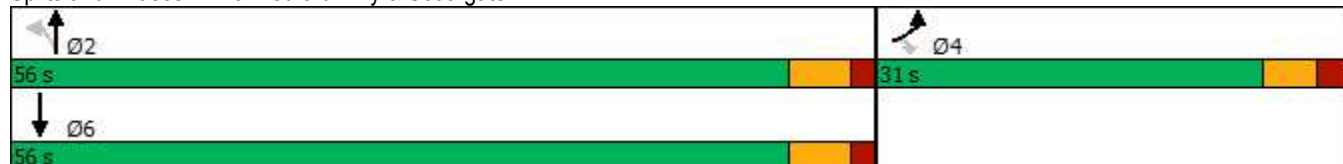
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Bedford Hwy & Southgate Dr



Bedford Highway Analysis
11: Bedford Hwy & Moirs Mill Rd

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

												
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR						
Lane Configurations												
Traffic Volume (vph)	158	22	36	891	702	234						
Future Volume (vph)	158	22	36	891	702	234						
Satd. Flow (prot)	1770	1583	0	3532	3408	0						
Flt Permitted	0.950			0.867								
Satd. Flow (perm)	1770	1583	0	3068	3408	0						
Satd. Flow (RTOR)		24			78							
Lane Group Flow (vph)	172	24	0	1007	1017	0						
Turn Type	Prot	Perm	Perm	NA	NA							
Protected Phases	3			2	2							
Permitted Phases		3	2									
Total Split (s)	36.0	36.0	74.0	74.0	74.0							
Total Lost Time (s)	6.0	6.0		5.5	5.5							
Act Effct Green (s)	16.0	16.0		82.5	82.5							
Actuated g/C Ratio	0.15	0.15		0.75	0.75							
v/c Ratio	0.67	0.10		0.44	0.39							
Control Delay	56.7	15.0		6.3	2.6							
Queue Delay	0.0	0.0		0.0	0.3							
Total Delay	56.7	15.0		6.3	2.9							
LOS	E	B		A	A							
Approach Delay	51.6			6.3	2.9							
Approach LOS	D			A	A							
Queue Length 50th (m)	37.3	0.0		37.7	9.4							
Queue Length 95th (m)	57.1	7.3		61.1	18.3							
Internal Link Dist (m)	95.1			116.3	148.8							
Turn Bay Length (m)		25.0										
Base Capacity (vph)	482	449		2301	2575							
Starvation Cap Reductn	0	0		0	795							
Spillback Cap Reductn	0	0		0	0							
Storage Cap Reductn	0	0		0	0							
Reduced v/c Ratio	0.36	0.05		0.44	0.57							

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 8.7

Intersection LOS: A

Intersection Capacity Utilization 70.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 11: Bedford Hwy & Moirs Mill Rd



Bedford Highway Analysis
12: Bedford Hwy & Hammonds Plains Rd

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	165	175	131	177	159	252	496	7	140	523	342
Future Volume (vph)	334	165	175	131	177	159	252	496	7	140	523	342
Satd. Flow (prot)	1770	1719	0	1770	1730	0	1770	1859	0	1770	3539	1583
Flt Permitted	0.150			0.431			0.273			0.162		
Satd. Flow (perm)	279	1719	0	803	1730	0	509	1859	0	302	3539	1583
Satd. Flow (RTOR)		47			37			1				372
Lane Group Flow (vph)	363	369	0	142	365	0	274	547	0	152	568	372
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Total Split (s)	22.0	35.0		16.0	29.0		24.0	42.0		17.0	35.0	35.0
Total Lost Time (s)	4.0	6.1		4.0	6.1		4.0	5.8		4.0	5.8	5.8
Act Effct Green (s)	48.4	32.0		35.0	22.6		53.5	37.3		44.5	32.2	32.2
Actuated g/C Ratio	0.44	0.29		0.32	0.21		0.49	0.34		0.40	0.29	0.29
v/c Ratio	0.93	0.69		0.41	0.95		0.64	0.87		0.58	0.55	0.51
Control Delay	61.0	38.9		23.9	74.4		27.0	43.8		26.7	35.5	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	1.1		0.0	0.0	0.0
Total Delay	61.0	38.9		23.9	74.4		27.0	44.9		26.7	35.5	6.0
LOS	E	D		C	E		C	D		C	D	A
Approach Delay		49.9			60.3			38.9			24.2	
Approach LOS		D			E			D			C	
Queue Length 50th (m)	64.7	66.6		19.6	74.3		29.6	77.4		18.1	55.6	0.0
Queue Length 95th (m)	#127.6	#107.2		33.3	#133.4		61.5	#139.5		32.1	78.1	23.6
Internal Link Dist (m)		215.5			47.8			148.8			134.8	
Turn Bay Length (m)	67.0									31.0		60.0
Base Capacity (vph)	389	533		373	389		477	630		302	1035	726
Starvation Cap Reductn	0	0		0	0		0	15		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.93	0.69		0.38	0.94		0.57	0.89		0.50	0.55	0.51

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 100 (91%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 39.8

Intersection LOS: D

Intersection Capacity Utilization 88.4%

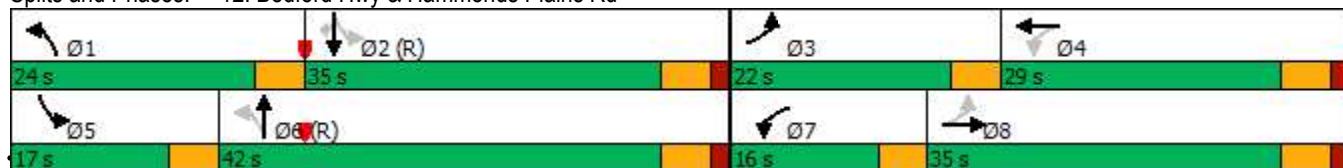
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Bedford Hwy & Hammonds Plains Rd

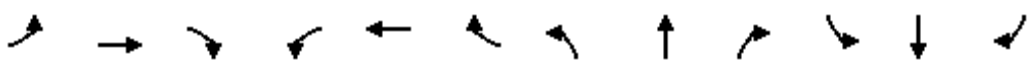


04-09-2019

Synchro 10 Report
Page 10

Bedford Highway Analysis
13: Bedford Hwy & Holland Ave/Convoy Run

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	5	23	113	9	75	25	832	58	22	965	24
Future Volume (vph)	13	5	23	113	9	75	25	832	58	22	965	24
Satd. Flow (prot)	0	1692	0	0	1781	1583	1770	1844	0	1770	1855	0
Flt Permitted		0.878			0.710		0.136			0.192		
Satd. Flow (perm)	0	1510	0	0	1323	1583	253	1844	0	358	1855	0
Satd. Flow (RTOR)		25				82		4			2	
Lane Group Flow (vph)	0	44	0	0	133	82	27	967	0	24	1075	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3			3		3	2			2		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	67.0	67.0		67.0	67.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		14.3			14.3	14.3	64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.16			0.16	0.16	0.71	0.71		0.71	0.71	
v/c Ratio		0.17			0.64	0.26	0.15	0.74		0.09	0.82	
Control Delay		19.0			48.8	9.4	7.9	13.5		6.3	17.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		19.0			48.8	9.4	7.9	13.5		6.3	17.1	
LOS		B			D	A	A	B		A	B	
Approach Delay		19.0			33.8			13.3			16.9	
Approach LOS		B			C			B			B	
Queue Length 50th (m)		2.9			22.0	0.0	1.4	89.7		1.1	113.0	
Queue Length 95th (m)		11.9			40.6	11.9	5.8	179.6		4.8	#262.2	
Internal Link Dist (m)		82.0			72.0			302.4			719.4	
Turn Bay Length (m)						41.0	73.0			28.0		
Base Capacity (vph)		750			646	815	179	1308		253	1315	
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.06			0.21	0.10	0.15	0.74		0.09	0.82	

Intersection Summary

Cycle Length: 117

Actuated Cycle Length: 90.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 17.0

Intersection LOS: B

Intersection Capacity Utilization 75.6%

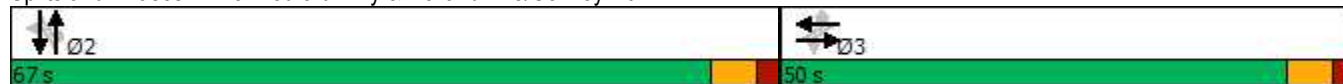
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 13: Bedford Hwy & Holland Ave/Convoy Run



Bedford Highway Analysis
14: Bedford Hwy & Meadowbrook Dr

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	0	32	9	0	9	22	812	0	0	897	138
Future Volume (vph)	126	0	32	9	0	9	22	812	0	0	897	138
Satd. Flow (prot)	0	1770	1583	0	1694	0	1770	1863	0	1863	1825	0
Flt Permitted		0.744			0.834		0.112					
Satd. Flow (perm)	0	1386	1583	0	1448	0	209	1863	0	1863	1825	0
Satd. Flow (RTOR)			35		30						15	
Lane Group Flow (vph)	0	137	35	0	20	0	24	883	0	0	1125	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			3			2			2	
Permitted Phases	3		3	3			2			2		
Total Split (s)	31.0	31.0	31.0	31.0	31.0		65.0	65.0		65.0	65.0	
Total Lost Time (s)		6.0	6.0		6.0		5.6	5.6		5.6	5.6	
Act Effct Green (s)		14.0	14.0		14.0		63.7	63.7			63.7	
Actuated g/C Ratio		0.16	0.16		0.16		0.71	0.71			0.71	
v/c Ratio		0.63	0.13		0.08		0.16	0.66			0.86	
Control Delay		47.3	11.3		8.2		8.6	11.0			19.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	
Total Delay		47.3	11.3		8.2		8.6	11.0			19.7	
LOS		D	B		A		A	B			B	
Approach Delay		40.0			8.2			11.0			19.7	
Approach LOS		D			A			B			B	
Queue Length 50th (m)		22.0	0.0		0.0		1.2	71.3			122.8	
Queue Length 95th (m)		40.3	7.6		4.3		5.7	143.6			#281.3	
Internal Link Dist (m)		116.5			20.8			112.1			644.8	
Turn Bay Length (m)							25.0					
Base Capacity (vph)		388	468		427		148	1329			1306	
Starvation Cap Reductn		0	0		0		0	0			0	
Spillback Cap Reductn		0	0		0		0	0			0	
Storage Cap Reductn		0	0		0		0	0			0	
Reduced v/c Ratio		0.35	0.07		0.05		0.16	0.66			0.86	

Intersection Summary

Cycle Length: 96

Actuated Cycle Length: 89.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 81.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 14: Bedford Hwy & Meadowbrook Dr



Bedford Highway Analysis
15: Bedford Hwy & Hatchery Ln

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	128	60	829	107	43	936
Future Volume (vph)	128	60	829	107	43	936
Satd. Flow (prot)	1770	1583	1835	0	1770	1863
Flt Permitted	0.950				0.190	
Satd. Flow (perm)	1770	1583	1835	0	354	1863
Satd. Flow (RTOR)		65	14			
Lane Group Flow (vph)	139	65	1017	0	47	1017
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	4		6			2
Permitted Phases		4			2	
Total Split (s)	26.0	26.0	74.0		74.0	74.0
Total Lost Time (s)	6.0	6.0	6.5		6.5	6.5
Act Effct Green (s)	13.1	13.1	74.4		74.4	74.4
Actuated g/C Ratio	0.13	0.13	0.74		0.74	0.74
v/c Ratio	0.60	0.25	0.74		0.18	0.73
Control Delay	51.2	11.7	12.4		7.4	11.3
Queue Delay	0.0	0.0	0.0		0.0	0.3
Total Delay	51.2	11.7	12.4		7.4	11.6
LOS	D	B	B		A	B
Approach Delay	38.6		12.4			11.4
Approach LOS	D		B			B
Queue Length 50th (m)	27.1	0.0	97.9		3.3	80.5
Queue Length 95th (m)	44.6	11.6	187.0		m4.6	93.5
Internal Link Dist (m)	38.8		644.8			132.9
Turn Bay Length (m)					18.0	
Base Capacity (vph)	354	368	1368		263	1385
Starvation Cap Reductn	0	0	0		0	67
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.39	0.18	0.74		0.18	0.77

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 97 (97%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 14.3

Intersection LOS: B

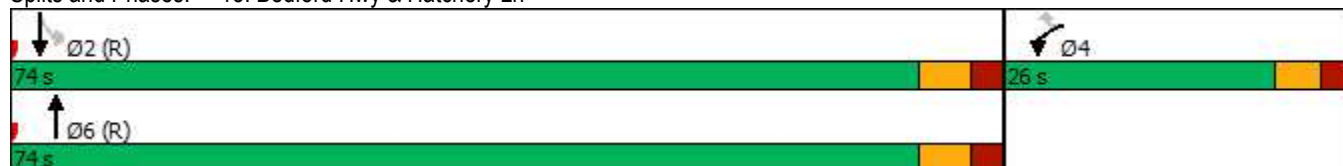
Intersection Capacity Utilization 67.6%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: Bedford Hwy & Hatchery Ln



Bedford Highway Analysis
16: Bedford Hwy & Union St

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	137	75	959	912	30
Future Volume (vph)	32	137	75	959	912	30
Satd. Flow (prot)	1645	0	1770	1863	1855	0
Flt Permitted	0.991		0.211			
Satd. Flow (perm)	1645	0	393	1863	1855	0
Satd. Flow (RTOR)	149				4	
Lane Group Flow (vph)	184	0	82	1042	1024	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			6	2	
Permitted Phases			6			
Total Split (s)	26.0		74.0	74.0	74.0	
Total Lost Time (s)	6.0		6.5	6.5	6.5	
Act Effct Green (s)	9.3		78.2	78.2	78.2	
Actuated g/C Ratio	0.09		0.78	0.78	0.78	
v/c Ratio	0.64		0.27	0.72	0.71	
Control Delay	21.7		2.6	3.4	4.3	
Queue Delay	0.0		0.0	0.3	0.1	
Total Delay	21.7		2.6	3.7	4.4	
LOS	C		A	A	A	
Approach Delay	21.7			3.6	4.4	
Approach LOS	C			A	A	
Queue Length 50th (m)	6.9		0.6	8.5	8.9	
Queue Length 95th (m)	27.0		m1.9	21.1	m42.7	
Internal Link Dist (m)	153.0			132.9	320.3	
Turn Bay Length (m)			33.0			
Base Capacity (vph)	448		307	1455	1451	
Starvation Cap Reductn	0		0	81	0	
Spillback Cap Reductn	2		0	0	27	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.41		0.27	0.76	0.72	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 8 (8%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 5.4

Intersection LOS: A

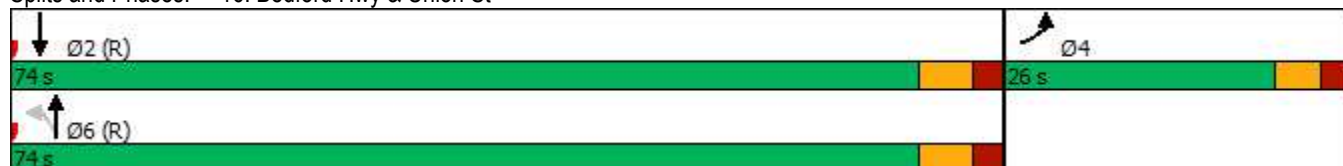
Intersection Capacity Utilization 81.7%

ICU Level of Service D

Analysis Period (min) 15

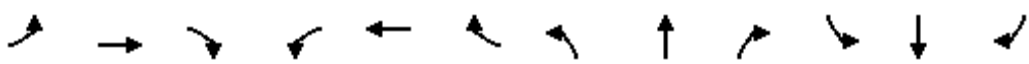
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: Bedford Hwy & Union St



Bedford Highway Analysis
17: Bedford Hwy & Dartmouth Rd

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↑	↔	↔	↔		↔	↔	
Traffic Volume (vph)	4	11	12	441	20	408	4	489	488	386	512	9
Future Volume (vph)	4	11	12	441	20	408	4	489	488	386	512	9
Satd. Flow (prot)	0	1711	0	1770	1863	1583	1770	3177	0	1770	1856	0
Flt Permitted		0.981		0.738			0.451			0.118		
Satd. Flow (perm)	0	1685	0	1345	1863	1530	825	3177	0	220	1856	0
Satd. Flow (RTOR)		13				443		256			1	
Lane Group Flow (vph)	0	29	0	479	22	443	4	1062	0	420	567	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4		4	2			6		
Total Split (s)	41.0	41.0		41.0	41.0	41.0	36.0	36.0		23.0	59.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.2	6.2		4.0	6.2	
Act Effct Green (s)		35.0		35.0	35.0	35.0	29.8	29.8		55.0	52.8	
Actuated g/C Ratio		0.35		0.35	0.35	0.35	0.30	0.30		0.55	0.53	
v/c Ratio		0.05		1.02	0.03	0.54	0.02	0.94		1.01	0.58	
Control Delay		14.8		80.3	21.7	5.0	27.5	36.4		69.3	16.3	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.8	
Total Delay		14.8		80.3	21.7	5.0	27.5	36.4		69.3	17.1	
LOS		B		F	C	A	C	D		E	B	
Approach Delay		14.8			43.6			36.4			39.3	
Approach LOS		B			D			D			D	
Queue Length 50th (m)		2.1		~100.3	2.9	0.0	0.0	52.0		~75.0	92.1	
Queue Length 95th (m)		8.3		#166.8	8.3	21.0	m0.6	#130.7		#129.0	104.9	
Internal Link Dist (m)		15.4			319.7			106.0			83.4	
Turn Bay Length (m)				56.0		40.0	47.0			40.0		
Base Capacity (vph)		598		470	652	823	245	1126		415	980	
Starvation Cap Reductn		0		0	0	0	0	0		0	170	
Spillback Cap Reductn		0		0	0	0	0	0		0	0	
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.05		1.02	0.03	0.54	0.02	0.94		1.01	0.70	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 37 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 39.4

Intersection LOS: D

Intersection Capacity Utilization 96.1%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

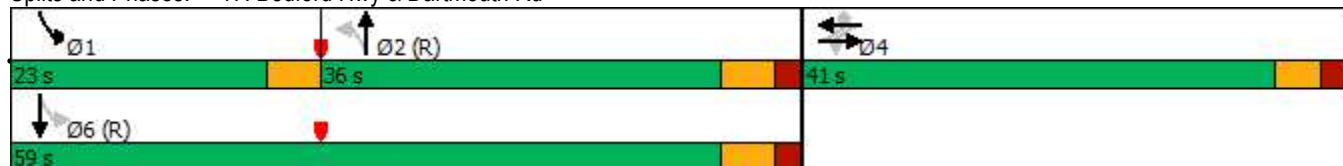
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

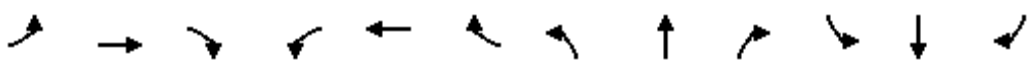
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 17: Bedford Hwy & Dartmouth Rd



Bedford Highway Analysis
18: Bedford Hwy & Sunnyside Mall

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	43	7	6	146	10	72	5	819	76	33	781	59
Future Volume (vph)	43	7	6	146	10	72	5	819	76	33	781	59
Satd. Flow (prot)	0	1767	0	0	3268	0	1770	3493	0	1770	3500	0
Flt Permitted		0.598			0.740		0.312			0.249		
Satd. Flow (perm)	0	1097	0	0	2496	0	581	3493	0	464	3500	0
Satd. Flow (RTOR)		6			74			13			13	
Lane Group Flow (vph)	0	62	0	0	248	0	5	973	0	36	913	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			2		1	6	
Permitted Phases	4			4			2			6		
Total Split (s)	35.0	35.0		35.0	35.0		53.0	53.0		12.0	65.0	
Total Lost Time (s)		6.4			6.4		6.2	6.2		4.0	6.2	
Act Effct Green (s)		12.4			12.4		68.4	68.4		77.2	75.0	
Actuated g/C Ratio		0.12			0.12		0.68	0.68		0.77	0.75	
v/c Ratio		0.44			0.66		0.01	0.41		0.08	0.35	
Control Delay		46.0			37.5		7.2	5.9		1.5	1.7	
Queue Delay		0.0			0.0		0.0	0.4		0.0	0.2	
Total Delay		46.0			37.5		7.2	6.3		1.5	1.9	
LOS		D			D		A	A		A	A	
Approach Delay		46.0			37.5			6.3			1.9	
Approach LOS		D			D			A			A	
Queue Length 50th (m)		10.7			17.8		0.2	25.1		0.2	5.2	
Queue Length 95th (m)		23.0			29.7		m0.5	m44.4		m1.3	13.1	
Internal Link Dist (m)		20.0			34.2			83.4			134.0	
Turn Bay Length (m)							22.0			45.0		
Base Capacity (vph)		318			766		397	2394		462	2628	
Starvation Cap Reductn		0			0		0	815		0	784	
Spillback Cap Reductn		0			3		0	31		0	386	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.19			0.33		0.01	0.62		0.08	0.50	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 26 (26%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 9.0

Intersection LOS: A

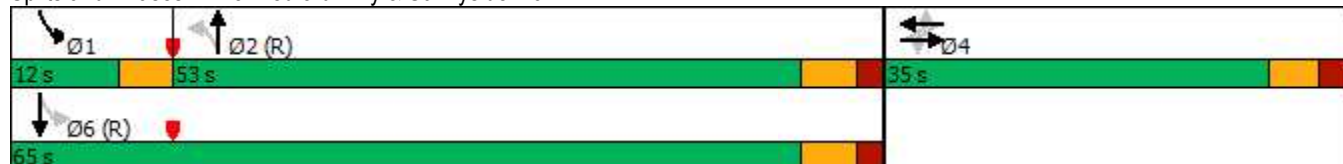
Intersection Capacity Utilization 48.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Bedford Hwy & Sunnyside Mall



Bedford Highway Analysis
19: Bedford Hwy & Rocky Lake

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	79	112	208	96	170	150	657	233	131	608	72
Future Volume (vph)	105	79	112	208	96	170	150	657	233	131	608	72
Satd. Flow (prot)	1770	1699	0	1770	1684	0	1770	3401	0	1770	3483	0
Flt Permitted	0.414			0.344			0.309			0.950		
Satd. Flow (perm)	771	1699	0	641	1684	0	576	3401	0	1770	3483	0
Satd. Flow (RTOR)		68			91			52			13	
Lane Group Flow (vph)	114	208	0	226	289	0	163	967	0	142	739	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2					
Total Split (s)	11.0	31.0		16.0	36.0		14.0	38.0		15.0	39.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Act Effct Green (s)	24.9	15.9		33.3	20.5		51.4	39.5		13.1	42.7	
Actuated g/C Ratio	0.25	0.16		0.33	0.20		0.51	0.40		0.13	0.43	
v/c Ratio	0.44	0.64		0.66	0.69		0.39	0.70		0.61	0.49	
Control Delay	29.0	35.3		34.7	33.9		13.6	29.4		43.5	13.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.0	
Total Delay	29.0	35.3		34.7	33.9		13.6	29.5		43.5	13.7	
LOS	C	D		C	C		B	C		D	B	
Approach Delay		33.1			34.3			27.2			18.5	
Approach LOS		C			C			C			B	
Queue Length 50th (m)	16.8	27.4		35.7	38.5		15.2	79.3		14.7	56.2	
Queue Length 95th (m)	27.2	48.2		51.1	62.6		36.6	#106.7		33.7	88.3	
Internal Link Dist (m)		43.5			31.5			134.0			140.7	
Turn Bay Length (m)	34.0						25.0			32.0		
Base Capacity (vph)	261	475		350	568		431	1374		239	1493	
Starvation Cap Reductn	0	0		0	0		0	38		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.44	0.44		0.65	0.51		0.38	0.72		0.59	0.49	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 1 (1%), Referenced to phase 2:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 26.5

Intersection LOS: C

Intersection Capacity Utilization 72.1%

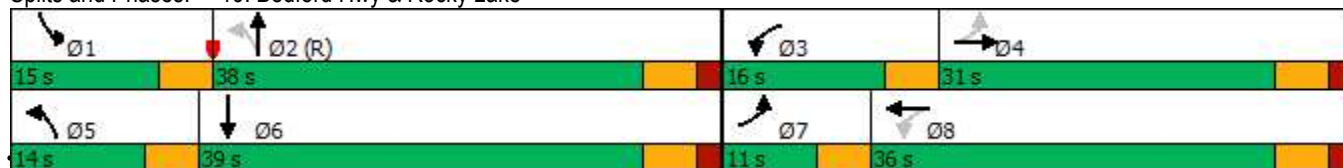
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 19: Bedford Hwy & Rocky Lake



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Synchro 10 Report
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Bedford Highway Analysis
20: Bedford Hwy & Bedford Place

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	36	31	880	751	42
Future Volume (vph)	35	36	31	880	751	42
Satd. Flow (prot)	1694	0	1770	3539	3539	1583
Flt Permitted	0.976		0.344			
Satd. Flow (perm)	1694	0	641	3539	3539	1583
Satd. Flow (RTOR)	39					46
Lane Group Flow (vph)	77	0	34	957	816	46
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			6	2	
Permitted Phases			6			2
Total Split (s)	35.0		65.0	65.0	65.0	65.0
Total Lost Time (s)	6.0		6.2	6.2	6.2	6.2
Act Effect Green (s)	8.6		83.1	83.1	83.1	83.1
Actuated g/C Ratio	0.09		0.83	0.83	0.83	0.83
v/c Ratio	0.43		0.06	0.33	0.28	0.03
Control Delay	31.4		2.1	2.0	2.9	0.9
Queue Delay	0.0		0.0	0.1	0.0	0.0
Total Delay	31.4		2.1	2.1	2.9	0.9
LOS	C		A	A	A	A
Approach Delay	31.4			2.1	2.8	
Approach LOS	C			A	A	
Queue Length 50th (m)	7.5		0.8	12.1	45.5	1.2
Queue Length 95th (m)	21.3		m1.6	21.2	0.0	0.0
Internal Link Dist (m)	28.6			140.7	211.4	
Turn Bay Length (m)						40.0
Base Capacity (vph)	518		532	2940	2940	1323
Starvation Cap Reductn	0		0	696	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.15		0.06	0.43	0.28	0.03

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 84 (84%), Referenced to phase 2:SBT and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 3.6

Intersection LOS: A

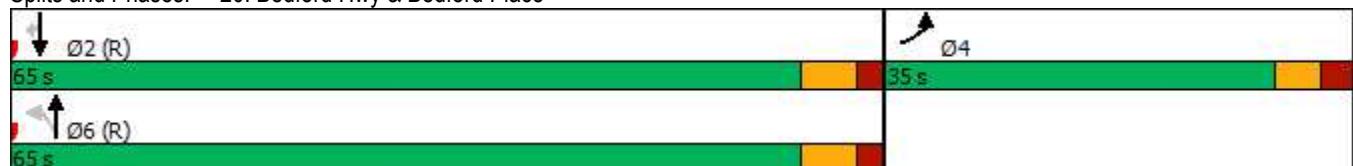
Intersection Capacity Utilization 41.8%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Bedford Hwy & Bedford Place



Bedford Highway Analysis
21: Bedford Hwy & River Ln

Future Conditions-Transit Priority Option
Timing Plan: PM PEAK

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑↑	↑↑	W
Traffic Volume (vph)	152	12	18	933	865	158
Future Volume (vph)	152	12	18	933	865	158
Satd. Flow (prot)	1763	0	1770	3539	3539	1583
Flt Permitted	0.956		0.950			
Satd. Flow (perm)	1763	0	1770	3539	3539	1583
Satd. Flow (RTOR)	4					127
Lane Group Flow (vph)	178	0	20	1014	940	172
Turn Type	Prot		Prot	NA	NA	Perm
Protected Phases	4		1	6	2	
Permitted Phases						2
Total Split (s)	32.0		18.0	68.0	50.0	50.0
Total Lost Time (s)	6.0		6.0	6.5	6.5	6.5
Act Effct Green (s)	15.2		7.3	72.3	66.8	66.8
Actuated g/C Ratio	0.15		0.07	0.72	0.67	0.67
v/c Ratio	0.66		0.16	0.40	0.40	0.16
Control Delay	50.2		47.2	3.8	9.9	3.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	50.2		47.2	3.8	9.9	3.7
LOS	D		D	A	A	A
Approach Delay	50.2			4.7	9.0	
Approach LOS	D			A	A	
Queue Length 50th (m)	33.8		3.1	35.3	32.6	2.3
Queue Length 95th (m)	53.0		9.8	19.0	80.1	14.7
Internal Link Dist (m)	31.9			211.4	233.1	
Turn Bay Length (m)			19.0			38.0
Base Capacity (vph)	461		212	2559	2363	1099
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.39		0.09	0.40	0.40	0.16

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 59 (59%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 10.2

Intersection LOS: B

Intersection Capacity Utilization 45.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Bedford Hwy & River Ln

