

# Appendix G. Synchro Traffic Model Results

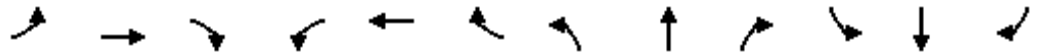


Lanes, Volumes, Timings

Cambridge - Existing PM Peak

1: Main St. S/Main St. N & 1st Ave. W/1st Ave. E

7/28/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	450	25	75	375	125	20	133	50	90	187	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	150		100	150		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.962				0.850		0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1848	0	1770	1792	0	1770	1863	1583	1770	1796	0
Flt Permitted	0.200			0.200			0.457			0.665		
Satd. Flow (perm)	373	1848	0	373	1792	0	851	1863	1583	1239	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			30				164			26
Link Speed (mph)		30			30			30				30
Link Distance (ft)		338			656			386				357
Travel Time (s)		7.7			14.9			8.8				8.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	489	27	82	408	136	22	145	54	98	203	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	516	0	82	544	0	22	145	54	98	268	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	8.0	24.0		8.0	24.0		8.0	20.0	20.0	8.0	20.0	
Total Split (%)	13.3%	40.0%		13.3%	40.0%		13.3%	33.3%	33.3%	13.3%	33.3%	
Maximum Green (s)	4.0	20.0		4.0	20.0		4.0	16.0	16.0	4.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Walk Time (s)		5.0			5.0			5.0	5.0			5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0			11.0
Pedestrian Calls (#/hr)		0			0			0	0			0
Act Effect Green (s)	24.0	20.0		24.0	20.0		20.0	16.0	16.0	20.0	16.0	
Actuated g/C Ratio	0.40	0.33		0.40	0.33		0.33	0.27	0.27	0.33	0.27	
v/c Ratio	0.18	0.83		0.34	0.88		0.06	0.29	0.10	0.22	0.54	
Control Delay	10.7	32.9		13.1	37.1		11.6	19.5	0.4	13.2	21.7	

Lanes, Volumes, Timings  
 1: Main St. S/Main St. N & 1st Ave. W/1st Ave. E

Cambridge - Existing PM Peak  
 7/28/2016

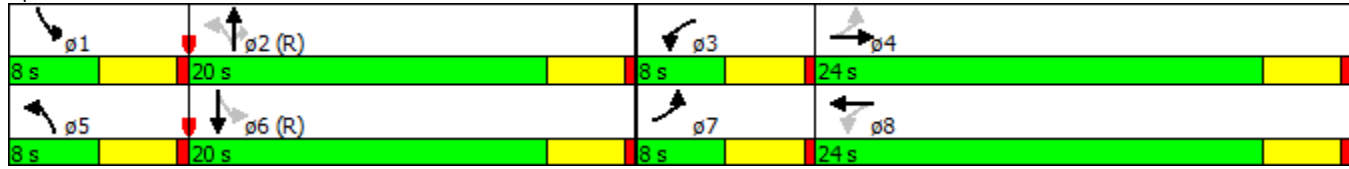


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	32.9		13.1	37.1		11.6	19.5	0.4	13.2	21.7	
LOS	B	C		B	D		B	B	A	B	C	
Approach Delay		31.2			33.9			14.0			19.4	
Approach LOS		C			C			B			B	

Intersection Summary

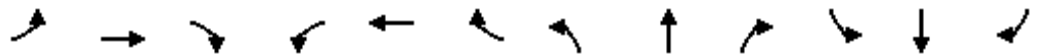
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.88
Intersection Signal Delay:	27.6
Intersection LOS:	C
Intersection Capacity Utilization:	60.8%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 1: Main St. S/Main St. N & 1st Ave. W/1st Ave. E



Lanes, Volumes, Timings  
2: Buchanan St. S/Buchanan St. N & 1st Ave. E

Cambridge - Existing PM Peak  
7/28/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	564	3	57	567	84	20	15	85	122	25	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	150		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.980			0.884				0.929
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1861	0	1770	1825	0	1770	1647	0	1770	1730	0
Flt Permitted	0.133			0.170			0.702			0.645		
Satd. Flow (perm)	248	1861	0	317	1825	0	1308	1647	0	1201	1730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			14			108				40
Link Speed (mph)		30			30			30				30
Link Distance (ft)		656			400			394				236
Travel Time (s)		14.9			9.1			9.0				5.4
Peak Hour Factor	0.82	0.89	0.75	0.79	0.90	0.88	0.83	0.47	0.79	0.80	0.57	0.80
Adj. Flow (vph)	28	634	4	72	630	95	24	32	108	152	44	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	638	0	72	725	0	24	140	0	152	84	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane		Yes			Yes							Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	8.0	34.0		8.0	34.0		8.0	20.0		8.0	20.0	
Total Split (%)	11.4%	48.6%		11.4%	48.6%		11.4%	28.6%		11.4%	28.6%	
Maximum Green (s)	4.0	30.0		4.0	30.0		4.0	16.0		4.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)		5.0			5.0			5.0				5.0
Flash Dont Walk (s)		11.0			11.0			11.0				11.0
Pedestrian Calls (#/hr)		0			0			0				0
Act Effect Green (s)	34.0	30.0		34.0	30.0		20.0	16.0		20.0	16.0	
Actuated g/C Ratio	0.49	0.43		0.49	0.43		0.29	0.23		0.29	0.23	
v/c Ratio	0.14	0.80		0.30	0.92		0.06	0.31		0.41	0.20	
Control Delay	9.0	27.0		11.2	38.0		15.9	9.7		21.4	14.7	

Lanes, Volumes, Timings  
 2: Buchanan St. S/Buchanan St. N & 1st Ave. E

Cambridge - Existing PM Peak  
 7/28/2016

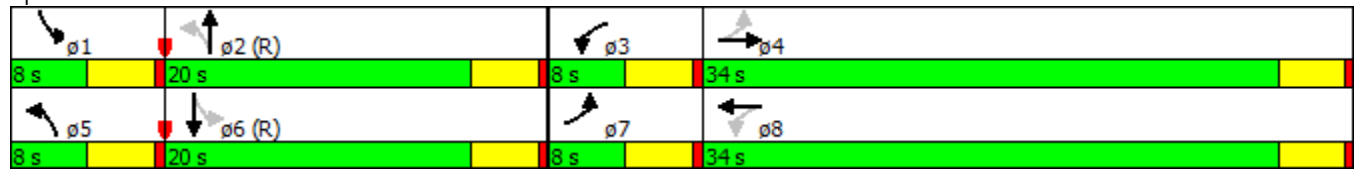


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.0	27.0		11.2	38.0		15.9	9.7		21.4	14.7	
LOS	A	C		B	D		B	A		C	B	
Approach Delay		26.2			35.6			10.6			19.0	
Approach LOS		C			D			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	28.0
Intersection LOS:	C
Intersection Capacity Utilization	61.7%
ICU Level of Service	B
Analysis Period (min)	15

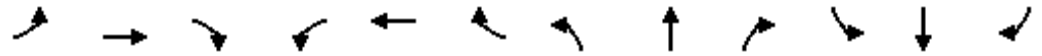
Splits and Phases: 2: Buchanan St. S/Buchanan St. N & 1st Ave. E



Lanes, Volumes, Timings  
 10: Main St. N & 2nd Ave. NW/2nd Ave. NE

Cambridge - Existing PM Peak

7/28/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Volume (vph)	20	16	34	30	15	54	18	237	43	35	273	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	100		0	100		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.934			0.882			0.977			0.989	
Flt Protected		0.986		0.950			0.950			0.950		
Satd. Flow (prot)	0	1715	0	1770	1643	0	1770	1820	0	1770	1842	0
Flt Permitted		0.986		0.950			0.950			0.950		
Satd. Flow (perm)	0	1715	0	1770	1643	0	1770	1820	0	1770	1842	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		342			510			357			362	
Travel Time (s)		7.8			11.6			8.1			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	17	37	33	16	59	20	258	47	38	297	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	76	0	33	75	0	20	305	0	38	320	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	39.7%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
11: Main St. N & 3rd Ave. NW/3rd Ave. NE

Cambridge - Existing PM Peak  
7/28/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Volume (vph)	19	3	44	22	3	13	25	268	16	7	253	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.910			0.954			0.992			0.985	
Flt Protected		0.986			0.972		0.950			0.950		
Satd. Flow (prot)	0	1671	0	0	1727	0	1770	1848	0	1770	1835	0
Flt Permitted		0.986			0.972		0.950			0.950		
Satd. Flow (perm)	0	1671	0	0	1727	0	1770	1848	0	1770	1835	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			453			362			276	
Travel Time (s)		7.7			10.3			8.2			6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	3	48	24	3	14	27	291	17	8	275	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	41	0	27	308	0	8	305	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

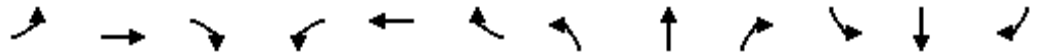
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.5%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings

Cambridge - PM Peak with NLX Riders

1: Main St. S/Main St. N & 1st Ave. W/1st Ave. E

8/8/2016



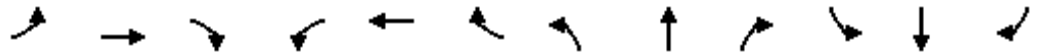
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	450	25	75	375	125	20	133	50	90	187	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	150		100	150		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.962				0.850		0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1848	0	1770	1792	0	1770	1863	1583	1770	1796	0
Flt Permitted	0.200			0.200			0.457			0.665		
Satd. Flow (perm)	373	1848	0	373	1792	0	851	1863	1583	1239	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			30				164			26
Link Speed (mph)		30			30			30				30
Link Distance (ft)		338			656			386				357
Travel Time (s)		7.7			14.9			8.8				8.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	489	27	82	408	136	22	145	54	98	203	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	516	0	82	544	0	22	145	54	98	268	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	8.0	24.0		8.0	24.0		8.0	20.0	20.0	8.0	20.0	
Total Split (%)	13.3%	40.0%		13.3%	40.0%		13.3%	33.3%	33.3%	13.3%	33.3%	
Maximum Green (s)	4.0	20.0		4.0	20.0		4.0	16.0	16.0	4.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Walk Time (s)		5.0			5.0			5.0	5.0			5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0			11.0
Pedestrian Calls (#/hr)		0			0			0	0			0
Act Effect Green (s)	24.0	20.0		24.0	20.0		20.0	16.0	16.0	20.0	16.0	
Actuated g/C Ratio	0.40	0.33		0.40	0.33		0.33	0.27	0.27	0.33	0.27	
v/c Ratio	0.18	0.83		0.34	0.88		0.06	0.29	0.10	0.22	0.54	
Control Delay	10.7	32.9		13.1	37.1		11.6	19.5	0.4	13.2	21.7	



Lanes, Volumes, Timings  
 1: Main St. S/Main St. N & 1st Ave. W/1st Ave. E

Cambridge - PM Peak with NLX Riders

8/8/2016

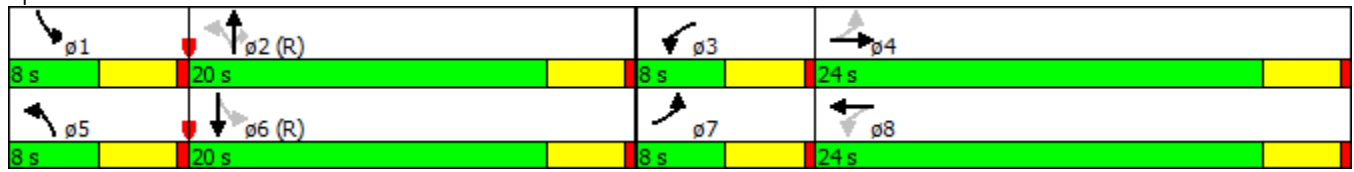


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	32.9		13.1	37.1		11.6	19.5	0.4	13.2	21.7	
LOS	B	C		B	D		B	B	A	B	C	
Approach Delay		31.2			33.9			14.0			19.4	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.88
Intersection Signal Delay:	27.6
Intersection LOS:	C
Intersection Capacity Utilization	60.8%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Main St. S/Main St. N & 1st Ave. W/1st Ave. E



Lanes, Volumes, Timings  
2: Buchanan St. S/Buchanan St. N & 1st Ave. E

Cambridge - PM Peak with NLX Riders

8/8/2016

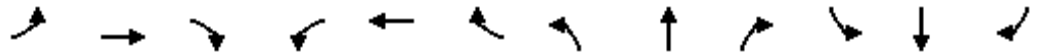


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	37	564	3	57	567	135	20	24	85	247	51	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	150		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.971			0.898				0.929
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1861	0	1770	1809	0	1770	1673	0	1770	1730	0
Flt Permitted	0.114			0.173			0.650			0.500		
Satd. Flow (perm)	212	1861	0	322	1809	0	1211	1673	0	931	1730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			19			108				56
Link Speed (mph)		30			30			30				30
Link Distance (ft)		656			400			394				236
Travel Time (s)		14.9			9.1			9.0				5.4
Peak Hour Factor	0.82	0.89	0.75	0.79	0.90	0.88	0.83	0.47	0.79	0.80	0.57	0.80
Adj. Flow (vph)	45	634	4	72	630	153	24	51	108	309	89	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	638	0	72	783	0	24	159	0	309	170	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane		Yes			Yes							Yes
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	8.0	39.0		8.0	39.0		8.0	22.0		11.0	25.0	
Total Split (%)	10.0%	48.8%		10.0%	48.8%		10.0%	27.5%		13.8%	31.3%	
Maximum Green (s)	4.0	35.0		4.0	35.0		4.0	18.0		7.0	21.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	39.0	35.0		39.0	35.0		22.0	18.0		28.0	21.0	
Actuated g/C Ratio	0.49	0.44		0.49	0.44		0.28	0.22		0.35	0.26	
v/c Ratio	0.25	0.78		0.31	0.98		0.07	0.35		0.77	0.34	
Control Delay	12.4	27.7		12.8	50.3		17.4	12.3		36.6	18.1	

Lanes, Volumes, Timings  
 2: Buchanan St. S/Buchanan St. N & 1st Ave. E

Cambridge - PM Peak with NLX Riders

8/8/2016

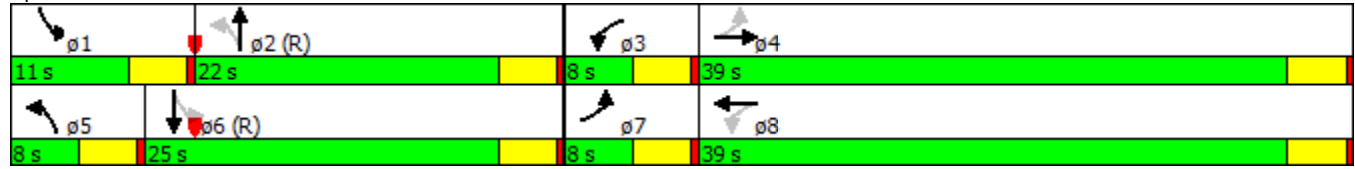


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	12.4	27.7		12.8	50.3		17.4	12.3		36.6	18.1	
LOS	B	C		B	D		B	B		D	B	
Approach Delay		26.7			47.1			12.9			30.0	
Approach LOS		C			D			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.98
Intersection Signal Delay:	34.2
Intersection LOS:	C
Intersection Capacity Utilization	71.7%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 2: Buchanan St. S/Buchanan St. N & 1st Ave. E



Lanes, Volumes, Timings  
10: Main St. N & 2nd Ave. NW/2nd Ave. NE

Cambridge - PM Peak with NLX Riders

8/8/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Volume (vph)	20	26	34	61	30	109	18	237	69	56	273	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	100		0	100		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.943			0.883			0.966			0.989	
Flt Protected		0.988		0.950			0.950			0.950		
Satd. Flow (prot)	0	1735	0	1770	1645	0	1770	1799	0	1770	1842	0
Flt Permitted		0.988		0.950			0.950			0.950		
Satd. Flow (perm)	0	1735	0	1770	1645	0	1770	1799	0	1770	1842	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		342			510			357			362	
Travel Time (s)		7.8			11.6			8.1			8.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	28	37	66	33	118	20	258	75	61	297	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	66	151	0	20	333	0	61	320	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.2%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
 11: Main St. N & 3rd Ave. NW/3rd Ave. NE

Cambridge - PM Peak with NLX Riders  
 8/8/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Volume (vph)	19	5	44	45	6	26	25	268	26	11	253	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.912			0.955			0.987			0.985	
Flt Protected		0.986			0.972		0.950			0.950		
Satd. Flow (prot)	0	1675	0	0	1729	0	1770	1839	0	1770	1835	0
Flt Permitted		0.986			0.972		0.950			0.950		
Satd. Flow (perm)	0	1675	0	0	1729	0	1770	1839	0	1770	1835	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		338			453			362			276	
Travel Time (s)		7.7			10.3			8.2			6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	5	48	49	7	28	27	291	28	12	275	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	74	0	0	84	0	27	319	0	12	305	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	36.0%
Analysis Period (min)	15
	ICU Level of Service A