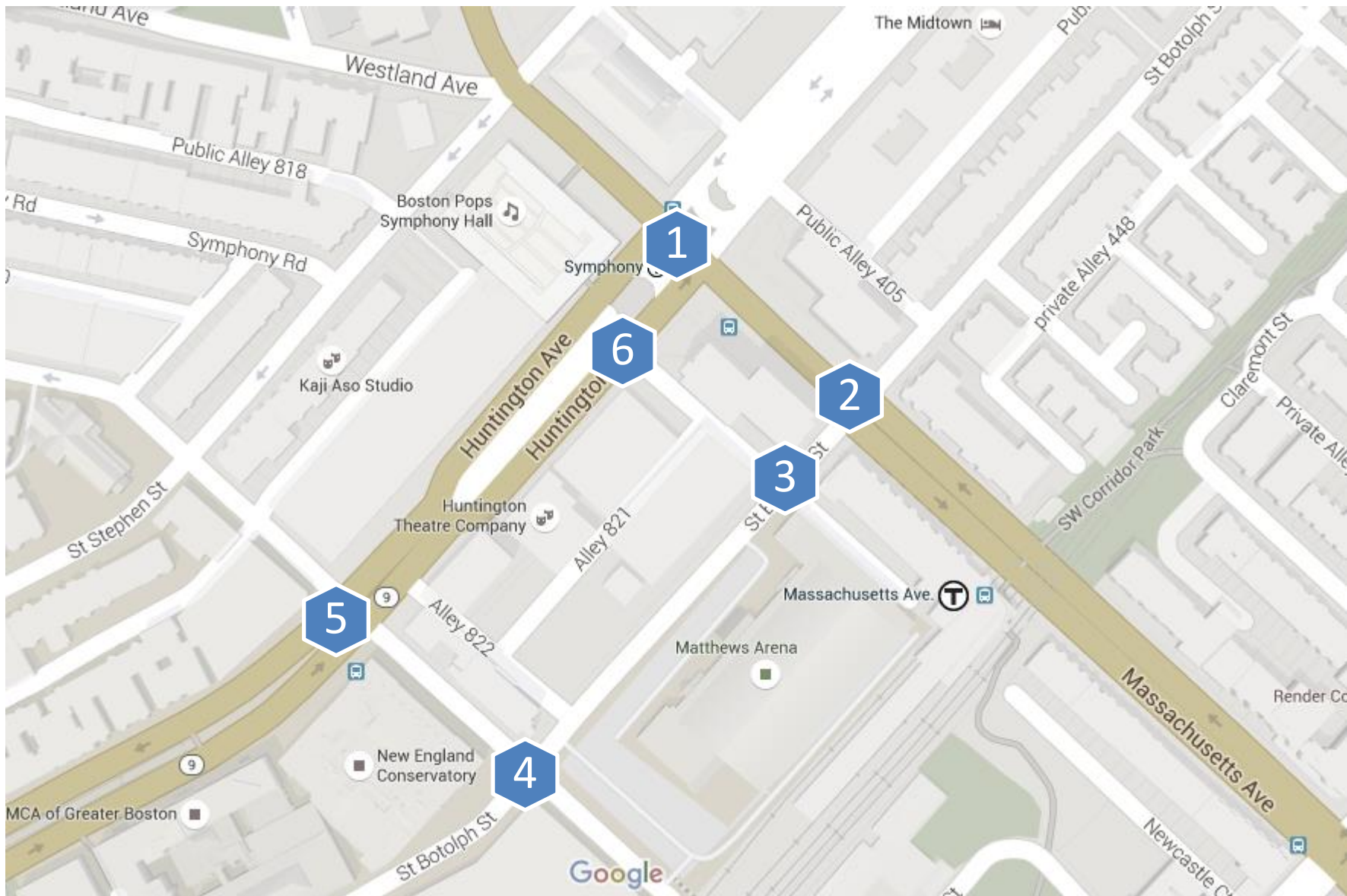


TRANSPORTATION TECHNICAL APPENDIX

- TRAFFIC COUNTS
- TRIP GENERATION CALCULATIONS
- INTERSECTION CAPACITY ANALYSIS WORKSHEETS

TRAFFIC COUNTS



Map Credit: Google.com

BOSTON
TRAFFIC DATA

BTD ID: 0001_HSH

Boston, MA
Collected on April 27, 2016

of TMC's: 06
of ATR's: 00

Client: Howard Stein Hudson
Contact: Michael Santos, P.E., PTOE

Client: Santos, P.E., PTOE
 Location: 01
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Mass Ave
 Street 2: Huntington Ave
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TOTAL (CARS & TRUCKS)

Mass Ave Northbound					Mass Ave Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	205	19	0	1	189	14	0	20	5	17	0	14	6	7
7:15 AM	0	0	221	22	0	0	200	19	0	29	5	13	1	25	5	7
7:30 AM	0	0	227	16	0	0	183	20	0	10	2	15	1	20	5	10
7:45 AM	0	0	230	17	0	0	189	15	0	28	2	15	0	20	2	14
8:00 AM	0	0	219	17	0	0	215	21	0	16	3	13	0	23	4	8
8:15 AM	0	1	204	19	0	1	175	22	0	22	1	15	1	26	4	12
8:30 AM	0	2	209	18	0	0	188	23	0	21	3	15	0	11	4	10
8:45 AM	0	2	202	18	0	0	159	15	0	22	1	11	0	7	2	3

Mass Ave Northbound					Mass Ave Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	194	22	0	0	250	31	0	22	5	12	1	21	7	12
4:15 PM	0	1	240	15	0	0	294	30	0	17	7	22	0	24	10	10
4:30 PM	0	0	201	14	0	0	245	39	0	11	9	19	0	27	11	7
4:45 PM	0	1	229	25	0	0	215	22	0	10	5	6	1	28	6	7
5:00 PM	0	1	211	21	0	1	239	21	0	20	8	20	0	25	6	10
5:15 PM	0	0	196	19	0	0	233	26	0	10	2	15	0	20	8	10
5:30 PM	0	0	221	20	0	0	214	22	0	9	5	16	1	26	2	9
5:45 PM	0	0	214	16	0	1	264	21	0	7	4	10	1	16	2	15

AM PEAK HOUR 7:15 AM to 8:15 AM PHF HV %	Mass Ave Northbound				Mass Ave Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	897	72	0	0	787	75	0	83	12	56	2	88	16	39
	0.98				0.91				0.80				0.95			
	8.6%				6.2%				10.5%				7.0%			

PM PEAK HOUR 4:15 PM to 5:15 PM PHF HV %	Mass Ave Northbound				Mass Ave Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	3	881	75	0	1	993	112	0	58	29	67	1	104	33	34
	0.94				0.85				0.80				0.96			
	3.0%				3.8%				0.8%				3.3%			

Client: Santos, P.E., PTOE
 Location: 01
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Mass Ave
 Street 2: Huntington Ave
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TRUCKS

Mass Ave Northbound					Mass Ave Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	29	4	0	0	16	0	0	1	1	2	0	1	3	1
7:15 AM	0	0	17	3	0	0	7	2	0	4	2	1	1	6	1	0
7:30 AM	0	0	20	4	0	0	20	0	0	1	2	0	1	2	2	3
7:45 AM	0	0	13	1	0	0	20	0	0	3	0	0	0	3	0	2
8:00 AM	0	0	17	2	0	0	16	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	17	6	0	0	12	0	0	7	1	2	1	4	1	0
8:30 AM	0	0	13	2	0	0	10	1	0	2	1	0	0	0	0	0
8:45 AM	0	0	19	2	0	0	7	0	0	1	0	1	0	0	0	0

Mass Ave Northbound					Mass Ave Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	11	3	0	0	14	0	0	0	0	0	1	3	0	1
4:15 PM	0	0	6	2	0	0	8	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	6	1	0	0	10	2	0	0	0	0	0	0	0	0
4:45 PM	0	0	3	4	0	0	14	1	0	0	0	0	1	3	1	0
5:00 PM	0	0	5	3	0	0	8	0	0	0	0	0	0	1	0	0
5:15 PM	0	0	5	1	0	0	11	1	0	0	0	0	0	1	0	1
5:30 PM	0	0	5	1	0	0	9	2	0	0	0	0	1	0	0	1
5:45 PM	0	0	6	2	0	0	9	0	0	0	0	1	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM PHF	Mass Ave Northbound				Mass Ave Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	79	12	0	0	63	2	0	9	5	3	2	12	6	6
	0.69				0.81				0.61				0.81			

PM PEAK HOUR 4:00 PM to 5:00 PM PHF	Mass Ave Northbound				Mass Ave Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	26	10	0	0	46	3	0	0	0	0	2	6	1	1
	0.64				0.82								0.50			

Client: Santos, P.E., PTOE
 Location: 01
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Mass Ave
 Street 2: Huntington Ave
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



PEDESTRIANS & BICYCLES

Mass Ave Northbound					Mass Ave Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
7:00 AM	0	3	0	11		0	1	0	15		0	0	0	52		0	0	0	33
7:15 AM	0	7	0	15		0	7	0	10		3	0	0	54		0	1	0	33
7:30 AM	0	9	1	14		0	9	3	27		2	0	0	81		0	0	0	53
7:45 AM	0	15	0	34		0	12	2	32		2	1	0	94		0	1	0	43
8:00 AM	1	12	0	19		0	12	1	36		4	0	0	114		0	0	0	36
8:15 AM	0	17	2	33		0	13	3	45		6	0	0	137		0	1	0	54
8:30 AM	1	17	1	26		0	17	5	46		10	0	1	127		0	0	1	72
8:45 AM	0	12	0	44		0	16	0	37		5	0	1	119		0	0	0	69

Mass Ave Northbound					Mass Ave Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
4:00 PM	1	12	0	49		0	7	1	153		10	0	1	194		0	0	0	130
4:15 PM	0	5	0	76		0	4	1	139		5	0	0	208		1	1	0	114
4:30 PM	0	10	1	124		0	13	2	123		8	0	1	230		2	1	0	129
4:45 PM	1	8	0	195		0	8	4	125		8	0	0	307		2	2	0	134
5:00 PM	0	5	0	86		0	5	1	72		10	0	0	174		1	1	0	131
5:15 PM	0	13	2	55		0	10	2	76		11	0	1	195		4	2	0	120
5:30 PM	0	10	0	66		0	15	4	95		10	0	1	228		3	1	0	135
5:45 PM	0	14	0	67		0	14	2	83		10	2	5	165		2	2	0	120

Mass Ave Northbound					Mass Ave Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
2	58	3	122		0	58	9	164		25	0	2	497		0	1	1	231	

Mass Ave Northbound					Mass Ave Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
0	42	2	274		0	44	9	326		41	2	7	762		10	6	0	506	

¹ Peak hours corresponds to vehicular peak hours.

Client: Santos, P.E., PTOE
 Location: 02
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Mass Ave
 Street 2: St. Botolph St
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TOTAL (CARS & TRUCKS)

Mass Ave Northbound					Mass Ave Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	27	217	14	0	7	203	10	0	0	0	10	0	10	0	7
7:15 AM	0	27	235	12	0	4	225	9	0	1	1	14	0	12	1	7
7:30 AM	0	40	241	10	0	5	200	13	0	0	2	12	0	7	4	2
7:45 AM	0	28	236	13	0	7	212	5	0	5	2	15	0	13	4	6
8:00 AM	0	25	230	16	0	14	224	13	0	3	1	13	0	6	3	3
8:15 AM	0	21	220	17	0	9	196	11	0	1	2	18	0	6	0	3
8:30 AM	0	21	220	8	0	7	191	16	0	5	2	14	0	11	2	4
8:45 AM	0	23	216	17	0	16	81	11	0	3	1	9	0	15	7	3

Mass Ave Northbound					Mass Ave Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	21	208	12	0	12	265	6	0	6	4	26	0	14	3	2
4:15 PM	0	14	242	9	0	14	322	4	0	7	2	31	0	13	1	7
4:30 PM	0	25	200	12	0	13	275	3	0	9	4	31	0	16	7	6
4:45 PM	0	52	225	30	0	29	212	8	0	16	7	59	0	28	9	14
5:00 PM	0	24	224	10	0	15	258	11	0	6	3	39	0	14	5	3
5:15 PM	0	24	207	21	0	14	247	7	0	1	4	31	0	7	4	7
5:30 PM	0	25	222	26	0	19	234	3	0	7	0	28	0	19	8	12
5:45 PM	0	29	220	13	0	25	260	5	0	3	1	26	0	11	7	7

AM PEAK HOUR 7:15 AM to 8:15 AM PHF HV %	Mass Ave Northbound				Mass Ave Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	120	942	51	0	30	861	40	0	9	6	54	0	38	12	18
	0.96				0.93				0.78				0.74			
	7.8%				6.6%				16.7%				4.8%			

PM PEAK HOUR 4:15 PM to 5:15 PM PHF HV %	Mass Ave Northbound				Mass Ave Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	115	891	61	0	71	1067	26	0	38	16	160	0	71	22	30
	0.87				0.86				0.65				0.60			
	2.8%				3.6%				1.3%				0.0%			

Client: Santos, P.E., PTOE
 Location: 02
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Mass Ave
 Street 2: St. Botolph St
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TRUCKS

Mass Ave Northbound					Mass Ave Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	1	32	1	0	0	18	1	0	0	0	0	0	0	0	1
7:15 AM	0	2	20	0	0	0	13	1	0	0	0	2	0	0	0	0
7:30 AM	0	5	24	0	0	1	19	2	0	0	0	1	0	0	0	0
7:45 AM	0	1	12	1	0	2	18	3	0	2	0	1	0	0	0	0
8:00 AM	0	1	17	0	0	0	15	1	0	2	0	3	0	0	0	0
8:15 AM	0	2	22	1	0	1	14	3	0	1	0	2	0	0	0	0
8:30 AM	0	2	13	0	0	0	5	5	0	2	0	1	0	1	0	0
8:45 AM	0	2	20	1	0	0	7	1	0	1	0	0	0	1	1	0

Mass Ave Northbound					Mass Ave Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	1	14	0	0	0	17	0	0	0	1	1	0	0	0	0
4:15 PM	0	0	8	0	0	0	8	0	0	0	0	0	0	1	0	0
4:30 PM	0	0	7	0	0	0	10	0	0	0	0	1	0	0	0	0
4:45 PM	0	2	7	0	0	1	15	1	0	0	0	0	0	0	0	0
5:00 PM	0	1	8	0	0	0	9	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	6	0	0	0	11	1	0	0	0	0	0	0	0	0
5:30 PM	0	0	6	0	0	0	9	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	8	0	0	0	10	0	0	0	0	1	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM PHF	Mass Ave Northbound				Mass Ave Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	9	88	2	0	3	68	7	0	2	0	4	0	0	0	1
0.73				0.85				0.50				0.25				

PM PEAK HOUR 4:00 PM to 5:00 PM PHF	Mass Ave Northbound				Mass Ave Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	3	36	0	0	1	50	1	0	0	1	2	0	1	0	0
0.65				0.76				0.38				0.25				

Client: Santos, P.E., PTOE
 Location: 02
 LTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Mass Ave
 Street 2: St. Botolph St
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



PEDESTRIANS & BICYCLES

Mass Ave Northbound					Mass Ave Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
7:00 AM	2	10	0	8		0	11	0	6		1	0	1	44		0	0	1	28
7:15 AM	0	18	1	10		0	10	1	3		0	1	1	67		0	0	1	20
7:30 AM	2	15	1	12		0	18	0	13		0	1	0	81		0	3	0	33
7:45 AM	2	23	1	9		0	14	1	9		1	0	2	90		0	2	2	49
8:00 AM	2	21	1	13		1	20	0	11		0	2	1	113		0	5	3	60
8:15 AM	1	22	0	17		0	27	2	6		0	1	0	115		0	1	2	67
8:30 AM	1	25	0	17		0	27	3	14		1	3	0	110		0	3	3	73
8:45 AM	1	26	0	21		1	23	1	11		0	1	1	120		0	3	1	73

Mass Ave Northbound					Mass Ave Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
4:00 PM	1	26	0	19		0	22	0	22		0	1	1	121		0	1	0	35
4:15 PM	1	11	1	13		0	22	0	20		1	1	2	119		0	1	0	40
4:30 PM	0	22	0	26		0	26	0	20		1	2	1	114		0	0	0	64
4:45 PM	2	27	0	26		1	36	1	13		2	3	0	127		0	0	0	37
5:00 PM	1	25	2	20		2	21	1	23		0	2	0	150		1	0	0	92
5:15 PM	2	36	1	18		0	34	2	17		1	1	1	164		1	5	0	100
5:30 PM	3	28	0	16		2	25	0	28		0	1	1	165		1	1	0	96
5:45 PM	0	22	1	28		0	29	1	19		1	1	0	126		0	1	0	81

Mass Ave Northbound					Mass Ave Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
5	94	1	68		2	97	6	42		1	7	2	458		0	12	9	273	

Mass Ave Northbound					Mass Ave Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
6	111	4	82		4	109	4	87		2	5	2	605		3	7	0	369	

¹ Peak hours corresponds to vehicular peak hours.

Client: Santos, P.E., PTOE
 Location: 03
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Alley 823
 Street 2: St. Botolph St
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TOTAL (CARS & TRUCKS)

Alley 823 Northbound					Alley 823 Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	1	0	0	0	0	0	0	9	0	1	0	36	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	16	0	0	0	37	0
7:30 AM	0	0	0	1	0	0	0	1	0	1	13	0	2	0	55	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	22	0	0	0	37	0
8:00 AM	0	0	0	1	0	0	0	1	0	0	16	0	1	1	39	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	21	0	0	0	32	0
8:30 AM	0	0	0	0	0	1	0	0	0	0	20	0	2	0	37	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	13	0	0	0	41	0

Alley 823 Northbound					Alley 823 Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	1	0	0	0	0	0	0	35	0	0	1	29	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	40	0	0	0	19	0
4:30 PM	0	1	0	1	0	0	0	1	0	0	43	0	2	2	31	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	82	0	0	0	69	0
5:00 PM	0	2	0	2	0	1	0	0	0	0	45	1	0	3	37	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	36	0	0	0	35	0
5:30 PM	0	0	0	0	0	1	0	0	0	0	34	1	1	1	34	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	30	0	0	0	41	0

AM PEAK HOUR 7:15 AM to 8:15 AM PHF HV %	Alley 823 Northbound				Alley 823 Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	2	0	0	0	2	0	1	67	0	3	1	168	0
	0.50				0.50				0.77				0.75			
	0.0%				0.0%				17.1%				11.8%			

PM PEAK HOUR 4:30 PM to 5:30 PM PHF HV %	Alley 823 Northbound				Alley 823 Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	3	0	3	0	1	0	1	0	0	206	1	2	5	172	0
	0.38				0.50				0.63				0.65			
	0.0%				0.0%				1.0%				2.8%			

Client: Santos, P.E., PTOE
 Location: 03
 BTM #: 0001_HSH
 Location: Boston, MA
 Street 1: Alley 823
 Street 2: St. Botolph St
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TRUCKS

Alley 823 Northbound					Alley 823 Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	2	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	7	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0

Alley 823 Northbound					Alley 823 Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

AM PEAK HOUR 7:45 AM to 8:45 AM PHF	Alley 823 Northbound				Alley 823 Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	0	0	0	0	0	0	0	14	0	0	0	18	0
#DIV/0!								0.70				0.64				

PM PEAK HOUR 4:00 PM to 5:00 PM PHF	Alley 823 Northbound				Alley 823 Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0
#DIV/0!								0.38				0.33				

Client: Santos, P.E., PTOE
 Location: 03
 BTM #: 0001_HSH
 Location: Boston, MA
 Street 1: Alley 823
 Street 2: St. Botolph St
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



PEDESTRIANS & BICYCLES

Alley 823 Northbound					Alley 823 Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
7:00 AM	0	0	0	8					2		0	1	0	1					0
7:15 AM	0	0	0	20					6		0	0	0	6					0
7:30 AM	0	0	0	26					10		0	1	0	9			1		1
7:45 AM	0	0	0	28					7		0	0	0	5					0
8:00 AM	0	0	0	26					6		0	2	0	6			1		1
8:15 AM	0	0	0	25					7		0	0	0	5					0
8:30 AM	0	0	0	41					8		0	3	0	7			2		2
8:45 AM	0	0	0	38					9		0	0	0	5					0

Alley 823 Northbound					Alley 823 Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
4:00 PM	0	0	0	33					15		0	3	0	54			2		0
4:15 PM	0	0	0	25					16		0	0	0	67					0
4:30 PM	0	0	0	37					21		0	2	0	29			3		0
4:45 PM	0	0	0	40					25		0	0	0	46					0
5:00 PM	0	0	0	48					33		0	6	0	37			4		1
5:15 PM	0	0	0	37					25		0	0	0	40					0
5:30 PM	0	0	1	39		1			17		0	2	0	22			2		1
5:45 PM	0	0	0	30					20		0	0	0	22					

Alley 823 Northbound					Alley 823 Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
0	0	0	67		0	0	0	14		0	5	0	13		0	3	0	3	

Alley 823 Northbound					Alley 823 Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
0	0	0	85		0	0	0	54		0	8	0	66		0	7	0	1	

¹ Peak hours corresponds to vehicular peak hours.

Client: Santos, P.E., PTOE
 Location: 04
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Gainsborough St
 Street 2: St. Botolph St
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TOTAL (CARS & TRUCKS)

Gainsborough St Northbound					Gainsborough St Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	3	6	2	0	6	16	2	0	2	3	0	0	15	4	19
7:15 AM	0	3	4	1	0	10	17	1	0	1	2	1	0	14	5	25
7:30 AM	0	1	2	3	0	12	15	0	0	2	1	1	0	16	4	35
7:45 AM	0	2	3	2	0	17	16	2	0	2	2	0	0	12	3	22
8:00 AM	0	1	4	1	0	21	15	2	0	4	1	0	0	18	2	22
8:15 AM	0	2	3	3	0	18	14	1	0	2	1	1	0	9	3	19
8:30 AM	0	0	2	2	0	14	12	0	0	3	1	0	0	11	7	20
8:45 AM	0	1	1	1	0	10	10	1	0	1	2	1	0	15	8	25

Gainsborough St Northbound					Gainsborough St Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	13	11	1	16	4	2	0	2	3	1	0	4	4	25
4:15 PM	0	0	15	10	0	20	7	1	0	2	2	1	1	4	3	18
4:30 PM	0	0	17	9	1	28	7	5	0	2	5	0	2	3	2	28
4:45 PM	0	1	15	18	0	35	3	1	0	1	20	1	0	17	10	40
5:00 PM	0	1	19	9	2	35	11	2	0	4	2	1	1	12	4	25
5:15 PM	0	1	16	8	0	25	7	1	0	1	3	0	0	9	6	24
5:30 PM	0	0	12	6	1	22	8	2	0	4	3	0	0	7	2	26
5:45 PM	0	2	13	7	0	21	9	1	0	4	2	0	1	9	4	25

AM PEAK HOUR 7:15 AM to 8:15 AM PHF HV %	Gainsborough St Northbound				Gainsborough St Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	7	13	7	0	60	63	5	0	9	6	2	0	60	14	104
	0.84				0.84				0.85				0.81			
	4.8%				6.8%				47.1%				12.6%			

PM PEAK HOUR 4:30 PM to 5:30 PM PHF HV %	Gainsborough St Northbound				Gainsborough St Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	3	67	44	3	123	28	9	0	8	30	2	3	41	22	117
	0.84				0.82				0.45				0.68			
	0.0%				2.5%				7.5%				2.7%			

Client: Santos, P.E., PTOE
 Location: 04
 BTM #: 0001_HSH
 Location: Boston, MA
 Street 1: Gainsborough St
 Street 2: St. Botolph St
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TRUCKS

Gainsborough St Northbound					Gainsborough St Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	2
7:15 AM	0	0	0	0	0	2	0	0	0	3	1	0	0	0	1	2
7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	4
7:45 AM	0	0	0	0	0	2	0	0	0	3	1	0	0	0	2	2
8:00 AM	0	0	0	1	0	3	0	0	0	1	2	0	0	0	1	2
8:15 AM	0	0	0	0	0	2	0	0	0	3	1	0	0	0	2	4
8:30 AM	0	0	0	0	0	2	0	0	0	0	1	0	0	0	3	4
8:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	3

Gainsborough St Northbound					Gainsborough St Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	2
5:00 PM	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0

AM PEAK HOUR 7:45 AM to 8:45 AM PHF	Gainsborough St Northbound				Gainsborough St Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	1	0	9	0	0	0	7	5	0	0	0	8	12
0.25				0.75				0.75				0.71				

PM PEAK HOUR 4:00 PM to 5:00 PM PHF	Gainsborough St Northbound				Gainsborough St Southbound				St. Botolph St Eastbound				St. Botolph St Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	0	0	3	0	3	0	2	1	0	0	0	1	3
				0.75				0.75				0.33				

Client: Santos, P.E., PTOE
 Location: 04
 LTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Gainsborough St
 Street 2: St. Botolph St
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



PEDESTRIANS & BICYCLES

Gainsborough St Northbound					Gainsborough St Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
Start Time	Left	Thru	Right	PED	Start Time	Left	Thru	Right	PED	Start Time	Left	Thru	Right	PED	Start Time	Left	Thru	Right	PED
7:00 AM	0	1	0	15	7:00 AM	0	1	0	19	7:00 AM	0	1	0	18	7:00 AM	0	1	0	15
7:15 AM	0	0	0	12	7:15 AM	0	0	0	17	7:15 AM	0	0	0	15	7:15 AM	0	0	0	20
7:30 AM	0	0	0	24	7:30 AM	0	1	0	17	7:30 AM	0	1	0	22	7:30 AM	0	1	0	20
7:45 AM	0	0	0	24	7:45 AM	0	0	0	10	7:45 AM	0	0	0	21	7:45 AM	0	0	0	14
8:00 AM	0	1	0	18	8:00 AM	1	0	0	20	8:00 AM	0	1	0	16	8:00 AM	0	0	0	19
8:15 AM	0	0	0	16	8:15 AM	0	0	0	14	8:15 AM	0	0	0	17	8:15 AM	0	0	0	17
8:30 AM	0	1	0	14	8:30 AM	1	0	0	25	8:30 AM	0	2	0	11	8:30 AM	2	0	0	20
8:45 AM	0	0	0	26	8:45 AM	0	0	0	16	8:45 AM	0	0	0	18	8:45 AM	0	0	0	12

Gainsborough St Northbound					Gainsborough St Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
Start Time	Left	Thru	Right	PED	Start Time	Left	Thru	Right	PED	Start Time	Left	Thru	Right	PED	Start Time	Left	Thru	Right	PED
4:00 PM	0	1	0	35	4:00 PM	2	0	0	31	4:00 PM	1	0	0	29	4:00 PM	0	0	2	30
4:15 PM	0	0	0	33	4:15 PM	0	0	0	25	4:15 PM	0	0	0	41	4:15 PM	0	0	0	25
4:30 PM	0	0	1	36	4:30 PM	1	0	0	19	4:30 PM	0	0	0	41	4:30 PM	0	0	0	45
4:45 PM	0	0	0	22	4:45 PM	0	0	0	50	4:45 PM	0	0	0	29	4:45 PM	0	0	0	42
5:00 PM	0	2	1	41	5:00 PM	3	0	0	35	5:00 PM	2	0	0	38	5:00 PM	0	0	2	35
5:15 PM	0	0	0	19	5:15 PM	0	0	0	35	5:15 PM	0	0	0	36	5:15 PM	0	0	0	33
5:30 PM	0	1	0	52	5:30 PM	1	1	0	28	5:30 PM	1	0	0	45	5:30 PM	0	0	0	25
5:45 PM	0	0	0	31	5:45 PM	0	0	0	51	5:45 PM	0	0	0	22	5:45 PM	0	0	0	35

AM PEAK HOUR ¹ 7:15 AM to 8:15 AM	Gainsborough St Northbound					Gainsborough St Southbound					St. Botolph St Eastbound					St. Botolph St Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	0	2	0	74		2	0	0	75		0	3	0	62		2	0	0	68	

PM PEAK HOUR ¹ 4:30 PM to 5:30 PM	Gainsborough St Northbound				Gainsborough St Southbound				St. Botolph St Eastbound					St. Botolph St Westbound				
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Ped SB	Left	Thru	Right	PED	
	0	2	2	118	4	0	0	139	2	0	0	144	0	0	0	2	155	

¹ Peak hours corresponds to vehicular peak hours.

Client: Santos, P.E., PTOE
 Location: 05
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Gainsborough St
 Street 2: Huntington Ave
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TOTAL (CARS & TRUCKS)

Gainsborough St Northbound					Gainsborough St Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	15	5	6	0	0	0	0	10	7	100	15	0	4	70	13
7:15 AM	0	19	9	8	0	0	0	0	10	9	122	16	1	6	92	20
7:30 AM	0	22	6	4	0	0	0	0	5	1	141	19	2	15	105	9
7:45 AM	0	17	5	5	0	0	0	0	3	14	149	21	2	6	107	4
8:00 AM	0	19	8	1	0	0	0	0	3	12	149	29	3	7	89	6
8:15 AM	0	11	15	4	0	0	0	0	1	9	139	23	2	4	95	3
8:30 AM	0	9	6	8	0	0	0	0	4	8	160	18	3	7	105	5
8:45 AM	0	19	8	3	0	0	0	0	2	5	181	11	0	7	91	7

Gainsborough St Northbound					Gainsborough St Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	20	14	11	0	0	0	0	4	6	131	17	3	3	151	13
4:15 PM	0	15	7	6	0	0	0	0	6	11	182	28	3	4	153	7
4:30 PM	0	25	17	7	0	0	0	0	7	10	154	31	5	10	137	13
4:45 PM	0	26	16	5	0	0	0	0	6	15	167	25	5	5	141	13
5:00 PM	0	26	13	11	0	0	0	0	7	13	170	42	6	10	129	12
5:15 PM	0	27	13	6	0	0	0	0	7	12	150	21	3	7	159	17
5:30 PM	0	22	10	12	0	0	0	0	7	11	176	23	5	13	170	14
5:45 PM	0	22	8	6	0	0	0	0	8	15	173	22	6	12	127	13

AM PEAK HOUR 7:15 AM to 8:15 AM <i>PHF</i> <i>HV %</i>	Gainsborough St Northbound				Gainsborough St Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	77	28	18	0	0	0	0	21	36	561	85	8	34	393	39
	0.85								0.91				0.90			
	12.6%								6.9%				9.4%			

PM PEAK HOUR 4:45 PM to 5:45 PM <i>PHF</i> <i>HV %</i>	Gainsborough St Northbound				Gainsborough St Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	101	52	34	0	0	0	0	27	51	663	111	19	35	599	56
	0.94								0.92				0.88			
	3.2%								2.8%				2.5%			

Client: Santos, P.E., PTOE
 Location: 05
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Gainsborough St
 Street 2: Huntington Ave
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TRUCKS

Gainsborough St Northbound					Gainsborough St Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	1	0	0	0	0	0	0	0	1	13	2	0	0	12	1
7:15 AM	0	3	0	2	0	0	0	0	0	0	17	0	0	1	10	1
7:30 AM	0	2	1	0	0	0	0	0	0	1	9	1	0	0	11	1
7:45 AM	0	4	0	1	0	0	0	0	0	0	11	0	0	0	8	2
8:00 AM	0	2	1	0	0	0	0	0	0	1	12	1	0	1	9	0
8:15 AM	0	5	1	1	0	0	0	0	0	0	8	0	0	0	11	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	14	1	0	0	10	0
8:45 AM	0	2	1	0	0	0	0	0	0	0	14	1	0	0	9	1

Gainsborough St Northbound					Gainsborough St Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	1	0	0	0	0	0	0	0	0	7	1	0	0	4	1
4:15 PM	0	0	1	0	0	0	0	0	0	0	5	1	0	0	4	0
4:30 PM	0	1	0	0	0	0	0	0	0	0	12	1	0	0	4	0
4:45 PM	0	2	0	0	0	0	0	0	0	1	5	1	1	1	3	0
5:00 PM	0	2	0	1	0	0	0	0	0	0	7	0	0	0	4	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0
5:30 PM	0	0	0	1	0	0	0	0	0	1	4	1	0	0	5	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	10	0	0	0	5	1

AM PEAK HOUR 7:00 AM to 8:00 AM PHF	Gainsborough St Northbound				Gainsborough St Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	10	1	3	0	0	0	0	0	2	50	3	0	1	41	5
0.70								0.81				0.90				

PM PEAK HOUR 4:00 PM to 5:00 PM PHF	Gainsborough St Northbound				Gainsborough St Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	4	1	0	0	0	0	0	0	1	29	4	1	1	15	1
0.63								0.65				0.90				

Client: Santos, P.E., PTOE
 Location: 05
 BTS #: 0001_HSH
 Location: Boston, MA
 Street 1: Gainsborough St
 Street 2: Huntington Ave
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



PEDESTRIANS & BICYCLES

Gainsborough St Northbound					Gainsborough St Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
7:00 AM	0	0	0	12		0	0	0	17		0	1	0	11		0	2	1	29
7:15 AM	0	0	0	11		0	0	0	25		0	2	0	16		1	1	0	27
7:30 AM	0	0	0	25		0	0	0	29		0	5	1	23		0	1	0	43
7:45 AM	0	0	0	31		0	0	0	43		0	2	0	25		0	3	0	28
8:00 AM	1	0	2	19		0	0	0	48		0	0	0	29		0	4	0	32
8:15 AM	1	0	0	17		0	0	0	58		0	4	0	29		0	3	0	51
8:30 AM	0	5	0	24		0	0	0	60		0	4	0	26		0	3	0	28
8:45 AM	1	1	0	15		0	0	0	54		0	4	0	33		0	2	0	45

Gainsborough St Northbound					Gainsborough St Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
4:00 PM	0	1	0	58		0	0	0	97		0	3	0	54		0	4	0	61
4:15 PM	0	2	0	56		0	0	0	107		0	4	0	53		0	9	1	56
4:30 PM	0	1	0	57		0	0	0	106		1	10	0	46		0	2	2	51
4:45 PM	0	0	1	56		0	0	0	135		0	4	1	65		1	0	0	87
5:00 PM	1	2	2	37		0	0	0	133		0	7	2	64		1	5	0	70
5:15 PM	0	2	0	81		0	0	0	100		0	4	0	53		0	7	0	78
5:30 PM	2	0	1	51		0	0	0	113		1	2	0	48		0	6	0	100
5:45 PM	0	2	1	58		0	0	0	113		1	3	1	70		0	6	1	67

AM PEAK HOUR ¹ 7:15 AM to 8:15 AM	Gainsborough St Northbound					Gainsborough St Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	3	6	2	75		0	0	0	220		0	12	0	117		0	12	0	156	

PM PEAK HOUR ¹ 4:45 PM to 5:45 PM	Gainsborough St Northbound					Gainsborough St Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
	3	4	4	225		0	0	0	481		1	17	3	230		2	18	0	335	

¹ Peak hours corresponds to vehicular peak hours.

Client: Santos, P.E., PTOE
 Location: 06
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Alley 823
 Street 2: Huntington Ave
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TOTAL (CARS & TRUCKS)

Alley 823 Northbound					Alley 823 Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	42	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	47	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	45	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	32	1	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	38	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	39	1	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0

Alley 823 Northbound					Alley 823 Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	39	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	46	0	0	0	0	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	38	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	0	0	0	47	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM PHF HV %	Alley 823 Northbound				Alley 823 Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	0	0	0	0	0	0	0	161	0	0	0	0	0
									0.86							
									10.3%							

PM PEAK HOUR 4:15 PM to 5:15 PM PHF HV %	Alley 823 Northbound				Alley 823 Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	2	0	0	0	0	0	0	152	1	0	0	0	0
	0.50								0.80							
	0.0%								0.8%							

Client: Santos, P.E., PTOE
 Location: 06
 BTD #: 0001_HSH
 Location: Boston, MA
 Street 1: Alley 823
 Street 2: Huntington Ave
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



TRUCKS

Alley 823 Northbound					Alley 823 Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0

Alley 823 Northbound					Alley 823 Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

AM PEAK HOUR 7:00 AM to 8:00 AM PHF	Alley 823 Northbound				Alley 823 Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0
								0.61								

PM PEAK HOUR 5:00 PM to 6:00 PM PHF	Alley 823 Northbound				Alley 823 Southbound				Huntington Ave Eastbound				Huntington Ave Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
								0.25								

Client: Santos, P.E., PTOE
 Location: 06
 BTID #: 0001_HSH
 Location: Boston, MA
 Street 1: Alley 823
 Street 2: Huntington Ave
 Count Date: 4/29/2016
 Day of Week: Wednesday
 Weather: Sunny, High of 57 F



PEDESTRIANS & BICYCLES

Alley 823 Northbound					Alley 823 Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
7:00 AM	0	0	0	0		0	0	0	0		0	0	0	23		0	0	0	0
7:15 AM	0	0	0	0		0	0	0	0		0	3	0	25		0	0	0	0
7:30 AM	0	0	0	0		0	0	0	0		0	2	0	22		0	0	0	0
7:45 AM	0	0	0	0		0	0	0	0		0	3	0	31		0	0	0	0
8:00 AM	0	0	0	0		0	0	0	0		0	4	0	33		0	0	0	0
8:15 AM	0	0	0	0		0	0	0	0		0	6	0	46		0	0	0	0
8:30 AM	0	0	0	0		0	0	0	0		0	11	0	45		0	0	0	0
8:45 AM	0	0	0	0		0	0	0	0		0	6	0	39		0	0	0	0

Alley 823 Northbound					Alley 823 Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
Start Time	Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED
4:00 PM	0	0	0	0		0	0	0	0		0	11	0	81		0	0	0	0
4:15 PM	0	0	0	0		0	0	0	0		0	5	0	85		0	0	0	0
4:30 PM	0	0	0	0		0	0	0	0		0	9	0	80		0	0	0	0
4:45 PM	0	0	0	0		0	0	0	0		0	8	0	90		0	0	0	0
5:00 PM	0	0	0	0		0	0	0	0		0	10	0	112		0	0	0	0
5:15 PM	0	0	0	0		0	0	0	0		0	12	0	125		0	0	0	0
5:30 PM	0	0	0	0		0	0	0	0		0	11	0	143		0	0	0	0
5:45 PM	0	0	0	0		0	0	0	0		0	17	0	135		0	0	0	0

Alley 823 Northbound					Alley 823 Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
0	0	0	0		0	0	0	0		0	27	0	163		0	0	0	0	

Alley 823 Northbound					Alley 823 Southbound					Huntington Ave Eastbound					Huntington Ave Westbound				
Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED		Left	Thru	Right	PED	
0	0	0	0		0	0	0	0		0	50	0	515		0	0	0	0	

¹ Peak hours corresponds to vehicular peak hours.

TRIP GENERATION CALCULATIONS

2016066 - Huntington Theater

Trip Generation Assessment

HOWARD STEIN HUDSON
19-Apr-2017

XX HARD CODED TO BALANCE

Land Use	Size	Category	Directional Split	Average Trip Rate	Unadjusted Vehicle Trips	Assumed National Vehicle Occupancy Rate ¹	Unadjusted Person-Trips	Primary Person Trips	Transit Share ²	Transit Person-Trips	Walk/Bike/ Other Share ²	Walk/ Bike/ Other Trips	Auto Share ²	Auto Person-Trips	Assumed Local Auto Occupancy Rate ³	Total Adjusted Auto Trips
Daily Peak Hour																
Apartment ⁴	426	Total		6.650	2,832	1.13	3,200	3,200	19%	608	57%	1,824	24%	768	1.13	680
	units	In	50%	3.325	1,416	1.13	1,600	1,600	19%	304	57%	912	24%	384	1.13	340
		Out	50%	3.325	1,416	1.13	1,600	1,600	19%	304	57%	912	24%	384	1.13	340
Shopping Center ⁵	7.5	Total		42.700	320	1.78	570	570	16%	92	55%	312	29%	166	1.78	94
	KSF	In	50%	21.350	160	1.78	285	285	16%	46	55%	156	29%	83	1.78	47
		Out	50%	21.350	160	1.78	285	285	16%	46	55%	156	29%	83	1.78	47
Total		Total			3,152		3,770	3,770		700		2,136		934		774
		In			1,576		1,885	1,885		350		1,068		467		387
		Out			1,576		1,885	1,885		350		1,068		467		387
AM Peak Hour																
Apartment ⁴	426	Total		0.51	217	1.13	246	246		41		155		50	1.13	44
	units	In	20%	0.102	43	1.13	49	49	22%	11	59%	29	19%	9	1.13	8
		Out	80%	0.408	174	1.13	197	197	15%	30	64%	126	21%	41	1.13	36
Shopping Center ⁵	7.5	Total		0.96	7	1.78	12	12		2		7		3	1.78	2
	KSF	In	62%	0.595	4	1.78	7	7	19%	1	57%	4	24%	2	1.78	1
		Out	38%	0.365	3	1.78	5	5	13%	1	61%	3	26%	1	1.78	1
Total		Total			224		258	258		43		162		53		46
		In			47		56	56		12		33		11		9
		Out			177		202	202		31		129		42		37
PM Peak Hour																
Apartment ⁴	426	Total		0.62	264	1.13	298	298		52		185		61	1.13	54
	units	In	65%	0.403	172	1.13	194	194	15%	29	64%	124	21%	41	1.13	36
		Out	35%	0.217	92	1.13	104	104	22%	23	59%	61	19%	20	1.13	18
Shopping Center ⁵	7.5	Total		3.71	27	1.78	48	48		8		28		12	1.78	6
	KSF	In	48%	1.781	13	1.78	23	23	13%	3	61%	14	26%	6	1.78	3
		Out	52%	1.929	14	1.78	25	25	19%	5	57%	14	24%	6	1.78	3
Total		Total			291		346	346		60		213		73		60
		In			185		217	217		32		138		47		39
		Out			106		129	129		28		75		26		21

1. 2009 National vehicle occupancy rates - 1.13:home to work; 1.84: family/personal business; 1.78: shopping; 2.2 social/recreational
2. Mode shares based on peak-hour BTD Data for Area 4
3. Local vehicle occupancy rates based on 2009 National vehicle occupancy rates
4. ITE Trip Generation Manual, 9th Edition, LUC 220 (Apartment), average rate
5. ITE Trip Generation Manual, 9th Edition, LUC 820 (Shopping Center), average rate

INTERSECTION CAPACITY ANALYSIS WORKSHEETS

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6
Lane Configurations															
Traffic Volume (vph)	83	12	56	2	88	16	39	58	902	72	0	791	75		
Future Volume (vph)	83	12	56	2	88	16	39	58	902	72	0	791	75		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95		
Ped Bike Factor		0.93				0.80		0.86	0.97			0.95			
Frt		0.944				0.960		0.989				0.987			
Flt Protected		0.973				0.970		0.950							
Satd. Flow (prot)	0	2650	0	0	0	2536	0	1624	2903	0	0	2847	0		
Flt Permitted		0.973				0.970		0.950							
Satd. Flow (perm)	0	2541	0	0	0	2082	0	1401	2903	0	0	2847	0		
Right Turn on Red			No				No			No			No		
Satd. Flow (RTOR)															
Link Speed (mph)		30				30		30				30			
Link Distance (ft)		159				495		334				341			
Travel Time (s)		3.6				11.3		7.6				7.8			
Confl. Peds. (#/hr)	41		31	231	31		41	497		231	231		497		
Confl. Bikes (#/hr)							1			58			58		
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.95	0.98	0.98	0.98	0.91	0.91	0.91		
Heavy Vehicles (%)	10%	33%	2%	100%	13%	25%	15%	0%	7%	14%	0%	8%	3%		
Adj. Flow (vph)	104	15	70	2	93	17	41	59	920	73	0	869	82		
Shared Lane Traffic (%)															
Lane Group Flow (vph)	0	189	0	0	0	153	0	59	993	0	0	951	0		
Turn Type	Split	NA		Split	Split	NA		Prot	NA			NA			
Protected Phases	7	7		5	5	5		3	1			1		2	6
Permitted Phases															
Detector Phase	7	7		5	5	5		3	1			1			
Switch Phase															
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0	10.0			10.0		1.0	1.0
Minimum Split (s)	21.0	21.0		23.5	23.5	23.5		15.5	20.5			20.5		6.0	6.0
Total Split (s)	22.0	22.0		25.0	25.0	25.0		18.0	43.0			43.0		6.0	6.0
Total Split (%)	18.3%	18.3%		20.8%	20.8%	20.8%		15.0%	35.8%			35.8%		5%	5%
Maximum Green (s)	15.0	15.0		17.5	17.5	17.5		10.5	35.5			35.5		4.0	4.0
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5	3.5			3.5		2.0	2.0
All-Red Time (s)	3.5	3.5		4.0	4.0	4.0		4.0	4.0			4.0		0.0	0.0
Lost Time Adjust (s)		0.0				0.0		0.0	0.0			0.0			
Total Lost Time (s)		7.0				7.5		7.5	7.5			7.5			
Lead/Lag				Lag	Lag	Lag		Lag	Lead			Lead		Lead	
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes			Yes		Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		2.0	2.0			2.0		2.0	2.0
Recall Mode	Ped	Ped		Ped	Ped	Ped		Ped	C-Max			C-Max		Ped	Max
Walk Time (s)	4.0	4.0		4.0	4.0	4.0		1.0	7.0			7.0		4.0	4.0
Flash Dont Walk (s)	10.0	10.0		12.0	12.0	12.0		6.0	6.0			6.0		0.0	0.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0	0			0		0	0
Act Effct Green (s)		14.3				16.0		9.1	39.1			39.1			
Actuated g/C Ratio		0.12				0.13		0.08	0.33			0.33			
v/c Ratio		0.60				0.45		0.48	1.05			1.03			
Control Delay		58.5				52.8		56.3	74.7			76.9			
Queue Delay		0.0				0.0		0.0	16.8			0.0			
Total Delay		58.5				52.8		56.3	91.5			76.9			
LOS		E				D		E	F			E			
Approach Delay		58.5				52.8			89.5			76.9			
Approach LOS		E				D			F			E			
Queue Length 50th (ft)		74				58		45	~436			~391			
Queue Length 95th (ft)		100				94		m86	#601			#565			
Internal Link Dist (ft)		79				415			254			261			
Turn Bay Length (ft)															
Base Capacity (vph)		331				369		142	944			926			
Starvation Cap Reductn		0				0		0	37			0			
Spillback Cap Reductn		0				0		0	0			0			
Storage Cap Reductn		0				0		0	0			0			
Reduced v/c Ratio		0.57				0.41		0.42	1.09			1.03			

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 31 (26%), Referenced to phase 1:NBSB, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 79.5

Intersection LOS: E

Intersection Capacity Utilization 66.6%

ICU Level of Service C

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: Massachusetts Avenue & Huntington Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	6	57	38	12	18	63	1005	51	30	865	40
Future Volume (vph)	9	6	57	38	12	18	63	1005	51	30	865	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	0	0	0	100	0	0	0	0	0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.93	0.89		0.90	0.95		0.91	0.99		0.95	0.98	
Frt		0.865			0.910			0.993			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1128	1173	0	1624	1473	0	1504	2953	0	1477	2912	0
Flt Permitted	0.731			0.685			0.248			0.220		
Satd. Flow (perm)	812	1173	0	1056	1473	0	357	2953	0	326	2912	0
Right Turn on Red			No			No			No			Yes
Satd. Flow (RTOR)											6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		145			377			341			334	
Travel Time (s)		3.3			8.6			7.8			7.6	
Confl. Peds. (#/hr)	42		68	68		42	458		273	273		458
Confl. Bikes (#/hr)			7			12			94			97
Peak Hour Factor	0.78	0.78	0.78	0.74	0.74	0.74	0.96	0.96	0.96	0.93	0.93	0.93
Heavy Vehicles (%)	44%	0%	13%	0%	0%	0%	8%	8%	2%	10%	8%	18%
Adj. Flow (vph)	12	8	73	51	16	24	66	1047	53	32	930	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	81	0	51	40	0	66	1100	0	32	973	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		10.0	75.0		10.0	68.0	
Total Split (s)	32.0	32.0		32.0	32.0		20.0	75.0		13.0	68.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		16.7%	62.5%		10.8%	56.7%	
Maximum Green (s)	28.0	28.0		28.0	28.0		16.0	71.0		9.0	64.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
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 Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			64.0			57.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			7.0			7.0	
Pedestrian Calls (#/hr)	110	110		110	110			0			0	
Act Effct Green (s)	22.0	22.0		22.0	22.0		87.9	84.0		86.5	81.7	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.73	0.70		0.72	0.68	
v/c Ratio	0.08	0.38		0.26	0.15		0.21	0.53		0.11	0.49	
Control Delay	43.1	49.4		46.3	42.9		5.5	10.4		1.0	2.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.3		0.0	0.5	
Total Delay	43.1	49.4		46.3	42.9		5.5	10.6		1.0	3.1	
LOS	D	D		D	D		A	B		A	A	
Approach Delay		48.6			44.8			10.3			3.0	
Approach LOS		D			D			B			A	
Queue Length 50th (ft)	8	56		34	26		11	217		2	37	
Queue Length 95th (ft)	m23	90		59	48		23	273		m2	m37	
Internal Link Dist (ft)		65			297			261			254	
Turn Bay Length (ft)							100					
Base Capacity (vph)	189	273		246	343		420	2066		328	1985	
Starvation Cap Reductn	0	0		0	0		0	0		0	540	
Spillback Cap Reductn	0	0		0	0		0	364		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.06	0.30		0.21	0.12		0.16	0.65		0.10	0.67	

Intersection Summary

Area Type: CBD
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 24 (20%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.53
 Intersection Signal Delay: 10.1
 Intersection Capacity Utilization 83.2%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service E

Splits and Phases: 2: Massachusetts Avenue & St. Botolph Street



	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group														
Lane Configurations		↔	↔			↔	↔			↔				
Traffic Volume (vph)	21	36	564	91	8	37	453	39	22	29	18	0	0	0
Future Volume (vph)	21	36	564	91	8	37	453	39	22	29	18	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		125		60		100		0	0		0	0		0
Storage Lanes		1		0		1		0	0		0	0		0
Taper Length (ft)		50				50			50			50		
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.91	0.99			0.92	0.99			0.90				
Frt			0.979				0.988			0.965				
Flt Protected		0.950				0.950				0.984				
Satd. Flow (prot)	0	1565	2903	0	0	1548	2885	0	0	1374	0	0	0	0
Flt Permitted		0.428				0.330				0.984				
Satd. Flow (perm)	0	642	2903	0	0	497	2885	0	0	1310	0	0	0	0
Right Turn on Red				Yes				Yes			Yes			Yes
Satd. Flow (RTOR)			26				16			18				
Link Speed (mph)			30				30			30			30	
Link Distance (ft)			537				488			314			267	
Travel Time (s)			12.2				11.1			7.1			6.1	
Confl. Peds. (#/hr)	117	220		75	156	75		220	117		156	156		117
Confl. Bikes (#/hr)				12				12			6			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.85	0.85	0.85	0.25	0.25	0.25
Heavy Vehicles (%)	0%	6%	9%	2%	0%	6%	10%	10%	14%	7%	17%	0%	0%	0%
Adj. Flow (vph)	23	40	620	100	9	41	503	43	26	34	21	0	0	0
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	63	720	0	0	50	546	0	0	81	0	0	0	0
Turn Type	Perm	Perm	NA		Prot	D.P+P	NA		Perm	NA				
Protected Phases			1		3	3	1 3			2				
Permitted Phases	1	1				1			2					
Detector Phase	1	1	1		3	3	1 3		2	2				
Switch Phase														
Minimum Initial (s)	8.0	8.0	8.0		6.0	6.0			8.0	8.0				
Minimum Split (s)	56.0	56.0	56.0		10.0	10.0			30.0	30.0				
Total Split (s)	56.0	56.0	56.0		10.0	10.0			34.0	34.0				
Total Split (%)	56.0%	56.0%	56.0%		10.0%	10.0%			34.0%	34.0%				
Maximum Green (s)	51.0	51.0	51.0		6.0	6.0			28.0	28.0				
Yellow Time (s)	3.0	3.0	3.0		2.0	2.0			3.0	3.0				
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0			3.0	3.0				
Lost Time Adjust (s)		0.0	0.0			0.0				0.0				
Total Lost Time (s)		5.0	5.0			4.0				6.0				
Lead/Lag	Lead	Lead	Lead						Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes						Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0			3.0	3.0				
Recall Mode	C-Max	C-Max	C-Max		None	None			None	None				
Walk Time (s)	46.0	46.0	46.0						7.0	7.0				
Flash Dont Walk (s)	5.0	5.0	5.0						17.0	17.0				
Pedestrian Calls (#/hr)	0	0	0						273	273				
Act Effct Green (s)		55.0	55.0			62.0	65.0			24.0				
Actuated g/C Ratio		0.55	0.55			0.62	0.65			0.24				
v/c Ratio		0.18	0.45			0.13	0.29			0.25				
Control Delay		12.9	14.0			6.9	7.8			26.5				
Queue Delay		0.0	0.0			0.0	0.0			0.0				
Total Delay		12.9	14.0			6.9	7.8			26.5				
LOS		B	B			A	A			C				
Approach Delay			13.9				7.7			26.5				
Approach LOS			B				A			C				
Queue Length 50th (ft)		19	131			10	68			32				
Queue Length 95th (ft)		43	176			23	95			69				
Internal Link Dist (ft)			457				408			234			187	
Turn Bay Length (ft)		125				100								
Base Capacity (vph)		353	1608			371	1880			379				
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	0.45			0.13	0.29			0.21				

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 25 (25%), Referenced to phase 1:EBWB, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.45
 Intersection Signal Delay: 12.1
 Intersection Capacity Utilization 81.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 3: Gainsborough Street & Huntington Avenue



													
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	1	67	0	3	1	111	0	0	0	2	0	0	2
Future Volume (Veh/h)	1	67	0	3	1	111	0	0	0	2	0	0	2
Sign Control		Free				Free			Stop			Stop	
Grade		0%				0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.75	0.75	0.75	0.75	0.50	0.50	0.50	0.50	0.50	0.50
Hourly flow rate (vph)	1	87	0	0	1	148	0	0	0	4	0	0	4
Pedestrians		13				3			67			14	
Lane Width (ft)		12.0				12.0			12.0			12.0	
Walking Speed (ft/s)		3.5				3.5			3.5			3.5	
Percent Blockage		1				0			6			1	
Right turn flare (veh)													
Median type	None			None									
Median storage (veh)													
Upstream signal (ft)						145							
pX, platoon unblocked	1.00			0.00				1.00	1.00		1.00	1.00	1.00
vC, conflicting volume	162			0	154			323	320	157	260	320	175
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	158			0	154			320	317	157	257	317	171
tC, single (s)	4.1			0.0	4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)													
tF (s)	2.2			0.0	2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			0	100			100	100	100	100	100	100
cM capacity (veh/h)	1411			0	1347			550	554	834	643	554	853
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	88	149	4	4									
Volume Left	1	1	0	0									
Volume Right	0	0	4	4									
cSH	1411	1347	834	853									
Volume to Capacity	0.00	0.00	0.00	0.00									
Queue Length 95th (ft)	0	0	0	0									
Control Delay (s)	0.1	0.1	9.3	9.2									
Lane LOS	A	A	A	A									
Approach Delay (s)	0.1	0.1	9.3	9.2									
Approach LOS			A	A									
Intersection Summary													
Average Delay				0.4									
Intersection Capacity Utilization				25.9%	ICU Level of Service			A					
Analysis Period (min)				15									

Intersection																
Intersection Delay, s/veh	8.5															
Intersection LOS	A															
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			↕				↕				↕				↕	
Traffic Vol, veh/h	0	9	6	2	0	60	14	47	0	7	13	7	0	60	63	5
Future Vol, veh/h	0	9	6	2	0	60	14	47	0	7	13	7	0	60	63	5
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.81	0.81	0.81	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	78	67	0	2	2	43	10	2	0	0	14	2	13	0	0
Mvmt Flow	0	11	7	2	0	74	17	58	0	8	15	8	0	71	75	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Approach	EB				WB				NB				SB			
Opposing Approach	WB				EB				SB				NB			
Opposing Lanes	1				1				1				1			
Conflicting Approach Left	SB				NB				EB				WB			
Conflicting Lanes Left	1				1				1				1			
Conflicting Approach Right	NB				SB				WB				EB			
Conflicting Lanes Right	1				1				1				1			
HCM Control Delay	9.1				8.2				7.6				8.8			
HCM LOS	A				A				A				A			
Lane	NBLn1	EBLn1	WBLn1	SBLn1												
Vol Left, %	26%	53%	50%	47%												
Vol Thru, %	48%	35%	12%	49%												
Vol Right, %	26%	12%	39%	4%												
Sign Control	Stop	Stop	Stop	Stop												
Traffic Vol by Lane	27	17	121	128												
LT Vol	7	9	60	60												
Through Vol	13	6	14	63												
RT Vol	7	2	47	5												
Lane Flow Rate	32	20	149	152												
Geometry Grp	1	1	1	1												
Degree of Util (X)	0.039	0.033	0.177	0.196												
Departure Headway (Hd)	4.369	5.874	4.274	4.624												
Convergence, Y/N	Yes	Yes	Yes	Yes												
Cap	821	611	843	779												
Service Time	2.386	3.891	2.286	2.636												
HCM Lane V/C Ratio	0.039	0.033	0.177	0.195												
HCM Control Delay	7.6	9.1	8.2	8.8												
HCM Lane LOS	A	A	A	A												
HCM 95th-tile Q	0.1	0.1	0.6	0.7												

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Volume (veh/h)	151	0	0	149	0	0
Future Volume (Veh/h)	151	0	0	149	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.92	0.92	0.25	0.25
Hourly flow rate (vph)	176	0	0	162	0	0
Pedestrians	163					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	16					
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage (veh)	2			2		
Upstream signal (ft)	488			159		
pX, platoon unblocked						
vC, conflicting volume			176		420	88
vC1, stage 1 conf vol					176	
vC2, stage 2 conf vol					244	
vCu, unblocked vol			176		420	88
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1412		618	959
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	117	59	81	81	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.07	0.03	0.05	0.05	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS					A	
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS					A	
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			8.0%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2	1	0	0	0
Future Volume (Veh/h)	0	2	1	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2	1	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1020	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	2	1	0			
Volume Left	0	1	0			
Volume Right	2	0	0			
cSH	1085	1623	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.3	7.2	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.3	7.2	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		8.0				
Intersection Capacity Utilization		13.3%		ICU Level of Service	A	
Analysis Period (min)		15				

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	68	113	0	0	8
Future Volume (Veh/h)	5	68	113	0	0	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	74	123	0	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			541			
pX, platoon unblocked						
vC, conflicting volume	123				207	123
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	123				207	123
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1464				779	928
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	79	123	9			
Volume Left	5	0	0			
Volume Right	0	0	9			
cSH	1464	1700	928			
Volume to Capacity	0.00	0.07	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.5	0.0	8.9			
Lane LOS	A		A			
Approach Delay (s)	0.5	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization		17.7%		ICU Level of Service	A	
Analysis Period (min)		15				

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6
Lane Configurations															
Traffic Volume (vph)	58	29	67	1	105	33	34	80	885	75	0	998	116		
Future Volume (vph)	58	29	67	1	105	33	34	80	885	75	0	998	116		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95		
Ped Bike Factor		0.87				0.72		0.91	0.96			0.94			
Frt		0.935				0.971			0.988			0.984			
Flt Protected		0.981				0.970		0.950							
Satd. Flow (prot)	0	2736	0	0	0	2840	0	1624	2992	0	0	2903	0		
Flt Permitted		0.981				0.970		0.950							
Satd. Flow (perm)	0	2587	0	0	0	2125	0	1482	2992	0	0	2903	0		
Right Turn on Red			No				No			No			No		
Satd. Flow (RTOR)															
Link Speed (mph)		30				30			30			30			
Link Distance (ft)		159				495			334			341			
Travel Time (s)		3.6				11.3			7.6			7.8			
Confl. Peds. (#/hr)	82		69	506	69		82	762		506	506		762		
Confl. Bikes (#/hr)			2				6			42			44		
Peak Hour Factor	0.80	0.80	0.80	0.96	0.96	0.96	0.96	0.94	0.94	0.94	0.85	0.85	0.85		
Heavy Vehicles (%)	0%	0%	0%	100%	4%	3%	0%	0%	2%	13%	0%	4%	3%		
Adj. Flow (vph)	73	36	84	1	109	34	35	85	941	80	0	1174	136		
Shared Lane Traffic (%)															
Lane Group Flow (vph)	0	193	0	0	0	179	0	85	1021	0	0	1310	0		
Turn Type	Split	NA		Split	Split	NA		Prot	NA			NA			
Protected Phases	7	7		5	5	5		3	1			1		2	6
Permitted Phases															
Detector Phase	7	7		5	5	5		3	1			1			
Switch Phase															
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0	10.0			10.0		1.0	1.0
Minimum Split (s)	21.0	21.0		23.5	23.5	23.5		15.5	20.5			20.5		6.0	6.0
Total Split (s)	22.0	22.0		25.0	25.0	25.0		18.0	43.0			43.0		6.0	6.0
Total Split (%)	18.3%	18.3%		20.8%	20.8%	20.8%		15.0%	35.8%			35.8%		5%	5%
Maximum Green (s)	15.0	15.0		17.5	17.5	17.5		10.5	35.5			35.5		4.0	4.0
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5	3.5			3.5		2.0	2.0
All-Red Time (s)	3.5	3.5		4.0	4.0	4.0		4.0	4.0			4.0		0.0	0.0
Lost Time Adjust (s)		0.0				0.0		0.0	0.0			0.0			
Total Lost Time (s)		7.0				7.5		7.5	7.5			7.5			
Lead/Lag				Lag	Lag	Lag		Lag	Lead			Lead		Lead	
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes			Yes		Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		2.0	2.0			2.0		2.0	2.0
Recall Mode	Ped	Ped		Ped	Ped	Ped		Ped	C-Max			C-Max		Ped	Max
Walk Time (s)	4.0	4.0		4.0	4.0	4.0		1.0	7.0			7.0		4.0	4.0
Flash Dont Walk (s)	10.0	10.0		12.0	12.0	12.0		6.0	6.0			6.0		0.0	0.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0	0			0		0	0
Act Effect Green (s)		14.3				16.0		9.7	38.5			38.5			
Actuated g/C Ratio		0.12				0.13		0.08	0.32			0.32			
v/c Ratio		0.59				0.47		0.65	1.06			1.41			
Control Delay		58.1				52.7		82.3	103.2			221.9			
Queue Delay		0.0				0.0		0.0	16.9			2.5			
Total Delay		58.1				52.7		82.3	120.1			224.4			
LOS		E				D		F	F			F			
Approach Delay		58.1				52.7			117.2			224.4			
Approach LOS		E				D			F			F			
Queue Length 50th (ft)		75				68		55	~480			~721			
Queue Length 95th (ft)		101				106		m98	#629			#800			
Internal Link Dist (ft)		79				415			254			261			
Turn Bay Length (ft)															
Base Capacity (vph)		342				414		142	960			932			
Starvation Cap Reductn		0				0		0	327			0			
Spillback Cap Reductn		0				0		0	0			320			
Storage Cap Reductn		0				0		0	0			0			
Reduced v/c Ratio		0.56				0.43		0.60	1.61			2.14			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	16	161	71	25	30	52	969	61	71	1072	26
Future Volume (vph)	38	16	161	71	25	30	52	969	61	71	1072	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	25		0	25		0	100		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.88	0.87		0.93	0.91		0.93	0.98		0.95	0.99	
Frt		0.864			0.918			0.991			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1624	1268	0	1608	1436	0	1577	3064	0	1608	3071	0
Flt Permitted	0.671			0.315			0.160			0.164		
Satd. Flow (perm)	1007	1268	0	498	1436	0	248	3064	0	263	3071	0
Right Turn on Red			No			No			No			Yes
Satd. Flow (RTOR)											3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		145			377			341			334	
Travel Time (s)		3.3			8.6			7.8			7.6	
Confl. Peds. (#/hr)	87		82	82		87	605		369	369		605
Confl. Bikes (#/hr)			5			7			111			109
Peak Hour Factor	0.65	0.65	0.65	0.60	0.60	0.60	0.87	0.87	0.87	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	3%	3%	0%	1%	4%	4%
Adj. Flow (vph)	58	25	248	118	42	50	60	1114	70	83	1247	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	273	0	118	92	0	60	1184	0	83	1277	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		10.0	77.0		10.0	71.0	
Total Split (s)	31.0	31.0		31.0	31.0		18.0	77.0		12.0	71.0	
Total Split (%)	25.8%	25.8%		25.8%	25.8%		15.0%	64.2%		10.0%	59.2%	
Maximum Green (s)	27.0	27.0		27.0	27.0		14.0	73.0		8.0	67.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
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 Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		None	C-Max		Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			66.0			60.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			7.0			7.0	
Pedestrian Calls (#/hr)	169	169		169	169			0			0	
Act Effct Green (s)	27.0	27.0		27.0	27.0		79.3	73.0		83.1	76.7	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.66	0.61		0.69	0.64	
v/c Ratio	0.26	0.96		1.05	0.28		0.26	0.64		0.31	0.65	
Control Delay	41.9	90.2		146.1	41.4		8.2	17.0		6.4	27.2	
Queue Delay	11.7	0.0		0.0	11.6		0.0	27.7		0.0	50.6	
Total Delay	53.6	90.2		146.1	52.9		8.2	44.7		6.4	77.8	
LOS	D	F		F	D		A	D		A	E	
Approach Delay		83.8			105.3			42.9			73.5	
Approach LOS		F			F			D			E	
Queue Length 50th (ft)	37	210		~100	59		13	290		21	511	
Queue Length 95th (ft)	55	211		#119	70		25	338		m16	m391	
Internal Link Dist (ft)		65			297			261			254	
Turn Bay Length (ft)	25			25			100					
Base Capacity (vph)	226	285		112	323		330	1863		271	1963	
Starvation Cap Reductn	0	0		0	0		0	0		0	1113	
Spillback Cap Reductn	141	0		0	201		0	730		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.68	0.96		1.05	0.75		0.18	1.05		0.31	1.50	

Intersection Summary

Area Type: CBD
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 87 (73%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 64.6
 Intersection LOS: E
 Intersection Capacity Utilization 100.5%
 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.

Splits and Phases: 2: Massachusetts Avenue & St. Botolph Street



	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group														
Lane Configurations		↔	↔			↔	↔			↔				
Traffic Volume (vph)	27	51	666	122	19	39	679	56	30	54	35	0	0	0
Future Volume (vph)	27	51	666	122	19	39	679	56	30	54	35	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		125		60		100		0	0		0	0		0
Storage Lanes		1		0		1		0	0		0	0		0
Taper Length (ft)		50				50			50			50		
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.89		0.91		0.85		0.96		0.84				
Frt			0.977				0.989			0.960				
Flt Protected		0.950				0.950				0.987				
Satd. Flow (prot)	0	1583	2799	0	0	1567	3011	0	0	1423	0	0	0	0
Flt Permitted		0.315				0.297				0.987				
Satd. Flow (perm)	0	467	2799	0	0	418	3011	0	0	1319	0	0	0	0
Right Turn on Red				Yes				Yes			Yes			Yes
Satd. Flow (RTOR)			32				17			20				
Link Speed (mph)			30				30			30			30	
Link Distance (ft)			537				488			314			267	
Travel Time (s)			12.2				11.1			7.1			6.1	
Confl. Peds. (#/hr)	230	481		225	335	225		481	230		335	335		230
Confl. Bikes (#/hr)				17				18			4			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.88	0.88	0.88	0.88	0.94	0.94	0.94	0.25	0.25	0.25
Heavy Vehicles (%)	0%	4%	3%	2%	5%	3%	3%	0%	4%	0%	6%	0%	0%	0%
Adj. Flow (vph)	29	55	724	133	22	44	772	64	32	57	37	0	0	0
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	84	857	0	0	66	836	0	0	126	0	0	0	0
Turn Type	Perm	Perm	NA		Prot	D.P+P	NA		Perm	NA				
Protected Phases			1		3	3	1 3			2				
Permitted Phases	1	1				1			2					
Detector Phase	1	1	1		3	3	1 3		2	2				
Switch Phase														
Minimum Initial (s)	8.0	8.0	8.0		6.0	6.0			8.0	8.0				
Minimum Split (s)	23.0	23.0	23.0		10.0	10.0			30.0	30.0				
Total Split (s)	58.0	58.0	58.0		10.0	10.0			32.0	32.0				
Total Split (%)	58.0%	58.0%	58.0%		10.0%	10.0%			32.0%	32.0%				
Maximum Green (s)	53.0	53.0	53.0		6.0	6.0			26.0	26.0				
Yellow Time (s)	3.0	3.0	3.0		2.0	2.0			3.0	3.0				
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0			3.0	3.0				
Lost Time Adjust (s)		0.0	0.0			0.0				0.0				
Total Lost Time (s)		5.0	5.0			4.0				6.0				
Lead/Lag	Lead	Lead	Lead						Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes						Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0			3.0	3.0				
Recall Mode	C-Max	C-Max	C-Max		None	None			Min	Min				
Walk Time (s)	7.0	7.0	7.0						7.0	7.0				
Flash Dont Walk (s)	5.0	5.0	5.0						17.0	17.0				
Pedestrian Calls (#/hr)	0	0	0						0	0				
Act Effct Green (s)		65.3	65.3			72.3	75.3			13.7				
Actuated g/C Ratio		0.65	0.65			0.72	0.75			0.14				
v/c Ratio		0.28	0.47			0.18	0.37			0.64				
Control Delay		11.6	9.9			4.9	5.1			48.0				
Queue Delay		0.0	0.0			0.0	0.0			0.0				
Total Delay		11.6	9.9			4.9	5.1			48.0				
LOS		B	A			A	A			D				
Approach Delay			10.1				5.1			48.0				
Approach LOS			B				A			D				
Queue Length 50th (ft)		20	123			8	76			65				
Queue Length 95th (ft)		58	201			23	131			117				
Internal Link Dist (ft)			457				408			234			187	
Turn Bay Length (ft)		125				100								
Base Capacity (vph)		304	1839			371	2272			357				
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	0.47			0.18	0.37			0.35				

Intersection Summary

Area Type:	CBD
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	62 (62%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	10.2
Intersection Capacity Utilization:	63.6%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	B

Splits and Phases: 3: Gainsborough Street & Huntington Avenue

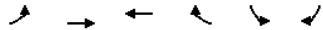


														
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations														
Traffic Volume (veh/h)	0	209	1	2	5	96	0	3	0	3	1	0	1	
Future Volume (Veh/h)	0	209	1	2	5	96	0	3	0	3	1	0	1	
Sign Control		Free				Free			Stop			Stop		
Grade		0%				0%			0%			0%		
Peak Hour Factor	0.63	0.63	0.63	0.65	0.65	0.65	0.65	0.38	0.38	0.38	0.50	0.50	0.50	
Hourly flow rate (vph)	0	332	2	0	8	148	0	8	0	8	2	0	2	
Pedestrians		66				1			85			54		
Lane Width (ft)		12.0				12.0			12.0			12.0		
Walking Speed (ft/s)		3.5				3.5			3.5			3.5		
Percent Blockage		6				0			8			5		
Right turn flare (veh)														
Median type		None				None								
Median storage (veh)														
Upstream signal (ft)						145								
pX, platoon unblocked	0.99			0.00				0.99	0.99		0.99	0.99	0.99	
vC, conflicting volume	202			0	419			650	636	419	560	637	268	
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	194			0	419			645	631	419	555	632	261	
tC, single (s)	4.1			0.0	4.1			7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)														
tF (s)	2.2			0.0	2.2			3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100			0	99			97	100	99	99	100	100	
cM capacity (veh/h)	1312			0	1058			297	345	586	371	344	692	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	334	156	16	4										
Volume Left	0	8	8	2										
Volume Right	2	0	8	2										
cSH	1312	1058	394	483										
Volume to Capacity	0.00	0.01	0.04	0.01										
Queue Length 95th (ft)	0	1	3	1										
Control Delay (s)	0.0	0.5	14.5	12.5										
Lane LOS		A	B	B										
Approach Delay (s)	0.0	0.5	14.5	12.5										
Approach LOS			B	B										
Intersection Summary														
Average Delay	0.7													
Intersection Capacity Utilization	32.2%			ICU Level of Service			A							
Analysis Period (min)	15													

Intersection																
Intersection Delay, s/veh	9.1															
Intersection LOS	A															
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			↔				↔				↔				↔	
Traffic Vol, veh/h	0	8	30	2	3	41	22	41	0	3	67	44	3	121	28	9
Future Vol, veh/h	0	8	30	2	3	41	22	41	0	3	67	44	3	121	28	9
Peak Hour Factor	0.92	0.45	0.45	0.45	0.68	0.68	0.68	0.68	0.92	0.84	0.84	0.84	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	38	0	0	0	0	5	3	2	0	0	0	0	2	0	22
Mvmt Flow	0	18	67	4	4	60	32	60	0	4	80	52	4	148	34	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Approach	EB				WB				NB				SB			
Opposing Approach	WB				EB				SB				NB			
Opposing Lanes	1				1				1				1			
Conflicting Approach Left	SB				NB				EB				WB			
Conflicting Lanes Left	1				1				1				1			
Conflicting Approach Right	NB				SB				WB				EB			
Conflicting Lanes Right	1				1				1				1			
HCM Control Delay	9.5				8.9				8.5				9.5			
HCM LOS	A				A				A				A			
Lane	NBLn1	EBLn1	WBLn1	SBLn1												
Vol Left, %	3%	20%	39%	77%												
Vol Thru, %	59%	75%	21%	18%												
Vol Right, %	39%	5%	39%	6%												
Sign Control	Stop	Stop	Stop	Stop												
Traffic Vol by Lane	114	40	107	161												
LT Vol	3	8	42	123												
Through Vol	67	30	23	29												
RT Vol	44	2	42	9												
Lane Flow Rate	136	89	157	196												
Geometry Grp	1	1	1	1												
Degree of Util (X)	0.171	0.137	0.203	0.261												
Departure Headway (Hd)	4.533	5.538	4.651	4.794												
Convergence, Y/N	Yes	Yes	Yes	Yes												
Cap	787	644	768	746												
Service Time	2.582	3.594	2.703	2.839												
HCM Lane V/C Ratio	0.173	0.138	0.204	0.263												
HCM Control Delay	8.5	9.5	8.9	9.5												
HCM Lane LOS	A	A	A	A												
HCM 95th-tile Q	0.6	0.5	0.8	1												

	→	↖	↗	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Volume (veh/h)	153	1	0	226	0	2
Future Volume (Veh/h)	153	1	0	226	0	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.92	0.92	0.50	0.50
Hourly flow rate (vph)	191	1	0	246	0	4
Pedestrians	515					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	49					
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage (veh)	2			2		
Upstream signal (ft)	488			159		
pX, platoon unblocked						
vC, conflicting volume			192		830	96
vC1, stage 1 conf vol					192	
vC2, stage 2 conf vol					638	
vCu, unblocked vol			192		830	96
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1394		244	948
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	127	65	123	123	4	
Volume Left	0	0	0	0	0	
Volume Right	0	1	0	0	4	
cSH	1700	1700	1700	1700	948	
Volume to Capacity	0.07	0.04	0.07	0.07	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	8.8	
Lane LOS					A	
Approach Delay (s)	0.0		0.0		8.8	
Approach LOS					A	
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			14.7%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	1	0	0	1	0
Future Volume (Veh/h)	2	1	0	0	1	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1	0	0	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1	1	1			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1	1	1			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1022	1084	1622			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	3	0	1			
Volume Left	2	0	0			
Volume Right	1	0	0			
cSH	1042	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.5	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.5	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		6.3				
Intersection Capacity Utilization		13.3%		ICU Level of Service	A	
Analysis Period (min)		15				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↱	↱		↱	
Traffic Volume (veh/h)	0	198	99	0	12	8
Future Volume (Veh/h)	0	198	99	0	12	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	215	108	0	13	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			527			
pX, platoon unblocked						
vC, conflicting volume	108				323	108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	108				323	108
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	1483				671	946
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	215	108	22			
Volume Left	0	0	13			
Volume Right	0	0	9			
cSH	1483	1700	761			
Volume to Capacity	0.00	0.06	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization		20.4%		ICU Level of Service	A	
Analysis Period (min)		15				

	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6
Lane Configurations		↔				↔		↔	↔			↔			
Traffic Volume (vph)	86	12	58	2	105	17	40	60	935	82	0	823	78		
Future Volume (vph)	86	12	58	2	105	17	40	60	935	82	0	823	78		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0		0		0		0	150		0	0		0		
Storage Lanes	0		0		0		0	1		0	0		0		
Taper Length (ft)	50				50			0			50				
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95		
Ped Bike Factor		0.93				0.79			0.97			0.95			
Frt		0.944				0.964			0.988			0.987			
Flt Protected		0.973				0.968		0.950							
Satd. Flow (prot)	0	2651	0	0	0	2554	0	1624	2892	0	0	2846	0		
Flt Permitted		0.973				0.968		0.106							
Satd. Flow (perm)	0	2545	0	0	0	2059	0	181	2892	0	0	2846	0		
Right Turn on Red			No				No			No			No		
Satd. Flow (RTOR)															
Link Speed (mph)		30				30			30			30			
Link Distance (ft)		159				495			334			341			
Travel Time (s)		3.6				11.3			7.6			7.8			
Confl. Peds. (#/hr)	41		31	231	31		41	497		231	231		497		
Confl. Bikes (#/hr)							1			58			58		
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.98	0.98	0.98	0.92	0.92	0.92		
Heavy Vehicles (%)	10%	33%	2%	100%	13%	25%	15%	0%	7%	14%	0%	8%	3%		
Adj. Flow (vph)	93	13	63	2	111	18	42	61	954	84	0	895	85		
Shared Lane Traffic (%)															
Lane Group Flow (vph)	0	169	0	0	0	173	0	61	1038	0	0	980	0		
Turn Type	Split	NA		Split	Split	NA		pm+pt	NA			NA			
Protected Phases	7	7		5	5	5		3	13			1		2	6
Permitted Phases								13							
Detector Phase	7	7		5	5	5		3	13			1			
Switch Phase															
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0				10.0		1.0	1.0
Minimum Split (s)	21.0	21.0		23.5	23.5	23.5		15.5				20.5		6.0	6.0
Total Split (s)	22.0	22.0		25.0	25.0	25.0		18.0				43.0		6.0	6.0
Total Split (%)	18.3%	18.3%		20.8%	20.8%	20.8%		15.0%				35.8%		5%	5%
Maximum Green (s)	15.0	15.0		17.5	17.5	17.5		10.5				35.5		4.0	4.0
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5				3.5		2.0	2.0
All-Red Time (s)	3.5	3.5		4.0	4.0	4.0		4.0				4.0		0.0	0.0
Lost Time Adjust (s)		0.0				0.0		0.0				0.0			
Total Lost Time (s)		7.0				7.5		7.5				7.5			
Lead/Lag				Lag	Lag	Lag		Lag				Lead		Lead	
Lead-Lag Optimize?				Yes	Yes	Yes		Yes				Yes		Yes	
Vehicle Extension (s)		2.0	2.0		2.0	2.0		2.0				2.0		2.0	2.0
Recall Mode	Ped	Ped		Ped	Ped	Ped		Ped				C-Max		Ped	Max
Walk Time (s)	4.0	4.0		4.0	4.0	4.0		1.0				7.0		4.0	4.0
Flash Dont Walk (s)	10.0	10.0		12.0	12.0	12.0		6.0				6.0		0.0	0.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0				0		0	0
Act Effct Green (s)		14.2				16.1		48.2	55.7			37.9			
Actuated g/C Ratio		0.12				0.13		0.40	0.46			0.32			
v/c Ratio		0.54				0.50		0.31	0.77			1.09			
Control Delay		56.7				53.8		41.6	38.4			97.2			
Queue Delay		0.0				2.0		0.0	51.1			3.8			
Total Delay		56.7				55.8		41.6	89.5			101.0			
LOS		E				E		D	F			F			
Approach Delay		56.7				55.8			86.8			101.0			
Approach LOS		E				E			F			F			
Queue Length 50th (ft)		65				66		36	446			~448			
Queue Length 95th (ft)		103				104		m39	523			#598			
Internal Link Dist (ft)		79				415			254			261			
Turn Bay Length (ft)								150							
Base Capacity (vph)		331				372		199	1346			898			
Starvation Cap Reductn		0				0		0	656			0			
Spillback Cap Reductn		0				96		0	0			44			
Storage Cap Reductn		0				0		0	0			0			
Reduced v/c Ratio		0.51				0.63		0.31	1.50			1.15			

Intersection Summary

Area Type:	CBD
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	46 (38%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.09
Intersection Signal Delay:	88.3
Intersection Capacity Utilization:	67.6%
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: Massachusetts Avenue & Huntington Avenue



	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6
Lane Configurations														
Traffic Volume (vph)	9	6	59	39	12	19	65	1049	53	31	914	41		
Future Volume (vph)	9	6	59	39	12	19	65	1049	53	31	914	41		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	25		0	25		0	100		0	50		0		
Storage Lanes	1		0	1		0	0		0	1		0		
Taper Length (ft)	50			50			50			25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95		
Ped Bike Factor	0.98	0.96		0.97	0.97			0.99		0.99	0.99			
Frt		0.865			0.907			0.993			0.994			
Flt Protected	0.950			0.950				0.997		0.950				
Satd. Flow (prot)	1128	1267	0	1624	1512	0	0	2966	0	1477	2955	0		
Flt Permitted	0.735			0.711				0.782		0.176				
Satd. Flow (perm)	856	1267	0	1182	1512	0	0	2324	0	271	2955	0		
Right Turn on Red			No			No			No			No		
Satd. Flow (RTOR)														
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		145			377			341			334			
Travel Time (s)		3.3			8.6			7.8			7.6			
Confl. Peds. (#/hr)	11		17	17		11	115		69	69		115		
Confl. Bikes (#/hr)			7			12			94			97		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.93	0.93	0.93		
Heavy Vehicles (%)	44%	0%	13%	0%	0%	0%	8%	8%	2%	10%	8%	18%		
Adj. Flow (vph)	10	7	64	42	13	21	68	1093	55	33	983	44		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	10	71	0	42	34	0	0	1216	0	33	1027	0		
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA			
Protected Phases		5			5			1			1		2	6
Permitted Phases	5			5			1			1				
Detector Phase	5	5		5	5		1	1		1	1			
Switch Phase														
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		1.0	1.0
Minimum Split (s)	25.5	25.5		25.5	25.5		70.0	70.0		70.0	70.0		6.0	6.0
Total Split (s)	38.0	38.0		38.0	38.0		70.0	70.0		70.0	70.0		6.0	6.0
Total Split (%)	31.7%	31.7%		31.7%	31.7%		58.3%	58.3%		58.3%	58.3%		5%	5%
Maximum Green (s)	32.5	32.5		32.5	32.5		64.5	64.5		64.5	64.5		4.0	4.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5		2.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0			
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.5		5.5	5.5			
Lead/Lag	Lag	Lag		Lag	Lag								Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Ped	Ped		Ped	Ped		C-Max	C-Max		C-Max	C-Max		Ped	Ped
Walk Time (s)	3.0	3.0		3.0	3.0		54.5	54.5		54.5	54.5		4.0	4.0
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		10.0	10.0		10.0	10.0		0.0	0.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0		0	0
Act Effct Green (s)	20.0	20.0		20.0	20.0			77.0		77.0	77.0			
Actuated g/C Ratio	0.17	0.17		0.17	0.17			0.64		0.64	0.64			
v/c Ratio	0.07	0.34		0.21	0.13			0.82		0.19	0.54			
Control Delay	44.7	50.0		46.5	44.3			21.9		21.4	24.8			
Queue Delay	0.0	0.0		0.0	0.0			50.1		0.0	13.9			
Total Delay	44.7	50.0		46.5	44.3			72.0		21.4	38.7			
LOS	D	D		D	D			E		C	D			
Approach Delay		49.3			45.5			72.0			38.2			
Approach LOS		D			D			E			D			
Queue Length 50th (ft)	7	49		28	23			345		15	287			
Queue Length 95th (ft)	m23	m96		64	54			457		m17	m263			
Internal Link Dist (ft)		65			297			261			254			
Turn Bay Length (ft)	25			25						50				
Base Capacity (vph)	231	343		320	409			1491		173	1896			
Starvation Cap Reductn	0	0		0	0			0		0	864			
Spillback Cap Reductn	0	0		0	0			717		0	0			
Storage Cap Reductn	0	0		0	0			0		0	0			
Reduced v/c Ratio	0.04	0.21		0.13	0.08			1.57		0.19	1.00			

Intersection Summary

Area Type:	CBD
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	55.7
Intersection Capacity Utilization:	114.5%
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Massachusetts Avenue & St. Botolph Street



														
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (vph)	22	37	584	94	8	38	469	40	22	30	19	0	0	0
Future Volume (vph)	22	37	584	94	8	38	469	40	22	30	19	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		125		60		100		0		0		0		0
Storage Lanes		1		0		1		0		0		0		0
Taper Length (ft)		125				50				50		50		
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.91	0.99			0.93	0.99			0.90				
Frt			0.979				0.988			0.964				
Flt Protected		0.950				0.950				0.985				
Satd. Flow (prot)	0	1566	2904	0	0	1548	2886	0	0	1371	0	0	0	0
Flt Permitted		0.425				0.325				0.985				
Satd. Flow (perm)	0	638	2904	0	0	490	2886	0	0	1309	0	0	0	0
Right Turn on Red				Yes				Yes			Yes			Yes
Satd. Flow (RTOR)			26				16			18				
Link Speed (mph)			30				30			30			30	
Link Distance (ft)			537				488			314			267	
Travel Time (s)			12.2				11.1			7.1			6.1	
Confl. Peds. (#/hr)	117	220		75	156	75		220	117		156	156		117
Confl. Bikes (#/hr)				12				12			6			
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	0.92	0.92
Heavy Vehicles (%)	0%	6%	9%	2%	0%	6%	10%	10%	14%	7%	17%	0%	0%	0%
Adj. Flow (vph)	24	40	635	102	9	41	510	43	24	33	21	0	0	0
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	64	737	0	0	50	553	0	0	78	0	0	0	0
Turn Type	Perm	Perm	NA		Prot	pm+pt	NA		Perm	NA				
Protected Phases			1		3	3	1			2				
Permitted Phases	1	1				1	3		2					
Detector Phase	1	1	1		3	3	1		2	2				
Switch Phase														
Minimum Initial (s)	8.0	8.0	8.0		6.0	6.0	8.0		8.0	8.0				
Minimum Split (s)	56.0	56.0	56.0		10.0	10.0	56.0		30.0	30.0				
Total Split (s)	56.0	56.0	56.0		10.0	10.0	56.0		34.0	34.0				
Total Split (%)	56.0%	56.0%	56.0%		10.0%	10.0%	56.0%		34.0%	34.0%				
Maximum Green (s)	51.0	51.0	51.0		6.0	6.0	51.0		28.0	28.0				
Yellow Time (s)	3.0	3.0	3.0		2.0	2.0	3.0		3.0	3.0				
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0		3.0	3.0				
Lost Time Adjust (s)		0.0	0.0			0.0	0.0			0.0				
Total Lost Time (s)		5.0	5.0			4.0	5.0			6.0				
Lead/Lag	Lead	Lead	Lead						Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes		Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0				
Recall Mode	C-Max	C-Max	C-Max		None	None	C-Max		None	None				
Walk Time (s)	46.0	46.0	46.0				46.0		7.0	7.0				
Flash Dont Walk (s)	5.0	5.0	5.0				5.0		17.0	17.0				
Pedestrian Calls (#/hr)	0	0	0				0		273	273				
Act Effct Green (s)		57.0	57.0			62.8	65.0			24.0				
Actuated g/C Ratio		0.57	0.57			0.63	0.65			0.24				
v/c Ratio		0.18	0.44			0.13	0.29			0.24				
Control Delay		12.9	13.4			6.9	7.8			26.3				
Queue Delay		0.0	0.0			0.0	0.0			0.0				
Total Delay		12.9	13.4			6.9	7.8			26.3				
LOS		B	B			A	A			C				
Approach Delay			13.3				7.7			26.3				
Approach LOS			B				A			C				
Queue Length 50th (ft)		19	135			10	70			31				
Queue Length 95th (ft)		44	181			23	96			71				
Internal Link Dist (ft)			457				408			234			187	
Turn Bay Length (ft)		125				100								
Base Capacity (vph)		363	1666			371	1881			379				
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	0.44			0.13	0.29			0.21				

Intersection Summary

Area Type:	CBD
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	69 (69%), Referenced to phase 1:EBWB, Start of Green
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	11.7
Intersection Capacity Utilization:	82.5%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	E

Splits and Phases: 3: Gainsborough Street & Huntington Avenue/Huntington Avenue

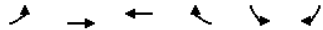


													
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Volume (veh/h)	1	69	0	3	1	115	0	0	0	2	0	0	2
Future Volume (Veh/h)	1	69	0	3	1	115	0	0	0	2	0	0	2
Sign Control		Free				Free			Stop			Stop	
Grade		0%				0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.75	0.75	0.75	0.75	0.50	0.50	0.50	0.50	0.50	0.50
Hourly flow rate (vph)	1	90	0	0	1	153	0	0	0	4	0	0	4
Pedestrians		13				3			67			14	
Lane Width (ft)		12.0				12.0			12.0			12.0	
Walking Speed (ft/s)		3.5				3.5			3.5			3.5	
Percent Blockage		1				0			6			1	
Right turn flare (veh)													
Median type		None				None							
Median storage (veh)													
Upstream signal (ft)						145							
pX, platoon unblocked				0.00									
vC, conflicting volume	167			0	157			331	328	160	268	328	180
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	167			0	157			331	328	160	268	328	180
tC, single (s)	4.1			0.0	4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)													
tF (s)	2.2			0.0	2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			0	100			100	100	100	100	100	100
cM capacity (veh/h)	1404			0	1344			542	548	831	634	548	846
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total	91	154	4	4									
Volume Left	1	1	0	0									
Volume Right	0	0	4	4									
cSH	1404	1344	831	846									
Volume to Capacity	0.00	0.00	0.00	0.00									
Queue Length 95th (ft)	0	0	0	0									
Control Delay (s)	0.1	0.1	9.4	9.3									
Lane LOS	A	A	A	A									
Approach Delay (s)	0.1	0.1	9.4	9.3									
Approach LOS			A	A									
Intersection Summary													
Average Delay			0.4										
Intersection Capacity Utilization			25.9%	ICU Level of Service		A							
Analysis Period (min)			15										

Intersection																	
Intersection Delay, s/veh	8.5																
Intersection LOS	A																
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	
Lane Configurations			↔				↔				↔				↔		
Traffic Vol, veh/h	0	9	6	2	0	62	14	49	0	7	13	7	0	62	65	5	
Future Vol, veh/h	0	9	6	2	0	62	14	49	0	7	13	7	0	62	65	5	
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.81	0.81	0.81	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84	
Heavy Vehicles, %	2	78	67	0	2	2	43	10	2	0	0	14	2	13	0	0	
Mvmt Flow	0	11	7	2	0	77	17	60	0	8	15	8	0	74	77	6	
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	
Approach	EB					WB					NB					SB	
Opposing Approach	WB					EB					SB					NB	
Opposing Lanes	1					1					1					1	
Conflicting Approach Left	SB					NB					EB					WB	
Conflicting Lanes Left	1					1					1					1	
Conflicting Approach Right	NB					SB					WB					EB	
Conflicting Lanes Right	1					1					1					1	
HCM Control Delay	9.1					8.3					7.6					8.8	
HCM LOS	A					A					A					A	
Lane	NBLn1	EBLn1	WBLn1	SBLn1													
Vol Left, %	26%	53%	50%	47%													
Vol Thru, %	48%	35%	11%	49%													
Vol Right, %	26%	12%	39%	4%													
Sign Control	Stop	Stop	Stop	Stop													
Traffic Vol by Lane	27	17	125	132													
LT Vol	7	9	62	62													
Through Vol	13	6	14	65													
RT Vol	7	2	49	5													
Lane Flow Rate	32	20	154	157													
Geometry Grp	1	1	1	1													
Degree of Util (X)	0.039	0.033	0.184	0.202													
Departure Headway (Hd)	4.387	5.892	4.283	4.636													
Convergence, Y/N	Yes	Yes	Yes	Yes													
Cap	818	609	841	776													
Service Time	2.405	3.91	2.296	2.651													
HCM Lane V/C Ratio	0.039	0.033	0.183	0.202													
HCM Control Delay	7.6	9.1	8.3	8.8													
HCM Lane LOS	A	A	A	A													
HCM 95th-tile Q	0.1	0.1	0.7	0.8													

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Volume (veh/h)	156	0	0	154	0	0
Future Volume (Veh/h)	156	0	0	154	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.92	0.92	0.25	0.25
Hourly flow rate (vph)	181	0	0	167	0	0
Pedestrians	163					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	16					
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage (veh)	2			2		
Upstream signal (ft)	488			159		
pX, platoon unblocked						
vC, conflicting volume			181		428	90
vC1, stage 1 conf vol					181	
vC2, stage 2 conf vol					246	
vCu, unblocked vol			181		428	90
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1407		615	956
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	121	60	84	84	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.07	0.04	0.05	0.05	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS					A	
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS					A	
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			8.1%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2	1	0	0	0
Future Volume (Veh/h)	0	2	1	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2	1	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1020	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	2	1	0			
Volume Left	0	1	0			
Volume Right	2	0	0			
cSH	1085	1623	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.3	7.2	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.3	7.2	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		8.0				
Intersection Capacity Utilization		13.3%		ICU Level of Service	A	
Analysis Period (min)		15				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↱	↱		↱	
Traffic Volume (veh/h)	5	70	117	0	0	8
Future Volume (Veh/h)	5	70	117	0	0	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	76	127	0	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			541			
pX, platoon unblocked						
vC, conflicting volume	127				213	127
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	127				213	127
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1459				773	923
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	81	127	9			
Volume Left	5	0	0			
Volume Right	0	0	9			
cSH	1459	1700	923			
Volume to Capacity	0.00	0.07	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.5	0.0	8.9			
Lane LOS	A		A			
Approach Delay (s)	0.5	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			17.8%		ICU Level of Service	A
Analysis Period (min)			15			

																											
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6												
Lane Configurations																											
Traffic Volume (vph)	60	30	69	1	119	34	35	83	920	96	0	1036	120														
Future Volume (vph)	60	30	69	1	119	34	35	83	920	96	0	1036	120														
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900														
Storage Length (ft)	0		0		0		0	150		0	0		0														
Storage Lanes	0		0		0		0	1		0	0		0														
Taper Length (ft)	50				50			0			50																
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95														
Ped Bike Factor		0.87				0.70			0.95			0.94															
Frt		0.935				0.972			0.986			0.984															
Flt Protected		0.982				0.969		0.950																			
Satd. Flow (prot)	0	2740	0	0	0	2846	0	1624	2955	0	0	2904	0														
Flt Permitted		0.982				0.969		0.106																			
Satd. Flow (perm)	0	2595	0	0	0	2082	0	181	2955	0	0	2904	0														
Right Turn on Red			No				No			No			No														
Satd. Flow (RTOR)																											
Link Speed (mph)		30				30			30			30															
Link Distance (ft)		159				495			334			341															
Travel Time (s)		3.6				11.3			7.6			7.8															
Confl. Peds. (#/hr)	82		69	506	69		82	762		506	506		762														
Confl. Bikes (#/hr)		2					6			42			44														
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.96	0.94	0.94	0.94	0.92	0.92	0.92														
Heavy Vehicles (%)	0%	0%	0%	100%	4%	3%	0%	0%	2%	13%	0%	4%	3%														
Adj. Flow (vph)	65	33	75	1	124	35	36	88	979	102	0	1126	130														
Shared Lane Traffic (%)																											
Lane Group Flow (vph)	0	173	0	0	0	196	0	88	1081	0	0	1256	0														
Turn Type	Split	NA		Split	Split	NA		pm+pt	NA			NA															
Protected Phases	7	7		5	5	5		3	13			1		2	6												
Permitted Phases								13																			
Detector Phase	7	7		5	5	5		3	13			1															
Switch Phase																											
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0				10.0		1.0	1.0												
Minimum Split (s)	21.0	21.0		23.5	23.5	23.5		15.5				20.5		6.0	6.0												
Total Split (s)	22.0	22.0		25.0	25.0	25.0		18.0				43.0		6.0	6.0												
Total Split (%)	18.3%	18.3%		20.8%	20.8%	20.8%		15.0%				35.8%		5%	5%												
Maximum Green (s)	15.0	15.0		17.5	17.5	17.5		10.5				35.5		4.0	4.0												
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5				3.5		2.0	2.0												
All-Red Time (s)	3.5	3.5		4.0	4.0	4.0		4.0				4.0		0.0	0.0												
Lost Time Adjust (s)		0.0				0.0		0.0				0.0															
Total Lost Time (s)		7.0				7.5		7.5				7.5															
Lead/Lag				Lag	Lag	Lag		Lag				Lead		Lead													
Lead-Lag Optimize?				Yes	Yes	Yes		Yes				Yes		Yes													
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		2.0				2.0		2.0	2.0												
Recall Mode	Ped	Ped		Ped	Ped	Ped		Ped				C-Max		Ped	Max												
Walk Time (s)	4.0	4.0		4.0	4.0	4.0		1.0				7.0		4.0	4.0												
Flash Dont Walk (s)	10.0	10.0		12.0	12.0	12.0		6.0				6.0		0.0	0.0												
Pedestrian Calls (#/hr)	0	0		0	0	0		0				0		0	0												
Act Effct Green (s)		14.2				16.1		48.2	55.7			37.9															
Actuated g/C Ratio		0.12				0.13		0.40	0.46			0.32															
v/c Ratio		0.53				0.51		0.45	0.79			1.37															
Control Delay		56.3				53.5		22.8	14.4			207.9															
Queue Delay		0.0				0.0		0.0	21.4			0.0															
Total Delay		56.3				53.5		22.8	35.8			207.9															
LOS		E				D		C	D			F															
Approach Delay		56.3				53.5			34.8			207.9															
Approach LOS		E				D			C			F															
Queue Length 50th (ft)		67				75		21	322			~675															
Queue Length 95th (ft)		105				114		m17	m294			#830															
Internal Link Dist (ft)		79				415			254			261															
Turn Bay Length (ft)								150																			
Base Capacity (vph)		342				415		199	1375			916															
Starvation Cap Reductn		0				0		0	323			0															
Spillback Cap Reductn		0				0		0	0			0															
Storage Cap Reductn		0				0		0	0			0															
Reduced v/c Ratio		0.51				0.47		0.44	1.03			1.37															

Intersection Summary

Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 21 (18%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.37	
Intersection Signal Delay: 115.3	Intersection LOS: F
Intersection Capacity Utilization 76.6%	ICU Level of Service D
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: Massachusetts Avenue & Huntongton Avenue



	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6
Lane Configurations	↔	↔		↔	↔		↔	↔	↔	↔	↔			
Traffic Volume (vph)	39	17	167	74	26	31	54	1025	63	74	1123	27		
Future Volume (vph)	39	17	167	74	26	31	54	1025	63	74	1123	27		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	25		0	25		0	100		0	50		0		
Storage Lanes	1		0	1		0	0		0	1		0		
Taper Length (ft)	50			50			50			25				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95		
Ped Bike Factor	0.97	0.96		0.98	0.97			0.98			0.99			
Frt		0.863			0.918			0.992			0.997			
Flt Protected	0.950			0.950				0.998		0.950				
Satd. Flow (prot)	1624	1400	0	1608	1527	0	0	3072	0	1608	3081	0		
Flt Permitted	0.717			0.476				0.734		0.156				
Satd. Flow (perm)	1189	1400	0	789	1527	0	0	2260	0	264	3081	0		
Right Turn on Red			No			No			No			No		
Satd. Flow (RTOR)														
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		145			377			341			334			
Travel Time (s)		3.3			8.6			7.8			7.6			
Confl. Peds. (#/hr)	22		21	21		22	151		92	92		151		
Confl. Bikes (#/hr)			5			7			111			109		
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		
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	3%	3%	0%	1%	4%	4%		
Adj. Flow (vph)	42	18	182	80	28	34	59	1114	68	80	1221	29		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	42	200	0	80	62	0	0	1241	0	80	1250	0		
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA			
Protected Phases		5			5			1			1		2	6
Permitted Phases	5			5			1			1				
Detector Phase	5	5		5	5		1	1		1	1			
Switch Phase														
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		1.0	1.0
Minimum Split (s)	29.5	29.5		29.5	29.5		70.0	70.0		70.0	70.0		6.0	6.0
Total Split (s)	38.0	38.0		38.0	38.0		70.0	70.0		70.0	70.0		6.0	6.0
Total Split (%)	31.7%	31.7%		31.7%	31.7%		58.3%	58.3%		58.3%	58.3%		5%	5%
Maximum Green (s)	32.5	32.5		32.5	32.5		64.5	64.5		64.5	64.5		4.0	4.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5		2.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0			
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.5		5.5	5.5			
Lead/Lag	Lead	Lead		Lead	Lead		Lead	Lead		Lead	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Ped	Ped		Ped	Ped		C-Max	C-Max		C-Max	C-Max		Ped	Ped
Walk Time (s)	7.0	7.0		7.0	7.0		12.0	12.0		12.0	12.0		4.0	4.0
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		10.0	10.0		10.0	10.0		0.0	0.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0		0	0
Act Effct Green (s)	25.5	25.5		25.5	25.5			71.5		71.5	71.5			
Actuated g/C Ratio	0.21	0.21		0.21	0.21			0.60		0.60	0.60			
v/c Ratio	0.17	0.67		0.48	0.19			0.92		0.51	0.68			
Control Delay	39.5	55.2		51.4	39.7			34.7		12.9	9.1			
Queue Delay	0.0	0.0		0.0	0.0			32.8		0.0	2.2			
Total Delay	39.5	55.2		51.4	39.7			67.6		12.9	11.3			
LOS	D	E		D	D			E		B	B			
Approach Delay		52.5			46.3			67.6			11.4			
Approach LOS		D			D			E			B			
Queue Length 50th (ft)	27	146		56	40			412		6	84			
Queue Length 95th (ft)	56	216		103	75			#658		m6	m41			
Internal Link Dist (ft)		65			297			261			254			
Turn Bay Length (ft)	25			25						50				
Base Capacity (vph)	322	379		213	413			1346		157	1835			
Starvation Cap Reductn	0	0		0	0			0		0	425			
Spillback Cap Reductn	0	0		0	0			185		0	0			
Storage Cap Reductn	0	0		0	0			0		0	0			
Reduced v/c Ratio	0.13	0.53		0.38	0.15			1.07		0.51	0.89			

Intersection Summary

Area Type:	CBD
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	40.0
Intersection Capacity Utilization:	116.4%
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: Massachusetts Avenue & St. Botolph Street



	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group														
Lane Configurations		↔	↔			↔	↔			↔	↔			
Traffic Volume (vph)	28	53	690	126	20	40	703	58	31	56	36	0	0	0
Future Volume (vph)	28	53	690	126	20	40	703	58	31	56	36	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		125		60		100		0		0		0		0
Storage Lanes		1		0		1		0		0		0		0
Taper Length (ft)		50				50				50		50		
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.89		0.91		0.75		0.96		0.84				
Frt			0.977				0.989			0.961				
Flt Protected		0.950				0.950				0.988				
Satd. Flow (prot)	0	1583	2800	0	0	1567	3011	0	0	1429	0	0	0	0
Flt Permitted		0.318				0.950				0.988				
Satd. Flow (perm)	0	470	2800	0	0	1171	3011	0	0	1325	0	0	0	0
Right Turn on Red				Yes				Yes			Yes			Yes
Satd. Flow (RTOR)			32				16			20				
Link Speed (mph)			30				30			30			30	
Link Distance (ft)			537				488			314			267	
Travel Time (s)			12.2				11.1			7.1			6.1	
Confl. Peds. (#/hr)	230	481		225	335	225		481	230		335	335		230
Confl. Bikes (#/hr)				17				18			4			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	3%	2%	5%	3%	3%	0%	4%	0%	6%	0%	0%	0%
Adj. Flow (vph)	30	58	750	137	22	43	764	63	33	60	38	0	0	0
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	88	887	0	0	65	827	0	0	131	0	0	0	0
Turn Type	Perm	Perm	NA		Prot	Prot	NA		Perm	NA				
Protected Phases			1		3	3				2				
Permitted Phases	1	1					3		2					
Detector Phase	1	1	1		3	3	1		2	2				
Switch Phase														
Minimum Initial (s)	8.0	8.0	8.0		6.0	6.0	8.0		8.0	8.0				
Minimum Split (s)	23.0	23.0	23.0		10.0	10.0	23.0		30.0	30.0				
Total Split (s)	58.0	58.0	58.0		10.0	10.0	58.0		32.0	32.0				
Total Split (%)	58.0%	58.0%	58.0%		10.0%	10.0%	58.0%		32.0%	32.0%				
Maximum Green (s)	53.0	53.0	53.0		6.0	6.0	53.0		26.0	26.0				
Yellow Time (s)	3.0	3.0	3.0		2.0	2.0	3.0		3.0	3.0				
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0		3.0	3.0				
Lost Time Adjust (s)		0.0	0.0			0.0	0.0			0.0				
Total Lost Time (s)		5.0	5.0			4.0	5.0			6.0				
Lead/Lag	Lead	Lead	Lead				Lead		Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes		Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0				
Recall Mode	C-Max	C-Max	C-Max		None	None	C-Max		Min	Min				
Walk Time (s)	7.0	7.0	7.0				7.0		7.0	7.0				
Flash Dont Walk (s)	5.0	5.0	5.0				5.0		17.0	17.0				
Pedestrian Calls (#/hr)	0	0	0				0		0	0				
Act Effct Green (s)		67.0	67.0			6.0	75.0			14.0				
Actuated g/C Ratio		0.67	0.67			0.06	0.75			0.14				
v/c Ratio		0.28	0.47			0.69	0.37			0.65				
Control Delay		11.8	9.8			82.2	5.2			48.4				
Queue Delay		0.0	0.0			0.0	0.0			0.0				
Total Delay		11.8	9.8			82.2	5.2			48.4				
LOS		B	A			F	A			D				
Approach Delay			10.0				10.8			48.4				
Approach LOS			A				B			D				
Queue Length 50th (ft)		22	131			41	76			68				
Queue Length 95th (ft)		61	214			#112	136			122				
Internal Link Dist (ft)			457				408			234			187	
Turn Bay Length (ft)		125				100								
Base Capacity (vph)		315	1887			94	2263			359				
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	0.47			0.69	0.37			0.36				

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 4 (4%), Referenced to phase 1:EBWB, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 12.9
 Intersection Capacity Utilization 64.4%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Gainsborough Street & Huntington Avenue

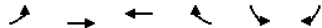


														
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations														
Traffic Volume (veh/h)	0	216	1	2	5	99	0	3	0	3	1	0	1	
Future Volume (Veh/h)	0	216	1	2	5	99	0	3	0	3	1	0	1	
Sign Control		Free				Free			Stop			Stop		
Grade		0%				0%			0%			0%		
Peak Hour Factor	0.63	0.63	0.63	0.65	0.65	0.65	0.65	0.38	0.38	0.38	0.50	0.50	0.50	
Hourly flow rate (vph)	0	343	2	0	8	152	0	8	0	8	2	0	2	
Pedestrians		66				1			85			54		
Lane Width (ft)		12.0				12.0			12.0			12.0		
Walking Speed (ft/s)		3.5				3.5			3.5			3.5		
Percent Blockage		6				0			8			5		
Right turn flare (veh)														
Median type		None				None								
Median storage (veh)														
Upstream signal (ft)						145								
pX, platoon unblocked				0.00										
vC, conflicting volume	206			0	430			665	651	430	575	652	272	
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	206			0	430			665	651	430	575	652	272	
tC, single (s)	4.1			0.0	4.1			7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)														
tF (s)	2.2			0.0	2.2			3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100			0	99			97	100	99	99	100	100	
cM capacity (veh/h)	1306			0	1048			290	338	578	362	337	686	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	345	160	16	4										
Volume Left	0	8	8	2										
Volume Right	2	0	8	2										
cSH	1306	1048	386	474										
Volume to Capacity	0.00	0.01	0.04	0.01										
Queue Length 95th (ft)	0	1	3	1										
Control Delay (s)	0.0	0.5	14.7	12.7										
Lane LOS		A	B	B										
Approach Delay (s)	0.0	0.5	14.7	12.7										
Approach LOS			B	B										
Intersection Summary														
Average Delay			0.7											
Intersection Capacity Utilization			32.2%	ICU Level of Service					A					
Analysis Period (min)			15											

Intersection																
Intersection Delay, s/veh	9.2															
Intersection LOS	A															
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			↕				↕				↕				↕	
Traffic Vol, veh/h	0	8	31	2	3	42	23	42	0	3	69	46	3	125	29	9
Future Vol, veh/h	0	8	31	2	3	42	23	42	0	3	69	46	3	125	29	9
Peak Hour Factor	0.92	0.45	0.45	0.45	0.68	0.68	0.68	0.68	0.92	0.84	0.84	0.84	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	38	0	0	0	0	5	3	2	0	0	0	0	2	0	22
Mvmt Flow	0	18	69	4	4	62	34	62	0	4	82	55	4	152	35	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Approach	EB				WB				NB				SB			
Opposing Approach	WB				EB				SB				NB			
Opposing Lanes	1				1				1				1			
Conflicting Approach Left	SB				NB				EB				WB			
Conflicting Lanes Left	1				1				1				1			
Conflicting Approach Right	NB				SB				WB				EB			
Conflicting Lanes Right	1				1				1				1			
HCM Control Delay	9.6				9				8.6				9.7			
HCM LOS	A				A				A				A			
Lane	NBLn1	EBLn1	WBLn1	SBLn1												
Vol Left, %	3%	20%	39%	77%												
Vol Thru, %	58%	76%	21%	18%												
Vol Right, %	39%	5%	39%	6%												
Sign Control	Stop	Stop	Stop	Stop												
Traffic Vol by Lane	118	41	110	166												
LT Vol	3	8	43	127												
Through Vol	69	31	24	30												
RT Vol	46	2	43	9												
Lane Flow Rate	140	91	162	202												
Geometry Grp	1	1	1	1												
Degree of Util (X)	0.178	0.141	0.211	0.271												
Departure Headway (Hd)	4.559	5.573	4.685	4.821												
Convergence, Y/N	Yes	Yes	Yes	Yes												
Cap	782	641	762	743												
Service Time	2.614	3.636	2.74	2.871												
HCM Lane V/C Ratio	0.179	0.142	0.213	0.272												
HCM Control Delay	8.6	9.6	9	9.7												
HCM Lane LOS	A	A	A	A												
HCM 95th-tile Q	0.6	0.5	0.8	1.1												

	→	↖	↗	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Volume (veh/h)	158	1	0	234	0	2
Future Volume (Veh/h)	158	1	0	234	0	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.92	0.92	0.50	0.50
Hourly flow rate (vph)	198	1	0	254	0	4
Pedestrians	515					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	49					
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage (veh)	2			2		
Upstream signal (ft)	488			159		
pX, platoon unblocked						
vC, conflicting volume			199		840	100
vC1, stage 1 conf vol					198	
vC2, stage 2 conf vol					642	
vCu, unblocked vol			199		840	100
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1385		243	943
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	132	67	127	127	4	
Volume Left	0	0	0	0	0	
Volume Right	0	1	0	0	4	
cSH	1700	1700	1700	1700	943	
Volume to Capacity	0.08	0.04	0.07	0.07	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	8.8	
Lane LOS					A	
Approach Delay (s)	0.0		0.0		8.8	
Approach LOS					A	
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			14.9%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	1	0	0	1	0
Future Volume (Veh/h)	2	1	0	0	1	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1	0	0	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1	1	1			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1	1	1			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1022	1084	1622			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	3	0	1			
Volume Left	2	0	0			
Volume Right	1	0	0			
cSH	1042	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.5	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.5	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		6.3				
Intersection Capacity Utilization		13.3%		ICU Level of Service	A	
Analysis Period (min)		15				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↱	↱		↱	
Traffic Volume (veh/h)	0	205	103	0	12	8
Future Volume (Veh/h)	0	205	103	0	12	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	223	112	0	13	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			527			
pX, platoon unblocked						
vC, conflicting volume	112				335	112
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	112				335	112
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	99
cM capacity (veh/h)	1478				660	941
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	223	112	22			
Volume Left	0	0	13			
Volume Right	0	0	9			
cSH	1478	1700	752			
Volume to Capacity	0.00	0.07	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	9.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			20.8%		ICU Level of Service	A
Analysis Period (min)			15			

																						
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6							
Lane Configurations																						
Traffic Volume (vph)	88	16	58	2	106	17	40	60	935	82	0	827	78									
Future Volume (vph)	88	16	58	2	106	17	40	60	935	82	0	827	78									
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900									
Storage Length (ft)	0		0		0		0	150		0	0		0									
Storage Lanes	0		0		0		0	1		0	0		0									
Taper Length (ft)	50				50			50			50											
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95									
Ped Bike Factor		0.93				0.79			0.97			0.95										
Frt		0.946				0.964			0.988			0.987										
Flt Protected		0.973				0.968		0.950														
Satd. Flow (prot)	0	2646	0	0	0	2554	0	1624	2892	0	0	2846	0									
Flt Permitted		0.973				0.968		0.106														
Satd. Flow (perm)	0	2542	0	0	0	2063	0	181	2892	0	0	2846	0									
Right Turn on Red			No				No			No			No									
Satd. Flow (RTOR)																						
Link Speed (mph)		30				30			30			30										
Link Distance (ft)		159				495			334			341										
Travel Time (s)		3.6				11.3			7.6			7.8										
Confl. Peds. (#/hr)	41		31	231	31		41	497		231	231		497									
Confl. Bikes (#/hr)							1			58			58									
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.98	0.98	0.98	0.92	0.92	0.92									
Heavy Vehicles (%)	10%	33%	2%	100%	13%	25%	15%	0%	7%	14%	0%	8%	3%									
Adj. Flow (vph)	96	17	63	2	112	18	42	61	954	84	0	899	85									
Shared Lane Traffic (%)																						
Lane Group Flow (vph)	0	176	0	0	0	174	0	61	1038	0	0	984	0									
Turn Type	Split	NA		Split	Split	NA		pm+pt	NA			NA										
Protected Phases	7	7		5	5	5		3	1 3			1		2	6							
Permitted Phases								1 3														
Detector Phase	7	7		5	5	5		3	1 3			1										
Switch Phase																						
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0				10.0		1.0	1.0							
Minimum Split (s)	21.0	21.0		23.5	23.5	23.5		15.5				20.5		6.0	6.0							
Total Split (s)	22.0	22.0		25.0	25.0	25.0		18.0				43.0		6.0	6.0							
Total Split (%)	18.3%	18.3%		20.8%	20.8%	20.8%		15.0%				35.8%		5%	5%							
Maximum Green (s)	15.0	15.0		17.5	17.5	17.5		10.5				35.5		4.0	4.0							
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5				3.5		2.0	2.0							
All-Red Time (s)	3.5	3.5		4.0	4.0	4.0		4.0				4.0		0.0	0.0							
Lost Time Adjust (s)		0.0				0.0		0.0				0.0										
Total Lost Time (s)		7.0				7.5		7.5				7.5										
Lead/Lag				Lag	Lag	Lag		Lag				Lead		Lead								
Lead-Lag Optimize?				Yes	Yes	Yes		Yes				Yes		Yes								
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		2.0				2.0		2.0	2.0							
Recall Mode	Ped	Ped		Ped	Ped	Ped		Ped				C-Max		Ped	Max							
Walk Time (s)	4.0	4.0		4.0	4.0	4.0		1.0				7.0		4.0	4.0							
Flash Dont Walk (s)	10.0	10.0		12.0	12.0	12.0		6.0				6.0		0.0	0.0							
Pedestrian Calls (#/hr)	0	0		0	0	0		0				0		0	0							
Act Effct Green (s)		14.2				16.2		48.1	55.6			37.9										
Actuated g/C Ratio		0.12				0.14		0.40	0.46			0.32										
v/c Ratio		0.56				0.51		0.31	0.77			1.10										
Control Delay		57.5				53.9		41.5	38.3			98.9										
Queue Delay		0.0				2.0		0.0	51.1			2.0										
Total Delay		57.5				55.9		41.5	89.3			100.9										
LOS		E				E		D	F			F										
Approach Delay		57.5				55.9			86.7			100.9										
Approach LOS		E				E			F			F										
Queue Length 50th (ft)		68				66		36	446			~452										
Queue Length 95th (ft)		106				104		m39	523			#603										
Internal Link Dist (ft)		79				415			254			261										
Turn Bay Length (ft)								150														
Base Capacity (vph)		330				372		199	1346			898										
Starvation Cap Reductn		0				0		0	656			0										
Spillback Cap Reductn		0				97		0	0			45										
Storage Cap Reductn		0				0		0	0			0										
Reduced v/c Ratio		0.53				0.63		0.31	1.50			1.15										

Intersection Summary

Area Type:	CBD
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 46 (38%), Referenced to phase 1:NBSB, Start of Green	
Natural Cycle: 115	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.10	
Intersection Signal Delay: 88.1	Intersection LOS: F
Intersection Capacity Utilization 67.8%	ICU Level of Service C
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: Massachusetts Avenue & Huntington Avenue



														
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6
Lane Configurations														
Traffic Volume (vph)	9	6	64	39	12	19	66	1049	53	31	914	46		
Future Volume (vph)	9	6	64	39	12	19	66	1049	53	31	914	46		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	25		0	25		0	100		0	50		0		
Storage Lanes	1		0	1		0	0		0	1		0		
Taper Length (ft)	50			50			50			50				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95		
Ped Bike Factor	0.98	0.96		0.97	0.97			0.99		0.99	0.99			
Frt		0.864			0.907			0.993			0.993			
Flt Protected	0.950			0.950				0.997		0.950				
Satd. Flow (prot)	1128	1264	0	1624	1512	0	0	2966	0	1477	2948	0		
Flt Permitted	0.735			0.707				0.777		0.176				
Satd. Flow (perm)	856	1264	0	1176	1512	0	0	2309	0	271	2948	0		
Right Turn on Red			No			No			No			No		
Satd. Flow (RTOR)														
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		145			377			341			334			
Travel Time (s)		3.3			8.6			7.8			7.6			
Confl. Peds. (#/hr)	11		17	17		11	115		69	69		115		
Confl. Bikes (#/hr)			7			12			94			97		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.93	0.93	0.93		
Heavy Vehicles (%)	44%	0%	13%	0%	0%	0%	8%	8%	2%	10%	8%	18%		
Adj. Flow (vph)	10	7	70	42	13	21	69	1093	55	33	983	49		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	10	77	0	42	34	0	0	1217	0	33	1032	0		
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA			
Protected Phases		5			5			1			1		2	6
Permitted Phases	5			5			1			1				
Detector Phase	5	5		5	5		1	1		1	1			
Switch Phase														
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		1.0	1.0
Minimum Split (s)	25.5	25.5		25.5	25.5		70.0	70.0		70.0	70.0		6.0	6.0
Total Split (s)	38.0	38.0		38.0	38.0		70.0	70.0		70.0	70.0		6.0	6.0
Total Split (%)	31.7%	31.7%		31.7%	31.7%		58.3%	58.3%		58.3%	58.3%		5%	5%
Maximum Green (s)	32.5	32.5		32.5	32.5		64.5	64.5		64.5	64.5		4.0	4.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5		2.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0			
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.5		5.5	5.5			
Lead/Lag	Lag	Lag		Lag	Lag								Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Ped	Ped		Ped	Ped		C-Max	C-Max		C-Max	C-Max		Ped	Ped
Walk Time (s)	3.0	3.0		3.0	3.0		54.5	54.5		54.5	54.5		4.0	4.0
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		10.0	10.0		10.0	10.0		0.0	0.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0		0	0
Act Effct Green (s)	20.0	20.0		20.0	20.0			77.0		77.0	77.0			
Actuated g/C Ratio	0.17	0.17		0.17	0.17			0.64		0.64	0.64			
v/c Ratio	0.07	0.37		0.21	0.13			0.82		0.19	0.55			
Control Delay	44.7	50.7		46.6	44.3			22.3		21.5	24.9			
Queue Delay	0.0	0.0		0.0	0.0			50.0		0.0	16.5			
Total Delay	44.7	50.7		46.6	44.3			72.3		21.5	41.4			
LOS	D	D		D	D			E		C	D			
Approach Delay		50.0			45.6			72.3			40.8			
Approach LOS		D			D			E			D			
Queue Length 50th (ft)	7	54		29	23			348		15	289			
Queue Length 95th (ft)	m23	m102		64	54			463		m17	m265			
Internal Link Dist (ft)		65			297			261			254			
Turn Bay Length (ft)	25			25						50				
Base Capacity (vph)	231	342		318	409			1481		173	1891			
Starvation Cap Reductn	0	0		0	0			0		0	865			
Spillback Cap Reductn	0	0		0	0			706		0	0			
Storage Cap Reductn	0	0		0	0			0		0	0			
Reduced v/c Ratio	0.04	0.23		0.13	0.08			1.57		0.19	1.01			

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 57.0

Intersection LOS: E

Intersection Capacity Utilization 115.4%

ICU Level of Service H

Analysis Period (min) 15

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

Splits and Phases: 2: Massachusetts Avenue & St. Botolph Street



														
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (vph)	22	37	584	97	8	38	469	40	33	46	19	0	0	0
Future Volume (vph)	22	37	584	97	8	38	469	40	33	46	19	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		125		60		100		0	0		0	0		0
Storage Lanes		1		0		1		0	0		0	0		0
Taper Length (ft)		50				50			50			50		
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.91	0.99			0.93	0.99			0.91				
Frt			0.979				0.988			0.974				
Flt Protected		0.950				0.950				0.983				
Satd. Flow (prot)	0	1566	2903	0	0	1548	2886	0	0	1411	0	0	0	0
Flt Permitted		0.425				0.324				0.983				
Satd. Flow (perm)	0	638	2903	0	0	489	2886	0	0	1342	0	0	0	0
Right Turn on Red				Yes				Yes			Yes			Yes
Satd. Flow (RTOR)			27				16			12				
Link Speed (mph)			30				30			30			30	
Link Distance (ft)			537				488			314			267	
Travel Time (s)			12.2				11.1			7.1			6.1	
Confl. Peds. (#/hr)	117	220		75	156	75		220	117		156	156		117
Confl. Bikes (#/hr)				12				12			6			
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	0.92	0.92
Heavy Vehicles (%)	0%	6%	9%	2%	0%	6%	10%	10%	14%	7%	17%	0%	0%	0%
Adj. Flow (vph)	24	40	635	105	9	41	510	43	36	50	21	0	0	0
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	64	740	0	0	50	553	0	0	107	0	0	0	0
Turn Type	Perm	Perm	NA		Prot	pm+pt	NA		Perm	NA				
Protected Phases			1		3	3	1			2				
Permitted Phases	1	1				1	3		2					
Detector Phase	1	1	1		3	3	1		2	2				
Switch Phase														
Minimum Initial (s)	8.0	8.0	8.0		6.0	6.0	8.0		8.0	8.0				
Minimum Split (s)	56.0	56.0	56.0		10.0	10.0	56.0		30.0	30.0				
Total Split (s)	56.0	56.0	56.0		10.0	10.0	56.0		34.0	34.0				
Total Split (%)	56.0%	56.0%	56.0%		10.0%	10.0%	56.0%		34.0%	34.0%				
Maximum Green (s)	51.0	51.0	51.0		6.0	6.0	51.0		28.0	28.0				
Yellow Time (s)	3.0	3.0	3.0		2.0	2.0	3.0		3.0	3.0				
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0		3.0	3.0				
Lost Time Adjust (s)		0.0	0.0			0.0	0.0			0.0				
Total Lost Time (s)		5.0	5.0			4.0	5.0			6.0				
Lead/Lag	Lead	Lead	Lead						Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes		Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0				
Recall Mode	C-Max	C-Max	C-Max		None	None	C-Max		None	None				
Walk Time (s)	46.0	46.0	46.0				46.0		7.0	7.0				
Flash Dont Walk (s)	5.0	5.0	5.0				5.0		17.0	17.0				
Pedestrian Calls (#/hr)	0	0	0				0		273	273				
Act Effct Green (s)		57.0	57.0			62.8	65.0			24.0				
Actuated g/C Ratio		0.57	0.57			0.63	0.65			0.24				
v/c Ratio		0.18	0.44			0.14	0.29			0.32				
Control Delay		12.9	13.4			6.9	7.8			30.9				
Queue Delay		0.0	0.0			0.0	0.0			0.0				
Total Delay		12.9	13.4			6.9	7.8			30.9				
LOS		B	B			A	A			C				
Approach Delay			13.4				7.7			30.9				
Approach LOS			B				A			C				
Queue Length 50th (ft)		19	135			10	70			50				
Queue Length 95th (ft)		44	181			23	96			99				
Internal Link Dist (ft)			457				408			234			187	
Turn Bay Length (ft)		125				100								
Base Capacity (vph)		363	1666			370	1881			384				
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	0.44			0.14	0.29			0.28				

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 69 (69%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 12.4

Intersection LOS: B

Intersection Capacity Utilization 82.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Gainsborough Street & Huntington Avenue



														
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations														
Traffic Volume (veh/h)	1	69	0	3	1	115	6	0	0	2	5	0	2	
Future Volume (Veh/h)	1	69	0	3	1	115	6	0	0	2	5	0	2	
Sign Control		Free				Free			Stop			Stop		
Grade		0%				0%			0%			0%		
Peak Hour Factor	0.77	0.77	0.77	0.75	0.75	0.75	0.75	0.50	0.50	0.50	0.50	0.50	0.50	
Hourly flow rate (vph)	1	90	0	0	1	153	8	0	0	4	10	0	4	
Pedestrians		13				3			67			14		
Lane Width (ft)		12.0				12.0			12.0			12.0		
Walking Speed (ft/s)		3.5				3.5			3.5			3.5		
Percent Blockage		1				0			6			1		
Right turn flare (veh)														
Median type		None				None								
Median storage (veh)														
Upstream signal (ft)						145								
pX, platoon unblocked				0.00										
vC, conflicting volume	175			0	157			335	336	160	272	332	184	
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	175			0	157			335	336	160	272	332	184	
tC, single (s)	4.1			0.0	4.1			7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)														
tF (s)	2.2			0.0	2.2			3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100			0	100			100	100	100	98	100	100	
cM capacity (veh/h)	1395			0	1344			539	542	831	630	545	841	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	91	162	4	14										
Volume Left	1	1	0	10										
Volume Right	0	8	4	4										
cSH	1395	1344	831	679										
Volume to Capacity	0.00	0.00	0.00	0.02										
Queue Length 95th (ft)	0	0	0	2										
Control Delay (s)	0.1	0.1	9.4	10.4										
Lane LOS	A	A	A	B										
Approach Delay (s)	0.1	0.1	9.4	10.4										
Approach LOS			A	B										
Intersection Summary														
Average Delay			0.7											
Intersection Capacity Utilization		27.4%		ICU Level of Service										
Analysis Period (min)		15		A										

Intersection																
Intersection Delay, s/veh	8.6															
Intersection LOS	A															
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			↔				↔				↔				↔	
Traffic Vol, veh/h	0	9	6	2	0	62	14	75	0	7	13	7	0	65	65	5
Future Vol, veh/h	0	9	6	2	0	62	14	75	0	7	13	7	0	65	65	5
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.81	0.81	0.81	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	78	67	0	2	2	43	10	2	0	0	14	2	13	0	0
Mvmt Flow	0	11	7	2	0	77	17	93	0	8	15	8	0	77	77	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Approach	EB				WB				NB				SB			
Opposing Approach	WB				EB				SB				NB			
Opposing Lanes	1				1				1				1			
Conflicting Approach Left	SB				NB				EB				WB			
Conflicting Lanes Left	1				1				1				1			
Conflicting Approach Right	NB				SB				WB				EB			
Conflicting Lanes Right	1				1				1				1			
HCM Control Delay	9.2				8.4				7.7				9			
HCM LOS	A				A				A				A			
Lane	NBLn1	EBLn1	WBLn1	SBLn1												
Vol Left, %	26%	53%	41%	48%												
Vol Thru, %	48%	35%	9%	48%												
Vol Right, %	26%	12%	50%	4%												
Sign Control	Stop	Stop	Stop	Stop												
Traffic Vol by Lane	27	17	151	135												
LT Vol	7	9	62	65												
Through Vol	13	6	14	65												
RT Vol	7	2	75	5												
Lane Flow Rate	32	20	186	161												
Geometry Grp	1	1	1	1												
Degree of Util (X)	0.04	0.033	0.218	0.21												
Departure Headway (Hd)	4.461	5.94	4.218	4.704												
Convergence, Y/N	Yes	Yes	Yes	Yes												
Cap	804	604	854	765												
Service Time	2.482	3.961	2.233	2.721												
HCM Lane V/C Ratio	0.04	0.033	0.218	0.21												
HCM Control Delay	7.7	9.2	8.4	9												
HCM Lane LOS	A	A	A	A												
HCM 95th-tile Q	0.1	0.1	0.8	0.8												

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Volume (veh/h)	156	0	0	154	0	6
Future Volume (Veh/h)	156	0	0	154	0	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.92	0.92	0.25	0.25
Hourly flow rate (vph)	181	0	0	167	0	24
Pedestrians	163					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	16					
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage (veh)	2			2		
Upstream signal (ft)	488			159		
pX, platoon unblocked						
vC, conflicting volume			181		428	90
vC1, stage 1 conf vol					181	
vC2, stage 2 conf vol					246	
vCu, unblocked vol			181		428	90
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	97
cM capacity (veh/h)			1407		615	956
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	121	60	84	84	24	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	24	
cSH	1700	1700	1700	1700	956	
Volume to Capacity	0.07	0.04	0.05	0.05	0.03	
Queue Length 95th (ft)	0	0	0	0	2	
Control Delay (s)	0.0	0.0	0.0	0.0	8.9	
Lane LOS					A	
Approach Delay (s)	0.0		0.0		8.9	
Approach LOS					A	
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			14.8%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	7	7	0	0	0
Future Volume (Veh/h)	6	7	7	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	8	8	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	16	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	16	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	997	1085	1623			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	15	8	0			
Volume Left	7	8	0			
Volume Right	8	0	0			
cSH	1042	1623	1700			
Volume to Capacity	0.01	0.00	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.5	7.2	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.5	7.2	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		8.1				
Intersection Capacity Utilization		13.3%		ICU Level of Service	A	
Analysis Period (min)		15				

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	70	117	0	0	34
Future Volume (Veh/h)	8	70	117	0	0	34
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	76	127	0	0	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			541			
pX, platoon unblocked						
vC, conflicting volume	127				221	127
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	127				221	127
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	96
cM capacity (veh/h)	1459				762	923
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	85	127	37			
Volume Left	9	0	0			
Volume Right	0	0	37			
cSH	1459	1700	923			
Volume to Capacity	0.01	0.07	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.8	0.0	9.1			
Lane LOS	A		A			
Approach Delay (s)	0.8	0.0	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay		1.6				
Intersection Capacity Utilization		20.4%		ICU Level of Service	A	
Analysis Period (min)		15				

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6
Lane Configurations		↔↔				↔↔		↖	↔↔			↔↔			
Traffic Volume (vph)	61	32	69	1	123	34	35	83	920	96	0	1055	120		
Future Volume (vph)	61	32	69	1	123	34	35	83	920	96	0	1055	120		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0		0		0		0	150		0	0		0		
Storage Lanes	0		0		0		0	1		0	0		0		
Taper Length (ft)	50				50			50			50				
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95		
Ped Bike Factor		0.87				0.70			0.95			0.94			
Frt		0.936				0.973			0.986			0.985			
Fit Protected		0.982				0.969		0.950							
Satd. Flow (prot)	0	2747	0	0	0	2851	0	1624	2955	0	0	2909	0		
Fit Permitted		0.982				0.969		0.106							
Satd. Flow (perm)	0	2603	0	0	0	2080	0	181	2955	0	0	2909	0		
Right Turn on Red			No				No			No			No		
Satd. Flow (RTOR)															
Link Speed (mph)		30				30			30			30			
Link Distance (ft)		159				495			334			341			
Travel Time (s)		3.6				11.3			7.6			7.8			
Confl. Peds. (#/hr)	82		69	506	69		82	762		506	506		762		
Confl. Bikes (#/hr)			2				6			42			44		
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.96	0.94	0.94	0.94	0.92	0.92	0.92		
Heavy Vehicles (%)	0%	0%	0%	100%	4%	3%	0%	0%	2%	13%	0%	4%	3%		
Adj. Flow (vph)	66	35	75	1	128	35	36	88	979	102	0	1147	130		
Shared Lane Traffic (%)															
Lane Group Flow (vph)	0	176	0	0	0	200	0	88	1081	0	0	1277	0		
Turn Type	Split	NA		Split	Split	NA		pm+pt	NA			NA			
Protected Phases	7	7		5	5	5		3	13			1		2	6
Permitted Phases								13							
Detector Phase	7	7		5	5	5		3	13			1			
Switch Phase															
Minimum Initial (s)	8.0	8.0		8.0	8.0	8.0		8.0				10.0		1.0	1.0
Minimum Split (s)	21.0	21.0		23.5	23.5	23.5		15.5				20.5		6.0	6.0
Total Split (s)	22.0	22.0		25.0	25.0	25.0		18.0				43.0		6.0	6.0
Total Split (%)	18.3%	18.3%		20.8%	20.8%	20.8%		15.0%				35.8%		5%	5%
Maximum Green (s)	15.0	15.0		17.5	17.5	17.5		10.5				35.5		4.0	4.0
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5		3.5				3.5		2.0	2.0
All-Red Time (s)	3.5	3.5		4.0	4.0	4.0		4.0				4.0		0.0	0.0
Lost Time Adjust (s)		0.0				0.0		0.0				0.0			
Total Lost Time (s)		7.0				7.5		7.5				7.5			
Lead/Lag				Lag	Lag	Lag		Lag				Lead		Lead	
Lead-Lag Optimize?				Yes	Yes	Yes		Yes				Yes		Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		2.0				2.0		2.0	2.0
Recall Mode	Ped	Ped		Ped	Ped	Ped		Ped				C-Max		Ped	Max
Walk Time (s)	4.0	4.0		4.0	4.0	4.0		1.0				7.0		4.0	4.0
Flash Dont Walk (s)	10.0	10.0		12.0	12.0	12.0		6.0				6.0		0.0	0.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0				0		0	0
Act Effct Green (s)		14.2				16.2		48.1	55.6			37.8			
Actuated g/C Ratio		0.12				0.14		0.40	0.46			0.32			
v/c Ratio		0.54				0.52		0.45	0.79			1.39			
Control Delay		56.5				53.7		21.8	13.6			216.7			
Queue Delay		0.0				0.0		0.0	27.2			0.0			
Total Delay		56.5				53.7		21.8	40.7			216.7			
LOS		E				D		C	D			F			
Approach Delay		56.5				53.7		39.3				216.7			
Approach LOS		E				D		D				F			
Queue Length 50th (ft)		68				76		20	292			~692			
Queue Length 95th (ft)		106				116		m16	m259			#848			
Internal Link Dist (ft)		79				415			254			261			
Turn Bay Length (ft)								150							
Base Capacity (vph)		343				415		199	1375			917			
Starvation Cap Reductn		0				0		0	340			0			
Spillback Cap Reductn		0				0		0	0			0			
Storage Cap Reductn		0				0		0	0			0			
Reduced v/c Ratio		0.51				0.48		0.44	1.04			1.39			

														
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø2	Ø6
Lane Configurations														
Traffic Volume (vph)	39	17	170	74	26	31	59	1025	63	74	1123	50		
Future Volume (vph)	39	17	170	74	26	31	59	1025	63	74	1123	50		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	25		0	25		0	100		0	50		0		
Storage Lanes	1		0	1		0	0		0	1		0		
Taper Length (ft)	50			50			50			50				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95		
Ped Bike Factor	0.97	0.96		0.98	0.97			0.98			0.98			
Frt		0.863			0.918			0.992			0.994			
Flt Protected	0.950			0.950				0.997		0.950				
Satd. Flow (prot)	1624	1400	0	1608	1527	0	0	3070	0	1608	3044	0		
Flt Permitted	0.717			0.470				0.707		0.154				
Satd. Flow (perm)	1189	1400	0	779	1527	0	0	2177	0	261	3044	0		
Right Turn on Red			No			No			No			No		
Satd. Flow (RTOR)														
Link Speed (mph)		30			30			30			30			
Link Distance (ft)		145			377			341			334			
Travel Time (s)		3.3			8.6			7.8			7.6			
Confl. Peds. (#/hr)	22		21	21		22	151		92	92		151		
Confl. Bikes (#/hr)			5			7			111			109		
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		
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%	3%	3%	0%	1%	4%	4%		
Adj. Flow (vph)	42	18	185	80	28	34	64	1114	68	80	1221	54		
Shared Lane Traffic (%)														
Lane Group Flow (vph)	42	203	0	80	62	0	0	1246	0	80	1275	0		
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA			
Protected Phases		5			5			1			1		2	6
Permitted Phases	5			5			1			1				
Detector Phase	5	5		5	5		1	1		1	1			
Switch Phase														
Minimum Initial (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0		1.0	1.0
Minimum Split (s)	29.5	29.5		29.5	29.5		70.0	70.0		70.0	70.0		6.0	6.0
Total Split (s)	38.0	38.0		38.0	38.0		70.0	70.0		70.0	70.0		6.0	6.0
Total Split (%)	31.7%	31.7%		31.7%	31.7%		58.3%	58.3%		58.3%	58.3%		5%	5%
Maximum Green (s)	32.5	32.5		32.5	32.5		64.5	64.5		64.5	64.5		4.0	4.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5		2.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0			
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.5		5.5	5.5			
Lead/Lag	Lead	Lead		Lead	Lead		Lead	Lead		Lead	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0
Recall Mode	Ped	Ped		Ped	Ped		C-Max	C-Max		C-Max	C-Max		Ped	Ped
Walk Time (s)	7.0	7.0		7.0	7.0		12.0	12.0		12.0	12.0		4.0	4.0
Flash Dont Walk (s)	17.0	17.0		17.0	17.0		10.0	10.0		10.0	10.0		0.0	0.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0		0	0
Act Effct Green (s)	25.6	25.6		25.6	25.6			71.4		71.4	71.4			
Actuated g/C Ratio	0.21	0.21		0.21	0.21			0.60		0.60	0.60			
v/c Ratio	0.17	0.68		0.48	0.19			0.96		0.52	0.70			
Control Delay	39.4	55.4		51.5	39.5			41.6		13.6	10.7			
Queue Delay	0.0	0.0		0.0	0.0			41.4		0.0	2.6			
Total Delay	39.4	55.4		51.5	39.5			83.0		13.6	13.3			
LOS	D	E		D	D			F		B	B			
Approach Delay		52.7			46.3			83.0			13.4			
Approach LOS		D			D			F			B			
Queue Length 50th (ft)	27	148		56	40			437		6	101			
Queue Length 95th (ft)	56	218		103	75			#685		m6	m42			
Internal Link Dist (ft)		65			297			261			254			
Turn Bay Length (ft)	25			25						50				
Base Capacity (vph)	322	379		210	413			1295		155	1810			
Starvation Cap Reductn	0	0		0	0			0		0	400			
Spillback Cap Reductn	0	0		0	0			160		0	0			
Storage Cap Reductn	0	0		0	0			0		0	0			
Reduced v/c Ratio	0.13	0.54		0.38	0.15			1.10		0.52	0.90			

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 47.2

Intersection LOS: D

Intersection Capacity Utilization 117.5%

ICU Level of Service H

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: Massachusetts Avenue & St. Botolph Street



														
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (vph)	28	53	690	137	20	40	703	58	37	65	36	0	0	0
Future Volume (vph)	28	53	690	137	20	40	703	58	37	65	36	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		125		60		100		0	0		0	0		0
Storage Lanes		1		0		1		0	0		0	0		0
Taper Length (ft)		50				50			50			50		
Lane Util. Factor	0.95	1.00	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.89		0.90		0.75		0.96		0.84				
Frt			0.975				0.989			0.965				
Flt Protected		0.950				0.950				0.987				
Satd. Flow (prot)	0	1583	2774	0	0	1567	3011	0	0	1450	0	0	0	0
Flt Permitted		0.316				0.950				0.987				
Satd. Flow (perm)	0	467	2774	0	0	1177	3011	0	0	1339	0	0	0	0
Right Turn on Red				Yes				Yes			Yes			Yes
Satd. Flow (RTOR)			35				16			17				
Link Speed (mph)			30				30			30			30	
Link Distance (ft)			537				488			314			267	
Travel Time (s)			12.2				11.1			7.1			6.1	
Confl. Peds. (#/hr)	230	481		225	335	225		481	230		335	335		230
Confl. Bikes (#/hr)				17				18			4			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	3%	2%	5%	3%	3%	0%	4%	0%	6%	0%	0%	0%
Adj. Flow (vph)	30	58	750	149	22	43	764	63	39	69	38	0	0	0
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	88	899	0	0	65	827	0	0	146	0	0	0	0
Turn Type	Perm	Perm	NA		Prot	Prot	NA		Perm	NA				
Protected Phases			1		3	3	1			2				
Permitted Phases	1	1					3		2					
Detector Phase	1	1	1		3	3	1		2	2				
Switch Phase														
Minimum Initial (s)	8.0	8.0	8.0		6.0	6.0	8.0		8.0	8.0				
Minimum Split (s)	23.0	23.0	23.0		10.0	10.0	23.0		30.0	30.0				
Total Split (s)	58.0	58.0	58.0		10.0	10.0	58.0		32.0	32.0				
Total Split (%)	58.0%	58.0%	58.0%		10.0%	10.0%	58.0%		32.0%	32.0%				
Maximum Green (s)	53.0	53.0	53.0		6.0	6.0	53.0		26.0	26.0				
Yellow Time (s)	3.0	3.0	3.0		2.0	2.0	3.0		3.0	3.0				
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0	2.0		3.0	3.0				
Lost Time Adjust (s)		0.0	0.0			0.0	0.0			0.0				
Total Lost Time (s)		5.0	5.0			4.0	5.0			6.0				
Lead/Lag	Lead	Lead	Lead				Lead		Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes				Yes		Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0		3.0	3.0				
Recall Mode	C-Max	C-Max	C-Max		None	None	C-Max		Min	Min				
Walk Time (s)	7.0	7.0	7.0				7.0		7.0	7.0				
Flash Dont Walk (s)	5.0	5.0	5.0				5.0		17.0	17.0				
Pedestrian Calls (#/hr)	0	0	0				0		0	0				
Act Effct Green (s)		66.0	66.0			6.0	74.0			15.0				
Actuated g/C Ratio		0.66	0.66			0.06	0.74			0.15				
v/c Ratio		0.29	0.49			0.69	0.37			0.68				
Control Delay		12.6	10.6			82.2	5.7			50.2				
Queue Delay		0.0	0.0			0.0	0.0			0.0				
Total Delay		12.6	10.6			82.2	5.7			50.2				
LOS		B	B			F	A			D				
Approach Delay			10.8				11.3			50.2				
Approach LOS			B				B			D				
Queue Length 50th (ft)		23	140			41	81			79				
Queue Length 95th (ft)		64	228			#112	144			134				
Internal Link Dist (ft)			457				408			234			187	
Turn Bay Length (ft)		125				100								
Base Capacity (vph)		307	1841			94	2231			360				
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		0.29	0.49			0.69	0.37			0.41				

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 4 (4%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 13.8

Intersection LOS: B

Intersection Capacity Utilization 64.9%

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: 3: Gainsborough Street & Huntington Avenue

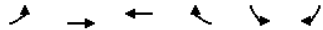


														
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations														
Traffic Volume (veh/h)	0	216	1	2	5	99	28	3	0	3	4	0	1	
Future Volume (Veh/h)	0	216	1	2	5	99	28	3	0	3	4	0	1	
Sign Control		Free				Free			Stop			Stop		
Grade		0%				0%			0%			0%		
Peak Hour Factor	0.63	0.63	0.63	0.65	0.65	0.65	0.65	0.38	0.38	0.38	0.50	0.50	0.50	
Hourly flow rate (vph)	0	343	2	0	8	152	43	8	0	8	8	0	2	
Pedestrians		66				1			85			54		
Lane Width (ft)		12.0				12.0			12.0			12.0		
Walking Speed (ft/s)		3.5				3.5			3.5			3.5		
Percent Blockage		6				0			8			5		
Right turn flare (veh)														
Median type		None				None								
Median storage (veh)														
Upstream signal (ft)						145								
pX, platoon unblocked				0.00										
vC, conflicting volume	249			0	430			686	694	430	596	674	294	
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	249			0	430			686	694	430	596	674	294	
tC, single (s)	4.1			0.0	4.1			7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)														
tF (s)	2.2			0.0	2.2			3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	100			0	99			97	100	99	98	100	100	
cM capacity (veh/h)	1260			0	1048			280	319	578	350	328	667	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	345	203	16	10										
Volume Left	0	8	8	8										
Volume Right	2	43	8	2										
cSH	1260	1048	377	387										
Volume to Capacity	0.00	0.01	0.04	0.03										
Queue Length 95th (ft)	0	1	3	2										
Control Delay (s)	0.0	0.4	15.0	14.5										
Lane LOS		A	B	B										
Approach Delay (s)	0.0	0.4	15.0	14.5										
Approach LOS			B	B										
Intersection Summary														
Average Delay			0.8											
Intersection Capacity Utilization			34.0%			ICU Level of Service			A					
Analysis Period (min)			15											

Intersection																
Intersection Delay, s/veh	9.4															
Intersection LOS	A															
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations			↕				↕				↕				↕	
Traffic Vol, veh/h	0	8	31	2	3	42	23	57	0	3	69	46	3	136	29	9
Future Vol, veh/h	0	8	31	2	3	42	23	57	0	3	69	46	3	136	29	9
Peak Hour Factor	0.92	0.45	0.45	0.45	0.68	0.68	0.68	0.68	0.92	0.84	0.84	0.84	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	38	0	0	0	0	5	3	2	0	0	0	0	2	0	22
Mvmt Flow	0	18	69	4	4	62	34	84	0	4	82	55	4	166	35	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Approach	EB				WB				NB				SB			
Opposing Approach	WB				EB				SB				NB			
Opposing Lanes	1				1				1				1			
Conflicting Approach Left	SB				NB				EB				WB			
Conflicting Lanes Left	1				1				1				1			
Conflicting Approach Right	NB				SB				WB				EB			
Conflicting Lanes Right	1				1				1				1			
HCM Control Delay	9.7				9.2				8.7				10			
HCM LOS	A				A				A				A			
Lane	NBLn1	EBLn1	WBLn1	SBLn1												
Vol Left, %	3%	20%	34%	78%												
Vol Thru, %	58%	76%	19%	17%												
Vol Right, %	39%	5%	47%	5%												
Sign Control	Stop	Stop	Stop	Stop												
Traffic Vol by Lane	118	41	125	177												
LT Vol	3	8	43	138												
Through Vol	69	31	24	29												
RT Vol	46	2	58	9												
Lane Flow Rate	140	91	184	216												
Geometry Grp	1	1	1	1												
Degree of Util (X)	0.181	0.143	0.239	0.293												
Departure Headway (Hd)	4.632	5.643	4.673	4.879												
Convergence, Y/N	Yes	Yes	Yes	Yes												
Cap	768	631	763	732												
Service Time	2.696	3.716	2.735	2.938												
HCM Lane V/C Ratio	0.182	0.144	0.241	0.295												
HCM Control Delay	8.7	9.7	9.2	10												
HCM Lane LOS	A	A	A	A												
HCM 95th-tile Q	0.7	0.5	0.9	1.2												

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Volume (veh/h)	158	1	0	234	0	5
Future Volume (Veh/h)	158	1	0	234	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.92	0.92	0.50	0.50
Hourly flow rate (vph)	198	1	0	254	0	10
Pedestrians	515					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	49					
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage (veh)	2			2		
Upstream signal (ft)	488			159		
pX, platoon unblocked						
vC, conflicting volume			199		840	100
vC1, stage 1 conf vol					198	
vC2, stage 2 conf vol					642	
vCu, unblocked vol			199		840	100
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1385		243	943
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	132	67	127	127	10	
Volume Left	0	0	0	0	0	
Volume Right	0	1	0	0	10	
cSH	1700	1700	1700	1700	943	
Volume to Capacity	0.08	0.04	0.07	0.07	0.01	
Queue Length 95th (ft)	0	0	0	0	1	
Control Delay (s)	0.0	0.0	0.0	0.0	8.9	
Lane LOS					A	
Approach Delay (s)	0.0		0.0		8.9	
Approach LOS					A	
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			14.9%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	4	28	0	1	0
Future Volume (Veh/h)	5	4	28	0	1	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	4	30	0	1	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	61	1	1			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	61	1	1			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	98			
cM capacity (veh/h)	928	1084	1622			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	9	30	1			
Volume Left	5	30	0			
Volume Right	4	0	0			
cSH	991	1622	1700			
Volume to Capacity	0.01	0.02	0.00			
Queue Length 95th (ft)	1	1	0			
Control Delay (s)	8.7	7.3	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.7	7.3	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		7.4				
Intersection Capacity Utilization		18.2%		ICU Level of Service	A	
Analysis Period (min)		15				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↱	↱		↱	
Traffic Volume (veh/h)	11	205	103	0	12	23
Future Volume (Veh/h)	11	205	103	0	12	23
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	223	112	0	13	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			527			
pX, platoon unblocked						
vC, conflicting volume	112				359	112
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	112				359	112
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	97
cM capacity (veh/h)	1478				634	941
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	235	112	38			
Volume Left	12	0	13			
Volume Right	0	0	25			
cSH	1478	1700	808			
Volume to Capacity	0.01	0.07	0.05			
Queue Length 95th (ft)	1	0	4			
Control Delay (s)	0.4	0.0	9.7			
Lane LOS	A		A			
Approach Delay (s)	0.4	0.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization		28.1%		ICU Level of Service	A	
Analysis Period (min)		15				